



## **ORANGE COUNTY SANITATION DISTRICT SPECIAL NOTICE REGARDING CORONAVIRUS (COVID-19) AND ATTENDANCE AT PUBLIC MEETINGS**

Governor Newsom signed Assembly Bill (AB) 361 on September 16, 2021, which, in part, addresses the conduct of public meetings in light of the continued State of Emergency order.

Effective October 1, 2021, AB 361 suspends the requirements located in California Government Code, Section 54953, Subdivision (b), Paragraph (3) specifically pertaining to the conduct of public meetings. As such, the Orange County Sanitation District (OC San) Board of Directors has determined that due to the size of OC San's Board of Directors (25), and the health and safety of the members, the Board of Directors will be participating in meetings of the Board telephonically and via Internet accessibility.

### **PUBLIC PARTICIPATION**

Your participation is always welcome. OC San offers several ways in which to interact during meetings. You will find information as to these opportunities below.

#### **ONLINE MEETING PARTICIPATION**

You may join the meeting live via Teams on your computer or similar device or web browser by using the link below:

[Click here to join the meeting](#)

We suggest testing joining a Teams meeting on your device prior to the commencement of the meeting. For recommendations, general guidance on using Teams, and instructions on joining a Teams meeting, [please click here](#).

Please mute yourself upon entry to the meeting. Please raise your hand if you wish to speak during the public comment section of the meeting. The Clerk of the Board will call upon you by using the name you joined with.

Meeting attendees are not provided the ability to make a presentation during the meeting. Please contact the Clerk of the Board at least 48 hours prior to the meeting if you wish to present any items. Additionally, camera feeds may be controlled by the meeting moderator to avoid inappropriate content.

## **HOW TO PARTICIPATE IN THE MEETING BY TELEPHONE**

To join the meeting from your phone: Dial (213) 279-1455  
When prompted, enter the Phone Conference ID: 731 390 350#

All meeting participants may be muted during the meeting to alleviate background noise. If you are muted, please use \*6 to unmute. You may also mute yourself on your device.

Please raise your hand to speak by using \*5 during the public comment section of the meeting. The Clerk of the Board will call upon you by using the last 4 digits of your phone number as identification.

**NOTE: All attendees will be disconnected from the meeting at the beginning of Closed Session. If you would like to return to the Open Session portion of the meeting, please login or dial-in to the Teams meeting again and wait in the Lobby for admittance.**

## **VIEW THE MEETING ONLINE ONLY**

The meeting will be available for online viewing only at:

<https://ocsd.legistar.com/Calendar.aspx>

## **HOW TO SUBMIT A COMMENT**

You may provide verbal comment in real time during the meeting. In order to provide a verbal comment, please raise your hand as described above or alert the Clerk of the Board before or during the public comment period.

You may also submit your comments and questions in writing for consideration in advance of the meeting by using the eComment feature available online at: <https://ocsd.legistar.com/Calendar.aspx> or sending them to [OCSanClerk@ocsan.gov](mailto:OCSanClerk@ocsan.gov) with the subject line "PUBLIC COMMENT ITEM # (insert the item number relevant to your comment)" or "PUBLIC COMMENT NON-AGENDA ITEM".

You may also submit comments and questions for consideration during the meeting by using the eComment feature available online at: <https://ocsd.legistar.com/Calendar.aspx>. The eComment feature will be available for the duration of the meeting.

All written public comments will be provided to the legislative body and may be read into the record or compiled as part of the record.

## **TECHNICAL SUPPORT PRIOR TO AND DURING MEETINGS**

For technical assistance before and during the meeting, please call 714-593-7431. For any other questions and/or concerns, please contact the Clerk of the Board's office at 714-593-7433. Thank you, in advance, for your patience in working with these technologies. We appreciate your interest in OC San!

December 7, 2022

**NOTICE OF REGULAR MEETING**

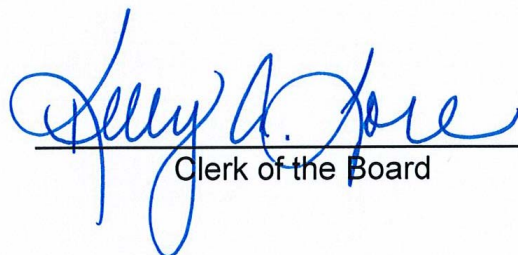
**ADMINISTRATION COMMITTEE  
ORANGE COUNTY SANITATION DISTRICT**

**Wednesday, December 14, 2022 – 5:00 P.M.**

**ACCESSIBILITY FOR THE GENERAL PUBLIC**

**Your participation is always welcome. Specific information as to how to participate in this meeting is detailed in the Special Notice attached to this agenda. In general, OC San offers several ways in which to interact during meetings: you may join the meeting live via Teams on your computer or similar device or web browser, join the meeting live via telephone, view the meeting online, and/or submit comments for consideration before or during the meeting.**

The Regular Meeting of the Administration Committee of the Orange County Sanitation District will be held at the above location and in the manner indicated on Wednesday, December 14, 2022 at 5:00 p.m.

  
\_\_\_\_\_  
Clerk of the Board

*Serving:*

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

County of Orange

Costa Mesa  
Sanitary District

Midway City  
Sanitary District

Irvine Ranch  
Water District

Yorba Linda  
Water District

ADMINISTRATION COMMITTEE MEETING DATE	BOARD MEETING DATE
12/14/22	<b>12/15/22 *</b>
<b>JANUARY DARK</b>	01/25/23
02/08/23	02/22/23
03/08/23	03/22/23
04/12/23	04/26/23
05/10/23	05/24/23
06/14/23	06/28/23
07/12/23	07/26/23
<b>AUGUST DARK</b>	08/23/23
09/13/23	09/27/23
10/11/23	10/25/23
11/08/23	<b>11/15/23 **</b>

***\* Meeting will be held on the third Thursday of the month***

***\*\* Meeting will be held on the third Wednesday of the month***

**ROLL CALL**  
**ADMINISTRATION COMMITTEE**  
**Finance, Information Technology, Environmental Services**  
**and Human Resources**

---

Meeting Date: December 14, 2022

Time: 5:00 p.m.

Adjourn: \_\_\_\_\_

**COMMITTEE MEMBERS (13)**

<i>Brea</i> <b>VACANT</b>	
Anthony Kuo, Vice-Chair	
Brad Avery	
Art Brown	
<i>Huntington Beach</i> <b>VACANT</b>	
Rose Espinoza	
Patrick Harper	
Jordan Nefulda	
Andrew Nguyen	
David Shawver	
John Withers	
Chad Wanke (Board Chair)	
Ryan Gallagher (Board Vice-Chair)	

**OTHERS**

Brad Hogin, General Counsel	

**STAFF**

Jim Herberg, General Manager	
Rob Thompson, Assistant General Manager	
Lorenzo Tyner, Assistant General Manager	
Celia Chandler, Director of Human Resources	
Kathy Millea, Director of Engineering	
Riaz Moinuddin, Director of Operations & Maintenance	
Lan Wiborg, Director of Environmental Services	
Kelly Lore, Clerk of the Board	

**ORANGE COUNTY SANITATION DISTRICT**  
**BOARD OF DIRECTORS**  
**Complete Roster**

Effective 12/07/2022

<b>AGENCY/CITIES</b>	<b>ACTIVE DIRECTOR</b>	<b>ALTERNATE DIRECTOR</b>
Anaheim	Stephen Faessel	<b>VACANT</b>
Brea	<b>VACANT</b>	Cecilia Hupp
Buena Park	Art Brown	Connor Traut
Cypress	Paulo Morales	Anne Hertz-Mallari
Fountain Valley	Patrick Harper	Ted Bui
Fullerton	Jesus J. Silva	Nick Dunlap
Garden Grove	Steve Jones	John O'Neill
Huntington Beach	<b>VACANT</b>	Dan Kalmick
Irvine	Anthony Kuo	Farrah N. Khan
La Habra	Rose Espinoza	Steve Simonian
La Palma	Marshall Goodman	Nitesh Patel
Los Alamitos	<b>VACANT</b>	Jordan Nefulda
Newport Beach	Brad Avery	Joy Brenner
Orange	Kim Nichols	Chip Monaco
Placentia	Chad Wanke	Ward Smith
Santa Ana	Johnathan Ryan Hernandez	Nelida Mendoza
Seal Beach	Sandra Massa-Lavitt	Schelly Sustarsic
Stanton	David Shawver	Carol Warren
Tustin	Ryan Gallagher	Austin Lumbard
Villa Park	<b>VACANT</b>	<b>VACANT</b>

**Sanitary/Water Districts**

Costa Mesa Sanitary District	Bob Ooten	Art Perry
Midway City Sanitary District	Andrew Nguyen	Mark Nguyen
Irvine Ranch Water District	John Withers	Douglas Reinhart
Yorba Linda Water District	Brooke Jones	Tom Lindsey

**County Areas**

Board of Supervisors	Donald P. Wagner	Doug Chaffee
----------------------	------------------	--------------



**ADMINISTRATION COMMITTEE**  
**Regular Meeting Agenda**  
**Wednesday, December 14, 2022 - 5:00 PM**  
**Board Room**  
**Administration Building**  
**10844 Ellis Avenue**  
**Fountain Valley, CA 92708**  
**(714) 593-7433**

**ACCOMMODATIONS FOR THE DISABLED:** If you require any special disability related accommodations, please contact the Orange County Sanitation District (OC San) Clerk of the Board's office at (714) 593-7433 at least 72 hours prior to the scheduled meeting. Requests must specify the nature of the disability and the type of accommodation requested.

**AGENDA POSTING:** In accordance with the requirements of California Government Code Section 54954.2, this agenda has been posted outside the main gate of the OC San's Administration Building located at 10844 Ellis Avenue, Fountain Valley, California, and on the OC San's website at [www.ocsan.gov](http://www.ocsan.gov) not less than 72 hours prior to the meeting date and time above. All public records relating to each agenda item, including any public records distributed less than 72 hours prior to the meeting to all, or a majority of the Board of Directors, are available for public inspection in the office of the Clerk of the Board.

**AGENDA DESCRIPTION:** The agenda provides a brief general description of each item of business to be considered or discussed. The recommended action does not indicate what action will be taken. The Board of Directors may take any action which is deemed appropriate.

**MEETING AUDIO:** An audio recording of this meeting is available within 24 hours after adjournment of the meeting at <https://ocsd.legistar.com/Calendar.aspx> or by contacting the Clerk of the Board at (714) 593-7433.

**NOTICE TO DIRECTORS:** To place items on the agenda for a Committee or Board Meeting, the item must be submitted in writing to the Clerk of the Board: Kelly A. Lore, MMC, (714) 593-7433 / [klore@ocsan.gov](mailto:klore@ocsan.gov) at least 14 days before the meeting.

**FOR ANY QUESTIONS ON THE AGENDA, BOARD MEMBERS MAY CONTACT STAFF AT:**

General Manager: Jim Herberg, [jherberg@ocsan.gov](mailto:jherberg@ocsan.gov) / (714) 593-7300  
Asst. General Manager: Lorenzo Tyner, [ltyners@ocsan.gov](mailto:ltyners@ocsan.gov) / (714) 593-7550  
Asst. General Manager: Rob Thompson, [rthompson@ocsan.gov](mailto:rthompson@ocsan.gov) / (714) 593-7310  
Director of Human Resources: Celia Chandler, [cchandler@ocsan.gov](mailto:cchandler@ocsan.gov) / (714) 593-7202  
Director of Engineering: Kathy Millea, [kmillea@ocsan.gov](mailto:kmillea@ocsan.gov) / (714) 593-7365  
Director of Environmental Services: Lan Wiborg, [lwiborg@ocsan.gov](mailto:lwiborg@ocsan.gov) / (714) 593-7450  
Director of Operations & Maintenance: Riaz Moinuddin, [rmoinuddin@ocsan.gov](mailto:rmoinuddin@ocsan.gov) / (714) 593-7269

**CALL TO ORDER****PLEDGE OF ALLEGIANCE****ROLL CALL AND DECLARATION OF QUORUM:**

Clerk of the Board

**PUBLIC COMMENTS:**

*Your participation is always welcome. Specific information as to how to participate in a meeting is detailed in the Special Notice attached to this agenda. In general, OC San offers several ways in which to interact during meetings: you may join the meeting live via Teams on your computer or similar device or web browser, join the meeting live via telephone, view the meeting online, and/or submit comments for consideration before or during the meeting.*

*You may provide verbal comment in real time during the meeting. In order to provide a verbal comment, please raise your hand (directions provided in the Special Notice attached to this agenda) or alert the Clerk of the Board before or during the public comment period.*

*You may submit your comments and questions in writing for consideration in advance of the meeting by using the eComment feature available online at: <https://ocsd.legistar.com/Calendar.aspx> or sending them to [OCSanClerk@ocsan.gov](mailto:OCSanClerk@ocsan.gov) with the subject line "PUBLIC COMMENT ITEM # (insert the item number relevant to your comment)" or "PUBLIC COMMENT NON-AGENDA ITEM".*

*You may also submit comments and questions for consideration during the meeting by using the eComment feature available online at: <https://ocsd.legistar.com/Calendar.aspx>. The eComment feature will be available for the duration of the meeting.*

*All written public comments will be provided to the legislative body and may be read into the record or compiled as part of the record.*

**REPORTS:**

*The Chairperson and the General Manager may present verbal reports on miscellaneous matters of general interest to the Directors. These reports are for information only and require no action by the Directors.*

**CONSENT CALENDAR:**

*Consent Calendar Items are considered to be routine and will be enacted, by the Committee, after one motion, without discussion. Any items withdrawn from the Consent Calendar for separate discussion will be considered in the regular order of business.*

**1. APPROVAL OF MINUTES****[2022-2645](#)****RECOMMENDATION:**

Approve Minutes of the Regular Meeting of the Administration Committee held November 9, 2022.

**Originator:** Kelly Lore



**Attachments:** [Agenda Report](#)  
[11-09-2022 Administration Committee Minutes](#)

**2. INVEST AND/OR REINVEST ORANGE COUNTY SANITATION DISTRICT'S FUNDS AND ADOPT INVESTMENT POLICY STATEMENT** [2022-2389](#)

RECOMMENDATION: Recommend to the Board of Directors to:

Adopt Resolution No. OC SAN 22-36, entitled: "A Resolution of the Board of Directors of the Orange County Sanitation District Authorizing the Orange County Sanitation District's Treasurer to Invest and/or Reinvest the Orange County Sanitation District's Funds, Adopting the Orange County Sanitation District's Investment Policy Statement and Performance Benchmarks, and Repealing Resolution No. OC SAN 21-22".

**Originator:** Lorenzo Tyner

**Attachments:** [Agenda Report](#)  
[OC San Calendar Year 2022 Investment Policy Statement \(Redline\)](#)  
[OC San Calendar Year 2023 Investment Policy Statement \(Clean\)](#)  
[Proposed Resolution No. OC SAN 22-36](#)

**3. MOVE MANAGEMENT CONSULTING SERVICES** [2022-2585](#)

RECOMMENDATION:

- A. Approve a Professional Consultant Services Agreement to CBRE, Inc. to provide Move Management Consulting Services, Specification No. CS-2022-1336, for a total amount not to exceed \$108,390; and
- B. Approve a contingency of \$10,839 (10%).

**Originator:** Kathy Millea

**Attachments:** [Agenda Report](#)  
[CS-2022-1336 PCSA](#)

**4. MANAGED COPY CENTER SERVICES CHANGE ORDER** [2022-2651](#)

RECOMMENDATION:

- A. Approve a Change Order to add \$25,000 to Purchase Order 107521-OB for ARC Document Solutions to provide copy center services in accordance with the scope of work and terms and conditions of Specification No. S-2020-1177BD, for a new total amount not to exceed \$115,000 for the current contract year (January 1, 2022-December 31, 2022); and

- B. Approve three optional one-year renewals for a total amount not to exceed \$115,000 per year.

**Originator:** Lorenzo Tyner

**Attachments:** [Agenda Report](#)

**5. CONTRACTING AQUATIC BIOASSAY & CONSULTING  
LABORATORIES, INC. FOR TAXONOMIC SERVICES**

[2022-2655](#)

**RECOMMENDATION:** Recommend to the Board of Directors to:

- A. Approve a General Services Contract to Aquatic Bioassay & Consulting Laboratories, Inc. to provide services for sample processing and taxonomic identification of ocean bottom-dwelling animals as required by Orange County Sanitation District's NPDES ocean discharge permit, Specification No. S-2022-1366BD, for a total amount not to exceed \$200,000 for the period beginning March 1, 2023, through February 29, 2024, with four (4) one-year renewal options; and
- B. Approve an annual contingency of \$20,000 (10%).

**Originator:** Lan Wiborg

**Attachments:** [Agenda Report](#)  
[S-2022-1366BD General Services Contract](#)

**NON-CONSENT:**

**6. INTERNET FIREWALL UPGRADE**

[2022-2648](#)

**RECOMMENDATION:** Recommend to the Board of Directors to:

- A. Receive and file bid tabulation for Fortigate Firewall Upgrade, Specification No. E-2022-1363BD;
- B. Receive and file first Notice of Intent to Award dated October 13, 2022;
- C. Receive and file protest letter received from NH&A, LLC dated October 13, 2022 concerning the award to Xpert Solutions, Inc.;
- D. Receive and file second Notice of Intent to Award dated October 14, 2022;
- E. Receive and file second protest letter received from Xpert Solutions, Inc. dated October 18, 2022 concerning the award to NH&A, LLC;
- F. Receive and file Orange County Sanitation District's Protest Response Letter dated October 31, 2022;

- G. Approve a Purchase Order Contract to NH&A, LLC for the purchase of Fortigate Firewall Upgrade, Specification No. E-2022-1363BD, for a total amount not to exceed \$226,698 plus applicable sales tax;
- H. Approve four (4) optional one-year renewals for maintenance and support for an annual amount not to exceed \$80,458 plus applicable sales tax; and
- I. Approve a contingency of \$22,670 (10%) for the purchase upgrades and subsequent renewals.

**Originator:** Lorenzo Tyner

**Attachments:** [Agenda Report](#)  
[Bid Tabulation](#)  
[Notice of Intent to Award 10-13-2022](#)  
[Award Protest Request - NH&A 10-13-2022](#)  
[Revised Notice of Intent to Award 10-14-2022](#)  
[Opposition and Protest to Bid Award 10-18-2022](#)  
[OC San Protest Response - E-2022-1363BD 10-31-2022](#)

**7. NEW HEADQUARTERS AND INDUSTRIAL CONTROL SYSTEM NETWORK EQUIPMENT** [2022-2637](#)

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve a Purchase Order to ePlus Technology, Inc. for the purchase of information technology hardware (New Headquarters & Industrial Control System Network Equipment), Specification No. E-2022-1360BD, for a total amount not to exceed \$428,865, plus applicable sales tax and shipping; and
- B. Approve a contingency in the amount of \$42,886 (10%).

**Originator:** Lorenzo Tyner

**Attachments:** [Agenda Report](#)

**8. ORANGE COUNTY SANITATION DISTRICT WASTEWATER REVENUE PROGRAM RATE STUDY** [2022-2411](#)

RECOMMENDATION: Recommend to the Board of Directors to:

Receive and file the Orange County Sanitation District's 2022 Wastewater Rates, Fees, and Charges Study completed by HDR Engineering, Inc.

**Originator:** Lorenzo Tyner

**Attachments:** [Agenda Report](#)  
[2022 OC San Rate Study \(Draft\)](#)  
[Presentation - Rate Program Summary](#)

**9. PROPOSITION 218 NOTIFICATIONS**[2022-2412](#)

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Direct staff to prepare and mail Proposition 218 compliant notifications to affected property owners outlining a five-year regional sewer service fee schedule with annual increases of approximately 3.5 percent for fiscal years 2023-24 through 2027-28; and
- B. Authorize the General Manager to select a service provider for preparing, printing, and mailing the Proposition 218 compliant notifications and execute a Purchase Order for an amount not to exceed \$370,000.

**Originator:** Lorenzo Tyner

**Attachments:** [Agenda Report](#)

**10. DENALI WATER SOLUTIONS, LLC BIOSOLIDS HAULING SERVICES - SPECIFICATION NO. S-2020-1208BD - CONTINGENCY INCREASE**[2022-2657](#)

RECOMMENDATION: Recommend to the Board of Directors to:

Approve an additional 10% unit price per ton contingency (for a total of 20% unit price per ton contingency) for Denali Water Solutions, LLC Biosolids Hauling Services Specification No. S-2020-1208BD contract renewal to collect and haul Orange County Sanitation District's biosolids to the Inland Empire Regional Composting Facility and alternative sites for the period between January 1, 2023 through December 31, 2023.

**Originator:** Lan Wiborg

**Attachments:** [Agenda Report](#)  
[Presentation - Denali Contingency Increase](#)

**INFORMATION ITEMS:**

None.

**DEPARTMENT HEAD REPORTS:****CLOSED SESSION:**

None.

**OTHER BUSINESS AND COMMUNICATIONS OR SUPPLEMENTAL AGENDA ITEMS, IF ANY:**

**BOARD OF DIRECTORS INITIATED ITEMS FOR A FUTURE MEETING:**

At this time Directors may request staff to place an item on a future agenda.

**ADJOURNMENT:**

Adjourn the meeting until the Regular Meeting of the Administration Committee on February 8, 2023 at 5:00 p.m.



# ADMINISTRATION COMMITTEE

## Agenda Report

Administration Building  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
(714) 593-7433

---

**File #:** 2022-2645

**Agenda Date:** 12/14/2022

**Agenda Item No:** 1.

---

**FROM:** James D. Herberg, General Manager  
Originator: Kelly A. Lore, Clerk of the Board

**SUBJECT:**

### APPROVAL OF MINUTES

### GENERAL MANAGER'S RECOMMENDATION

#### RECOMMENDATION:

Approve Minutes of the Regular Meeting of the Administration Committee held November 9, 2022.

### BACKGROUND

In accordance with the Board of Directors Rules of Procedure, an accurate record of each meeting will be provided to the Directors for subsequent approval at the following meeting.

### RELEVANT STANDARDS

- Resolution No. OC SAN 21-04

### ATTACHMENT

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- Minutes of the Administration Committee meeting held November 9, 2022



---

## **CALL TO ORDER**

A regular meeting of the Administration Committee of the Orange County Sanitation District was called to order by Committee Chair Glenn Parker on Wednesday, November 9, 2022 at 5:00 p.m. in the Administration Building of the Orange County Sanitation District. Chair Parker stated that the meeting was being held telephonically and via Internet accessibility. Chair Parker led the flag salute.

## **ROLL CALL AND DECLARATION OF QUORUM:**

The Clerk of the Board declared a quorum present as follows:

**PRESENT:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**ABSENT:** Brad Avery and Rose Espinoza

**STAFF PRESENT:** Kelly Lore, Clerk of the Board, and Brian Engeln were present in the Board Room. Jim Herberg, General Manager; Rob Thompson, Assistant General Manager; Lorenzo Tyner, Assistant General Manager; Celia Chandler, Director of Human Resources; Kathy Millea, Director of Engineering; Riaz Moinuddin, Director of Operations and Maintenance; Lan Wiborg, Director of Environmental Services; Mo Abiodun; Randa Abu Shaban; Janine Aguilar; Jennifer Cabral; Kim Cardenas; Tina Knapp; Laura Maravilla; Tom Meregillano; Rob Michaels; Wally Ritchie; Thomas Vu; and Ruth Zintzun were in attendance telephonically.

**OTHERS PRESENT:** Brad Hogin, General Counsel, and Jennifer Farr, Partner at Davis Farr LLP, were in attendance virtually.

## **PUBLIC COMMENTS:**

None.

## **REPORTS:**

Chair Parker did not provide a report.

General Manager Jim Herberg reminded the Committee of the upcoming Special Board Meeting - State of OC San on November 15, 2022 at 9:00 a.m.; Regular meeting of the Board on November 16, 2022; and the upcoming administrative offices holiday closures on November 11, 24, 25 and December 23 and 26.

Assistant General Manager Lorenzo Tyner reported that information regarding the upcoming rate study would be presented as an informational item at the Steering Committee meeting in November; and the final rate study would be presented to the Administration Committee and the Board of Directors meetings in December for approval.

**CONSENT CALENDAR:**

**1. APPROVAL OF MINUTES**

**[2022-2584](#)**

**Originator:** Kelly Lore

MOVED, SECONDED, AND DULY CARRIED TO:

Approve Minutes of the Regular Meeting of the Administration Committee held October 12, 2022.

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**NOES:** None

**ABSENT:** Brad Avery and Rose Espinoza

**ABSTENTIONS:** None

**2. CONSOLIDATED FINANCIAL REPORT FOR THE FIRST QUARTER  
ENDED SEPTEMBER 30, 2022**

**[2022-2386](#)**

**Originator:** Lorenzo Tyner

MOVED, SECONDED, AND DULY CARRIED TO: Recommend to the Board of Directors to:

Receive and file the Orange County Sanitation District First Quarter Financial Report for the period ended September 30, 2022.

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**NOES:** None

**ABSENT:** Brad Avery and Rose Espinoza

**ABSTENTIONS:** None



---

3. **SERVICENOW IT SERVICE MANAGEMENT LICENSE RENEWAL** [2022-2590](#)

**Originator:** Lorenzo Tyner

MOVED, SECONDED, AND DULY CARRIED TO:

- A. Approve a Purchase Order to Insight Public Sector for the purchase of ServiceNow License Renewal using the OMNIA Partners Public Sector (formerly U.S. Communities) cooperative contract #4400006644 for a one-year contract for the period of December 30, 2022 through December 29, 2023 for a total amount not to exceed \$112,408, plus tax and delivery (if applicable); and
- B. Approve a contingency of \$11,241 (10%).

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**NOES:** None

**ABSENT:** Brad Avery and Rose Espinoza

**ABSTENTIONS:** None

4. **GENERAL MANAGER APPROVED PURCHASES AND ADDITIONS TO THE PRE-APPROVED OEM SOLE SOURCE LIST** [2022-2595](#)

**Originator:** Lorenzo Tyner

MOVED, SECONDED, AND DULY CARRIED TO: Recommend to the Board of Directors to:

- A. Receive and file Orange County Sanitation District purchases made under the General Manager's authority for the period of July 1, 2022 to September 30, 2022; and
- B. Approve the following additions to the pre-approved OEM Sole Source List:
- BEAMEX - Maintenance and Support for CMX Calibration Software and CMX Business Bridge Software
  - FORD HALL COMPANY INC. - Weir Wolf/Algae Sweep Automation Cleaning Equipment Parts and Service
  - MIDWAY MANUFACTURING & MACHINE - Custom Brackets & Fittings for Vehicles / Electric Carts and Portable Equipment
  - VAPEX ENVIRONMENTAL TECHNOLOGIES - SENTINEL Scrubber Monitor/Controller Products

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**NOES:** None  
**ABSENT:** Brad Avery and Rose Espinoza  
**ABSTENTIONS:** None

**NON-CONSENT:****5. COOPERATIVE PROCUREMENT AGREEMENTS**[2022-2582](#)

**Originator:** Lorenzo Tyner

Mr. Tyner provided a verbal presentation of the item and responded to questions from the Committee regarding the cooperative procurement process including the competitive bidding and approval at the State level; and no obligation to purchase through the process.

MOVED, SECONDED, AND DULY CARRIED TO: Recommend to the Board of Directors to:

Authorize the purchasing of information technology products, services, and solutions utilizing Cooperative Procurement Agreements (CPA) such as, but not limited to, OMNIA Partners Public Sector (formerly U.S. Communities), NASPO ValuePoint, and U.S. General Services Administration GSA Schedule 70/ GSA Multiple Award Schedule (MAS) for the period January 1, 2023 through December 31, 2023 for a total amount not to exceed \$2,000,000, in accordance with Ordinance No. OCSD-56, Section 2.03(B) Cooperative Purchases, with two (2) one-year renewal options.

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers  
**NOES:** None  
**ABSENT:** Brad Avery and Rose Espinoza  
**ABSTENTIONS:** None

**6. EMISSION REDUCTION CREDITS BROKER SOLICITATION**[2022-2587](#)

**Originator:** Lan Wiborg

Director of Environmental Services Lan Wiborg provided a PowerPoint presentation including a brief overview of emission reduction credits, priority reserve bank, and reactive organic gases surplus.

MOVED, SECONDED, AND DULY CARRIED TO: Recommend to the Board of Directors to:

Approve the solicitation for an Emission Reduction Credits (ERCs) brokerage firm to identify and secure a buyer(s) for the sale of surplus Reactive Organic Gases (ROG) ERCs at the best available value and to handle all market evaluations of ERCs, negotiations, and financial transactions with all appropriate parties.

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**NOES:** None

**ABSENT:** Brad Avery and Rose Espinoza

**ABSTENTIONS:** None

7. **ORANGE COUNTY SANITATION DISTRICT ANNUAL COMPREHENSIVE FINANCIAL REPORT FOR THE YEAR END JUNE 30, 2022** [2022-2387](#)

**Originator:** Lorenzo Tyner

OC San Accounting Supervisor Kim Cardenas provided a PowerPoint presentation including an overview of the Annual Comprehensive Financial report (ACFR), OC San's financial net position including increases and historical position, financial performance, capital improvement outlays, and available resources. Jennifer Farr, of Davis Farr, provided a PowerPoint presentation of the OC San audit including: the positive audit results of the ACFR, noting the approach taken and upcoming changes in audit standards.

MOVED, SECONDED, AND DULY CARRIED TO: Recommend to the Board of Directors to:

Receive and file the Orange County Sanitation District's (OC San) Annual Comprehensive Financial Report (ACFR) for the year ended June 30, 2022, prepared by staff and audited by Davis Farr, Certified Public Accountants, along with the following reports prepared by Davis Farr:

1. Report to the Board of Directors;
2. Independent Accountants' Report on Agreed-Upon Procedures Applied to Appropriations Limit Worksheets; and
3. Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With Government Auditing Standards.

**AYES:** Glenn Parker, Anthony Kuo, Art Brown, Kim Carr, Ryan Gallagher, Patrick Harper, Jordan Nefulda (Alternate), David Shawver, Andrew Nguyen, Chad Wanke and John Withers

**NOES:** None

**ABSENT:** Brad Avery and Rose Espinoza

**ABSTENTIONS:** None

**INFORMATION ITEMS:**

**8. HUMAN RESOURCES DEPARTMENT OVERVIEW**

[2022-2606](#)

**Originator:** Celia Chandler

Director of Human Resources Celia Chandler introduced HR and Risk Manager Laura Maravilla who provided a PowerPoint presentation that gave an overview of the Human Resources Department including Employee and Labor Relations, HR Operations, and Risk Management.

ITEM RECEIVED AS AN:

Information Item.

**DEPARTMENT HEAD REPORTS:**

Director of Operations and Maintenance Riaz Moinuddin provided an update on the recent Newport Beach spill near the Lido Pump Station. He stated that an additional update would be provided at the December Operations Committee meeting.

**CLOSED SESSION:**

None.

**OTHER BUSINESS AND COMMUNICATIONS OR SUPPLEMENTAL AGENDA ITEMS, IF ANY:**

None.

**BOARD OF DIRECTORS INITIATED ITEMS FOR A FUTURE MEETING:**

None.

**ADJOURNMENT:**

Prior to adjournment, Chair Parker stated this would be his last meeting serving as Administration Committee Chairman as he did not seek reelection. He thanked everyone for their support.

Chair Parker declared the meeting adjourned at 6:08 p.m. to the next Regular Administration Committee meeting to be held on Wednesday, December 14, 2022 at 5:00 p.m.

Submitted by:

---

Kelly A. Lore, MMC  
Clerk of the Board



# ADMINISTRATION COMMITTEE

## Agenda Report

Administration Building  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
(714) 593-7433

---

**File #:** 2022-2389

**Agenda Date:** 12/14/2022

**Agenda Item No:** 2.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lorenzo Tyner, Assistant General Manager

**SUBJECT:**

**INVEST AND/OR REINVEST ORANGE COUNTY SANITATION DISTRICT'S FUNDS AND ADOPT INVESTMENT POLICY STATEMENT**

**GENERAL MANAGER'S RECOMMENDATION**

**RECOMMENDATION:** Recommend to the Board of Directors to:

Adopt Resolution No. OC SAN 22-36, entitled: "A Resolution of the Board of Directors of the Orange County Sanitation District Authorizing the Orange County Sanitation District's Treasurer to Invest and/or Reinvest the Orange County Sanitation District's Funds, Adopting the Orange County Sanitation District's Investment Policy Statement and Performance Benchmarks, and Repealing Resolution No. OC SAN 21-22".

**BACKGROUND**

As there were no significant changes in State law governing the Orange County Sanitation District's (OC San) investments, this agenda item presents updates to the OC San Investment Policy Statement for consideration by the Administration Committee as it is the oversight committee for the Investment Policy (Section 18.2). The Investment Policy reflects minor changes which include minor formatting and grammatical corrections. With adoption of the Resolution, the Board of Directors would readopt OC San's Investment Policy Statement, portfolio performance benchmarks, and monitoring and reporting requirements for calendar year 2023.

**RELEVANT STANDARDS**

- Comply with OC San Policy: OC San Investment Policy
- Comply with Government Code Sections 53607 & 53646

**PROBLEM**

Government Code §53607 allows for the Board of Directors to delegate authority to invest and/or reinvest OC San's funds to the Treasurer for a one-year period. Government Code §53646 requires OC San to review its Investment Policy annually and readopt its Policy at a public meeting, which will establish specific performance benchmarks and objectives, and specific monitoring and reports. Pursuant to Government Code §53646, OC San's Investment Policy must be reviewed and readopted prior to December 31, 2022.

## **PROPOSED SOLUTION**

With adoption of the proposed Resolution, the Board of Directors would renew its delegation of investment authority to the Assistant General Manager & Director of Finance and Administrative Services/Treasurer for a one-year period, January 1, 2023 to December 31, 2023, in compliance with the requirements of Government Code §53607. Each year, the Board of Directors will consider similar actions, along with the annual reconsideration of OC San's Investment Policy.

## **TIMING CONCERNS**

The Board of Directors delegation of authority to the Assistant General Manager & Director of Finance and Administrative Services/Treasurer to invest and/or reinvest OC San's funds will expire on December 31, 2022.

## **RAMIFICATIONS OF NOT TAKING ACTION**

OC San's Assistant General Manager & Director of Finance and Administrative Services/Treasurer will not have the authority to invest and/or reinvest OC San's funds and OC San will not be in compliance with Government Code §53646.

## **PRIOR COMMITTEE/BOARD ACTIONS**

December 2021 - Board adopted Resolution No. OC SAN 21-22, entitled: "A Resolution of the Board of Directors of the Orange County Sanitation District, Authorizing the Orange County Sanitation District's Treasurer to Invest and/or Reinvest the Orange County Sanitation District's Funds, Adopting the Orange County Sanitation District's Investment Policy Statement and Performance Benchmarks, and Repealing Resolution No. OCSD 20-13".

## **ADDITIONAL INFORMATION**

OC San's Investment Policy Statement is a comprehensive document describing the policy, authorizations, benchmarks, delegations, and investment limitations. The Investment Policy will govern the investment activities of Chandler Asset Management, OC San's external money manager, on behalf of OC San.

### Annual Review of Investment Policy

The Investment Policy includes the requirement that OC San shall review its Investment Policy annually (Sections 1.2 and 18.1). Chandler Asset Management reviewed the existing policy to ensure that the language remains current with the Government Code. The proposed Investment Policy is attached with redlined changes from the most recent approved policy in December 2021.

### Annual Delegation of Investment Authority

Effective January 1, 1997, Government Code §53607 states that governing boards of local agencies may only delegate authority to invest and/or reinvest agency funds to the agency's Treasurer for a one-year period.

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- Orange County Sanitation District Calendar Year 2022 Investment Policy Statement (Redline)
- Orange County Sanitation District Calendar Year 2023 Investment Policy Statement (Clean)
- Proposed Resolution No. OC SAN 22-36



# ORANGE COUNTY SANITATION DISTRICT

## INVESTMENT POLICY STATEMENT

---

### 1.0 **Policy:**

It is the policy of the Orange County Sanitation District (OC San) to invest public funds in a manner which ensures the safety and preservation of capital while meeting reasonably anticipated operating expenditure needs, achieving a reasonable rate of return and conforming to all state and local statutes governing the investment of public funds.

1.1. This Investment Policy is set forth by OC San for the following purposes:

1.1.1. To establish a clear understanding for the Board of Directors, OC San management, responsible employees, and third parties of the objectives, policies, and guidelines for the investment of OC San's idle and surplus funds.

1.1.2. To offer guidance to investment staff and any external investment advisors on the investment of OC San funds.

1.1.3. To establish a basis for evaluating investment results.

1.2. OC San establishes investment policies which meet its current investment goals. OC San shall review this policy annually and may change its policies as its investment objectives change.

### 2.0 **Scope:**

This Investment Policy applies to all financial assets of OC San; except for the proceeds of OC San's capital projects financing program, which are invested in accordance with provisions of their specific bond indentures; and such other funds excluded by law or other Board-approved covenant or agreement.

These funds are accounted for by OC San as Enterprise Funds as represented in OC San's Annual Comprehensive Financial Report.

### 3.0 **Standard of Prudence:**

The standard of prudence to be used by OC San internal staff, and any authorized investment advisor(s), shall be as described in Section 53600.3 of the California Government Code as follows: Except as provided in subdivision (a) of Section 27000.3, all governing bodies of local agencies or persons authorized to make investment decisions on behalf of those local agencies investing public funds pursuant to this chapter are trustees and therefore fiduciaries subject to the **prudent investor** standard. When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the agency, that a **prudent person** acting in a like capacity and

familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency. Within the limitations of this section and considering individual investments as part of an overall strategy, investments may be acquired as authorized by law.

#### 4.0 **Investment Objectives:**

The primary objectives of OC San's investment activities, in priority order, and as described in Section 53600.5 of the California Government Code, shall be:

- 4.1 **Safety:** The safety and preservation of principal is the foremost objective of the investment program of OC San. Investments shall be selected in a manner that seeks to ensure the preservation of capital in OC San's overall portfolio. This will be accomplished through a program of diversification, more fully described in Section 13.0, and maturity limitations, more fully described in Section 14.0, in order that potential losses on individual securities do not exceed the income generated from the remainder of the portfolio.
- 4.2 **Liquidity:** The investment program will be administered in a manner that will ensure that sufficient funds are available for OC San to meet its reasonably anticipated operating expenditure needs.
- 4.3 **Return on Investments:** The OC San investment portfolio will be structured and managed with the objective of achieving a market rate of return throughout budgetary and economic cycles, commensurate with legal, safety and liquidity considerations.

#### 5.0 **Delegation of Authority:**

- 5.1 Authority to manage OC San's investment program is derived from the California Government Code Sections 53600 *et seq.* and Sections 53635 *et seq.* The Board of Directors hereby delegates management responsibility for OC San's investment program to its Assistant General Manager & Director of Finance and Administrative Services/Treasurer, who shall establish written procedures for the operation of the investment program, consistent with this **pPolicy**. The Controller/Assistant Treasurer shall be responsible for day-to-day administration, monitoring, and the development of written administrative procedures for the operation of the investment program, consistent with this **pPolicy**. No person may engage in an investment transaction except as provided under the terms of this **pPolicy** and the procedures established by the Treasurer. The Treasurer shall be responsible for all transactions undertaken by OC San internal staff and shall establish a system of controls to regulate the activities of internal staff and external investment advisors engaged in accordance with Section 5.3.
- 5.2 The administrative procedures for the operation of OC San's investment program will provide for, but not be limited to, the following:

5.2.1 Formats for monthly and quarterly reports to the Administration Committee and the Board of Directors.

5.2.2 Compliance with generally accepted accounting principles of the Government Accounting Standards Board.

5.2.3 Establishment of benchmarks for performance measurement.

5.2.4 Establishment of a system of written internal controls.

5.2.5 Establishment of written procedures for competitive bids and offerings of securities that may be purchased or sold by internal OC San staff.

5.2.6 Establishment of a Desk Procedures Manual for treasury operations and management.

5.3 The Board of Directors may, in its discretion, engage the services of one or more registered investment advisors to assist in the management of OC San's investment portfolio in a manner consistent with OC San's objectives. Such external investment advisors, which shall be selected through a competitive process, shall be granted discretion to purchase and sell investment securities in accordance with this Investment Policy. Such advisors must be registered under the Investment Advisers Act of 1940 or be exempt from such registration.

## 6.0 **Ethics and Conflicts of Interest:**

Officers and employees of OC San involved in the investment process shall refrain from personal business activities that could conflict with proper execution of OC San's investment program, or which could impair their ability to make impartial investment decisions. Employees and investment officials shall disclose to the General Manager any material financial interests in financial institutions that conduct business within OC San's boundaries; and they shall further disclose any large personal financial/investment positions, the performance of which could be related to the performance of positions in OC San's portfolio.

## 7.0 **Authorized Financial Dealers and Institutions:**

7.1 For investment transactions conducted by OC San internal staff, the Treasurer will maintain a list of financial institutions authorized to provide investment services to OC San, including "primary" or regional dealers that qualify under Securities and Exchange Commission Rule 15C3-1 (Uniform Net Capital rule) and Federal or State of California chartered banks. No public deposit shall be made except in a qualified public depository as established by State law.

All financial institutions which desire to become qualified bidders for investment transactions with OC San must supply the following for evaluation by the Treasurer:

7.1.1. Audited financial statements for the institution's three ~~(3)~~ most recent fiscal years.

7.1.2. A statement, in the format prescribed by the Government Finance Officers Association (GFOA), certifying that the institution has reviewed OC San's Investment Policy and that all securities offered to OC San shall comply fully and in every instance with all provisions of the California Government Code and with this Investment Policy. The current statement is presented in Appendix "A."

7.1.3. A statement describing the regulatory status of the dealer, and the background and expertise of the dealer's representatives.

Selection of financial institutions, broker/dealers and banks authorized to engage in transactions with OC San shall be made through a competitive process. An annual review of the financial condition of qualified institutions will be conducted by the Treasurer.

7.2 Selection of broker/dealers used by external investment advisors retained by OC San, shall be in compliance with contract provisions between OC San and any external investment advisors and shall be in substantially the following form:

Use of Securities Brokers: Neither the Investment Advisor nor any parent, subsidiary or related firm shall act as a securities broker with respect to any purchases or sales of securities which may be made on behalf of OC San, provided that this limitation shall not prevent the Investment Advisor from utilizing the services of a securities broker which is a parent, subsidiary or related firm, provided such broker effects transactions on a "cost only" or "nonprofit" basis to itself and provides competitive execution. The Investment Advisor shall provide OC San with a list of suitable independent brokerage firms (including names and addresses) meeting the requirements of Government Code Section 53601.5, and, unless otherwise directed by OC San, the Investment Advisor may utilize the service of any of such independent securities brokerage firms it deems appropriate to the extent that such firms are competitive with respect to price of services and execution.

## 8.0 **Authorized and Suitable Investments:**

All investments shall be made in accordance with the California Government Code including Sections 16429.1 *et seq.*, 53600 *et seq.*, and 53684, and as described within this Investment Policy. Permitted investments under this Policy shall include:

- 8.1 **Securities, obligations, participations, or other instruments of, or issued by, or fully guaranteed as to principal and interest by the US Government**, a federal agency, or a US Government-sponsored enterprise pursuant to Section 53601 (f) of the California Government Code. US Treasury securities must make up at least 10% of the portfolio.
- 8.2 **Supranational Obligations** issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, or Inter-American Development Bank. Securities must be eligible for purchase in the United States and be U.S. dollar denominated senior unsecured unsubordinated obligations, with a maximum maturity of five years. Securities eligible for purchase under this section must be rated "AA" or better by a Nationally Recognized Statistical Rating Organization (NRSRO) and shall not exceed 30% of the total portfolio.
- 8.3 **Mortgage pass-through security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable pass-through certificate, or consumer receivable-backed bond.** Securities eligible for investment under this subdivision shall be rated in a rating category of "AA" or its equivalent or better by an NRSRO and have a maximum remaining maturity of five years or less. Purchase of securities authorized by this subdivision may not exceed ~~20% percent~~ of the agency's surplus moneys that may be invested pursuant to this section. Purchase of mortgage derivatives, which include interest-only payments (IOs) and principal-only payments (POs); inverse floaters, and RE-REMICs (Real Estate Mortgage Investment Conduits), is hereby prohibited.
- 8.4 **Commercial paper** of "prime" quality of the highest ranking or of the highest letter and number rating as provided by an NRSRO, and issued by a domestic corporation organized and operating in the United States with assets in excess of \$500 million and having a rating of "A" or better on its long-term debt as provided by an NRSRO. Purchases of eligible commercial paper may not exceed 270 days to maturity from the date of purchase. Purchases of commercial paper shall not exceed 40% of the market value of the portfolio. No more than 5% of the market value of the portfolio, or 10% of the issuer's outstanding paper, may be invested in commercial paper issued by any one ~~(1)~~ eligible corporation.
- 8.5 **Banker's acceptances** issued by institutions, the short-term obligations of which are rated of the highest ranking or the highest letter and number rating as provided by an NRSRO provided that: (a) the acceptance is eligible for purchase by the Federal Reserve System; (b) the maturity does not exceed 180 days; (c) no more than 40% of the total portfolio may be invested in banker's acceptances; and (d) no more than 5% of the total portfolio may be invested in the banker's acceptances of any one ~~(1)~~ commercial bank.

- 8.6 **Medium term (or corporate) notes** of a maximum of five ~~(5)~~ years maturity issued by corporations organized and operating within the United States, or issued by depository institutions licensed by the United States, or any state, and operating within the United States with assets in excess of \$500 million, and which is rated in a rating category of "A" or better on its long-term debt as provided by an NRSRO. If, after purchase, the rating of an eligible note falls below the minimum rating category stipulated above, the external investment advisor shall notify OC San of the downgrade and shall present an analysis and recommendations as to the disposition of the note consistent with the investment objectives of this Investment Policy. No more than 30% of the portfolio may be invested in medium term notes.
- 8.7 **Notes, bonds, or other obligations** that are at all times secured by a valid first priority security interest in securities of the types listed by California Government Code Section 53651 as eligible securities for the purpose of securing local agency deposits having a market value at least equal to that required by California Government Code Section 53652 for the purpose of securing local agency deposits. The securities serving as collateral shall be placed by delivery or book entry into the custody of a trust company or the trust department of a bank that is not affiliated with the issuer of the secured obligation, and the security interest shall be perfected in accordance with the requirements of the Uniform Commercial Code or federal regulations applicable to the types of securities in which the security interest is granted.
- 8.8 **Shares of mutual funds** investing in securities permitted under this policy and under Section 53601 (I) of the California Government Code. Such funds must either: (1) attain the highest ranking, or the highest letter and numerical rating, provided by not less than two of the three largest nationally recognized rating services; or (2) have an Investment Advisor registered with the Securities and Exchange Commission with not less than five ~~(5)~~ years of experience investing in the securities and obligations authorized under this ~~p~~Policy and under California Government Code Section 53601 and with assets under management in excess of \$500 million. The purchase price of shares of beneficial interest purchased pursuant to this policy and the California Government Code may not include any commission that the companies may charge and shall not exceed 20% of OC San's surplus money that may be invested pursuant to this section. No more than 10% of OC San's surplus funds may be invested in shares of beneficial interest of any one ~~(1)~~ mutual fund pursuant to this section. Money market mutual funds are limited to 20% per issuer and are not subject to the 10% stipulation.
- 8.9 **Certificates of deposit:**
- 8.9.1 **Secured (collateralized) time deposits** issued by a nationally or state-chartered bank or state or federal savings and loan association, as defined by Section 5102 of the California Financial Code, and having a net operating profit in the two ~~(2)~~ most recently completed fiscal years. Collateral must comply with Chapter 4, Bank Deposit Law, Section 16500



*et seq.*, and

Chapter 4.5, Savings and Loan Association and Credit Union Deposit Law, Section 16600 *et seq.*, of the California Government Code.

8.9.2 **Negotiable certificates of deposit (NCDs)** issued by a nationally or state-chartered bank or state of federal savings and loan association, as defined by Section 5102 of the California Financial Code; and which shall have a rating of "A" or better on its long-term debt as provided by a NRSRO; or which shall have the highest letter and number rating for deposits as provided by a NRSRO; or as otherwise approved by the Board of Directors. No more than 30% of the portfolio may be invested in securities pursuant to this section.

8.9.3 To be eligible to receive local agency money, a bank, savings association, federal association, or federally insured individual loan company shall have received an overall rating of not less than "satisfactory" in its most recent evaluation by the appropriate federal financial supervisory agency of its record of meeting the credit needs of California's communities, including low and moderate income neighborhoods, pursuant to Section 2906 of Title 12 of the United States Code.

8.10 **Taxable or tax-exempt municipal bonds** issued by any of the 50 United States. Such securities must be rated "A" or higher by a NRSRO; or as otherwise approved by the Board of Directors.

8.11 **The State of California Local Agency Investment Fund (LAIF).** LAIF is an investment alternative for California's local governments and special districts managed by the State Treasurer's Office. LAIF is more fully described in the Glossary (See Appendix "C"). OC San shall use LAIF as a short-term cash management facility. Investment of OC San funds in LAIF shall be subject to investigation and due diligence prior to investing, and on a continual basis to a level of review pursuant to Section 3.0, Standard of Prudence, of this [pPolicy](#).

8.12 **The Orange County Treasurer's Money Market Commingled Investment Pool (OCCIP).** The OCCIP is a money market investment pool managed by the Orange County Treasurer's Office. OCCIP is more fully described in the Glossary (See Appendix "C"). OC San has no funds invested in OCCIP at this time. Investment of OC San funds in OCCIP would be subject to investigation and due diligence prior to investing, and on a continual basis to a level of review pursuant to Section 3.0, Standard of Prudence, of this [pPolicy](#).

8.13 **Repurchase agreements** provided that:

8.13.1 All repurchase agreements shall be collateralized with securities eligible for purchase under this [pPolicy](#). In order to anticipate market changes and to provide a level of security for all repurchase agreement

transactions, collateralization shall be maintained at a level of at least 102% of the market

value of the repurchase agreements and shall be adjusted no less than weekly.

8.13.2 All repurchase agreements must be the subject of a Master Repurchase Agreement between OC San and the provider of the repurchase agreement. The Master Repurchase Agreement shall be substantially in the form developed by the Securities Industry and Financial Markets Association.

**8.14 Reverse repurchase agreements** provided that:

8.14.1 No more than ~~five percent (5%)~~ of OC San's portfolio shall be invested in reverse repurchase agreements, and there shall be no long-term reverse repurchase agreements unless otherwise authorized by the Board of Directors.

8.14.2 The maximum maturity of reverse repurchase agreements shall be ~~ninety (90)~~ days.

8.14.3 Reverse repurchase agreements shall mature on the exact date of a known cash flow which will be unconditionally available to repay the maturing reverse repurchase agreement.

8.14.4 Proceeds of reverse repurchase agreements shall be used solely to supplement portfolio income or to provide portfolio liquidity and shall not be used to speculate on market movements.

8.14.5 All reverse repurchase agreements must be the subject of a Master Repurchase Agreement between OC San and the provider of the reverse repurchase agreement. The Master Repurchase Agreement shall be substantially in the form developed by the Securities Industry and Financial Markets Association.

**8.15 Public Bank Obligations** of a maximum of five ~~(5)~~ years maturity which includes commercial paper, debt securities, or other obligations of a public bank, a public bank as defined in California Government Code Section 57600-57607.

8.16 Sales of OC San-owned securities in the secondary market may incur losses in order to improve the risk or return characteristics of the portfolio, to prevent anticipated further erosion of principal, or when trading for securities that result in an expected net economic gain to OC San.

8.17 If securities owned by OC San are downgraded below the quality required by this Investment Policy, it shall be OC San's policy to review the credit



situation and make a determination as to whether to sell or retain such securities in the portfolio. If a decision is made to retain the downgraded securities in the portfolio, their presence in the portfolio will be monitored

and reported quarterly to the OC San General Manager, the Administration Committee and Board of Directors.

- 8.18 OC San is authorized to invest in securities issued by or backed by the United States Government that could result in zero or negative interest accrual if held to maturity.

#### 9.0 **Review of Investment Portfolio:**

The securities held by OC San must be in compliance with Section 8.0 “Authorized and Suitable Investments” at time of purchase. If at a later date, a security is no longer in compliance with Section 8.0, the Treasurer shall report the non-compliant security to the Administration Committee and the Board of Directors and shall include a disclosure in the quarterly Treasurer’s Report if the security is held at the date the report is prepared.

#### 10.0 **Investment Pools/Mutual Funds:**

A thorough investigation of the pool/fund is required prior to investing, and on a continual basis. A questionnaire shall be developed that will provide the following information:

- 10.1 A description of eligible investment securities, and a written statement of investment policy and objectives.
- 10.2 A description of interest calculations and how they are distributed, and how gains and losses are treated.
- 10.3 A description of how the securities are safeguarded (including the settlement processes) and how often the securities are priced and the program audited.
- 10.4 A description of who may invest in the program, how often and what size deposits and withdrawals are allowed.
- 10.5 A schedule for receiving statements and portfolio listings.
- 10.6 A description of the utilization and level of reserves, retained earnings or other collateral and how they are used by the fund.
- 10.7 A fee schedule, and when and how is it assessed.
- 10.8 Whether the pool/fund is eligible for bond proceeds and/or whether it will accept such proceeds.

#### 11.0 **Collateralization:**

Generally, the value to secure deposits under this ~~p~~Policy shall comply with Section 53652 of the California Government Code. Collateralization will be required for secured time deposits, as more fully described in Section 8.9.1; and repurchase agreements, as more fully described in Section 8.13.1. Collateral will always be held by an independent third-party, as more fully described in Section 12.0. The right of collateral substitution is granted. Under provisions of the California Government Code, California banks and savings and loans associations are required to secure OC San's deposits by pledging government securities with a value of 110% of principal and accrued interest. State law also allows financial institutions to secure OC San's deposits by pledging first trust deed mortgage notes having a value of 150% of OC San's total deposits.

#### 12.0 **Safekeeping and Custody:**

All securities transactions, including collateral for repurchase agreements, entered into by, or on behalf of OC San, shall be conducted on a **delivery-versus-payment (DVP)** basis. Securities will be held by OC San's third-party custodian bank, which shall be selected through a competitive process, or that agent's representative, or in the agent's account at the Federal Reserve Bank, **or within clearing corporations in the U.S.**, and evidenced by book entry statements. Third-party safekeeping arrangements will be approved by the Treasurer and will be corroborated by a written custodial agreement.

#### 13.0 **Diversification:**

OC San will diversify its investments by security type, issuer and financial institution in accordance with the following:

- 13.1 There is no limit on investment in securities issued by or guaranteed by the full faith and credit of the U.S. government.
- 13.2 No more than 20% of the portfolio may be invested in securities of a single agency of the U.S. government, which does not provide the full faith and credit of the U.S. government.
- 13.3 No more than 5% of the portfolio may be invested in securities of any one issuer, other than Supranationals, the U.S. government or its agencies. Investment in mutual funds is not governed by this Section 13.3. See Section 13.8 for conditions of purchase of mutual funds.
- 13.4 No individual holding shall constitute more than 5% of the total debt outstanding of any issuer.
- 13.5 No more than 40% of the portfolio may be invested in banker's acceptances.
- 13.6 No more than 40% of the portfolio may be invested in commercial paper.
- 13.7 No more than 30% of the portfolio may be invested in medium-term (corporate) notes.
- 13.8 No more than 20% of the portfolio may be invested in mutual funds. No

more than 10% of OC San's portfolio may be invested in shares of beneficial interest of any one ~~(1)~~ mutual fund. Money market mutual funds are limited to 20% per issuer and are not subject to the 10% stipulation.

13.9 No more than 30% of the portfolio may be invested in negotiable certificates of deposit.

13.10 No more than 10% of the portfolio may be invested in eligible municipal bonds.

13.11 No more than 20% of the Long Term Operating Monies portfolio may be invested in a combination of mortgage-backed securities, CMOs and asset-backed securities.

13.12 No more than the statutory maximum may be invested in LAIF.

13.13 No more than 15% of the portfolio may be invested in the Orange County Investment Pool.

13.14 No more than 20% of the portfolio may be invested in repurchase agreements.

13.15 No more than 5% of the portfolio may be invested in reverse repurchase agreements.

#### 14.0 **Maximum Maturities:**

To the extent possible, OC San will attempt to match its investments with reasonably anticipated cash flow requirements. The Treasurer shall develop a five-year cash flow forecast, which shall be updated quarterly. Based on this forecast, the Treasurer shall designate, from time-to-time, the amounts to be allocated to the investment portfolio. OC San monies invested in accordance with this ~~p~~Policy are divided into two ~~(2)~~ categories:

14.1 **Liquid Operating Monies.** Funds needed for current operating and capital expenditures are known as Liquid Operating Monies.

14.1.1 The maximum final stated maturity of individual securities in the Liquid Operating Monies account portfolio shall be one ~~(1)~~ year from the date of settlement.

14.1.2 The average duration of the Liquid Operating Monies account portfolio shall be recommended by the Treasurer based on OC San's cash flow requirements but may never exceed 180 days.

14.2 **Long Term Operating Monies.** Funds needed for longer term purposes are known as the Long Term Operating Monies.

14.2.1 The maximum final stated maturity of individual securities in the Long Term Operating Monies account portfolio shall be five ~~(5)~~ years from

the date of settlement.

14.2.2 The duration of the Long Term Operating Monies account portfolio shall be recommended by the Treasurer based on OC San's five-year cash flow forecast but may never exceed 60 months.

14.2.3 The duration of the Long Term Operating Monies account portfolio shall never exceed 120% of the duration as established in accordance with Section 14.2.2.

14.2.4 The duration of the Long Term Operating Monies account portfolio shall never be less than 80% of the duration as established in accordance with Section 14.2.2.

#### 15.0 **Internal Control:**

The Treasurer shall establish an annual process of independent review by an external auditor. This review will provide internal control by assuring compliance with policies and procedures.

#### 16.0 **Performance Objectives and Benchmarks:**

16.1 **Overall objective.** The investment portfolio of OC San shall be designed with the overall objective of obtaining a rate of return throughout budgetary and economic cycles, commensurate with investment risk constraints and reasonably anticipated cash flow needs.

16.2 **The Liquid Operating Monies.** The investment performance objective for the Liquid Operating Monies shall be to earn a total rate of return over a market cycle which exceeds the return on a market index approved by the Administration Committee and by the Board of Directors, when the duration of the portfolio is established. This market index is  
— more fully described in Board Resolution No. OC SAN 224-XX (see Appendix "B").

16.3 **The Long Term Operating Monies.** The investment performance objective for the Long Term Operating Monies shall be to earn a total rate of return over a market cycle which exceeds the return on a market index selected by the Administration Committee and approved by the Board of Directors, when the duration of the portfolio is established. This market index is more fully described in Board Resolution No. OC SAN 224-XX (See Appendix "B").

#### 17.0 **Reporting:**

17.1 Monthly transaction reports in accordance with California Government Code Section 53607 shall be submitted by the Treasurer to the Board of

Directors.

- 17.2 Quarterly investment reports will be submitted by the Treasurer to the Administration Committee which shall forward the reports to the Board of Directors. The quarterly reports shall provide clear and concise status information on OC San's portfolios at the end of each reporting period, including performance measures using the benchmarks described in Section 16.0 of this Investment Policy. These reports shall contain listings of individual securities held at the end of each reporting period, and shall disclose, at a minimum, the following information about the risk characteristics of OC San's portfolio:

17.2.1 Cost and accurate and complete market value of the portfolio.

17.2.2 Modified duration of the portfolio compared to Benchmark.

17.2.3 Dollar change in value of the portfolio for a ~~one percent~~ (1%) change in interest rates.

17.2.4 Percent of portfolio invested in reverse repurchase agreements, and a schedule which matches the maturity of such reverse repurchase agreements with the cash flows which are available to repay them at maturity.

17.2.5 For the Liquid Operating Monies account only, the percent of portfolio maturing within 90 days.

17.2.6 Average portfolio credit quality.

17.2.7 Percent of portfolio with credit ratings below "A" by any rating agency, and a description of such securities.

17.2.8 State that all investments are in compliance with this policy and the California Government Code or provide a listing of any transactions or holdings which do not comply with this policy or with the California Government Code.

17.2.9 Time-weighted total rate of return for the portfolio for the prior three months, ~~six months, nine months,~~ twelve months, ~~year-to-date,~~ and since inception compared to the Benchmark returns for the same periods.

17.2.10 State that sufficient funds are available for OC San to meet its operating expenditure requirements for the next six months, or if not, state the reasons for the shortfall.

- 17.3 OC San's Treasurer shall meet quarterly with the Administration Committee to review investment performance, proposed strategies, and compliance with this Investment Policy. External investment advisors may be required to attend said meetings at the discretion of the Chair~~person~~~~man~~ of the

Administration Committee.

18.0 **Investment Policy Adoption and Revision:**

- 18.1 The Investment Policy of OC San shall be adopted by resolution of the Board of Directors. The Investment Policy shall be reviewed on an annual basis in accordance with California Government Code Section 53646, by the Administration Committee, which shall recommend revisions, as appropriate, to the Board of Directors. Any modifications made thereto shall be approved by the Board of Directors.
- 18.2 The Administration Committee shall serve as the oversight committee for OC San's Investment program and shall adopt guidelines for the ongoing review of duration, quality and liquidity of OC San's portfolio.

# ORANGE COUNTY SANITATION DISTRICT

## INVESTMENT POLICY STATEMENT

---

### 1.0 **Policy:**

It is the policy of the Orange County Sanitation District (OC San) to invest public funds in a manner which ensures the safety and preservation of capital while meeting reasonably anticipated operating expenditure needs, achieving a reasonable rate of return and conforming to all state and local statutes governing the investment of public funds.

1.1. This Investment Policy is set forth by OC San for the following purposes:

1.1.1. To establish a clear understanding for the Board of Directors, OC San management, responsible employees and third parties of the objectives, policies and guidelines for the investment of OC San's idle and surplus funds.

1.1.2. To offer guidance to investment staff and any external investment advisors on the investment of OC San funds.

1.1.3. To establish a basis for evaluating investment results.

1.2. OC San establishes investment policies which meet its current investment goals. OC San shall review this policy annually and may change its policies as its investment objectives change.

### 2.0 **Scope:**

This Investment Policy applies to all financial assets of OC San; except for the proceeds of OC San's capital projects financing program, which are invested in accordance with provisions of their specific bond indentures; and such other funds excluded by law or other Board-approved covenant or agreement.

These funds are accounted for by OC San as Enterprise Funds as represented in OC San's Annual Comprehensive Financial Report.

### 3.0 **Standard of Prudence:**

The standard of prudence to be used by OC San internal staff, and any authorized investment advisor(s), shall be as described in Section 53600.3 of the California Government Code as follows: Except as provided in subdivision (a) of Section 27000.3, all governing bodies of local agencies or persons authorized to make investment decisions on behalf of those local agencies investing public funds pursuant to this chapter are trustees and therefore fiduciaries subject to the **prudent investor** standard. When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the agency, that a **prudent person** acting in a like capacity and

familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency. Within the limitations of this section and considering individual investments as part of an overall strategy, investments may be acquired as authorized by law.

#### 4.0 **Investment Objectives:**

The primary objectives of OC San's investment activities, in priority order, and as described in Section 53600.5 of the California Government Code, shall be:

- 4.1 **Safety:** The safety and preservation of principal is the foremost objective of the investment program of OC San. Investments shall be selected in a manner that seeks to ensure the preservation of capital in OC San's overall portfolio. This will be accomplished through a program of diversification, more fully described in Section 13.0, and maturity limitations, more fully described in Section 14.0, in order that potential losses on individual securities do not exceed the income generated from the remainder of the portfolio.
- 4.2 **Liquidity:** The investment program will be administered in a manner that will ensure that sufficient funds are available for OC San to meet its reasonably anticipated operating expenditure needs.
- 4.3 **Return on Investments:** The OC San investment portfolio will be structured and managed with the objective of achieving a market rate of return throughout budgetary and economic cycles, commensurate with legal, safety and liquidity considerations.

#### 5.0 **Delegation of Authority:**

- 5.1 Authority to manage OC San's investment program is derived from the California Government Code Sections 53600 *et seq.* and Sections 53635 *et seq.* The Board of Directors hereby delegates management responsibility for OC San's investment program to its Assistant General Manager & Director of Finance and Administrative Services/Treasurer, who shall establish written procedures for the operation of the investment program, consistent with this policy. The Controller/Assistant Treasurer shall be responsible for day-to-day administration, monitoring and the development of written administrative procedures for the operation of the investment program, consistent with this policy. No person may engage in an investment transaction except as provided under the terms of this policy and the procedures established by the Treasurer. The Treasurer shall be responsible for all transactions undertaken by OC San internal staff and shall establish a system of controls to regulate the activities of internal staff and external investment advisors engaged in accordance with Section 5.3.
- 5.2 The administrative procedures for the operation of OC San's investment program will provide for, but not be limited to, the following:



5.2.1 Formats for monthly and quarterly reports to the Administration Committee and the Board of Directors.

5.2.2 Compliance with generally accepted accounting principles of the Government Accounting Standards Board.

5.2.3 Establishment of benchmarks for performance measurement.

5.2.4 Establishment of a system of written internal controls.

5.2.5 Establishment of written procedures for competitive bids and offerings of securities that may be purchased or sold by internal OC San staff.

5.2.6 Establishment of a Desk Procedures Manual for treasury operations and management.

5.3 The Board of Directors may, in its discretion, engage the services of one or more registered investment advisors to assist in the management of OC San's investment portfolio in a manner consistent with OC San's objectives. Such external investment advisors, which shall be selected through a competitive process, shall be granted discretion to purchase and sell investment securities in accordance with this Investment Policy. Such advisors must be registered under the Investment Advisers Act of 1940 or be exempt from such registration.

## **6.0 Ethics and Conflicts of Interest:**

Officers and employees of OC San involved in the investment process shall refrain from personal business activities that could conflict with proper execution of OC San's investment program, or which could impair their ability to make impartial investment decisions. Employees and investment officials shall disclose to the General Manager any material financial interests in financial institutions that conduct business within OC San's boundaries and they shall further disclose any large personal financial/investment positions, the performance of which could be related to the performance of positions in OC San's portfolio.

## **7.0 Authorized Financial Dealers and Institutions:**

7.1 For investment transactions conducted by OC San internal staff, the Treasurer will maintain a list of financial institutions authorized to provide investment services to OC San, including "primary" or regional dealers that qualify under Securities and Exchange Commission Rule 15C3-1 (Uniform Net Capital rule) and Federal or State of California chartered banks. No public deposit shall be made except in a qualified public depository as established by State law.

All financial institutions which desire to become qualified bidders for investment transactions with OC San must supply the following for evaluation by the Treasurer:

7.1.1. Audited financial statements for the institution's three most recent fiscal years.

7.1.2. A statement, in the format prescribed by the Government Finance Officers Association (GFOA), certifying that the institution has reviewed OC San's Investment Policy and that all securities offered to OC San shall comply fully and in every instance with all provisions of the California Government Code and with this Investment Policy. The current statement is presented in Appendix "A."

7.1.3. A statement describing the regulatory status of the dealer and the background and expertise of the dealer's representatives.

Selection of financial institutions, broker/dealers and banks authorized to engage in transactions with OC San shall be made through a competitive process. An annual review of the financial condition of qualified institutions will be conducted by the Treasurer.

- 7.2 Selection of broker/dealers used by external investment advisors retained by OC San, shall be in compliance with contract provisions between OC San and any external investment advisors and shall be in substantially the following form:

Use of Securities Brokers: Neither the Investment Advisor nor any parent, subsidiary or related firm shall act as a securities broker with respect to any purchases or sales of securities which may be made on behalf of OC San, provided that this limitation shall not prevent the Investment Advisor from utilizing the services of a securities broker which is a parent, subsidiary or related firm, provided such broker effects transactions on a "cost only" or "nonprofit" basis to itself and provides competitive execution. The Investment Advisor shall provide OC San with a list of suitable independent brokerage firms (including names and addresses) meeting the requirements of Government Code Section 53601.5, and, unless otherwise directed by OC San, the Investment Advisor may utilize the service of any of such independent securities brokerage firms it deems appropriate to the extent that such firms are competitive with respect to price of services and execution.

## 8.0 **Authorized and Suitable Investments:**

All investments shall be made in accordance with the California Government Code including Sections 16429.1 *et seq.*, 53600 *et seq.* and 53684, and as described within this Investment Policy. Permitted investments under this policy shall include:

- 8.1 **Securities, obligations, participations, or other instruments of, or issued by, or fully guaranteed as to principal and interest by the US Government**, a federal agency, or a US Government-sponsored enterprise pursuant to Section 53601 (f) of the California Government Code. US Treasury securities must make up at least 10% of the portfolio.
- 8.2 **Supranational Obligations** issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, or Inter-American Development Bank. Securities must be eligible for purchase in the United States and be U.S. dollar denominated senior unsecured unsubordinated obligations, with a maximum maturity of five years. Securities eligible for purchase under this section must be rated "AA" or better by a Nationally Recognized Statistical Rating Organization (NRSRO) and shall not exceed 30% of the total portfolio.
- 8.3 **Mortgage pass-through security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable pass-through certificate, or consumer receivable-backed bond.** Securities eligible for investment under this subdivision shall be rated in a rating category of "AA" or its equivalent or better by an NRSRO and have a maximum remaining maturity of five years or less. Purchase of securities authorized by this subdivision may not exceed 20% of the agency's surplus moneys that may be invested pursuant to this section. Purchase of mortgage derivatives, which include interest-only payments (IOs) and principal-only payments (POs); inverse floaters, and RE-REMICs (Real Estate Mortgage Investment Conduits), is hereby prohibited.
- 8.4 **Commercial paper** of "prime" quality of the highest ranking or of the highest letter and number rating as provided by an NRSRO and issued by a domestic corporation organized and operating in the United States with assets in excess of \$500 million and having a rating of "A" or better on its long-term debt as provided by an NRSRO. Purchases of eligible commercial paper may not exceed 270 days to maturity from the date of purchase. Purchases of commercial paper shall not exceed 40% of the market value of the portfolio. No more than 5% of the market value of the portfolio, or 10% of the issuer's outstanding paper, may be invested in commercial paper issued by any one eligible corporation.
- 8.5 **Banker's acceptances** issued by institutions, the short-term obligations of which are rated of the highest ranking or the highest letter and number rating as provided by an NRSRO provided that: (a) the acceptance is eligible for purchase by the Federal Reserve System; (b) the maturity does not exceed 180 days; (c) no more than 40% of the total portfolio may be invested in banker's acceptances; and (d) no more than 5% of the total portfolio may be invested in the banker's acceptances of any one commercial bank.

- 8.6 **Medium term (or corporate) notes** of a maximum of five years maturity issued by corporations organized and operating within the United States, or issued by depository institutions licensed by the United States, or any state, and operating within the United States with assets in excess of \$500 million, and which is rated in a rating category of "A" or better on its long-term debt as provided by an NRSRO. If, after purchase, the rating of an eligible note falls below the minimum rating category stipulated above, the external investment advisor shall notify OC San of the downgrade and shall present an analysis and recommendations as to the disposition of the note consistent with the investment objectives of this Investment Policy. No more than 30% of the portfolio may be invested in medium term notes.
- 8.7 **Notes, bonds, or other obligations** that are at all times secured by a valid first priority security interest in securities of the types listed by California Government Code Section 53651 as eligible securities for the purpose of securing local agency deposits having a market value at least equal to that required by California Government Code Section 53652 for the purpose of securing local agency deposits. The securities serving as collateral shall be placed by delivery or book entry into the custody of a trust company or the trust department of a bank that is not affiliated with the issuer of the secured obligation, and the security interest shall be perfected in accordance with the requirements of the Uniform Commercial Code or federal regulations applicable to the types of securities in which the security interest is granted.
- 8.8 **Shares of mutual funds** investing in securities permitted under this policy and under Section 53601 (I) of the California Government Code. Such funds must either: (1) attain the highest ranking, or the highest letter and numerical rating, provided by not less than two of the three largest nationally recognized rating services; or (2) have an Investment Advisor registered with the Securities and Exchange Commission with not less than five years of experience investing in the securities and obligations authorized under this policy and under California Government Code Section 53601 and with assets under management in excess of \$500 million. The purchase price of shares of beneficial interest purchased pursuant to this policy and the California Government Code may not include any commission that the companies may charge and shall not exceed 20% of OC San's surplus money that may be invested pursuant to this section. No more than 10% of OC San's surplus funds may be invested in shares of beneficial interest of any one mutual fund pursuant to this section. Money market mutual funds are limited to 20% per issuer and are not subject to the 10% stipulation.
- 8.9 **Certificates of deposit:**
- 8.9.1 **Secured (collateralized) time deposits** issued by a nationally or state-chartered bank or state or federal savings and loan association, as defined by Section 5102 of the California Financial Code, and having a net operating profit in the two most recently completed fiscal years. Collateral must comply with Chapter 4, Bank Deposit Law, Section 16500 *et seq.*, and

8.9.2 **Negotiable certificates of deposit (NCDs)** issued by a nationally or state-chartered bank or state of federal savings and loan association, as defined by Section 5102 of the California Financial Code; and which shall have a rating of "A" or better on its long-term debt as provided by a NRSRO; or which shall have the highest letter and number rating for deposits as provided by a NRSRO; or as otherwise approved by the Board of Directors. No more than 30% of the portfolio may be invested in securities pursuant to this section.

8.9.3 To be eligible to receive local agency money, a bank, savings association, federal association, or federally insured individual loan company shall have received an overall rating of not less than "satisfactory" in its most recent evaluation by the appropriate federal financial supervisory agency of its record of meeting the credit needs of California's communities, including low and moderate income neighborhoods, pursuant to Section 2906 of Title 12 of the United States Code.

8.10 **Taxable or tax-exempt municipal bonds** issued by any of the 50 United States. Such securities must be rated "A" or higher by a NRSRO; or as otherwise approved by the Board of Directors.

8.11 **The State of California Local Agency Investment Fund (LAIF).** LAIF is an investment alternative for California's local governments and special districts managed by the State Treasurer's Office. LAIF is more fully described in the Glossary (See Appendix "C"). OC San shall use LAIF as a short-term cash management facility. Investment of OC San funds in LAIF shall be subject to investigation and due diligence prior to investing, and on a continual basis to a level of review pursuant to Section 3.0, Standard of Prudence, of this policy.

8.12 **The Orange County Treasurer's Money Market Commingled Investment Pool (OCCIP).** The OCCIP is a money market investment pool managed by the Orange County Treasurer's Office. OCCIP is more fully described in the Glossary (See Appendix "C"). OC San has no funds invested in OCCIP at this time. Investment of OC San funds in OCCIP would be subject to investigation and due diligence prior to investing, and on a continual basis to a level of review pursuant to Section 3.0, Standard of Prudence, of this policy.

8.13 **Repurchase agreements** provided that:

8.13.1 All repurchase agreements shall be collateralized with securities eligible for purchase under this policy. In order to anticipate market changes and to provide a level of security for all repurchase agreement transactions, collateralization shall be maintained at a level of at least 102% of the market

value of the repurchase agreements and shall be adjusted no less than weekly.

8.13.2 All repurchase agreements must be the subject of a Master Repurchase Agreement between OC San and the provider of the repurchase agreement. The Master Repurchase Agreement shall be substantially in the form developed by the Securities Industry and Financial Markets Association.

8.14 **Reverse repurchase agreements** provided that:

8.14.1 No more than 5% of OC San's portfolio shall be invested in reverse repurchase agreements, and there shall be no long-term reverse repurchase agreements unless otherwise authorized by the Board of Directors.

8.14.2 The maximum maturity of reverse repurchase agreements shall be 90 days.

8.14.3 Reverse repurchase agreements shall mature on the exact date of a known cash flow which will be unconditionally available to repay the maturing reverse repurchase agreement.

8.14.4 Proceeds of reverse repurchase agreements shall be used solely to supplement portfolio income or to provide portfolio liquidity and shall not be used to speculate on market movements.

8.14.5 All reverse repurchase agreements must be the subject of a Master Repurchase Agreement between OC San and the provider of the reverse repurchase agreement. The Master Repurchase Agreement shall be substantially in the form developed by the Securities Industry and Financial Markets Association.

8.15 **Public Bank Obligations** of a maximum of five years maturity which includes commercial paper, debt securities, or other obligations of a public bank, a public bank as defined in California Government Code Section 57600-57607.

8.16 Sales of OC San-owned securities in the secondary market may incur losses in order to improve the risk or return characteristics of the portfolio, to prevent anticipated further erosion of principal, or when trading for securities that result in an expected net economic gain to OC San.

8.17 If securities owned by OC San are downgraded below the quality required by this Investment Policy, it shall be OC San's policy to review the credit situation and make a determination as to whether to sell or retain such securities in the portfolio. If a decision is made to retain the downgraded securities in the portfolio, their presence in the portfolio will be monitored

and reported quarterly to the OC San General Manager, the Administration Committee and Board of Directors.

- 8.18 OC San is authorized to invest in securities issued by or backed by the United States Government that could result in zero or negative interest accrual if held to maturity.

#### 9.0 **Review of Investment Portfolio:**

The securities held by OC San must be in compliance with Section 8.0 “Authorized and Suitable Investments” at time of purchase. If at a later date, a security is no longer in compliance with Section 8.0, the Treasurer shall report the non-compliant security to the Administration Committee and the Board of Directors and shall include a disclosure in the quarterly Treasurer’s Report if the security is held at the date the report is prepared.

#### 10.0 **Investment Pools/Mutual Funds:**

A thorough investigation of the pool/fund is required prior to investing, and on a continual basis. A questionnaire shall be developed that will provide the following information:

- 10.1 A description of eligible investment securities, and a written statement of investment policy and objectives.
- 10.2 A description of interest calculations and how they are distributed, and how gains and losses are treated.
- 10.3 A description of how the securities are safeguarded (including the settlement processes) and how often the securities are priced and the program audited.
- 10.4 A description of who may invest in the program, how often and what size deposits and withdrawals are allowed.
- 10.5 A schedule for receiving statements and portfolio listings.
- 10.6 A description of the utilization and level of reserves, retained earnings or other collateral and how they are used by the fund.
- 10.7 A fee schedule, and when and how is it assessed.
- 10.8 Whether the pool/fund is eligible for bond proceeds and/or whether it will accept such proceeds.

#### 11.0 **Collateralization:**

Generally, the value to secure deposits under this policy shall comply with Section 53652 of the California Government Code. Collateralization will be required for secured time deposits, as more fully described in Section 8.9.1; and repurchase agreements, as more fully described in Section 8.13.1. Collateral will always be held by an independent third-

party, as more fully described in Section 12.0. The right of collateral substitution is granted. Under provisions of the California Government Code, California banks and savings and loans associations are required to secure OC San's deposits by pledging government securities with a value of 110% of principal and accrued interest. State law also allows financial institutions to secure OC San's deposits by pledging first trust deed mortgage notes having a value of 150% of OC San's total deposits.

#### 12.0 **Safekeeping and Custody:**

All securities transactions, including collateral for repurchase agreements, entered into by, or on behalf of OC San, shall be conducted on a **delivery-versus-payment (DVP)** basis. Securities will be held by OC San's third-party custodian bank, which shall be selected through a competitive process, or that agent's representative, or in the agent's account at the Federal Reserve Bank, ***or within clearing corporations in the U.S.*** and evidenced by book entry statements. Third-party safekeeping arrangements will be approved by the Treasurer and will be corroborated by a written custodial agreement.

#### 13.0 **Diversification:**

OC San will diversify its investments by security type, issuer and financial institution in accordance with the following:

- 13.1 There is no limit on investment in securities issued by or guaranteed by the full faith and credit of the U.S. government.
- 13.2 No more than 20% of the portfolio may be invested in securities of a single agency of the U.S. government, which does not provide the full faith and credit of the U.S. government.
- 13.3 No more than 5% of the portfolio may be invested in securities of any one issuer, other than Supranationals, the U.S. government or its agencies. Investment in mutual funds is not governed by this Section 13.3. See Section 13.8 for conditions of purchase of mutual funds.
- 13.4 No individual holding shall constitute more than 5% of the total debt outstanding of any issuer.
- 13.5 No more than 40% of the portfolio may be invested in banker's acceptances.
- 13.6 No more than 40% of the portfolio may be invested in commercial paper.
- 13.7 No more than 30% of the portfolio may be invested in medium-term (corporate) notes.
- 13.8 No more than 20% of the portfolio may be invested in mutual funds. No more than 10% of OC San's portfolio may be invested in shares of beneficial interest of any one mutual fund. Money market mutual funds are limited to 20% per issuer and are not subject to the 10% stipulation.



- 13.9 No more than 30% of the portfolio may be invested in negotiable certificates of deposit.
- 13.10 No more than 10% of the portfolio may be invested in eligible municipal bonds.
- 13.11 No more than 20% of the Long Term Operating Monies portfolio may be invested in a combination of mortgage-backed securities, CMOs and asset-backed securities.
- 13.12 No more than the statutory maximum may be invested in LAIF.
- 13.13 No more than 15% of the portfolio may be invested in the Orange County Investment Pool.
- 13.14 No more than 20% of the portfolio may be invested in repurchase agreements.
- 13.15 No more than 5% of the portfolio may be invested in reverse repurchase agreements.

14.0 **Maximum Maturities:**

To the extent possible, OC San will attempt to match its investments with reasonably anticipated cash flow requirements. The Treasurer shall develop a five-year cash flow forecast, which shall be updated quarterly. Based on this forecast, the Treasurer shall designate, from time-to-time, the amounts to be allocated to the investment portfolio. OC San monies invested in accordance with this policy are divided into two categories:

- 14.1 **Liquid Operating Monies.** Funds needed for current operating and capital expenditures are known as Liquid Operating Monies.
  - 14.1.1 The maximum final stated maturity of individual securities in the Liquid Operating Monies account portfolio shall be one year from the date of settlement.
  - 14.1.2 The average duration of the Liquid Operating Monies account portfolio shall be recommended by the Treasurer based on OC San's cash flow requirements but may never exceed 180 days.
- 14.2 **Long Term Operating Monies.** Funds needed for longer term purposes are known as the Long Term Operating Monies.
  - 14.2.1 The maximum final stated maturity of individual securities in the Long Term Operating Monies account portfolio shall be five years from the date of settlement.

14.2.2 The duration of the Long Term Operating Monies account portfolio shall be recommended by the Treasurer based on OC San's five-year cash flow forecast but may never exceed 60 months.

14.2.3 The duration of the Long Term Operating Monies account portfolio shall never exceed 120% of the duration as established in accordance with Section 14.2.2.

14.2.4 The duration of the Long Term Operating Monies account portfolio shall never be less than 80% of the duration as established in accordance with Section 14.2.2.

#### 15.0 **Internal Control:**

The Treasurer shall establish an annual process of independent review by an external auditor. This review will provide internal control by assuring compliance with policies and procedures.

#### 16.0 **Performance Objectives and Benchmarks:**

16.1 **Overall objective.** The investment portfolio of OC San shall be designed with the overall objective of obtaining a rate of return throughout budgetary and economic cycles, commensurate with investment risk constraints and reasonably anticipated cash flow needs.

16.2 **The Liquid Operating Monies.** The investment performance objective for the Liquid Operating Monies shall be to earn a total rate of return over a market cycle which exceeds the return on a market index approved by the Administration Committee and by the Board of Directors, when the duration of the portfolio is established. This market index is more fully described in Board Resolution No. OC SAN 22-XX (see Appendix "B").

16.3 **The Long Term Operating Monies.** The investment performance objective for the Long Term Operating Monies shall be to earn a total rate of return over a market cycle which exceeds the return on a market index selected by the Administration Committee and approved by the Board of Directors, when the duration of the portfolio is established. This market index is more fully described in Board Resolution No. OC SAN 22-XX (See Appendix "B").

#### 17.0 **Reporting:**

17.1 Monthly transaction reports in accordance with California Government Code Section 53607 shall be submitted by the Treasurer to the Board of Directors.

17.2 Quarterly investment reports will be submitted by the Treasurer to the Administration Committee which shall forward the reports to the Board of Directors. The quarterly reports shall provide clear and concise status information on OC San's portfolios at the end of each reporting period,

including performance measures using the benchmarks described in Section 16.0 of this Investment Policy. These reports shall contain listings of individual securities held at the end of each reporting period, and shall disclose, at a minimum, the following information about the risk characteristics of OC San's portfolio:

17.2.1 Cost and accurate and complete market value of the portfolio.

17.2.2 Modified duration of the portfolio compared to Benchmark.

17.2.3 Dollar change in value of the portfolio for a 1% change in interest rates.

17.2.4 Percent of portfolio invested in reverse repurchase agreements, and a schedule which matches the maturity of such reverse repurchase agreements with the cash flows which are available to repay them at maturity.

17.2.5 For the Liquid Operating Monies account only, the percent of portfolio maturing within 90 days.

17.2.6 Average portfolio credit quality.

17.2.7 Percent of portfolio with credit ratings below "A" by any rating agency, and a description of such securities.

17.2.8 State that all investments are in compliance with this policy and the California Government Code or provide a listing of any transactions or holdings which do not comply with this policy or with the California Government Code.

17.2.9 Time-weighted total rate of return for the portfolio for the prior three months, six months, nine months, twelve months and since inception compared to the Benchmark returns for the same periods.

17.2.10 State that sufficient funds are available for OC San to meet its operating expenditure requirements for the next six months, or if not, state the reasons for the shortfall.

17.3 OC San's Treasurer shall meet quarterly with the Administration Committee to review investment performance, proposed strategies and compliance with this Investment Policy. External investment advisors may be required to attend said meetings at the discretion of the Chairperson of the Administration Committee.

## **18.0 Investment Policy Adoption and Revision:**

18.1 The Investment Policy of OC San shall be adopted by resolution of the Board of Directors. The Investment Policy shall be reviewed on an annual

basis in accordance with California Government Code Section 53646, by the Administration Committee, which shall recommend revisions, as appropriate, to the Board of Directors. Any modifications made thereto shall be approved by the Board of Directors.

- 18.2 The Administration Committee shall serve as the oversight committee for OC San's Investment program and shall adopt guidelines for the ongoing review of duration, quality and liquidity of OC San's portfolio.

RESOLUTION NO. OC SAN 22-36

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY SANITATION DISTRICT, AUTHORIZING THE ORANGE COUNTY SANITATION DISTRICT'S TREASURER TO INVEST AND/OR REINVEST THE ORANGE COUNTY SANITATION DISTRICT'S FUNDS, ADOPTING THE ORANGE COUNTY SANITATION DISTRICT'S INVESTMENT POLICY STATEMENT AND PERFORMANCE BENCHMARKS, AND REPEALING RESOLUTION NO. OC SAN 21-22

WHEREAS, on December 15, 2021, the Board of Directors adopted Resolution No. OC SAN 21-22, readopting the Orange County Sanitation District's Investment Policy Statement, and establishing specific performance benchmarks and objectives, together with a schedule of frequency of investment performance reports; and

WHEREAS, pursuant to California Government Code Section 53607, the Board of Directors may delegate authority to invest and/or reinvest the Orange County Sanitation District's funds to the Treasurer for a one-year period; and

WHEREAS, pursuant to California Government Code Section 53646, the Orange County Sanitation District is required to review its Investment Policy annually and readopt its Policy at a public meeting, which Policy will establish specific performance benchmarks and objectives, and specific monitoring and reports.

NOW, THEREFORE, the Board of Directors of the Orange County Sanitation District, DOES HEREBY RESOLVE, DETERMINE AND ORDER:

Section 1: That the authority of the Board of Directors to invest or reinvest surplus funds, or to sell or exchange securities so purchased, or to deposit for safekeeping the funds and investments of the Orange County Sanitation District with depositories, as provided for in California Government Code Sections 53608 and 53630, is hereby delegated to the Orange County Sanitation District's Treasurer for a one-year period, January 1, 2023 through December 31, 2023, as authorized by California Government Code Section 53607.

Section 2: That the Board of Directors hereby adopts the Investment Policy Statement of the Orange County Sanitation District.

Section 3: That the Board of Directors hereby adopts the following specific performance benchmarks for their two investment funds in accordance with Section 16.0 of the Orange County Sanitation District's Investment Policy:

LIQUID OPERATING MONIES: The Short-Term Operating Fund will be compared to the three-month Bank of America Merrill Lynch T-Bill Index and the Callan Money Market Funds.

LONG-TERM OPERATING MONIES: The Long-Term Operating Fund will be compared to the Bank of America Merrill Lynch Corporate and Government One-to-Five Year Maturity Index and to the Callan Short Term Fixed Income Group.

Section 4: That the Board of Directors hereby adopts a performance monitoring and reporting schedule, as required by Section 17.0 of the Orange County Sanitation District's Investment Policy.

Section 5: That Resolution No. OC SAN 21-22 is hereby repealed.

PASSED AND ADOPTED at regular meeting of the Board of Directors, Orange  
County Sanitation District held December 15, 2022.

---

Chad P. Wanke  
Board Chairman

ATTEST:

---

Kelly A. Lore, MMC  
Clerk of the Board

STATE OF CALIFORNIA    )  
  )       ss  
COUNTY OF ORANGE    )

I, Kelly A. Lore, Clerk of the Board of Directors of the Orange County Sanitation District, do hereby certify that the foregoing Resolution No. OC SAN 22-36 was passed and adopted at a regular meeting of said Board on the 15th day of December 2022, by the following vote, to wit:

AYES:

NOES:

ABSTENTIONS:

ABSENT:

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of Orange County Sanitation District this 15th day of December 2022.

---

Kelly A. Lore, MMC  
Clerk of the Board of Directors  
Orange County Sanitation District



---

**File #:** 2022-2585

**Agenda Date:** 12/14/2022

**Agenda Item No:** 3.

---

**FROM:** James D. Herberg, General Manager  
Originator: Kathy Millea, Director of Engineering

**SUBJECT:**

**MOVE MANAGEMENT CONSULTING SERVICES**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION:

- A. Approve a Professional Consultant Services Agreement to CBRE, Inc. to provide Move Management Consulting Services, Specification No. CS-2022-1336, for a total amount not to exceed \$108,390; and
- B. Approve a contingency of \$10,839 (10%).

**BACKGROUND**

Orange County Sanitation District's (OC San) Headquarters Complex at Plant No. 1, Project No. P1-128A, will construct a new Headquarters Building on the north side of Ellis Avenue to house administrative, technical, and engineering staff. The Headquarters Building will also include surface parking and a pedestrian/utility bridge over Ellis Avenue to Plant No. 1. OC San will need to relocate staff to the new Headquarters Building upon completion. The move will include relocating approximately 300 employees from seven different locations to the new Headquarters Building.

**RELEVANT STANDARDS**

- Provide a safe and collegial workplace
- Ensure the public's money is wisely spent
- Maintain a culture of improving efficiency to reduce the cost to provide the current service level or standard

**PROBLEM**

OC San staff has limited experience moving staff of this magnitude. An experienced move management company is needed to develop a comprehensive relocation plan to undertake this transition in a cost-effective and efficient fashion. In addition, if this move management were to be done in-house with existing staff, it will cause a significant strain and limit resources on other projects and efforts currently underway.

## **PROPOSED SOLUTION**

Approve the Professional Consultant Services Agreement with CBRE, Inc. to provide move management consultant services. A professional move management company will create a more seamless relocation plan to limit downtime and cost.

## **TIMING CONCERNS**

In order to relocate 300 employees into the new Headquarters Building, move management services should begin no later than the beginning of 2023. This time frame will allow OC San to initiate the contract, create the plan, procure movers, and prepare staff administratively and physically to relocate employees starting December 2023, when the new Headquarters Building is complete.

## **RAMIFICATIONS OF NOT TAKING ACTION**

If a move management consultant is not selected, it will affect the implementation of staff relocation and be less efficient and more disruptive to on-going initiatives.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

The goal of the agreement is for the Consultant to provide the planning and move management which will result in a seamless and smooth transition for OC San staff. The Consultant will be responsible for assisting with all elements of the move into the new Headquarters Building, including the following:

- Pre-move coordination
- Development and maintenance of a moving schedule
- Development of the moving vendor scope of work
- Assistance reviewing moving service bids
- Oversight of all move logistics

### Consultant Selection

OC San requested and advertised for proposals for Move Management Consultant Services on July 26, 2022. The following evaluation criteria were described in the Request for Proposed (RFP) and used to determine the most qualified Consultant.

CRITERION	WEIGHT
Qualifications & Experience of Firm	25%
Proposed Staffing & Project Organization	25%
Work Plan	30%
Cost	20%

Three proposals were received on August 9, 2022 and evaluated in accordance with the evaluation process set forth in OC San's Purchasing Ordinance by a pre-selected Evaluation Team consisting of the following OC San staff: Administration Manager, Principal Staff Analyst, Senior Engineer, Safety and Health Supervisor, and Information Technology Supervisor. The Evaluation Team also including one non-voting representative from the Purchasing Division.

The Evaluation Team scored the proposals on the established criterion as summarized below:

Rank	Proposer	Qualifications of Firm (Max 25%)	Proposed Staffing and Project Organization (Max 25%)	Work Plan (Max 30%)	Subtotal Score (Max 80%)
1	CBRE, Inc.	24%	21%	29%	74%
2	CBSI	19%	18%	18%	55%
3	E-Logic, Inc.	3%	3%	3%	9%

All proposals were accompanied by a sealed cost proposal. Only the cost proposals for the two highest ranked firms were opened. Only the cost proposal of the top highest ranked firm was negotiated.

Rank	Proposer	ORIGINAL COST	BAFO (if applicable)
1	CBRE, Inc.	\$110,750	\$108,390
2	CBSI	\$114,840	N/A

Based on the scoring shown below, CBRE, Inc. was selected as the most qualified Consultant.

Rank	Proposer	Subtotal w/o Presentation (Max 80%)	Cost (Max 20%)	Total Weighted Score (Max 100%)
1	CBRE, Inc.	74%	20%	94%
2	CBSI	55%	19%	74%

## CEQA

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted in the FY 2022-23 Budget - General Manager's Department.

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- Professional Consultant Services Agreement

**PROFESSIONAL CONSULTANT SERVICES AGREEMENT  
MOVE MANAGEMENT CONSULTING SERVICES  
Specification No. CS-2022-1336**

This PROFESSIONAL CONSULTANT SERVICES AGREEMENT (hereinafter referred to as "Agreement") is made and entered into as of the date fully executed below, by and between Orange County Sanitation District (hereinafter referred to as "OC San") and CBRE, Inc. (hereinafter referred to as "Consultant"), and collectively referred to herein as the "Parties."

**RECITALS**

WHEREAS, OC San desires to obtain move management consulting services as described in Exhibit "A" attached hereto and incorporated herein by this reference ("Services"); and

WHEREAS, Consultant is qualified to provide the Services by virtue of experience, training, and expertise; and

WHEREAS, OC San desires to engage Consultant to render the Services as provided herein; and

WHEREAS, OC San selected Consultant to provide the Services in accordance with Ordinance No. OC SAN-56; and

WHEREAS, on December 14, 2022, OC San's Administration Committee, by minute order, authorized execution of this Agreement.

NOW, THEREFORE, in consideration of the above recitals and the mutual promises and benefits specified below, the Parties agree as follows:

**1. General.**

1.1 This Agreement and all exhibits hereto are made by OC San and the Consultant.

1.2 The following exhibits, in order of precedence, are incorporated by reference and made part of this Agreement.

Exhibit "A" – Scope of Work

Exhibit "B" – Proposal and Cost Proposal

Exhibit "C" – Determined Insurance Requirement Form

Exhibit "D" – Contractor Safety Standards

Exhibit "E" – Human Resources Policies

1.3 In the event of any conflict or inconsistency between the provisions of this Agreement and any of the provisions of the exhibits hereto, the provisions in the Agreement shall control and thereafter the provisions in the document highest in precedence shall be controlling.

1.4 Except as expressly provided otherwise, OC San accepts no liability for any expenses, losses, or actions incurred or undertaken by Consultant as a result of work performed in anticipation of purchases of the Services by OC San.

1.5 Work Hours: The work required under the Agreement may include normal business hours, evenings, and weekends.

- 1.6 Meetings with OC San staff: Meetings shall be scheduled Monday through Thursday, between the hours of 7:00 a.m. and 5:00 p.m., and Friday, between the hours of 7:00 a.m. and 3:30 p.m. OC San will not pay for travel time.
- 1.7 Days: Shall mean calendar days, unless otherwise noted.
- 1.8 OC San holidays (non-working days) are as follows: New Year's Day, Lincoln's Birthday, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve, and Christmas Day.
- 1.9 The provisions of this Agreement may be amended or waived only by an amendment executed by authorized representatives of both Parties.
- 1.10 The various headings in this Agreement are inserted for convenience only and shall not affect the meaning or interpretation of this Agreement or any paragraph or provision hereof.

## **2. Scope of Work.**

- 2.1 Consultant shall provide the Services identified in Exhibit "A" in a competent, professional, and satisfactory manner in accordance with generally accepted industry and professional standards, including fiduciary standards, ethical practices, and standards of care and competence for its trade/profession.
- 2.2 Modifications to Scope of Work. OC San shall have the right to modify the Scope of Work at any time. All modifications must be made by an amendment signed by both Parties. In the event that OC San materially modifies the Scope of Work, resulting in a material increase to the cost of performance of the Services and/or the Project Schedule, then the Parties shall enter into an amendment to the Agreement to provide for additional Consultant compensation and/or an extension of the Project Schedule for performance of the Services.
- 2.3 Familiarity with Work. By executing this Agreement, Consultant warrants that: (a) it has investigated the work to be performed; and (b) it understands the facilities, difficulties, and restrictions of the work under this Agreement. Should Consultant discover any latent or unknown condition materially differing from those inherent in the work or as represented by OC San, it shall immediately inform OC San of this and shall not proceed, except at Consultant's risk, until written instructions are received from OC San.
- 2.4 Performance. Time is of the essence in the performance of the provisions hereof.

## **3. Agreement Term.**

- 3.1 The Services shall be completed within five hundred sixty (560) calendar days from the effective date of the Notice to Proceed.
- 3.2 Extensions. The term of this Agreement may be extended only by an amendment signed by both Parties.

## **4. Compensation.**

- 4.1 As compensation for the Services provided under this Agreement, OC San shall pay Consultant a total amount not to exceed One Hundred Eight Thousand, Three Hundred Ninety Dollars (\$108,390.00).

- 4.2 Consultant shall provide OC San with all required premiums and/or overtime work at no charge beyond the amount specified above. Such included premiums and/or overtime work do not apply to any increased Scope of Work or extended Project Schedule pursuant to Section 2.2.

**5. Payments and Invoicing.**

- 5.1 OC San shall pay itemized invoices for Milestones completed in accordance with Exhibit "A" at the prices identified in Exhibit "B" thirty (30) days from receipt of the invoice and after approval by OC San's Project Manager or designee. OC San shall be the determining party, in its sole discretion, as to whether the Services have been satisfactorily completed.
- 5.2 Consultant shall submit its invoices to OC San Accounts Payable by electronic mail to [APStaff@OCSan.gov](mailto:APStaff@OCSan.gov). In the subject line include "INVOICE" and the Purchase Order Number.

**6. California Department of Industrial Relations Registration and Record of Wages.**

- 6.1 To the extent Consultant's employees and/or its subconsultants perform work related to this Agreement for which Prevailing Wage Determinations have been issued by the California Department of Industrial Relations (DIR) as more specifically defined under Labor Code section 1720 et seq., prevailing wages are required to be paid for applicable work under this Agreement. It is Consultant's responsibility to interpret and implement any prevailing wage requirements and Consultant agrees to pay any penalty or civil damages resulting from a violation of the prevailing wage laws.
- 6.2 Consultant and its subconsultants shall comply with the registration requirements of Labor Code section 1725.5. Pursuant to Labor Code section 1771.4(a)(1), the work is subject to compliance monitoring and enforcement by the California Department of Industrial Relations (DIR).
- 6.3 Pursuant to Labor Code section 1773.2, a copy of the prevailing rate of per diem wages is available upon request at OC San's principal office. The prevailing rate of per diem wages may also be found at the DIR website for prevailing wage determinations at <http://www.dir.ca.gov/DLSR/PWD>.
- 6.4 Consultant and its subconsultants shall comply with the job site notices posting requirements established by the Labor Commissioner per Title 8, California Code of Regulations section 16461(e). Pursuant to Labor Code sections 1773.2 and 1771.4(a)(2), Consultant shall post a copy of the prevailing rate of per diem wages at the job site.
- 6.5 Consultant and its subconsultants shall maintain accurate payroll records and shall comply with all the provisions of Labor Code section 1776. Consultant and its subconsultants shall submit payroll records to the Labor Commissioner pursuant to Labor Code section 1771.4(a)(3). Pursuant to Labor Code section 1776, the Consultant and its subconsultants shall furnish a copy of all certified payroll records to OC San and/or the general public upon request, provided the public request is made through OC San, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement of the Department of Industrial Relations. Pursuant to Labor Code section 1776(h), penalties for non-compliance with a request for payroll records may be deducted from progress payments.

- 6.5.1 As a condition to receiving payments, Consultant agrees to present to OC San, along with any request for payment, all applicable and necessary certified payrolls and other required documents for the period covering such payment request. Pursuant to Title 8, California Code of Regulations section 16463, OC San shall withhold any portion of a payment, up to and including the entire payment amount, until certified payroll forms and any other required documents are properly submitted. In the event certified payroll forms do not comply with the requirements of Labor Code section 1776, OC San may continue to withhold sufficient funds to cover estimated wages and penalties under the Agreement.
- 6.6 The Consultant and its subconsultants shall comply with Labor Code section 1774 and section 1775. Pursuant to Labor Code section 1775, the Consultant and any of its subconsultants shall forfeit to OC San a penalty of not more than two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the DIR for the work or craft in which the worker is employed for any work.
- 6.6.1 In addition to the penalty and pursuant to Labor Code section 1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Consultant or its subconsultant.
- 6.7 Consultant and its subconsultants shall comply with Labor Code sections 1810 through 1815. Consultant and its subconsultants shall restrict working hours to eight (8) hours per day and forty (40) hours per week, except that work performed in excess of those limits shall be permitted upon compensation for all excess hours worked at not less than one and one-half (1.5) times the basic rate of pay, as provided in Labor Code section 1815. The Consultant shall forfeit, as a penalty to OC San, twenty-five dollars (\$25) per worker per calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of Labor Code sections 1810 through 1815.
- 6.8 Consultant and its subconsultants shall comply with Labor Code sections 1777.5, 1777.6, and 1777.7 concerning the employment of apprentices by Consultant or any subconsultant.
- 6.9 Consultant shall include, at a minimum, a copy of the following provisions in any contract it enters into with any subconsultant: Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860, and 1861.
- 6.10 Pursuant to Labor Code sections 1860 and 3700, the Consultant and its subconsultants will be required to secure the payment of compensation to employees. Pursuant to Labor Code section 1861, Consultant, by accepting this Agreement, certifies that:

“I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.”



Consultant shall ensure that all its contracts with its subconsultants provide the provision above.

7. **Key Personnel.** Personnel, as provided in Exhibit “B,” are considered “key” to the work under this Agreement and will be available for the term of the Agreement. No person designated as key under this Agreement shall be removed or replaced without prior written consent of OC San. If OC San asks Consultant to remove a person designated as key under this Agreement, Consultant agrees to do so immediately regardless of the reason, or the lack of reason, for OC San’s request. Consultant shall assign only competent personnel to perform Services under this Agreement.
8. **Ownership of Documents.** All drawings, specifications, reports, records, documents, memoranda, correspondence, computations, and other materials prepared by Consultant, its employees, subconsultants, and agents in the performance of this Agreement specifically and uniquely for OC San, but expressly excluding any Consultant Intellectual Capital (hereinafter defined), shall be the property of OC San and shall be promptly delivered to OC San upon request of OC San’s Project Manager or designee or upon the termination of this Agreement and Consultant shall have no claim for further employment or additional compensation as a result of the exercise by OC San of its full rights of ownership of the documents and materials hereunder. Any use of such completed documents for other projects and/or use of incomplete documents without specific written authorization by the Consultant will be at OC San’s sole risk and without liability to Consultant. Consultant shall ensure that all its contracts with its subconsultants provide for assignment to OC San of any documents or materials prepared by them.
9. **Ownership of Intellectual Property.**
  - 9.1 Consultant agrees that all designs, plans, reports, specifications, drawings, schematics, prototypes, models, inventions, and all other information and items made specifically and uniquely for OC San during the course of this Agreement and arising from the Services (hereinafter referred to as “New Developments”) shall be and are assigned to OC San as its sole and exclusive property.
  - 9.2 Consultant agrees to promptly disclose to OC San all such New Developments. Upon OC San’s request, Consultant agrees to assist OC San, at OC San’s expense, to obtain patents or copyrights for such New Developments, including the disclosure of all pertinent information and data with respect thereto, the execution of all applications, specifications, assignments, and all other instruments and papers which OC San shall deem necessary to apply for and to assign or convey to OC San, its successors and assigns, the sole and exclusive right, title, and interest in such New Developments. Consultant agrees to obtain or has obtained written assurances from its employees and contract personnel of their agreement to the terms hereof regarding New Developments and confidential information.
  - 9.3 Consultant warrants that Consultant will have good title to any New Developments and the right to assign New Developments to OC San free of any proprietary rights of any other party or any other encumbrance whatever.
  - 9.4 The originals of all computations, drawings, designs, graphics, studies, reports, manuals, photographs, videotapes, data, computer files, and other documents prepared or caused to be prepared specifically and uniquely for OC San by Consultant or its subconsultants in connection with the Services hereunder shall be delivered to

and shall become the exclusive property of OC San. OC San may utilize such documents, at its own risk, for OC San's applications on other projects or extensions of this project.

9.5 Consultant shall not receive any right, claim, title or interest in or to any proprietary products or intellectual property of OC San. Notwithstanding any provision hereof to the contrary, all methodologies, systems, procedures, management tools, software, ideas, inventions, know-how and other intellectual capital that Consultant has developed, created or acquired prior to performing Services under this Agreement, or develops, creates or acquires during the Agreement Term or thereafter ("Consultant Intellectual Capital") are and shall remain the sole and exclusive proprietary property of Consultant, and OC San shall not have any right, claim, title or interest in or to any of Consultant Intellectual Capital.

**10. Right to Review Services, Facilities, and Records.**

10.1 OC San reserves the right to review any portion of the Services performed by Consultant under this Agreement and Consultant agrees to cooperate to the fullest extent possible in such endeavor.

10.2 Consultant shall furnish to OC San such reports, statistical data, and other information pertaining to Consultant's Services as shall be reasonably required by OC San to carry out its rights and responsibilities under its agreements with its bondholders or noteholders and any other agreement relating to the development of the project(s) and in connection with the issuance of its official statements and other prospectuses with respect to the offering, sale, and issuance of its bonds and other obligations.

10.3 The right of OC San to review or approve drawings, specifications, procedures, instructions, reports, test results, calculations, schedules, or other data that are developed by Consultant shall not relieve Consultant of any obligation set forth herein.

**11. Conflict of Interest and Reporting.**

11.1 Consultant shall, at all times, avoid conflicts of interest or appearance of conflicts of interest in performance of this Agreement.

11.2 Consultant affirms that, to the best of its knowledge, there exists no actual or potential conflict between Consultant's families, business, or financial interest and the Services under this Agreement and in the event of change in either its private interests or Services under this Agreement, it shall raise with OC San any question regarding possible conflict of interest which may arise as a result of such change.

**12. Damage to OC San's Property.** Any of OC San's property damaged by Consultant, any subconsultant, subcontractor, or by the personnel of either will be subject to repair or replacement by Consultant at no cost to OC San.

**13. Freight (F.O.B. Destination).** Consultant assumes full responsibility for all transportation, transportation scheduling, packing, handling, insurance, and other services associated with delivery of all products deemed necessary under this Agreement.

**14. Audit Rights.** Consultant agrees that, during the term of this Agreement and for a period of three (3) years after its expiration or termination, OC San shall have access to and the right to examine any directly pertinent books, documents, and records of Consultant relating to the invoices submitted by Consultant pursuant to this Agreement.

15. **Contractor Safety Standards and Human Resources Policies.** OC San requires Consultant, its subconsultants, and its subcontractors to follow and ensure their employees follow all Federal, State, and local regulations as well as Contractor Safety Standards while working at OC San locations. If, during the course of the Agreement, it is discovered that Contractor Safety Standards do not comply with Federal, State, or local regulations, the Consultant is required to follow the most stringent regulatory requirement at no additional cost to OC San. Consultant, its subconsultants, and all of their employees shall adhere to all applicable Contractor Safety Standards in Exhibit “D” and the Human Resources Policies in Exhibit “E.”
16. **Insurance.** Consultant and all its subconsultants shall purchase and maintain, throughout the term of this Agreement and any periods of warranty or extensions, insurance in amounts equal to the requirements set forth in the signed Exhibit “C” – Determined Insurance Requirement Form. Consultant shall not commence work under this Agreement until all required insurance is obtained in a form acceptable to OC San, nor shall Consultant allow any subconsultant to commence service pursuant to a subcontract until all insurance required of the subconsultant has been obtained. Failure to obtain and maintain the required insurance coverage shall result in termination of this Agreement.
17. **Indemnification and Hold Harmless Provision.**
- 17.1 To the extent of Consultant’s fault, Consultant shall assume all responsibility for damages to property and/or injuries to persons, including accidental death, which may arise out of or may be caused by Consultant’s Services under this Agreement, or by its subconsultant(s), or by anyone directly or indirectly employed by Consultant, and whether such damage or injury shall accrue or be discovered before or after the termination of the Agreement. Except as to the negligence of or willful misconduct of the other Party, each Party (as the case may be, the “Indemnifying Party”) shall indemnify, protect, defend, and hold harmless the other Party, and its officials, officers, agents, and employees from and against any and all third party claims, liabilities, damages, or expenses of any nature, including attorneys’ fees: (a) on account of any goods and services provided under this Agreement that result in injury to or death of any person, or damage to property, or interference with the use of property to the extent arising out of or in connection with the negligence or willful misconduct of the Indemnifying Party. This indemnification provision shall apply to any acts or omissions, willful misconduct, or negligent misconduct, whether active or passive, on the part of Consultant or anyone employed by or working under Consultant. To the maximum extent permitted by law, Consultant’s duty to defend shall apply whether or not such claims, allegations, lawsuits, or proceedings have merit or are meritless, or which involve claims or allegations that any of the parties to be defended were actively, passively, or concurrently negligent, or which otherwise assert that the parties to be defended are responsible, in whole or in part, for any loss, damage, or injury. Consultant agrees to provide this defense immediately upon written notice from OC San, and with well qualified, adequately insured, and experienced legal counsel acceptable to OC San. This section shall survive the expiration or early termination of the Agreement.
- 17.2 Notwithstanding any provision herein to the contrary:
- 17.2.1 Neither Party shall be liable for any lost or prospective profits or any other indirect, consequential, special, incidental, punitive, or other exemplary losses or damages, whether based in contract, warranty, indemnity, negligence, strict liability or other tort or otherwise, regardless of the foreseeability or the cause thereof.

- 17.2.2 Consultant's maximum aggregate liability under or in connection with this Agreement, regardless of the form of action, shall in no event exceed three (3) times the total compensation (excluding any reimbursed amounts) received by Consultant under this Agreement. Consultant shall not be liable for any claim based upon or resulting from any erroneous or incomplete data provided by OC San or any third party or otherwise contained in OC San's databases.

**18. Independent Contractor.**

- 18.1 The relationship between the Parties hereto is that of an independent contractor and nothing herein shall be construed as creating an employment or agency relationship.
- 18.2 During the performance of this Agreement, Consultant and its officers, employees, and agents shall act in an independent capacity and shall not act as OC San's officers, employees, or agents. OC San assumes no liability for Consultant's action and performance nor assumes responsibility for taxes, funds, payments, or other commitments, expressed or implied, by or for Consultant.
- 18.3 Consultant shall not be considered an agent of OC San for any purpose whatsoever nor shall Consultant have the right to, and shall not, commit OC San to any agreement, contract, or undertaking. Consultant shall not use OC San's name in its promotional material or for any advertising or publicity purposes without prior expressed written consent.
- 18.4 Consultant shall not be entitled to any benefits accorded to those individuals listed on OC San's payroll as regular employees including, without limitation, worker's compensation, disability insurance, vacation, or holiday or sick pay. Consultant shall be responsible for providing, at Consultant's expense, disability, worker's compensation, and other insurance as well as licenses and permits usual or necessary for conducting the Services hereunder.
- 18.5 Consultant shall be obligated to pay any and all applicable Federal, State, and local payroll and other taxes incurred as a result of fees hereunder. Consultant hereby indemnifies OC San for any claims, losses, costs, fees, liabilities, damages, or penalties suffered by OC San arising out of Consultant's breach of this provision.
- 18.6 Consultant shall not be eligible to join or participate in any benefit plans offered to those individuals listed on OC San's payroll as regular employees. Consultant shall remain ineligible for such benefits or participation in such benefit plans even if a court later decides that OC San misclassified Consultant for tax purposes.

**19. Subcontracting and Assignment.** Consultant shall not delegate any duties nor assign any rights under this Agreement without the prior written consent of OC San. Any such attempted delegation or assignment shall be void.

**20. No Solicitation of Employees.**

- 20.1 Consultant agrees that it shall not, during the term of this Agreement and for a period of one (1) year immediately following expiration or termination of this Agreement or any extension hereof, call on, solicit, or take away any of the employees whom Consultant became aware of as a result of Consultant's Services to OC San.

20.2 Consultant acknowledges that OC San's employees are critical to its business and OC San expends significant resources to hire, employ, and train employees. Should Consultant employ or otherwise engage OC San's employees during the term of this Agreement and for a period of one (1) year following expiration or termination of this Agreement, Consultant shall pay OC San fifty percent (50%) of the former employee's most recent annual salary earned at OC San to accurately reflect the reasonable value of OC San's time and costs. This payment is in addition to any other rights and remedies OC San may have at law.

**21. Confidentiality and Non-Disclosure.**

21.1 Each Party acknowledges that, in performing the Services hereunder, the other Party may have to disclose to the other, orally and in writing, certain confidential information that it considers proprietary and has developed at great expense and effort.

21.2 Except where disclosure is required by law, both Parties agree to maintain in confidence and not disclose to any person, firm, or corporation, without the other Party's prior written consent, any trade secret, confidential information, knowledge, or data relating to the products, process, or operation the other Party.

21.3 Except where disclosure is required by law, both Parties further agree to maintain in confidence and not to disclose to any person, firm, or corporation any data, information, technology, or material developed or obtained by the other Party during the term of this Agreement.

21.4 Both Parties agree as follows:

21.4.1 To use the confidential information only for the purposes described herein; to not reproduce the confidential information; to hold in confidence and protect the confidential information from dissemination to and use by anyone not a party to this Agreement; and to not use the confidential information to benefit itself or others.

21.4.2 To restrict access to the confidential information to its subconsultant or personnel of either Party who (1) have a need to have such access and (2) have been advised of and have agreed in writing to treat such information in accordance with the terms of this Agreement.

21.4.3 To return all confidential information upon termination of this Agreement or upon the other Party's request, whichever occurs first.

21.4.4 To hold in confidence information and materials, if any, developed pursuant to the Services hereunder.

21.4.5 The provisions of this section shall survive termination or expiration of this Agreement and shall continue for so long as the material remains confidential.

**22. Non-Liability of OC San Officers and Employees.** No officer or employee of OC San shall be personally liable to Consultant, or any successor-in-interest, in the event of any default or breach by OC San or for any amount which may become due to Consultant or to its successor, or for breach of any obligation under the terms of this Agreement.

**23. Third-Party Rights.** Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than OC San and Consultant.

24. **Applicable Laws and Regulations.** Consultant shall comply with all applicable Federal, State, and local laws, rules, and regulations. Consultant also agrees to indemnify and hold OC San harmless from any and all damages and liabilities assessed against OC San as a result of Consultant's noncompliance therewith. Any provision required by law to be included herein shall be deemed included as a part of this Agreement whether or not specifically included or referenced.
25. **Licenses, Permits, Ordinances, and Regulations.** Consultant represents and warrants to OC San that it has obtained all licenses, permits, qualifications, and approvals of whatever nature that are legally required to provide the Services. Any and all fees required by Federal, State, County, City, and/or municipal laws, codes, and/or tariffs that pertain to the work performed under this Agreement will be paid by Consultant.
26. **Regulatory Requirements.** Consultant shall perform all work under this Agreement in strict conformance with applicable Federal, State, and local regulatory requirements including, but not limited to, 40 CFR 122, 123, 124, 257, 258, 260, 261, and 503, Title 22, 23, and Water Codes Division 2.
27. **Environmental Compliance.** Consultant shall, at its own cost and expense, comply with all Federal, State, and local environmental laws, regulations, and policies which apply to the Consultant, its subconsultants, subcontractors, and the Services, including, but not limited to, all applicable Federal, State, and local air pollution control laws and regulations. OC San acknowledges that Consultant is not an environmental expert or consultant in the field of Hazardous Materials (as hereinafter defined). With respect to any Hazardous Materials that may be present below, on, about or otherwise affecting the real property or any property of OC San, Consultant shall not be responsible for detecting, handling, removing, remediating or disposing of such Hazardous Materials, except to the extent of any Hazardous Materials brought onto the property by Consultant ("Consultant Hazardous Materials"). Consultant shall not use Hazardous Materials except in the ordinary course of providing the Services and in compliance with applicable laws. "Hazardous Materials" shall mean any hazardous material or substance which is or becomes defined as a "hazardous waste," "hazardous substance," "hazardous material," pollutant, or contaminant under any applicable law. Consultant shall not be responsible for detecting or remediating (i) any pre-existing conditions at the project site or other property of OC San or (ii) any structural or latent defects or other defects in design or construction of a facility or manufacturing defects in equipment at the property, whether pre-existing or arising during the Agreement Term.
28. **Dispute Resolution.**
- 28.1 In the event of a dispute as to the construction or interpretation of this Agreement, or any rights or obligations hereunder, the Parties shall first attempt, in good faith, to resolve the dispute by mediation. The Parties shall mutually select a mediator to facilitate the resolution of the dispute. If the Parties are unable to agree on a mediator, the mediation shall be conducted in accordance with the Commercial Mediation Rules of the American Arbitration Agreement, through the alternate dispute resolution procedures of Judicial Arbitration through Mediation Services of Orange County ("JAMS"), or any similar organization or entity conducting an alternate dispute resolution process.
- 28.2 In the event the Parties are unable to timely resolve the dispute through mediation, the issues in dispute shall be submitted to arbitration pursuant to Code of Civil Procedure, Part 3, Title 9, sections 1280 et seq. For such purpose, an agreed arbitrator shall be selected, or in the absence of agreement, each party shall select an arbitrator, and those two (2) arbitrators shall select a third. Discovery may be conducted in

connection with the arbitration proceeding pursuant to Code of Civil Procedure section 1283.05. The arbitrator, or three (3) arbitrators acting as a board, shall take such evidence and make such investigation as deemed appropriate and shall render a written decision on the matter in question. The arbitrator shall decide each and every dispute in accordance with the laws of the State of California. The arbitrator's decision and award shall be subject to review for errors of fact or law in the Superior Court for the County of Orange, with a right of appeal from any judgment issued therein.

- 29. Remedies.** In addition to other remedies available in law or equity, if the Consultant fails to make delivery of the goods or Services or repudiates its obligations under this Agreement, or if OC San rejects the goods or Services or revokes acceptance of the goods or Services, OC San may (a) cancel the Agreement; (b) recover whatever amount of the purchase price OC San has paid, and/or (c) "cover" by purchasing, or contracting to purchase, substitute goods or services for those due from Consultant. In the event OC San elects to "cover" as described in (c), OC San shall be entitled to recover from Consultant as damages the difference between the cost of the substitute goods or services and the Agreement price, together with any incidental damages.
- 30. Force Majeure.** Neither party shall be liable for delays caused by accident, flood, acts of God, fire, labor trouble, war, acts of government, or any other cause beyond its control, but the affected party shall use reasonable efforts to minimize the extent of the delay. Work affected by a force majeure condition may be rescheduled by mutual consent of the Parties.
- 31. Termination.**
- 31.1 OC San reserves the right to terminate this Agreement for its convenience, with or without cause, in whole or in part, at any time, by written notice from OC San. Upon receipt of a termination notice, Consultant shall immediately discontinue all work under this Agreement (unless the notice directs otherwise). OC San shall thereafter, within thirty (30) days, pay Consultant for work performed (cost and fee) through the date of termination. Consultant expressly waives any claim to receive anticipated profits to be earned during the uncompleted portion of this Agreement. Such notice of termination shall terminate this Agreement and release OC San from any further fee, cost, or claim hereunder by Consultant other than for work performed through the date of termination.
- 31.2 OC San reserves the right to terminate this Agreement immediately upon OC San's determination that Consultant is not complying with the Scope of Work requirements, if the level of service is inadequate, or for any other default of this Agreement.
- 31.3 OC San may also immediately terminate this Agreement for default, in whole or in part, by written notice to Consultant:
- if Consultant becomes insolvent or files a petition under the Bankruptcy Act; or
  - if Consultant sells its business; or
  - if Consultant breaches any of the terms of this Agreement; or
  - if the total amount of compensation exceeds the amount authorized under this Agreement.
- 31.4 All OC San's property in the possession or control of Consultant shall be returned by Consultant to OC San on demand or at the expiration or termination of this Agreement, whichever occurs first.

32. **Attorney's Fees.** If any action at law or in equity or if any proceeding in the form of an Alternative Dispute Resolution (ADR) is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which the prevailing party may be entitled.
33. **Waiver.** The waiver by either party of any breach or violation of, or default under, any provision of this Agreement, shall not be deemed a continuing waiver by such party of any other provision or of any subsequent breach or violation of this Agreement or default thereunder. Any breach by Consultant to which OC San does not object shall not operate as a waiver of OC San's rights to seek remedies available to it for any subsequent breach.
34. **Severability.** If any section, subsection, or provision of this Agreement, or any agreement or instrument contemplated hereby, or the application of such section, subsection, or provision is held invalid, the remainder of this Agreement or instrument in the application of such section, subsection, or provision to persons or circumstances other than those to which it is held invalid, shall not be affected thereby, unless the effect of such invalidity shall be to substantially frustrate the expectations of the Parties.
35. **Survival.** The provisions of this Agreement dealing with payment, warranty, indemnity, and forum for enforcement shall survive expiration or early termination of this Agreement.
36. **Governing Law.** This Agreement shall be governed by and interpreted under the laws of the State of California and the Parties submit to jurisdiction in the County of Orange in the event any action is brought in connection with this Agreement or the performance thereof.
37. **Notices.**  
37.1 All notices under this Agreement must be in writing. Written notice shall be delivered by personal service, by electronic telecommunication, or sent by registered or certified mail, postage prepaid, return receipt requested, or by any other overnight delivery service which delivers to the noticed destination and provides proof of delivery to the sender. Rejection or other refusal to accept or the inability to deliver because of changed address for which no notice was given as provided hereunder shall be deemed to be receipt of the notice, demand, or request sent. All notices shall be effective when first received at the following addresses:

OC San: Jessica Vu  
Buyer  
Orange County Sanitation District  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
[JVu@ocsan.gov](mailto:JVu@ocsan.gov)

Consultant: Eric H. Stang  
Senior Managing Director  
CBRE, Inc.  
2000 Town Center, Suite 2200  
Southfield, MI 48075  
[Eric.Stang@CBRE.com](mailto:Eric.Stang@CBRE.com)

37.2 Each party shall provide the other party written notice of any change in address as soon as practicable.



38. **Read and Understood.** By signing this Agreement, Consultant represents that it has read and understood the terms and conditions of the Agreement.
39. **Authority to Execute.** The persons executing this Agreement on behalf of the Parties warrant that they are duly authorized to execute this Agreement and that by executing this Agreement, the Parties are formally bound.
40. **Entire Agreement.** This Agreement constitutes the entire agreement of the Parties and supersedes all prior written or oral communications and all contemporaneous oral agreements, understandings, and negotiations between the Parties with respect to the subject matter hereof.

[Intentionally left blank. Signatures follow on the next page.]

IN WITNESS WHEREOF, intending to be legally bound, the Parties hereto have caused this Agreement to be signed by their duly authorized representatives.

**ORANGE COUNTY SANITATION DISTRICT**

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Chad P. Wanke  
Board Chairman

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Kelly A. Lore  
Clerk of the Board

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Ruth Zintzun  
Purchasing & Contracts Manager

**CBRE, INC.**

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
\_\_\_\_\_  
Print Name and Title of Officer

CMM

---

**File #:** 2022-2651

**Agenda Date:** 12/14/2022

**Agenda Item No:** 4.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lorenzo Tyner, Assistant General Manager

**SUBJECT:**

**MANAGED COPY CENTER SERVICES CHANGE ORDER**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION:

- A. Approve a Change Order to add \$25,000 to Purchase Order 107521-OB for ARC Document Solutions to provide copy center services in accordance with the scope of work and terms and conditions of Specification No. S-2020-1177BD, for a new total amount not to exceed \$115,000 for the current contract year (January 1, 2022-December 31, 2022); and
- B. Approve three optional one-year renewals for a total amount not to exceed \$115,000 per year.

**BACKGROUND**

Orange County Sanitation District (OC San) uses an in-house Copy Center that provides a variety of printing services to all OC San departments. The location of the Copy Center is in the Administration Building at Plant No. 1 and measures approximately 20 feet by 20 feet. ARC Document Solutions covers all labor, tools, equipment, and materials necessary to provide quality, complete, and reliable printing, copying, distribution, and related services to OC San.

**RELEVANT STANDARDS**

- Ensure the public's money is wisely spent
- Maintain a culture of improving efficiency to reduce the cost to provide the current service level or standard

**PROBLEM**

The original PO amount issued for \$90,000 was sufficient to cover copy center services for the first year of the contract, however, since staff has returned to office, usage of the copy center has increased. It is estimated that the costs for subsequent renewal years of this contract will increase to slightly over \$100,000, which will require the approval of the Administration Committee.

**PROPOSED SOLUTION**

Increase the PO amount by \$25,000 for a new total amount not to exceed \$115,000 to cover the current year and approve the same amount for all subsequent renewal periods.

**TIMING CONCERNS**

Prompt action is required to pay the final invoice of the current contract term.

**RAMIFICATIONS OF NOT TAKING ACTION**

A final invoice for this contract term will become delinquent and services for 2023 will need to be reduced.

**PRIOR COMMITTEE/BOARD ACTIONS**

N/A

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted. (FY2022-23 & 2023-24 Budget, Section 8, Page 49, Information Technology Capital Program (M-MC-IT)).

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

N/A



# ADMINISTRATION COMMITTEE

## Agenda Report

Administration Building  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
(714) 593-7433

---

**File #:** 2022-2655

**Agenda Date:** 12/14/2022

**Agenda Item No:** 5.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lan C. Wiborg, Director of Environmental Services

**SUBJECT:**

### **CONTRACTING AQUATIC BIOASSAY & CONSULTING LABORATORIES, INC. FOR TAXONOMIC SERVICES**

#### **GENERAL MANAGER'S RECOMMENDATION**

**RECOMMENDATION:** Recommend to the Board of Directors to:

- A. Approve a General Services Contract to Aquatic Bioassay & Consulting Laboratories, Inc. to provide services for sample processing and taxonomic identification of ocean bottom-dwelling animals as required by Orange County Sanitation District's NPDES ocean discharge permit, Specification No. S-2022-1366BD, for a total amount not to exceed \$200,000 for the period beginning March 1, 2023, through February 29, 2024, with four (4) one-year renewal options; and
- B. Approve an annual contingency of \$20,000 (10%).

#### **BACKGROUND**

In accordance with Orange County Sanitation District's (OC San) ocean discharge permit (Order No. R8-2021-0010, NPDES Permit No. CA0110604), OC San is required to assess the health of ocean bottom-dwelling animal communities in the monitoring area. To achieve this, these animals are collected from the ocean floor (i.e., from sediment samples), screened from the sediment, sorted into broad taxonomic groups, and then further identified to species. The number and types of species present are used as indicators for determining the health of the ocean environment. In a typical program year, this assessment will include approximately 30,000 animals.

Ocean-bottom samples are typically collected on a quarterly basis across 11 sites and annually from 11 additional sites, for a total of 55 samples. The collection area covers approximately 90 square miles surrounding OC San's ocean outfall. Additionally, during the first quarter of fiscal year 2023-2024, OC San will be participating in a permit-required Southern California Bight Regional Monitoring Survey (Bight 2023) that occurs on a 5-year cycle. The Bight 2023 effort will require analyzing specimens from as many as 44 new regional sites. It is anticipated that the Bight 2023 assessment will add approximately 25,000 more animals to the sorting effort and as-needed taxonomic identification.

The sorting of ocean-bottom animals is laborious. The first step of the laboratory process involves removing the animals from the rocks and other debris in each sample. The animals are then sorted into five major taxonomic groups (i.e., worms, snails, sea stars, shrimp, and miscellaneous species) and prepared for further identification by OC San staff and a specialized marine taxonomic identification service.

Due to the labor-intensive and episodic nature of the sorting process, OC San has utilized outside contractors to perform this function for decades in order to maximize cost-effectiveness and manage staff workload.

## **RELEVANT STANDARDS**

- Ensure the public's money is wisely spent
- Sustain 1, 5, 20-year planning horizons
- Comply with environmental permit requirements

## **PROBLEM**

OC San is mandated by its ocean discharge permit to monitor and report annually on animal community health in the ocean environment that receives the treated wastewater effluent. The Ocean Monitoring Program is not sufficiently staffed to completely perform all ocean animal assessments in-house, including the sorting and identification of all species, and required quality assurance program elements. Therefore, additional outside contractor support continues to be necessary to allow our program to meet this extensive environmental monitoring requirement.

## **PROPOSED SOLUTION**

A contract with Aquatic Bioassay & Consulting Laboratories, Inc. will provide the skill set necessary to meet OC San's permit requirements.

## **TIMING CONCERNS**

The current sorting and taxonomy contract is set to expire February 28, 2023. Samples must be collected in January-March 2023 and April-June 2023 per OC San's ocean discharge permit requirements and will need to be promptly sorted and analyzed to meet taxonomic, data analysis, and reporting requirements for the 2022-23 Marine Monitoring Annual Report submittal to regulators.

## **RAMIFICATIONS OF NOT TAKING ACTION**

If ocean discharge permit compliance is not met for receiving waters monitoring, OC San could be subject to enforcement action and daily penalties not to exceed \$25,000 for each violation in addition to other actions deemed appropriate by the EPA and Regional Water Quality Control Board (RWQCB).

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

**ADDITIONAL INFORMATION**

On October 4, 2022, OC San issued a Notice Inviting Bids for taxonomic sorting and as-needed identification services. OC San received only one responsive bid from Aquatic Bioassay & Consulting Laboratories, Inc. for a total amount of \$371,470 for the maximum possible sorting and taxonomic identification services that could be required under this contract during any given year. However, not all identification services will be required in one contract term because of the work performed in-house. Therefore, staff is recommending award of the Contract to Aquatic Bioassay & Consulting Laboratories, Inc. for a total amount not to exceed \$200,000 for the first contract term in FY2023-2024, which will encompass both core monitoring and Bight 2023 regional sample requirements. During the subsequent years, sorting and as needed identification will be required only for permit-required core monitoring and is estimated to average \$76,000 annually, ranging from \$60,000 to \$110,000 depending on the permit requirements for each contract year.

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted FY 2022-23 Budget, Line item: Page 48, Operating Expense, Research & Monitoring).

<u>Date of Approval</u>	<u>Contract Amount</u>	<u>Contingency</u>
12/15/2022	\$200,000	\$20,000

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- General Services Contract

**GENERAL SERVICES CONTRACT**  
**Benthic Infauna Sorting and Taxonomic Services**  
**Specification No. S-2022-1366BD**

This GENERAL SERVICES CONTRACT (hereinafter referred to as "Contract"), is made and entered into as of the date fully executed below, by and between Orange County Sanitation District (hereinafter referred to as "OC San") and Aquatic Bioassay & Consulting Laboratories, Inc. (hereinafter referred to as "Contractor"), and collectively referred to herein as the "Parties."

**RECITALS**

WHEREAS, OC San desires to retain the services of Contractor for benthic infauna sorting and taxonomic services ("Services") as described in Exhibit "A" attached hereto and incorporated herein by this reference; and

WHEREAS, Contractor is qualified to perform the Services by virtue of experience, training, education, and expertise; and

WHEREAS, OC San desires to engage Contractor to provide the Services; and

WHEREAS, OC San selected Contractor to provide the Services in accordance with Ordinance No. OC SAN-56; and

WHEREAS, on December 15, 2022, OC San's Board of Directors, by minute order, authorized execution of this Contract.

NOW, THEREFORE, in consideration of the above recitals and the mutual promises and benefits specified below, the Parties agree as follows:

**1. General.**

1.1 This Contract and all exhibits hereto are made by OC San and the Contractor.

1.2 The following exhibits, in order of precedence, are incorporated by reference and made part of this Contract.

Exhibit "A" – Scope of Work

Exhibit "B" – Bid Price Form

Exhibit "C" – Determined Insurance Requirement Form

Exhibit "D" – Contractor Safety Standards

Exhibit "E" – Human Resources Policies

1.3 In the event of any conflict or inconsistency between the provisions of this Contract and any of the provisions of the exhibits hereto, the provisions in the Contract shall control and thereafter the provisions in the document highest in precedence shall be controlling.

1.4 Except as expressly provided otherwise, OC San accepts no liability for any expenses, losses, or actions incurred or undertaken by Contractor as a result of work performed in anticipation of acquisition of the Services by OC San.



- 1.5 Work Hours: All work or meetings with OC San staff shall be scheduled Monday through Friday, between the hours of 7:30 a.m. and 3:30 p.m.
- 1.6 Days: Shall mean calendar days, unless otherwise noted.
- 1.7 OC San holidays (non-working days) are as follows: New Year's Day, Martin Luther King, Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve, and Christmas Day.
- 1.8 Work: Shall mean all work, labor, and materials necessary to provide the Services.
- 1.9 The provisions of this Contract may be amended or waived only by an amendment executed by authorized representatives of both Parties.
- 1.10 The various headings in this Contract are inserted for convenience only and shall not affect the meaning or interpretation of this Contract or any paragraph or provision hereof.

## **2. Scope of Work.**

- 2.1 Contractor shall perform the Services identified in Exhibit "A" in accordance with generally accepted industry and professional standards.
- 2.2 Modifications to Scope of Work. OC San shall have the right to modify the Scope of Work at any time. All modifications must be made by an amendment signed by both Parties.
- 2.3 Familiarity with Work. By executing this Contract, Contractor warrants that: (a) it has investigated the work to be performed; and (b) it understands the facilities, difficulties, and restrictions of the work under this Contract. Should Contractor discover any latent or unknown condition materially differing from those inherent in the work or as represented by OC San, it shall immediately inform OC San of this and shall not proceed, except at Contractor's risk, until written instructions are received from OC San.
- 2.4 Performance. Time is of the essence in the performance of the provisions hereof.

## **3. Contract Term.**

- 3.1 The term of this Contract shall be for one (1) year commencing on March 1, 2023, and continuing through February 29, 2024.
- 3.2 Renewals. At its sole discretion, OC San may exercise the option to renew this Contract for up to four (4) one-year periods. This Contract may be renewed by an OC San Purchase Order. OC San shall have no obligation to renew the Contract nor to give a reason if it elects not to renew it.
- 3.3 Extensions. The term of this Contract may be extended only by an amendment signed by both Parties.

## **4. Compensation.**

- 4.1 As compensation for the Services provided under this Contract, OC San shall pay Contractor a total amount not to exceed Two Hundred Thousand Dollars (\$200,000.00).
- 4.2 Contractor shall provide OC San with all required premiums and/or overtime work at no charge beyond the amount specified above.

**5. Payments and Invoicing.**

- 5.1 OC San shall pay itemized invoices for work completed in accordance with Exhibit "A" at the prices identified in Exhibit "B" thirty (30) days from receipt of the invoice and after approval by OC San's Project Manager or designee. OC San shall be the determining party, in its sole discretion, as to whether the Services have been satisfactorily completed.
- 5.2 Contractor shall submit its invoices to OC San Accounts Payable by electronic mail to [APStaff@OCSan.gov](mailto:APStaff@OCSan.gov). In the subject line include "INVOICE" and the Purchase Order Number.

**6. California Department of Industrial Relations Registration and Record of Wages.**

- 6.1 To the extent Contractor's employees and/or its subcontractors perform work related to this Contract for which Prevailing Wage Determinations have been issued by the California Department of Industrial Relations (DIR) as more specifically defined under Labor Code section 1720 et seq., prevailing wages are required to be paid for applicable work under this Contract. It is Contractor's responsibility to interpret and implement any prevailing wage requirements and Contractor agrees to pay any penalty or civil damages resulting from a violation of the prevailing wage laws.
- 6.2 Contractor and its subcontractors shall comply with the registration requirements of Labor Code section 1725.5. Pursuant to Labor Code section 1771.4(a)(1), the work is subject to compliance monitoring and enforcement by the California Department of Industrial Relations (DIR).
- 6.3 Pursuant to Labor Code section 1773.2, a copy of the prevailing rate of per diem wages is available upon request at OC San's principal office. The prevailing rate of per diem wages may also be found at the DIR website for prevailing wage determinations at <http://www.dir.ca.gov/DLSR/PWD>.
- 6.4 Contractor and its subcontractors shall comply with the job site notices posting requirements established by the Labor Commissioner per Title 8, California Code of Regulations section 16461(e). Pursuant to Labor Code sections 1773.2 and 1771.4(a)(2), Contractor shall post a copy of the prevailing rate of per diem wages at the job site.
- 6.5 Contractor and its subcontractors shall maintain accurate payroll records and shall comply with all the provisions of Labor Code section 1776. Contractor and its subcontractors shall submit payroll records to the Labor Commissioner pursuant to Labor Code section 1771.4(a)(3). Pursuant to Labor Code section 1776, the Contractor and its subcontractors shall furnish a copy of all certified payroll records to OC San and/or the general public upon request, provided the public request is made through OC San, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement of the Department of Industrial Relations. Pursuant to Labor Code section 1776(h), penalties for non-compliance with a request for payroll records may be deducted from progress payments.
  - 6.5.1 As a condition to receiving payments, Contractor agrees to present to OC San, along with any request for payment, all applicable and necessary certified payrolls

and other required documents for the period covering such payment request. Pursuant to Title 8, California Code of Regulations section 16463, OC San shall withhold any portion of a payment, up to and including the entire payment amount, until certified payroll forms and any other required documents are properly submitted. In the event certified payroll forms do not comply with the requirements of Labor Code section 1776, OC San may continue to withhold sufficient funds to cover estimated wages and penalties under the Contract.

- 6.6 The Contractor and its subcontractors shall comply with Labor Code section 1774 and section 1775. Pursuant to Labor Code section 1775, the Contractor and any of its subcontractors shall forfeit to OC San a penalty of not more than two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the DIR for the work or craft in which the worker is employed for any work.
- 6.6.1 In addition to the penalty and pursuant to Labor Code section 1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor or its subcontractor.
- 6.7 Contractor and its subcontractors shall comply with Labor Code sections 1810 through 1815. Contractor and its subcontractors shall restrict working hours to eight (8) hours per day and forty (40) hours per week, except that work performed in excess of those limits shall be permitted upon compensation for all excess hours worked at not less than one and one-half (1.5) times the basic rate of pay, as provided in Labor Code section 1815. The Contractor shall forfeit, as a penalty to OC San, twenty-five dollars (\$25) per worker per calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of Labor Code sections 1810 through 1815.
- 6.8 Contractor and its subcontractors shall comply with Labor Code sections 1777.5, 1777.6, and 1777.7 concerning the employment of apprentices by Contractor or any subcontractor.
- 6.9 Contractor shall include, at a minimum, a copy of the following provisions in any contract it enters into with any subcontractor: Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860, and 1861.
- 6.10 Pursuant to Labor Code sections 1860 and 3700, the Contractor and its subcontractors will be required to secure the payment of compensation to employees. Pursuant to Labor Code section 1861, Contractor, by accepting this contract, certifies that:

“I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.”

Contractor shall ensure that all its contracts with its subcontractors provide the provision above.

7. **Damage to OC San's Property.** Any of OC San's property damaged by Contractor, any subcontractor, or by the personnel of either will be subject to repair or replacement by Contractor at no cost to OC San.
8. **Freight (F.O.B. Destination).** Contractor assumes full responsibility for all transportation, transportation scheduling, packing, handling, insurance, and other services associated with delivery of all products deemed necessary under this Contract.
9. **Audit Rights.** Contractor agrees that, during the term of this Contract and for a period of three (3) years after its expiration or termination, OC San shall have access to and the right to examine any directly pertinent books, documents, and records of Contractor relating to the invoices submitted by Contractor pursuant to this Contract.
10. **Contractor Safety Standards and Human Resources Policies.** OC San requires Contractor and its subcontractor(s) to follow and ensure their employees follow all Federal, State, and local regulations as well as the Contractor Safety Standards while working at OC San locations. If, during the course of the Contract, it is discovered that the Contractor Safety Standards do not comply with Federal, State, or local regulations, the Contractor is required to follow the most stringent regulatory requirement at no additional cost to OC San. Contractor, its subcontractors, and all of their employees shall adhere to the safety requirements in Exhibit "A," all applicable Contractor Safety Standards in Exhibit "D," and the Human Resources Policies in Exhibit "E."
11. **Insurance.** Contractor and all its subcontractors shall purchase and maintain, throughout the term of this Contract and any periods of warranty or extensions, insurance in amounts equal to the requirements set forth in the signed Exhibit "C" – Determined Insurance Requirement Form. Contractor shall not commence work under this Contract until all required insurance is obtained in a form acceptable to OC San, nor shall Contractor allow any subcontractor to commence service pursuant to a subcontract until all insurance required of the subcontractor has been obtained. Failure to obtain and maintain the required insurance coverage shall result in termination of this Contract.
12. **Indemnification and Hold Harmless Provision.** Contractor shall assume all responsibility for damages to property and/or injuries to persons, including accidental death, which may arise out of or may be caused by Contractor's Services under this Contract, or by its subcontractor(s), or by anyone directly or indirectly employed by Contractor, and whether such damage or injury shall accrue or be discovered before or after the termination of the Contract. Except as to the sole active negligence of or willful misconduct of OC San, Contractor shall indemnify, protect, defend, and hold harmless OC San, its elected and appointed officials, officers, agents, and employees from and against any and all claims, liabilities, damages, or expenses of any nature, including attorneys' fees: (a) for injury to or death of any person, or damage to property, or interference with the use of property arising out of or in connection with Contractor's performance under the Contract, and/or (b) on account of use of any copyrighted or uncopyrighted material, composition, or process; or any patented or unpatented invention, article, or appliance furnished or used under the Contract, and/or (c) on account of any goods and services provided under this Contract. This indemnification provision shall apply to any acts or omissions, willful misconduct, or negligent misconduct, whether active or passive, on the part of Contractor or anyone employed by or working under Contractor. To the maximum extent permitted by law, Contractor's duty to defend shall apply whether or not such claims, allegations, lawsuits, or proceedings have merit or are meritless; or which involve claims or allegations that any of the parties to be defended were actively, passively, or concurrently

negligent; or which otherwise assert that the parties to be defended are responsible, in whole or in part, for any loss, damage, or injury. Contractor agrees to provide this defense immediately upon written notice from OC San, and with well qualified, adequately insured, and experienced legal counsel acceptable to OC San. This section shall survive the expiration or early termination of the Contract.

13. **Independent Contractor.** The relationship between the Parties hereto is that of an independent contractor and nothing herein shall be deemed to make Contractor an OC San employee. During the performance of this Contract, Contractor and its officers, employees, and agents shall act in an independent capacity and shall not act as OC San's officers, employees, or agents. Contractor and its officers, employees, and agents shall obtain no rights to any benefits which accrue to OC San's employees.
14. **Subcontracting and Assignment.** Contractor shall not delegate any duties nor assign any rights under this Contract without the prior written consent of OC San. Any such attempted delegation or assignment shall be void.
15. **Disclosure.** Contractor agrees not to disclose, to any third party, data or information generated from this Contract without the prior written consent from OC San.
16. **Non-Liability of OC San Officers and Employees.** No officer or employee of OC San shall be personally liable to Contractor, or any successor-in-interest, in the event of any default or breach by OC San, or for any amount which may become due to Contractor or to its successor, or for breach of any obligation under the terms of this Contract.
17. **Third-Party Rights.** Nothing in this Contract shall be construed to give any rights or benefits to anyone other than OC San and Contractor.
18. **Applicable Laws and Regulations.** Contractor shall comply with all applicable Federal, State, and local laws, rules, and regulations. Contractor also agrees to indemnify and hold OC San harmless from any and all damages and liabilities assessed against OC San as a result of Contractor's noncompliance therewith. Any provision required by law to be included herein shall be deemed included as a part of this Contract whether or not specifically included or referenced.
19. **Licenses, Permits, Ordinances, and Regulations.** Contractor represents and warrants to OC San that it has obtained all licenses, permits, qualifications, and approvals of whatever nature that are legally required to provide the Services. Any and all fees required by Federal, State, County, City, and/or municipal laws, codes, and/or tariffs that pertain to the work performed under this Contract will be paid by Contractor.
20. **Regulatory Requirements.** Contractor shall perform all work under this Contract in strict conformance with applicable Federal, State, and local regulatory requirements including, but not limited to, 40 CFR 122, 123, 124, 257, 258, 260, 261, and 503, Title 22, 23, and Water Codes Division 2.
21. **Environmental Compliance.** Contractor shall, at its own cost and expense, comply with all Federal, State, and local environmental laws, regulations, and policies which apply to the Contractor, its subcontractors, and the Services, including, but not limited to, all applicable Federal, State, and local air pollution control laws and regulations.

22. **South Coast Air Quality Management District's Requirements.** It is Contractor's responsibility to ensure that all equipment furnished and installed be in accordance with the latest rules and regulations of the South Coast Air Quality Management District (SCAQMD). All Contract work practices, which may have associated emissions such as sandblasting, open field spray painting, or demolition of asbestos containing components or structures shall comply with the appropriate rules and regulations of SCAQMD.
23. **Warranties.** Contractor's Warranty (Guarantee): If within a one (1) year period of completion of all work specified in Exhibit "A," OC San informs Contractor that any portion of the Services provided fails to meet the standards required under this Contract, Contractor shall, within the time agreed to by OC San and Contractor, take all such actions as are necessary to correct or complete the noted deficiency(ies) at Contractor's sole expense.
24. **Dispute Resolution.**
- 24.1 In the event of a dispute as to the construction or interpretation of this Contract, or any rights or obligations hereunder, the Parties shall first attempt, in good faith, to resolve the dispute by mediation. The Parties shall mutually select a mediator to facilitate the resolution of the dispute. If the Parties are unable to agree on a mediator, the mediation shall be conducted in accordance with the Commercial Mediation Rules of the American Arbitration Agreement, through the alternate dispute resolution procedures of Judicial Arbitration through Mediation Services of Orange County ("JAMS"), or any similar organization or entity conducting an alternate dispute resolution process.
- 24.2 In the event the Parties are unable to timely resolve the dispute through mediation, the issues in dispute shall be submitted to arbitration pursuant to Code of Civil Procedure, Part 3, Title 9, sections 1280 et seq. For such purpose, an agreed arbitrator shall be selected, or in the absence of agreement, each party shall select an arbitrator, and those two (2) arbitrators shall select a third. Discovery may be conducted in connection with the arbitration proceeding pursuant to Code of Civil Procedure section 1283.05. The arbitrator, or three (3) arbitrators acting as a board, shall take such evidence and make such investigation as deemed appropriate and shall render a written decision on the matter in question. The arbitrator shall decide each and every dispute in accordance with the laws of the State of California. The arbitrator's decision and award shall be subject to review for errors of fact or law in the Superior Court for the County of Orange, with a right of appeal from any judgment issued therein.
25. **Remedies.** In addition to other remedies available in law or equity, if the Contractor fails to make delivery of the goods and Services or repudiates its obligations under this Contract, or if OC San rejects the goods or Services or revokes acceptance of the goods and Services, OC San may (a) cancel the Contract; (b) recover whatever amount of the purchase price OC San has paid, and/or (c) "cover" by purchasing, or contracting to purchase, substitute goods and Services for those due from Contractor. In the event OC San elects to "cover" as described in (c), OC San shall be entitled to recover from Contractor as damages the difference between the cost of the substitute goods and Services and the Contract price, together with any incidental or consequential damages.
26. **Force Majeure.** Neither party shall be liable for delays caused by accident, flood, acts of God, fire, labor trouble, war, acts of government, or any other cause beyond its control, but the affected party shall use reasonable efforts to minimize the extent of the delay. Work affected by a force majeure condition may be rescheduled by mutual consent of the Parties.

**27. Termination.**

27.1 OC San reserves the right to terminate this Contract for its convenience, with or without cause, in whole or in part, at any time, by written notice from OC San. Upon receipt of a termination notice, Contractor shall immediately discontinue all work under this Contract (unless the notice directs otherwise). OC San shall thereafter, within thirty (30) days, pay Contractor for work performed (cost and fee) through the date of termination. Contractor expressly waives any claim to receive anticipated profits to be earned during the uncompleted portion of this Contract. Such notice of termination shall terminate this Contract and release OC San from any further fee, cost, or claim hereunder by Contractor other than for work performed through the date of termination.

27.2 OC San reserves the right to terminate this Contract immediately upon OC San's determination that Contractor is not complying with the Scope of Work requirements, if the level of service is inadequate, or for any other default of this Contract.

27.3 OC San may also immediately terminate this Contract for default, in whole or in part, by written notice to Contractor:

- if Contractor becomes insolvent or files a petition under the Bankruptcy Act; or
- if Contractor sells its business; or
- if Contractor breaches any of the terms of this Contract; or
- if the total amount of compensation exceeds the amount authorized under this Contract.

27.4 All OC San's property in the possession or control of Contractor shall be returned by Contractor to OC San on demand or at the expiration or early termination of this Contract, whichever occurs first.

**28. Attorney's Fees.** If any action at law or in equity or if any proceeding in the form of an Alternative Dispute Resolution (ADR) is necessary to enforce or interpret the terms of this Contract, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which the prevailing party may be entitled.

**29. Waiver.** The waiver by either party of any breach or violation of, or default under, any provision of this Contract shall not be deemed a continuing waiver by such party of any other provision or of any subsequent breach or violation of this Contract or default thereunder. Any breach by Contractor to which OC San does not object shall not operate as a waiver of OC San's rights to seek remedies available to it for any subsequent breach.

**30. Severability.** If any section, subsection, or provision of this Contract; or any agreement or instrument contemplated hereby; or the application of such section, subsection, or provision is held invalid, the remainder of this Contract or instrument in the application of such section, subsection, or provision to persons or circumstances other than those to which it is held invalid, shall not be affected thereby, unless the effect of such invalidity shall be to substantially frustrate the expectations of the Parties.

**31. Survival.** The provisions of this Contract dealing with payment, warranty, indemnity, and forum for enforcement shall survive expiration or early termination of this Contract.

32. **Governing Law.** This Contract shall be governed by and interpreted under the laws of the State of California and the Parties submit to jurisdiction in the County of Orange in the event any action is brought in connection with this Contract or the performance thereof.

33. **Notices.**

33.1 All notices under this Contract must be in writing. Written notice shall be delivered by personal service, by electronic telecommunication, or sent by registered or certified mail, postage prepaid, return receipt requested, or by any other overnight delivery service which delivers to the noticed destination and provides proof of delivery to the sender. Rejection or other refusal to accept or the inability to deliver because of changed address for which no notice was given as provided hereunder shall be deemed to be receipt of the notice, demand, or request sent. All notices shall be effective when first received at the following addresses:

OC San: Donald Herrera  
Senior Buyer  
Orange County Sanitation District  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
[DHerrera@ocsan.gov](mailto:DHerrera@ocsan.gov)

Contractor: Joe Freas  
President  
Aquatic Bioassay & Consulting Laboratories, Inc.  
29 N. Olive Street  
Ventura, CA 93001  
[Joe@AquaticBioassay.com](mailto:Joe@AquaticBioassay.com)

33.2 Each party shall provide the other party written notice of any change in address as soon as practicable.

34. **Read and Understood.** By signing this Contract, Contractor represents that it has read and understood the terms and conditions of the Contract.

35. **Authority to Execute.** The persons executing this Contract on behalf of the Parties warrant that they are duly authorized to execute this Contract and that by executing this Contract, the Parties are formally bound.

36. **Entire Agreement.** This Contract constitutes the entire agreement of the Parties and supersedes all prior written or oral communications and all contemporaneous oral agreements, understandings, and negotiations between the Parties with respect to the subject matter hereof.

[Intentionally left blank. Signatures follow on the next page.]



IN WITNESS WHEREOF, intending to be legally bound, the Parties hereto have caused this Contract to be signed by their duly authorized representatives.

# ORANGE COUNTY SANITATION DISTRICT

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Chad P. Wanke  
Chair, Board of Directors

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Kelly A. Lore  
Clerk of the Board

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Ruth Zintzun  
Purchasing & Contracts Manager

**AQUATIC BIOASSAY & CONSULTING  
LABORATORIES, INC.**

Dated: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Print Name and Title of Officer

# CMM

**EXHIBIT A**  
**SCOPE OF WORK**  
**For**  
**Benthic Infauna Sorting and Taxonomic Services**

**SCOPE OF WORK**  
**Benthic Infauna Sorting and Taxonomic Services**  
**SPECIFICATION NO. S-2022-1366BD**

**EXECUTIVE SUMMARY / OVERVIEW**

The Orange County Sanitation District (OC San) operates the third largest wastewater agency west of the Mississippi River. Since 1954, we have safely collected, treated, and disposed of and/or reclaimed the wastewater generated by 2.6 million people living and working in central and northwestern Orange County, California.

Each day we treat approximately 185 million gallons of wastewater, enough water to fill Anaheim stadium over two and a quarter times. About 80 percent (80%) of the wastewater comes from homes – sinks, toilets, showers, laundry, and dishwashers. The remaining come from businesses – retail stores, restaurants, manufacturers, hotels, offices, and other industries.

A professional staff of more than 600 employees manages the day-to-day activities of OC San. Our facilities include 396 miles of sewer pipes, located throughout the county, and two (2) treatment plants – one (1) in Fountain Valley, CA and the other in Huntington Beach, CA – where wastewater is treated in accordance with strict state and federal standards.

Our employees are on duty protecting health and the environment by ensuring the sewer system efficiently operates 24 hours a day, 7 days a week and 365 days a year. We are very proud of the job we do and take pride in providing our customers with quality service.

**1 Purpose**

OC San requires the services of a Service Provider for the sorting and taxonomic identification of benthic infauna samples. In addition, identification of trawl-caught macroinvertebrates is required on an ad-hoc, as-needed basis.

**2 Description**

Samples are collected as a requirement of OC San's Ocean Monitoring Program as specified in its National Pollutant Discharge Elimination System (NPDES) ocean discharge permit. Specifically, sediment samples for infauna community analysis are collected four (4) times a year from stations located on the southern portion of the San Pedro Shelf, California. Community analysis requires that the organisms be separated (sorted) from the sediments. The Core infauna samples are collected from three (3) distinct sets of stations based on monitoring frequency required by the NPDES permit: Quarterly, Annual, and Quinquennial. The Quarterly samples are collected as single samples from eleven (11) stations ranging from 52 – 65 meters in depth, four (4) times a year. These four (4) periods are summer (July-September), fall (October-December), winter (January-March) and spring (April-June). The Annual samples are collected during the summer only and consist of eleven (11) additional stations ranging from 52 – 65 meters with one (sample per station). The Quinquennial samples are collected once in every 5-year permit cycle, in the summer, and consist of thirty-five (35) stations ranging from 40-300 meters (Table 1). Quinquennial, Annual and Quarterly station data, e.g., maps, abundances, sediment characterizations, etc., can be requested from OC San Ocean Monitoring. While most stations consist of fine sand and silt, some stations may have significant shell hash.

Trawl samples for macroinvertebrate community analysis are collected twice yearly from fourteen (14) stations which are also located on the southern portion of the San Pedro Shelf, California. Community analysis is conducted from one (1) trawl at each

station and the analysis requires that the organisms be identified to the lowest taxon possible. The Core trawl monitoring samples are collected from two (2) sets of stations: Semi-annual and Annual. The Semi-annual trawls consist of six (6) stations ranging from 52 – 65 meters depth collected twice a year. These two (2) periods are summer (July-September) and winter (January-March). The Annual samples are collected during the summer only and consist of eight (8) stations ranging from 35-300 meters (Table 2). Semi-annual and Annual station data, e.g., maps, abundances, etc., can be requested from OC San Ocean Monitoring.

In addition, OC San will be participating in Southern California Bight Regional Marine Monitoring Surveys (Regional Surveys), every 5 years beginning in 2023 with up to forty-four (44) benthic samples and a maximum of 21 trawl sites that are to be collected, sorted and identified. The sampling locations for these samples are yet to be determined and may come from a wider variety of habitats including, but not limited to, deep basins, bays, and estuaries as well wider geographical range within the Southern California Bight including the Channel Islands (Table 1).

### **3 Project/Work Elements**

OC San requests sorting and taxonomic services outlined in Table 1. Sorting and taxonomic specifications are outlined in Section 5 and Section 6 respectively.

OC San also requests taxonomic services to perform quality assurance on a limited number of infauna samples identified by OC San staff (see Section 8.2 Taxonomic QA/QC).

OC San also requests ad hoc taxonomic services for trawl macroinvertebrates outlined in Table 2. Taxonomic specifications for ad-hoc samples are outlined in Sections 6.

#### **NOTE:**

The estimated sample number and sample frequency per Exhibit B – Online Bid Price Form, are based on actual usage from the past twelve (12) months and projected for Regional Surveys (Table 1). These estimates are for bidding purposes only. OC San does not guarantee the use of the total quantity of services for all projects listed in Exhibit B – Online Bid Price Form.

**Table 1.** Survey matrix for regular Core monitoring benthic infauna sampling indicating estimated services needed

Survey Type	Frequency	Survey period(s)	Number of Samples collected per survey	Depth range for samples (m)	Total per year	Sorting/ Taxonomy
Core Quarterly	Four times yearly	Summer, Fall Winter & Spring	11	52-65	44	S/T
Core Annual	Once yearly	Summer	11	52-65	11	S/T
Quinquennial	Once every permit cycle (5 years) <sup>1</sup>	Summer	35	40-300	35	S/T
Regional Survey	Once every 5 years <sup>2</sup>	Summer	44	1-1000 <sup>3</sup>	44	S/T
Total per year (maximum)					134	

<sup>1</sup> Next Quinquennial survey slated no earlier than the 2026-27 survey year

<sup>2</sup> Next Regional Survey scheduled for 2023

<sup>3</sup> Actual depths and habitat ranges for regional stations are to be determined

**Table 2.** Survey matrix for regular Core monitoring trawl macroinvertebrate sampling indicating estimated services needed

Survey Type	Frequency	Survey period(s)	Number of trawls per Survey	Depth range for samples (m)	Total per year	Sorting/ Taxonomy
Core Semi-annual	Twice yearly	Summer & Winter	6	52-65	12	T
Core Annual	Once yearly	Summer	8	35-140	8	T
Regional Survey	Once every 5 years <sup>1</sup>	Summer	21	TBD <sup>2</sup>	21	T
total					41	

<sup>1</sup> Next Regional Survey scheduled for 2023

<sup>2</sup> Actual depths and habitat ranges for regional stations are to be determined

Benthic samples are collected by OC San with a 0.1 m<sup>2</sup> modified Van Veen grab sampler. Sediment samples are screened through a 1.0 mm mesh screen and the retained organisms are gently washed into appropriate sized containers (typically into one (1) or more 1 liter wide-mouth plastic jars).

Trawl samples are collected using a standard semi-balloon otter trawl towed for at least 10 minutes along the ocean floor. Those animals not identified and enumerated in the field are fixed and preserved in a similar manner as benthic samples for further identification (FID), enumeration and weight determination.

In the field, an isotonic with seawater solution of Epsom Salts (MgSO<sub>4</sub>·7H<sub>2</sub>O) is used to relax the organism prior to preserving in 10% formalin. After 3 – 10 days in

formalin the samples are rinsed by OC San staff with tap water and stored in 70% ethyl alcohol. OC San packs samples according to Department of Transportation (DOT) regulations for pickup by Service Provider. Sorted samples (grunge) shall be returned by the Service Provider in these same containers and packaging. Trawl animals can be returned in the same containers as they were shipped in.

#### **4 Special Provisions**

The Service Provider shall have facilities where contracted work will be performed within a 150-mile radius of OC San's offices located at 10844 Ellis Avenue, Fountain Valley, California, 92708. This will provide better access to sorting and taxonomy laboratories for possible, announced, inspections by OC San staff and limit possible damage as well as cost of shipping samples and specimens.

The Service Provider's taxonomists will be required to maintain consistency with OC San staff taxonomists for quality assurance purposes. In addition, they may be required participate in regional monitoring programs as representatives of, and in conjunction with, OC San taxonomists. Therefore, each of the consulting taxonomists must have previously provided macrofaunal sample invertebrate species identifications for the taxa for which they will be providing services during two (2) or more of the following Regional Surveys: SCBPP'94<sup>1</sup>, Bight'98, Bight'03, Bight'08, Bight'13, or Bight'18 and be a member of the Southern California Association of Marine Invertebrate Taxonomists (SCAMIT). Attendance at regular monthly meetings is encouraged for all taxonomists. Upon request, Service Provider must provide a list of qualifying taxonomists and written verification of their participation in a minimum of two (2) Bight surveys and current membership in SCAMIT.

#### **5 Sorting Specifications**

All samples shall be sorted into five (5) major taxa groups (aliquots): Polychaeta, Mollusca, Arthropoda, Echinodermata, and Miscellaneous Phyla. For the purposes of this document Miscellaneous Phyla shall include the Subclass Echiura. They shall be vialled or jarred together in the following manor:

- Polychaeta (1 vial minimum)
- Arthropoda (1 vial minimum)
- Mollusca (1 vial minimum)
- Echinodermata (1 vials minimum)
- Miscellaneous Phyla (1 vial minimum)

For general labeling, sample handling, and container specifications see Section 7. Sorted animal vials and jars shall be packaged and hand delivered by station and replicate in individual clear plastic Ziploc® bags, or equivalent. Each bag shall be marked on the outside with the station and replicate as well as the sampling month and year. Along with a printed chain of custody (COC) detailing the number of vials and jars for each set of sorted samples delivered, an electronic inventory of number of vials and individuals removed for each sample is to be compiled and submitted in the form of a Microsoft Excel spreadsheet (version 2010 or higher; template to be provided). This spreadsheet shall contain the following fields:

- Sample Number
- Sample Fixation
- Sample Date
- Total Number of animals (all taxa, as defined section 6)

---

<sup>1</sup> Southern California Bight Pilot Project conducted in 1994

- Sorter Name
- Date Sorting Completed
- Overall Preservation Quality (Good, Fair, or Poor)
- Single Major Component of non-marine animal constituent(s) (shell-hash, tubes, wood, algae, seeds, fly larvae, fibers, coarse sand, fine sand, pea gravel organic material, sewage debris, micro-detritus, or other(specify))
- Number of vials for each aliquot
- Number of jars for each aliquot

The Service Provider shall deliver sorted animals in a timely manner as outlined in Table 3.

Table 3 Benthic aliquots and ad hoc trawl macroinvertebrate identifications delivery schedules.

Survey Type (surveys per year)	Delivery milestones
Core Quarterly (4)	30 days after first receipt of samples per survey
Core Annual (1)	30 days after first receipt of samples per survey
Quinquennial (1)	1 <sup>st</sup> half 30 days/2 <sup>nd</sup> half 45 days after first receipt of samples per survey
Regional Survey (1)	1 <sup>st</sup> half 30 days/2 <sup>nd</sup> half 45 days after first receipt of samples per survey

## 6 Taxonomy Reporting Specifications

### a. General Identification and Data Recording Guidelines:

The number of organisms reported must account for all organisms in a sample alive at the time of collection. A corollary goal is to not count any individual more than once. Inevitably, samples contain fragments of organisms. Fragments of bilaterally symmetrical organisms will be identified and counted only if the fragment includes the anterior end of the organism. For radially symmetrical organisms (e.g., ophiuroids, anthozoans, etc.) only fragments bearing the majority of the oral disk will be identified and counted; while organisms such as sipunculids require the trunk (body) to be counted — not the introvert. Care must be taken to avoid reporting empty mollusk shells or crustacean molts.

Only soft bottom species are to be recorded. Hard-bottom epifaunal and pelagic organisms may occur incidentally in samples and are not included in data analyses. Their presence and number may be noted on the data sheets and a qualifier code should accompany the record. In addition, a brief explanatory comment is preferred. Sorters are not required to differentiate these organisms.

Records of animals unable to be identified to species due to condition, life stage, etc. shall be reported to the lowest level practical with explanation noted in the comments field. Example comments include: fragment, juvenile, crushed shell, regenerating head, missing appendages, etc. The record shall also include the appropriate qualifiers: Juvenile, Damaged, Mutation, Colonial Epibenthic, Pelagic Organisms, and Fouling Organisms. See Section 10 Data Submittal Guidelines.

If specimens are removed (e.g., for voucher or for further identification (FID)), the number of individuals shall be recorded and reason for the removal noted in the comments field.

The taxon recorded shall follow the exact orthography and phylogeny as that listed in the OC San's Master Species List (MSL) maintained and provided by OC San. For those taxa not on the MSL, the Southern California Association of Marine Invertebrate Taxonomists (SCAMIT) species list should be consulted, when possible. The version of the list in effect will be determined by OC San at the time of sample distribution. For those taxa not found on either list the World Registry of Marine Species (WoRMS; [www.marinespecies.org](http://www.marinespecies.org)) may be used as the authority.

If the Service Provider's taxonomists find it necessary to designate a provisional species, the exact orthography and format shall conform to protocols outlined in SCCWRP (2008)<sup>2</sup> for in-house provisional taxa, e.g., *Polycirrus* sp OC1 indicates the first provisional in the genus *Polycirrus* from OC San. The taxonomist shall provide documentation of said species which shall conform with SCAMIT (2022)<sup>3</sup> specifications for form and content. Documentation shall be submitted with the final data set in PDF or Word 2010 or higher format.

All abundance records shall also include an exclude from Diversity notation (yes or no) as defined by SCCWRP (2008)<sup>4</sup>.

Additionally, biomass per species shall also be recorded to the nearest gram in the comments section of the data recording sheet for all ad hoc trawl macroinvertebrate samples.

Each taxonomist will be responsible for identification and data entry for assigned samples and taxa. Electronic data sheets (in the form of Excel spreadsheets) will be provided by OC San to each taxonomist. The final form will be supplied prior to a request for taxonomic services. This form will be used to report all data to the OC San (Figure 1).

The Service Provide shall deliver the entire survey of identified animals and data within 120 days of receiving the samples. Provisions for an extension may be made with 30 days' written notice.

#### **b. Voucher Guidelines**

At a minimum, all contracting taxonomists are required to voucher one (1) or more specimens of all species that are new to the OC San MSL, a newly erected provisional, or not listed on the most current SCAMIT species list.

Labeling: Pre-cut form voucher labels along with instructions for completing them will be supplied prior to a request for taxonomic services.

---

<sup>2</sup> SCCWRP 2008. 3.Taxonomic Analysis. Southern California Bight 2008 Regional Marine Monitoring Survey (Bight'08) Macrobenthic (Infaunal) Sample Analysis Laboratory Manual. Southern California Coastal Water Research Project. ([www.SCCWRP.org](http://www.SCCWRP.org))

<sup>3</sup> SCAMIT 2022. SCAMIT Voucher Sheet Guidelines. ([www.SCAMIT.org](http://www.SCAMIT.org))

<sup>4</sup> SCCWRP 2008. *ibid.*



Vialing: All specimens shall be placed into smallest vial/jar (minimum 4 dram screw cap) into which they will fit without being damaged or distorted. All containers shall be filled completely with 70% ethanol. If needed, smaller specimens shall be placed in an unlabeled ¼ dram shell vial with cotton stopper (no bubbles) and then place into larger screw cap vial. See Section 7 for more details.

## **7 Material and General Sample Handling Specifications**

### **a. Preservation**

The container shall be of the appropriate size so that specimens are not crowded in the jar or vial and allow for sufficient volume of preservative, i.e., no less than 50% of the total container volume, and filled to the brim with 70% ethanol by volume. Full strength ethanol (95% ethanol and 5% water) shall be diluted to the prescribed strength with distilled or de-ionized water. Denatured ethanol, in any form, shall not be used.

### **b. Containers**

All screw cap vials will be 4 drams or larger and shall be made of glass and have Polyseal®-Lined Plastic Caps. Jars shall be round wide mouth jars made of glass in 32, 16, 8, & 4 oz. sizes with lids composed of Green Thermoset ® screw caps with foam-backed Fluoropolymer resin liner, made by Qorpak®. Caps with paper liners are prohibited.

### **c. Labels**

Labels inserted into the container with the animals shall be positioned so that the specimen is not pinned between the vial or jar and the label or impede it in anyway. Pre-printed voucher labels will be provided by OC San. All internal labels shall be composed of 100% linen paper. Sorting labels shall too be pre-cut into roughly: 5 cm x 2 cm for use with 4 dram vials or larger. At a minimum, all labels shall include the acronym "OCSD" the survey type (Semi-annual, Annual, Bight'23), complete collection data (station and replicate, collection date, depth in meters), aliquot name, and initials of the sorter on out facing side. The back shall include the 7 digit sample number printed on the external and internal label of each sample. Soft to medium pencil (e.g., 2H) or indelible black ink (e.g., 0.5 mm Uni-ball Deluxe Micro® pen or 0.5 mm Micron Archival Ink® pen) shall be used for recording these data onto specimen labels. Preprinted blank labels can be used when printed on the specified paper with laser printer for sorted samples only. OC San can provide a template.

## **8 Quality Assurance/Quality Control (QA/QC)**

Infaunal QA/QC are divided into two (2) parts: Sorting QA/QC, and Taxonomic QA/QC.

### **a. Sorting QA/QC**

Prior to delivery of aliquots, every sample is assessed in house by the Service Provider for sorting efficacy using a statistically based sorting QA/QC procedure. This procedure requires that the QA analyst tally the total number of organisms removed from each sample (F). This F value is compared to Table 4 providing 95% confidence limits for F values. The QA analyst must identify the table F value that comes closest to the sample F value without exceeding it. For each F value in the table there is a corresponding C value.

These (C) values provide the basis for evaluating how effectively the sorter has processed each sample, as they represent the maximum number of animals that can be found in the remaining portion (RP) during the resort process before exceeding the sorting efficiency criteria. After the QA analyst has identified the appropriate C value for this sample, 10% of the RP (volumetrically defined) is re-examined and, if the number of animals removed from the 10% volume was less than or equal to the table C value, then the sample passes the designated sorting criteria, and no further resort is necessary. However, if the number of animals found in the first 10% RP volume is greater than the table value, the QA/QC procedure continues. The first 10% volume of RP is kept separate and another 10% fraction is removed for resorting. This stepped procedure continues until the sample passes or a total of 30% of the RP has been resorted for QA/QC. If the sample still fails at the 30% level, the entire sample is resorted by the Service Provider and processed through another QA/QC check. This process repeats until all samples pass.

The Service Provider shall report the results of these at the same time as the aliquots delivery. The report (as an Excel spreadsheet) shall include for each sample the sample number, the sorters name, total volume percentage resorted needed to pass QA, the number of total resorts completed (if any) and the F value.

Annually, 10% of each sorters allotment for a given survey will be randomly selected (with a minimum of one) for complete resort by OC San staff. Sorting efficiency shall not exceed 10% of the total animals reported. For those sorters who exceed 10% a second sample will be randomly selected for resort. If that samples also fails, then the contactor will be required to resort all samples sorted by identified sorter.

**b. Taxonomic QA/QC**

The District's Infauna Taxonomic QA/QC Procedures are outlined in Appendix B. As part of the Core monitoring program the contract taxonomist may be required to participate at all levels including attending possible face to face meetings with staff at the OC San facilities in Fountain Valley, CA.

Regional Survey QA/QC procedures are expected to be similar to Bight'18<sup>5</sup>. Participation will be mandatory for all Service Providers for those specialties needed by OC San.

**9 Storage and Return of Aliquots**

All samples will be returned to OC San by 90 days after the completion of QA/QC and reconciliation. Each survey type shall be kept together and separate from other survey types and ship as one (1) and should include a printed COC.

**10 Data Submittal Guidelines**

For Core work data shall be submitted to OC San by Service Provider using the formatted Excel 2010 spreadsheets provided by OC San (Figure 1). Regional Survey

---

<sup>5</sup> SCCWRP 2018. 5. Quality Control. Southern California Bight 2018 Regional Marine Monitoring Survey (Bight'18) Macrobenithic (Infaunal) Sample Analysis Laboratory Manual. Southern California Coastal Water Research Project.

data shall be submitted directly to the relevant Bight Committee. See SCCWRP (2018)<sup>6</sup> data submittal guidelines.

**11 Staff Assistance**

The Contractor will be assigned a single point of contact on this project. Any meetings and/or correspondence related to this project shall be scheduled and approved by the Project Manager.

---

<sup>6</sup> SCCWRP 2018. 4. Data Submission and the Form of Taxonomic Names Southern California Bight 2018 Regional Marine Monitoring Survey (Bight'18) Macrobenthic (Infaunal) Sample Analysis Laboratory Manual. Southern California Coastal Water Research Project.

**Figure 1** Data sheet example; actual template may vary

Infauna Data Entry									
Cruise: NA		Sample #: 1843772							
Station: 73		Sample Date: 7/7/2015							
Depth: 67		Drop #: NA							
Major Taxa: Arthropods		Taxonomist: J. Taxonomist							

Rec Num	Class	Order	Family	Species Name	Count	Qualifier	Exclude	Number Removed	Comments
1				Euphilomedes carcharodonta_100200	18		No		
2				Ampelisca agassizi_11500	4		No		
3				Ampelisca careyi_11800	1		No		
4				Ampelisca brevisimulata_11700	7		No		
5				Ampelisca cf brevisimulata_11750	6		No		
6				Ampelisca cristata cristata_12000	1		No		
7				Ampelisca hancocki_11400	1		No		
8				Ampelisca pacifica_13100	1		No		
9				Listriella goleta_144400	1		No		
10				Bythos mullsi_46000	2		No		
11				Rhepoxynius bicuspidatus_239900	1		No		
12				Rhepoxynius menziesi_240400	4		No		
13				Rhepoxynius stenodes_240700	3		No		
14				Rhepoxynius daboius_240000	1		No		
15				Munnogonium tillerae_169300	2		No		
16				Mayerella banksia_157700	1		No		
17				Araphura breviana_29400	1		No		
18				Rutiderma lomae_243400	1		No		
19				Eusarsiella thominx_102400	2		No		
20				Mesolamprops bispinosus_161900	1		No		

**Table 4** F and C values for 10 - 30% fractions (95% QC Limits, 5% Missed, 100 Split; FRAC = The total fraction subsampled; F = The number originally found in the core; C = Cumulative total of this and all previous samples.)

Quality Control Limits for Benthic Infauna											
FRAC	F	C	FRAC	F	C	FRAC	F	C	FRAC	F	C
0.1	550	1	0.2	2058	17	0.3	834	10	0.3	2588	41
0.1	877	2	0.2	2156	18	0.3	897	11	0.3	2641	42
0.1	1168	3	0.2	2253	19	0.3	959	12	0.3	2694	43
0.1	1440	4	0.2	2350	20	0.3	1020	13	0.3	2747	44
0.1	1700	5	0.2	2446	21	0.3	1081	14	0.3	2800	45
0.1	1951	6	0.2	2541	22	0.3	1141	15	0.3	2852	46
0.1	2195	7	0.2	2636	23	0.3	1200	16	0.3	2905	47
0.1	2435	8	0.2	2731	24	0.3	1259	17	0.3	2958	48
0.1	2670	9	0.2	2825	25	0.3	1317	18	0.3	3010	49
0.1	2902	10	0.2	2919	26	0.3	1375	19	0.3	3062	50
0.1	3130	11	0.2	3012	27	0.3	1433	20	0.3	3115	51
0.1	3356	12	0.2	3105	28	0.3	1490	21	0.3	3167	52
0.1	3580	13	0.2	3198	29	0.3	1547	22	0.3	3219	53
0.1	3802	14	0.2	3291	30	0.3	1604	23	0.3	3271	54
-	-	-	0.2	3383	31	0.3	1661	24	0.3	3323	55
0.2	265	1	0.2	3475	32	0.3	1717	25	0.3	3375	56
0.2	419	2	0.2	3566	33	0.3	1773	26	0.3	3426	57
0.2	554	3	0.2	3658	34	0.3	1828	27	0.3	3478	58
0.2	680	4	0.2	3749	35	0.3	1884	28	0.3	3530	59
0.2	800	5	0.2	3840	36	0.3	1939	29	0.3	3581	60
0.2	915	6	0.2	3931	37	0.3	1994	30	0.3	3633	61
0.2	1028	7	-	-	-	0.3	2049	31	0.3	3684	62
0.2	1137	8	0.3	170	1	0.3	2103	32	0.3	3735	63
0.2	1245	9	0.3	266	2	0.3	2158	33	0.3	3787	64
0.2	1351	10	0.3	349	3	0.3	2212	34	0.3	3838	65
0.2	1455	11	0.3	427	4	0.3	2266	35	0.3	3889	66
0.2	1558	12	0.3	500	5	0.3	2320	36	0.3	3940	67
0.2	1660	13	0.3	570	6	0.3	2374	37	0.3	3991	68
0.2	1761	14	0.3	638	7	0.3	2427	38	-	-	
0.2	1861	15	0.3	705	8	0.3	2481	39	-	-	
0.2	1960	16	0.3	770	9	0.3	2534	40	-	-	
<p>Estimate the number sorted the first time, call it F*. Under the fraction subsampled, find the largest F that does not exceed F*. The corresponding C is the largest number you can find in the quality control subsample and not have to count further.</p>											

## **Exhibit “B”**

### **BID PRICE FORM**

[illegible]

66	Regular Monitoring Sampling - Annual Trawls Surveys (n = 8 stations/survey)	Ad hoc Taxonomy/sample- Mollusca – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$155.00
67	Regular Monitoring Sampling - Annual Trawls Surveys (n = 8 stations/survey)	Ad hoc Taxonomy/sample- Echinodermata – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$310.00
68	Regular Monitoring Sampling - Annual Trawls Surveys (n = 8 stations/survey)	Ad hoc Taxonomy/sample- Miscellaneous Phyla – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$205.00
69	Regular Monitoring Sampling - Annual Trawls Surveys (n = 8 stations/survey)	Voucher specimen and voucher sheet preparations per taxa	Each	\$615.00
70	Regular Monitoring Sampling - Annual Trawls Surveys (n = 8 stations/survey)	Project Management/survey	Each	\$1,800.00
71	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Sorting/sample – removing animals from sediments into taxa groups listed in SOW	Each	\$420.00
72	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Taxonomy/sample-Polychaeta – specific identifications of taxa to species and counts of abundance/species	Each	\$535.00
73	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Taxonomy/sample- Arthropoda – specific identifications of taxa to species and counts of abundance/species	Each	\$250.00
74	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Taxonomy/sample- Mollusca – specific identifications of taxa to species and counts of abundance/species	Each	\$110.00
75	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Taxonomy/sample- Echinodermata – specific identifications of taxa to species and counts of abundance/species	Each	\$75.00
76	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Taxonomy/sample- Miscellaneous Phyla – specific identifications of taxa to species and counts of abundance/species	Each	\$210.00
77	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Taxonomy/sample - Polychaeta – specific identifications of taxa to species and counts of abundance/species	Each	\$535.00
78	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Taxonomy/sample Arthropoda – specific identifications of taxa to species and counts of abundance/species	Each	\$250.00
79	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Taxonomy/sample- Mollusca – specific identifications of taxa to species and counts of abundance/species	Each	\$110.00
80	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Taxonomy/sample - Echinodermata – specific identifications of taxa to species and counts of abundance/species	Each	\$75.00
81	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Taxonomy/sample - Miscellaneous Phyla – specific identifications of taxa to species and counts of abundance/species	Each	\$210.00
82	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Reconciliation - Polychaeta – Reconciliation of disputed identifications to species and counts of abundance/species (hourly rate/taxonomist)	Hour	\$102.00
83	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Reconciliation - Arthropoda – Reconciliation of disputed identifications to species and counts of abundance/species (hourly rate/taxonomist)	Hour	\$102.00
84	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Reconciliation - Mollusca – Reconciliation of disputed identifications to species and counts of abundance/species (hourly rate/taxonomist)	Hour	\$102.00
85	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Reconciliation - Echinodermata – Reconciliation of disputed identifications to species and counts of abundance/species (hourly rate/taxonomist)	Hour	\$102.00
86	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	QA Reconciliation – Miscellaneous Phyla – Reconciliation of disputed identifications to species and counts of abundance/species (hourly rate/taxonomist)	Hour	\$102.00
87	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Voucher specimen and voucher sheet preparations per taxa	Each	\$615.00
88	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Regional Bight Taxonomy ad hoc QA/QC meetings, including SCAMIT*, (costs per 4-hr (half-day) meeting/taxonomist, including travel) – participation in required Regional Bight taxonomy and taxonomy QA meetings.	Each	\$615.00
89	Regional Monitoring Sampling - Bight Benthic Surveys (n = 44 stations/survey)	Project Management/Survey	Each	\$2,800.00
90	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Ad hoc Taxonomy/sample-Polychaeta – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$360.00
91	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Ad hoc Taxonomy/sample- Arthropoda – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$360.00
92	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Ad hoc Taxonomy/sample- Mollusca – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$205.00
93	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Ad hoc Taxonomy/sample- Echinodermata – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$310.00
94	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Ad hoc Taxonomy/sample- Miscellaneous Phyla – specific identifications of taxa to species, counts of abundance/species, biomass/species	Each	\$410.00
95	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Voucher specimen and voucher sheet preparations per taxa	Each	\$615.00
96	Regional Monitoring Sampling - Bight Trawls Surveys (n = 21 stations/survey)	Project Management/Survey	Each	\$1,800.00





# ADMINISTRATION COMMITTEE

## Agenda Report

Administration Building  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
(714) 593-7433

---

**File #:** 2022-2648

**Agenda Date:** 12/14/2022

**Agenda Item No:** 6.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lorenzo Tyner, Assistant General Manager

**SUBJECT:**

### INTERNET FIREWALL UPGRADE

### GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Receive and file bid tabulation for Fortigate Firewall Upgrade, Specification No. E-2022-1363BD;
- B. Receive and file first Notice of Intent to Award dated October 13, 2022;
- C. Receive and file protest letter received from NH&A, LLC dated October 13, 2022 concerning the award to Xpert Solutions, Inc.;
- D. Receive and file second Notice of Intent to Award dated October 14, 2022;
- E. Receive and file second protest letter received from Xpert Solutions, Inc. dated October 18, 2022 concerning the award to NH&A, LLC;
- F. Receive and file Orange County Sanitation District's Protest Response Letter dated October 31, 2022;
- G. Approve a Purchase Order Contract to NH&A, LLC for the purchase of Fortigate Firewall Upgrade, Specification No. E-2022-1363BD, for a total amount not to exceed \$226,698 plus applicable sales tax;
- H. Approve four (4) optional one-year renewals for maintenance and support for an annual amount not to exceed \$80,458 plus applicable sales tax; and
- I. Approve a contingency of \$22,670 (10%) for the purchase upgrades and subsequent renewals.

### BACKGROUND

The current internet firewalls at Orange County Sanitation District (OC San) Plant Nos.1 and 2 can only operate at 1Gbps. The firewalls are the gateway for internal networks to communicate with the internet and they also route and inspect traffic among OC San's internal networks.

Other IT projects are upgrading the data center, office network, and internet network equipment to meet today's high bandwidth and speed requirements, which allows the network to operate at a minimum 10Gbps.

## **RELEVANT STANDARDS**

- 24/7/365 treatment plant reliability
- Ensure the public's money is wisely spent
- Maintain a culture of improving efficiency to reduce the cost to provide the current service level or standard
- Protect OC San assets

## **PROBLEM**

Due to hardware limitations, the current internet firewalls cannot support the increased capacity requirements of the new data center, office network, and internet network equipment. Therefore, the firewalls will become a congestion point of the network if not upgraded. The ability to scan and analyze security threats will also be limited.

## **PROPOSED SOLUTION**

The Fortigate 1800F firewalls were chosen to meet the bandwidth and security requirements of the new network equipment. In addition to the bandwidth increase, the proposed firewalls deliver high-performance threat protection to keep OC San's networks secure.

## **TIMING CONCERNS**

Proper maintenance and performance of the internet firewalls at both Plant Nos. 1 and 2 are imperative for the continued support and security of OC San's networks.

## **RAMIFICATIONS OF NOT TAKING ACTION**

Not upgrading the firewalls at Plant Nos. 1 and 2 would result in network congestion or slowness and increase security risks.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

A Notice Inviting Bids was issued on September 14, 2022 via PlanetBids. Bids were due on October 12, 2022. OC San received nine (9) bids valid for 180 calendar days from the bid opening date. Two (2) bids received were considered as non-responsive as one bidder (*Charity IT*) did not bid on all line items and the other bidder (*vCloud Tech, Inc.*) did not submit the required bid submittals.

**BID RESULTS**

The following is a list of the firms that submitted a bid.

**Project Manager's Estimate: \$250,000**

Company Name	Bid (pricing below does not include the applicable sales tax)	Determination
NH&A, LLC	\$226,697.76	Responsive
Xpert Solutions, Inc.	\$231,074.00	Responsive
Hypertec USA Inc.	\$252,133.97	Responsive
vCloud Tech, Inc.	\$274,302.35	Non-responsive
vPrime Tech, Inc.	\$285,766.95	Responsive
Sterling Computers Corp	\$285,827.81	Responsive
D1 Networks, Inc.	\$337,499.20	Responsive
Granite Telecommunications	\$351,628.40	Responsive
Charity IT	\$0.00	Non-responsive

The proposed award was originally recommended to Xpert Solutions, Inc. and, immediately after, a protest from NH&A, LLC was received. Upon review, it was determined the original award should be rescinded due to an administrative error and a revised Notice of Intent to Award was issued to NH&A, LLC.

A second protest was received from Xpert Solutions, Inc. expressing concern over the validity of the bid provided by NH&A, LLC. OC San thoroughly researched the claim and found no discrepancies with NH&A's bid and confirmed it met all the requirements. Therefore, staff recommends approving the Purchase Order Contract to NH&A, LLC.

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted. (FY2022-23 & 2023-24 Budget, Section 8, Page 49, Information Technology Capital Program (M-MC-IT)).

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- Bid Tabulation
- Notice of Intent to Award dated October 13, 2022
- Protest letter received from NH&A, LLC dated October 13, 2022
- Notice of Intent to Award dated October 14, 2022

- Protest letter received from Xpert Solutions, Inc. dated October 18, 2022
- OC San's Protest Response Letter dated October 31, 2022

FORTIGATE FIREWALL UPGRADE  
TITLE: E-2022-1363BD  
DATE: 10/13/2022

									LOWEST BIDDER													
					BIDDER #1		BIDDER #2		BIDDER #3		BIDDER #4		BIDDER #5		BIDDER #6		BIDDER #7		BIDDER #8		BIDDER #9	
					Hypertec USA, Inc.		Granite Telecommunications		NH&A, LLC		Xpert Solutions, Inc.		Sterling Computers Corp		vPrime Tech, Inc.		D1 Networks, Inc.		vCloud Tech, Inc (non-responsive)		Charity IT (non-responsive)	
	ITEM #	ITEM DESCRIPTION	UOM	QTY	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
REQUIRED (BASIS FOR REWARD)	1	FortiGate-1800F	EA	4	\$30,617.20	\$122,468.80	\$ 46,186.00	\$184,744.00	\$ 54,427.85	\$217,711.40	\$ 30,021.00	\$120,084.00	\$ 37,362.02	\$149,448.08	\$ 36,209.97	\$144,839.88	\$ 45,724.14	\$182,896.56	\$ 34,757.27	\$139,029.08	No Bid	No Bid
	2	FortiGate-1800 F, 1-Year Enterprise Protection	EA	4	\$30,061.44	\$120,245.76	\$39,258.10	\$157,032.40	Included in line item# 1	Included in line item# 1	\$25,517.00	\$102,068.00	\$31,763.72	\$127,054.88	\$32,830.37	\$131,321.48	\$36,117.45	\$144,469.80	\$31,513.26	\$126,053.04	No Bid	No Bid
	3	Fortinet Professional Service Resource Service (SOW) Consultant	EA	3	\$2,922.47	\$8,767.41	\$3,000.00	\$9,000.00	\$2,784.40	\$8,353.20	\$2,790.00	\$8,370.00	\$2,878.79	\$8,636.37	\$2,979.21	\$8,937.63	\$3,100.00	\$9,300.00	\$2,859.69	\$8,579.07	No Bid	No Bid
	4	Fortinet FortiGate Rack Slide Rail Kit	EA	4	\$163.00	\$652.00	\$213.00	\$852.00	\$158.29	\$633.16	\$138.00	\$552.00	\$172.12	\$688.48	\$166.99	\$667.96	\$208.21	\$832.84	\$160.29	\$641.16	No Bid	No Bid
(Basis for Award) SUBTOTAL:					\$252,133.97		\$351,628.40		\$226,697.76		\$231,074.00		\$285,827.81		\$285,766.95		\$337,499.20		\$274,302.35		\$0.00	
OPTIONAL (NOT A BASIS FOR REWARD)	5	Year 2 Renewal: FortiGate-1800F 1-Year Enterprise Protection	EA	4	No bid	No bid	No bid	No bid	\$ 20,114.60	\$ 80,458.40	\$ 33,369.00	\$ 133,476.00	\$ 31,763.72	\$ 127,054.88	\$ 32,830.37	\$ 131,321.48	\$ 36,117.45	\$ 144,469.80	No bid	\$0.00	No Bid	No Bid
	6	Year 3 Renewal: FortiGate-1800F 1-Year Enterprise Protection	EA	4	No bid	No bid	No bid	No bid	\$ 20,114.60	\$ 80,458.40	\$ 33,369.00	\$ 133,476.00	\$ 31,763.72	\$ 127,054.88	\$ 32,830.37	\$ 131,321.48	\$ 36,117.45	\$ 144,469.80	\$ 94,539.79	\$ 378,159.16	No Bid	No Bid
	7	Year 4 Renewal: FortiGate-1800F 1-Year Enterprise Protection	EA	4	No bid	No bid	No bid	No bid	\$ 20,114.60	\$ 80,458.40	\$ 33,369.00	\$ 133,476.00	\$ 31,763.72	\$ 127,054.88	\$ 32,830.37	\$ 131,321.48	\$ 36,117.45	\$ 144,469.80	No bid	\$0.00	No Bid	No Bid
	8	Year 5 Renewal: FortiGate-1800F 1-Year Enterprise Protection	EA	4	No bid	No bid	No bid	No bid	\$ 20,114.60	\$ 80,458.40	\$ 33,369.00	\$ 133,476.00	\$ 31,763.72	\$ 127,054.88	\$ 32,830.37	\$ 131,321.48	\$ 36,117.45	\$ 144,469.80	\$ 157,566.31	\$ 630,265.24	No Bid	No Bid
(Not A Basis for Award) SUBTOTAL:					\$0.00		\$0.00		\$321,833.60		\$533,904.00		\$508,219.52		\$525,285.92		\$577,879.20		\$1,008,424.40		\$0.00	

October 13, 2022

**SUBJECT: Notice of Intent to Award for Specification No. E-2022-1363BD  
FortiGate Firewall Upgrade**

---

In conformance with Orange County Sanitation District's (OC San's) Purchasing Ordinance No. OC San-56, the contract for Specification No. E-2022-1363BD FortiGate Firewall Upgrade, is being awarded to **Xpert Solutions, Inc.**, subject to approval by the Administration Committee.

Thank you for your participation in the procurement process. OC San regards your firm as an important and valuable goods/services provider. If I can answer any further questions, please feel free to contact me during normal business hours.

Jessica Vu  
Contracts, Purchasing & Materials Management

c: Procurement File

*Serving:*

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  
County of Orange  
Costa Mesa  
Sanitary District  
Midway City  
Sanitary District  
Irvine Ranch  
Water District  
Yorba Linda  
Water District

Award Protest Request

October, 13, 2022

**To:**

Purchasing Department  
Jessica Vu  
Orange County Sanitation District

**Reference:** Invitation #E-2022-1363BD  
Project Title: FortiGate Firewall Upgrade

**Attached:** Bid Confirmation #306103; E-2022-1363BD BID RECAP.xlsx;  
20221013125934013 E-2022 1363BD NOIA\_10\_13\_2022; E-2022-1363BD

We, NH&A LLC, are protesting the awardee of the referenced bid. As understood, the award criteria was based solely on the lowest priced bidder. As seen on the results document – NH&A's subtotal was the lowest out of all bidders at \$226,697.76. The document states this as the basis for award.

NH&A explicitly stated in our submission #306103, that line item #1 was inclusive of the Enterprise Protection subscription (line item #2). If NH&A were to have slit the pricing into line #2, the subtotal cost would remain the same regardless. NH&A should not have been classified as non-responsive as we provided reason for the item.

Please feel free to reach out with any questions or comments.

We're looking forward to hearing back at your earliest convenience.

Best Regards,

Nancy Ramos

NH&A LLC

October 14, 2022

SUBJECT: Revised Notice to Award for Specification No. E-2022-1363BD  
Fortigate Firewall Upgrade

This notice supersedes the Notice of Intent to Award issued by the Orange County Sanitation District (OC San) on October 13, for the above-referenced Project. After further evaluation of the bids, OC San has determined that there was an error in the initial evaluation of the bid submittals. OC San hereby revises its previous recommendation and will recommend awarding the bid to NH&A LLC, subject to approval by the OC San Board of Directors.



Ruth Zintzun  
Purchasing and Contracts Manager

C: Procurement File

*Serving:*

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  
County of Orange  
Costa Mesa  
Sanitary District  
Midway City  
Sanitary District  
Irvine Ranch  
Water District  
Yorba Linda  
Water District





## Opposition to Bid Award

18 October 2022

Orange County Sanitation District  
Attn: Purchasing Department (Jessica Vu)  
10844 Ellis Avenue  
Fountain Valley, CA 92708

### **Reference: Bid Invitation #E-2022-1363BD FortiGate Firewall Upgrade**

Dear OCSan Procurement,

Xpert Solutions Inc. (Xpert) is respectfully submitting this statement of opposition to the protest submitted by the reseller from Florida (NH&A LLC) and we are submitting our protest to the award to NH&A LLC.

Xpert has the following concerns:

1. The pricing from the reseller from Florida (NH&A LLC) may not be in accordance with all applicable laws and current applicable policies of the manufacturer (Fortinet). This can be verified by NH&A LLC providing a valid Fortinet FTQ# which is dated before the bid closing.
2. The pricing from the reseller from Florida (NH&A LLC) is very likely invalid and may not be able to be honored by NH&A LLC. This concern has been confirmed by the equipment Manufacturer (Fortinet).
3. The proposed equipment from the reseller from Florida (NH&A LLC) may be from the Gray Market or may be used equipment despite the reseller (NH&A LLC) being an authorized reseller. This is also the concern of the Manufacturer (Fortinet).

The terms of the invitation to bid state in section 2.12 Price Confirmation – “Prior to the award of the Contract, the apparent low Bidder will need to confirm that each line item is at the correct pricing.” And in section 3.13.2. “The Vendor confirms to have sourced all products submitted in this offer from the listed manufacturer in Exhibit A through Authorized Channels only, in accordance with all applicable laws and current applicable policies of the manufacturer at the time of purchase.”

Xpert believes the pricing submitted by NH&A LLC is not in accordance with all applicable laws and current applicable policies of the manufacturer. Xpert and Fortinet are asking OCSan to have the reseller (NH&A LLC) provide to OCSan and to Fortinet the valid FTQ quote number from Fortinet to prove that a. the equipment is not from the gray market and not used equipment and b. it will prove whether or not NH&A LLC has authorized pricing from Fortinet.

The terms of the invitation to bid also state in section 2.2 Bid Pricing – “All pricing and evaluative material contained in submitted bids must be valid through the Contract term. At no time shall the bids be altered.” Xpert and Fortinet have reason to believe that the pricing submitted by NH&A LLC is invalid. Even though the reseller (NH&A LLC) is an authorized Fortinet reseller, the believes the equipment that NH&A LLC may be attempting to sell to OCSan equipment from the gray market or possibly used equipment.

Xpert is requesting that OCSan ask NH&A LLC to provide to OCSan and to Fortinet a valid FTQ quote number which is authorized by Fortinet. If NH&A LLC cannot provide to OCSan and to Fortinet the valid FTQ quote number from Fortinet, then OCSan is a grave risk of sourcing gray market and/or used equipment.

Finally, Xpert believes we have submitted the lowest authorized pricing to OCSan and that the bid should be awarded to Xpert.

Sincerely,



Anthony L. Jones  
President  
Xpert Solutions, Inc.

***Xpert Solutions, Inc.***

65 Enterprise  
Aliso Viejo, CA  
92656

p: (949) 218-2100  
f: (949) 218-2177  
w: [www.xpert.com](http://www.xpert.com)

October 31, 2022

Anthony L. Jones  
Xpert Solutions, Inc.  
65 Enterprise  
Aliso Viejo, CA  
[tony.jones@xpert.com](mailto:tony.jones@xpert.com)

SUBJECT: E-2022-1363BD Fortigate Firewall Upgrade Award Recommendation Protest

---

The Orange County Sanitation District (OC San) received an official protest from Xpert Solutions, Inc. on October 18, 2022. OC San reviewed the protest document and conducted its evaluation into the claim that the low bidder, NH&A LLC provided potentially invalid pricing that may not be honored, pricing that may not be in accordance with applicable laws and current practices of the manufacturer and is proposing equipment that may be used or from a Gray Market. OC San has concluded that none of these claims have merit. Therefore, OC San shall proceed with the intent to award NH&A LLC. as the vendor for the subject contract.

All affected parties shall be notified in writing of OC San's determination of the protest.



Ruth Zintzun  
Purchasing Manager

Attachments: Award Recommendation Protest Letter – Xpert Solutions, Inc. October 18, 2022



## Opposition to Bid Award

18 October 2022

Orange County Sanitation District  
Attn: Purchasing Department (Jessica Vu)  
10844 Ellis Avenue  
Fountain Valley, CA 92708

### **Reference: Bid Invitation #E-2022-1363BD FortiGate Firewall Upgrade**

Dear OCSan Procurement,

Xpert Solutions Inc. (Xpert) is respectfully submitting this statement of opposition to the protest submitted by the reseller from Florida (NH&A LLC) and we are submitting our protest to the award to NH&A LLC.

Xpert has the following concerns:

1. The pricing from the reseller from Florida (NH&A LLC) may not be in accordance with all applicable laws and current applicable policies of the manufacturer (Fortinet). This can be verified by NH&A LLC providing a valid Fortinet FTQ# which is dated before the bid closing.
2. The pricing from the reseller from Florida (NH&A LLC) is very likely invalid and may not be able to be honored by NH&A LLC. This concern has been confirmed by the equipment Manufacturer (Fortinet).
3. The proposed equipment from the reseller from Florida (NH&A LLC) may be from the Gray Market or may be used equipment despite the reseller (NH&A LLC) being an authorized reseller. This is also the concern of the Manufacturer (Fortinet).

The terms of the invitation to bid state in section 2.12 Price Confirmation – “Prior to the award of the Contract, the apparent low Bidder will need to confirm that each line item is at the correct pricing.” And in section 3.13.2. “The Vendor confirms to have sourced all products submitted in this offer from the listed manufacturer in Exhibit A through Authorized Channels only, in accordance with all applicable laws and current applicable policies of the manufacturer at the time of purchase.”


Xpert believes the pricing submitted by NH&A LLC is not in accordance with all applicable laws and current applicable policies of the manufacturer. Xpert and Fortinet are asking OCSan to have the reseller (NH&A LLC) provide to OCSan and to Fortinet the valid FTQ quote number from Fortinet to prove that a. the equipment is not from the gray market and not used equipment and b. it will prove whether or not NH&A LLC has authorized pricing from Fortinet.

The terms of the invitation to bid also state in section 2.2 Bid Pricing – “All pricing and evaluative material contained in submitted bids must be valid through the Contract term. At no time shall the bids be altered.” Xpert and Fortinet have reason to believe that the pricing submitted by NH&A LLC is invalid. Even though the reseller (NH&A LLC) is an authorized Fortinet reseller, the believes the equipment that NH&A LLC may be attempting to sell to OCSan equipment from the gray market or possibly used equipment.

Xpert is requesting that OCSan ask NH&A LLC to provide to OCSan and to Fortinet a valid FTQ quote number which is authorized by Fortinet. If NH&A LLC cannot provide to OCSan and to Fortinet the valid FTQ quote number from Fortinet, then OCSan is a grave risk of sourcing gray market and/or used equipment.

Finally, Xpert believes we have submitted the lowest authorized pricing to OCSan and that the bid should be awarded to Xpert.

Sincerely,

  
Anthony L. Jones  
President  
Xpert Solutions, Inc.

***Xpert Solutions, Inc.***

65 Enterprise  
Aliso Viejo, CA  
92656

p: (949) 218-2100  
f: (949) 218-2177  
w: [www.xpert.com](http://www.xpert.com)



---

**File #:** 2022-2637

**Agenda Date:** 12/14/2022

**Agenda Item No:** 7.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lorenzo Tyner, Assistant General Manager

**SUBJECT:**

**NEW HEADQUARTERS AND INDUSTRIAL CONTROL SYSTEM NETWORK EQUIPMENT**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve a Purchase Order to ePlus Technology, Inc. for the purchase of information technology hardware (New Headquarters & Industrial Control System Network Equipment), Specification No. E-2022-1360BD, for a total amount not to exceed \$428,865, plus applicable sales tax and shipping; and
- B. Approve a contingency in the amount of \$42,886 (10%).

**BACKGROUND**

Orange County Sanitation District (OC San) has commissioned, and is in the process of executing, Project No. P1-128 to build a new Headquarters Building (HQ) across Ellis Avenue from Plant No. 1 in Fountain Valley. New data networking equipment is required to connect the computers, telephones, printers, and other network devices to the campus network, industrial control system (ICS) network, and the internet.

**RELEVANT STANDARDS**

- 24/7/365 treatment plant reliability
- Ensure the public's money is wisely spent
- Maintain a culture of improving efficiency to reduce the cost to provide the current service level or standard
- Protect OC San assets

**PROBLEM**

Network connectivity is required for OC San's network devices such as computers, telephones, printers, and other network devices for all the office, cubicles, conference rooms, and other facilities in the new HQ Building.

**PROPOSED SOLUTION**

Cisco Catalyst 9000 series network switches were chosen for their next-generation connectivity and seamless compatibility with the OC San HQ Building and ICS networks. This platform provides the latest networking technology with scalability, availability, and security. The proposed switch selections will expand the existing networks to the new HQ Building.

**TIMING CONCERNS**

Prompt procurement execution is critical with the target HQ Building completion date of December 2023. All equipment vendors are currently affected by supply-chain delays. Proper implementation and maintenance of the new network devices and segments is imperative for the continued support and safety of Plant operations.

**RAMIFICATIONS OF NOT TAKING ACTION**

New and old buildings require network connectivity. Any computers and network devices will not be allowed to access networks for the staff to perform job duties should this new network infrastructure in the HQ Building not be acquired and implemented.

**PRIOR COMMITTEE/BOARD ACTIONS**

N/A

**ADDITIONAL INFORMATION**

A Notice Inviting Bids was issued on October 3, 2022 via PlanetBids. Bids were due on November 1, 2022. OC San received seven (7) bids valid for 180 calendar days from the bid opening date. Two bids are non-responsive due to not returning required documentation and one bid is considered non-responsive by responding they are not currently an authorized distributor, per the Specification. Notice of Intent to Award was issued on November 8, 2022. The following is a list of the firms that submitted a bid.

Company Name	Bid	Determination
ePlus Technology	\$428,864.85	Responsive
Saitech Inc	\$437,204.00	Responsive
Axelliant LLC	\$443,459.85	Responsive
Sterling Computers Corporation	\$518,172.21	Responsive
D1 Networks, Inc	\$584,382.97	Non-Responsive
Kambrian Corporation	\$602,357.86	Non-Responsive
Agility Software Solutions LLC	\$617,569.61	Non-Responsive

Based on these results, staff recommends approving the Purchase Order to ePlus Technology. The term of this Purchase Order will begin upon the effective date of the Notice to Proceed.

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted. (FY2022-23 & 2023-24 Budget, Section 8, Page 49, Information Technology Capital Program (M-MC-IT)).

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

N/A





# ADMINISTRATION COMMITTEE

## Agenda Report

Administration Building  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
(714) 593-7433

---

**File #:** 2022-2411

**Agenda Date:** 12/14/2022

**Agenda Item No:** 8.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lorenzo Tyner, Assistant General Manager

**SUBJECT:**

**ORANGE COUNTY SANITATION DISTRICT WASTEWATER REVENUE PROGRAM RATE STUDY**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION: Recommend to the Board of Directors to:

Receive and file the Orange County Sanitation District's 2022 Wastewater Rates, Fees, and Charges Study completed by HDR Engineering, Inc.

**BACKGROUND**

To ensure the appropriate allocation of costs and fees, the Orange County Sanitation District (OC San) engaged an engineering consulting firm, HDR Engineering, Inc., to provide an independent analysis of OC San's cash flow modeling and a comprehensive cost of service study. The study demonstrates that OC San's proposed fees are appropriate and reasonable and will support its projected capital and operating requirements.

**RELEVANT STANDARDS**

- Stable rates based on a validated cost structure which minimizes unforeseen rate increases

**PROBLEM**

OC San's Board of Directors approved a five-year rate schedule which expires at the end of the current fiscal year.

**PROPOSED SOLUTION**

Develop a new proposed five-year rate schedule based on the 2022 rate study completed by HDR Engineering, Inc.

**TIMING CONCERNS**

Based on the 2022 rate study, staff will be developing a proposed five-year rate schedule, beginning in July 2023, for Administration and Board consideration in February 2023.

**RAMIFICATIONS OF NOT TAKING ACTION**

Sewer service fees will be insufficient to support capital and operating requirements.

**PRIOR COMMITTEE/BOARD ACTIONS**

December 2017 - Received and filed the OC San 2017 Wastewater Revenue Program Rate Study completed by Carollo Engineers.

**ADDITIONAL INFORMATION**

Based on the results of the rate study completed by HDR Engineering, Inc., OC San staff is in the process of recommending a five-year revenue program which includes an increase on average of 3.5 percent annually for the next five years.

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted.

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- Orange County Sanitation District Wastewater Rates, Fees, and Charges Study
- Presentation

# DRAFT REPORT

## Wastewater Rates, Fees, and Charges Study

Orange County Sanitation District

*Orange County, CA*  
November 2022





November 21, 2022

Ms. Angela Brandt  
Financial Management Division and Revenue/Payroll Supervisor  
Orange County Sanitation District  
10844 Ellis Avenue  
Fountain Valley, California 92708

Subject: Wastewater Rates, Fees, and Charges Study - Draft

Dear Ms. Brandt:

HDR Engineering Inc. (HDR) was engaged to conduct a comprehensive cost of service wastewater rate, fees, and charges study (Study) by the Orange County Sanitation District (OC San). The Study includes development of cost based Regional Wastewater Service rates, Capital Facility Capacity Charge, Supplemental Capital Facility Charge, and ancillary charges provided to OC San customers over a 5-year period beginning July 1, 2023.

OC San outlined several goals to accomplish with this Study. This included the establishment of proposed rates at sufficient levels to fund annual operations and maintenance expense and necessary capital infrastructure that are cost-based and proportional to customers. The Study also reviewed and updated the capital facility charges to cost-based levels. The study also updated miscellaneous fees and charges to cost-based levels that reflect the costs associated with providing the specific service. Finally, this report provides the basis for developing and implementing rates that are cost-based, defensible, and equitable to OC San's customers.

This report details the steps and methodology used in the development of the rates and charges for the next five years. The Study and analysis were done using generally accepted rate setting principles as described in the Water Environmental Federation Manual of Practice 27.

We appreciate the opportunity to work with OC San management and staff in the development of the Study.

Sincerely yours,  
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn', enclosed in a thin black rectangular border.

Shawn Koorn  
Associate Vice President

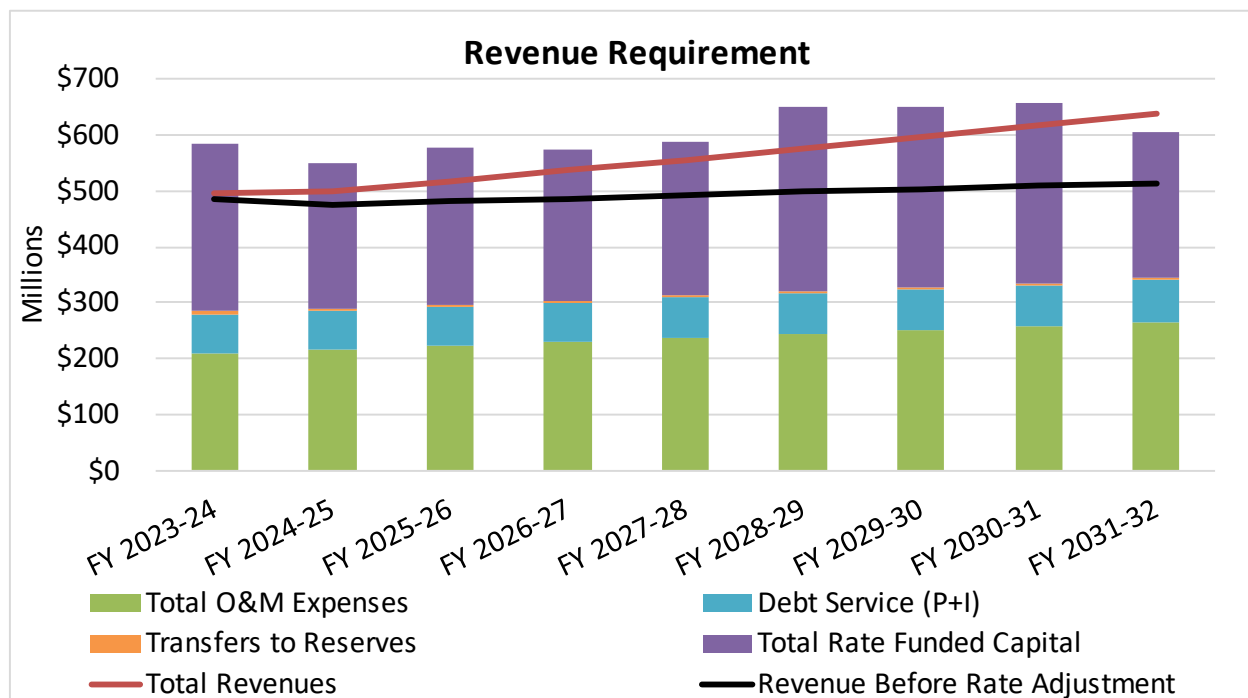


## Executive Summary

HDR completed a comprehensive cost of service wastewater rate, fee, and charges study (Study) for Orange County Sanitation District (OC San). The Study was completed using generally accepted rate and fee setting principles consistent with the methods outlined in the Water Environmental Federation Manual of Practice number 27. The goal of a comprehensive rate and fee study is to establish proportional rates that reflect the cost to the utility to serve its customers.

The first step in the study was to conduct a revenue requirement analysis. A revenue requirement analysis compares the utilities revenue to the utility's operating expenses and capital funding approach and determines if current rate levels are sufficient or if a rate adjustment is necessary to responsibly operate and maintain the utility. An important part of a revenue requirement is to set rates that maintain the utilities financial policies and legal requirements. The focus of the study is on the five-year rate setting period of 2023-24 through 2027-28. The revenue requirement extends beyond the rate setting period matching the same time frame of OC San's capital plan which extends to FY 2031-32. The extended view of the revenue requirement helps to provide an advanced look at what OC San can expect beyond the near term.

The chart below represents the revenue requirement, with the bars representing OC San's costs and the lines representing OC San's revenue. The red line represents the revenue with an annual increase of 3.5% and the black line is the projected revenue with no rate adjustments.

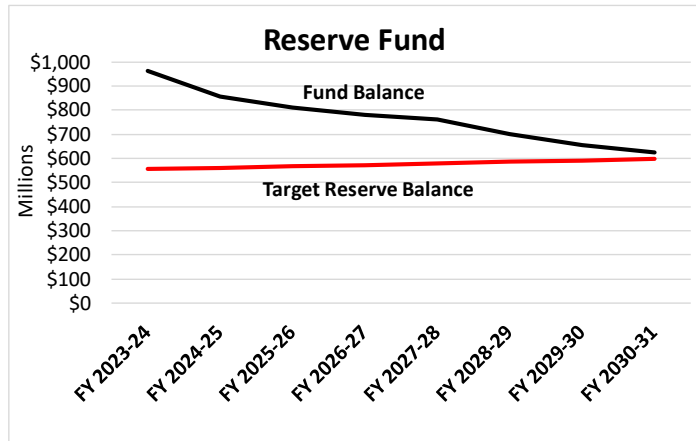


The chart above shows, in all but the last year, OC San's expenses exceed the estimated revenue OC San is expected to collect each year. The shortfall in annual revenue is expected to be covered by OC San's available available reserve balances.

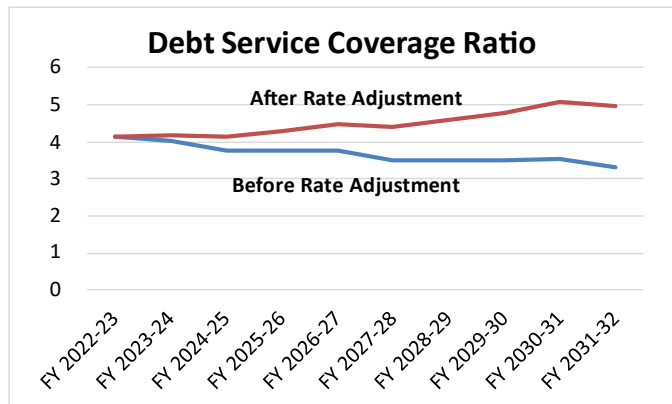


OC San has two policies that are particularly relevant to the revenue requirement, a target ending reserve balance and debt service coverage (DSC).

OC San currently has approximately \$964 million in reserve funds. One of OC San's objectives for the revenue requirement analysis was to set rates at a level that would facilitate a controlled drawdown of the available reserve balance over the extended revenue requirement period. The chart to the right shows the projected ending fund balance reaching OC San's target fund balance.

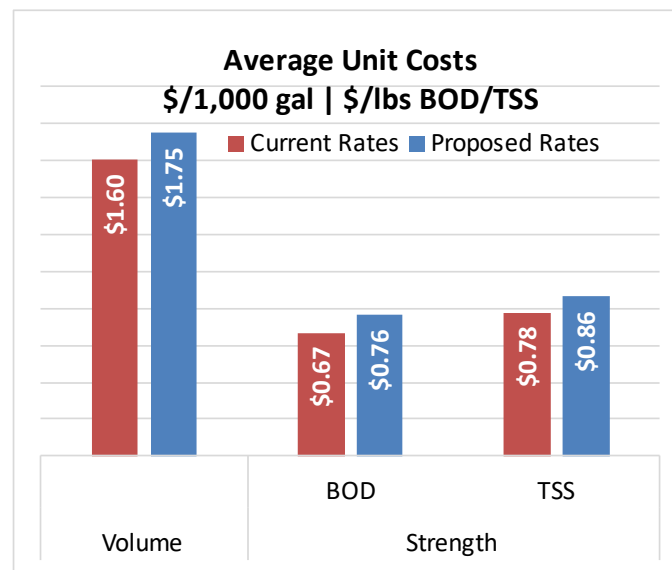


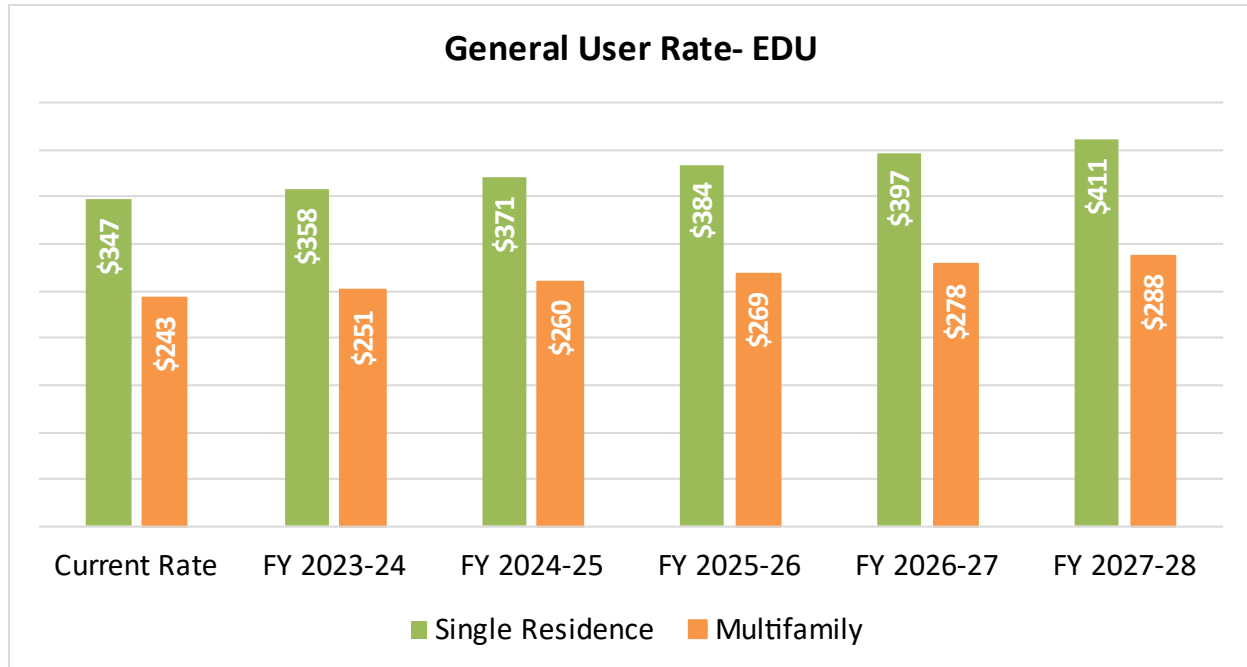
DSC is a measure of financial health and their ability to make debt service payments and is often expressed as a ratio of funds available after paying for operations and maintenance compared to their annual debt service payment. A typical minimum DSC ratio 1.25, which means after operations and maintenance there are 1.25 times their debt service payment. OC San has an exceptionally strong DSC ratio which exceeds 4.0 over the extended analysis period with the assumed 3.5% annual rate adjustments.



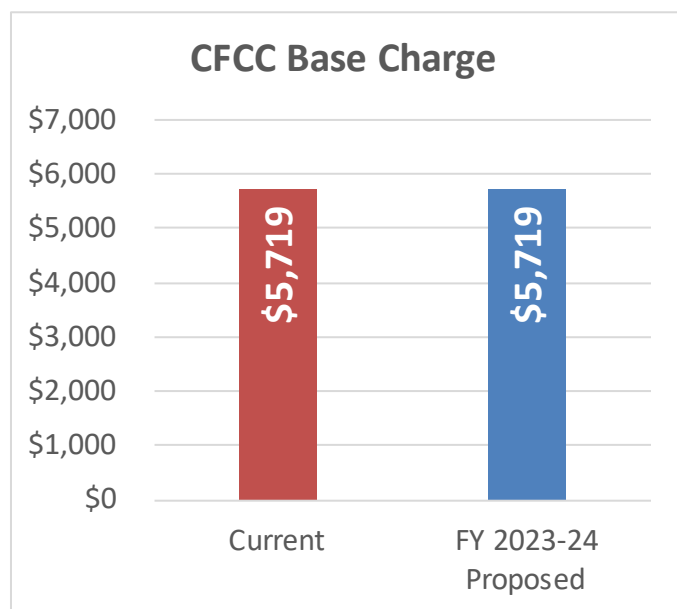
The next step in the comprehensive rate study is the cost of service analysis. HDR used generally accepted cost allocation methods in the allocation of OC San's costs to Volume, Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). The results of the analysis were the unit costs by volume and by pound. The chart below shows the current unit cost compared to the results of the cost of service. These unit charges are the basis for the Industrial/Permit user

The cost of service analysis also determines OC San's Equivalent Dwelling Unit (EDU) charge for the General User customers.





Another task in the study was to update the Capital Facility Capacity Charge (CFCC). This analysis is different from development of user rates in that it is not based on OC San's cost to continue operating but rather a means of maintaining equity among new and existing OC San customers. OC San's ability to serve new customers requires them to already have excess capacity or for them to build new capacity to serve new customers. The CFCC is calculated based on OC San's existing and future infrastructure costs expressed as a unit of capacity or EDU. The CFCC analysis determined that the CFCC was \$5,568 which is only slightly less than the existing charge of \$5,719. Given the closeness of the calculated rate and the current rate it was decided that the charge would remain the same for FY 2023-24, forgoing the annual adjustment for inflation.



This concludes the executive summary portion of the Study. The executive summary provides an overview of the study as a whole. The next sections of the report provide a more detailed explanation of the Study and the methods used in the development of the analysis.



## Contents

1	Comprehensive Wastewater Rate Study	
1.1	Introduction .....	1
1.2	Key Objectives of the Study.....	1
1.3	Overview of the Rate Study Process.....	2
1.4	Development of the Revenue Requirement Analysis.....	2
1.4.1	Determination of Time Period and Method of Accumulating Costs .....	2
1.4.2	Projection of Revenues .....	3
1.4.3	Projection of Operation and Maintenance Costs .....	3
1.4.4	Projection of Debt Service Payments.....	4
1.4.5	Projection of Wastewater Capital Improvement Projects Funded from Rate Revenues .....	4
1.4.6	Transfers to Reserves.....	5
1.4.7	Summary of the Wastewater Revenue Requirements.....	5
1.4.8	Review of Debt Service Coverage Ratios .....	5
1.4.9	Summary of Reserve Levels .....	6
1.4.10	Revenue Requirement Summary and Recommendations.....	7
1.5	Development of the Cost of Service Analysis .....	7
1.5.1	Objectives of a Cost of Service Analysis.....	7
1.5.2	Overview of the Cost of Service Analysis.....	8
1.5.3	Major Assumptions of the Cost of Service Analysis .....	12
1.5.4	Cost of Service Results.....	13
1.5.5	Cost of Service Conclusions and Recommendations.....	13
1.5.6	Summary of the Cost of Service Analysis .....	13
1.6	Development of the Wastewater Rate Designs .....	14
1.6.1	Review of the Overall Rate Adjustments.....	14
1.6.2	General User Rates .....	15
1.6.3	Industrial/Permit User Rates.....	15
1.6.4	Wastehauler Rates.....	16
1.7	Summary of Wastewater Rate Study .....	17
1.8	Rate Survey .....	17
2	Capital Facility Charges	
2.1	Capital Facility Capacity Charge Study .....	18
2.1.1	Introduction.....	18
2.1.2	CFCC Study Overview .....	18
2.1.3	CFCC Calculation .....	20
2.1.4	CFCC Summary of Net Allowable Calculation .....	24
2.1.5	CFCC Implementation.....	24
2.2	Supplemental Capital Facility Capacity Charge Study .....	27
2.3	Annexation Charge Study .....	28
3	Rebate Program	
3.1	Introduction .....	30
4	Miscellaneous Fees and Charges	
4.1	Introduction .....	32
4.2	Administrative Fees and Charges .....	32
4.3	Industrial Discharger, Source Control and Non-compliance Sampling Fees.....	33





4.4	Inspection Fees .....	34
4.5	Non-Compliance Sampling Fees.....	34

## Tables

Table 1-1.	Summary of the Capital Improvement Plan (\$000,000).....	4
Table 1-2.	Summary of the Revenue Requirement Analysis (\$000,000) .....	5
Table 1-3.	Debt Service Coverage Ratio .....	6
Table 1-4.	Allocation of Functional Categories .....	10
Table 1-5.	Summary of the Allocations.....	10
Table 1-6.	Summary of the Revenue Requirement Allocation (\$000,000s) .....	11
Table 1-7.	Summary of the Unit Costs .....	13
Table 1-8.	Summary of the Proposed Revenues and Adjustments to Rates (\$1,000,000).....	14
Table 1-9.	Single Family and Multi-family Rates.....	15
Table 1-10.	Industrial/Permit User.....	15
Table 1-11.	Wastehauler Rates .....	16
Table 1-12.	Wastehauler Rates per Gallon.....	16
Table 1-13.	Survey of Other Wastewater Utilities .....	17
Table 2-1.	Present Capital Facilities Capacity Charge <sup>(1),(2)</sup> .....	19
Table 2-2.	CFCC – Planning Data.....	21
Table 2-3.	CFCC – Equivalent Dwelling Units .....	22
Table 2-4.	Summary of CFCC per EDU .....	24
Table 2-5.	CFCC per EDU Converted to 1,000 Square Feet .....	25
Table 2-6.	Present and Calculated Capital Facilities Capacity Charge .....	26
Table 2-7.	Proposed Capital Facilities Capacity Charge <sup>(1),(2)</sup> .....	26
Table 2-8.	Calculated Supplemental Capital Facilities Capacity Charge <sup>(1),(2)</sup> .....	27
Table 2-9.	Present and Calculated Supplemental Capital Facilities Capacity Charge <sup>(1),(2)</sup> .....	28
Table 2-10.	Present and Calculated Supplemental Capital Facilities Capacity Charge <sup>(1),(2)</sup> .....	28
Table 2-11.	Present Annexation Charge <sup>(1)</sup> .....	28
Table 2-12.	Present and Calculated Annexation Charge <sup>(1)</sup> .....	29
Table 4-1.	Administrative Fees and Charges Related to Permittees per Year .....	33
Table 4-2.	Industrial Discharger, Source Control and Non-compliance Sampling Fees .....	34
Table 4-3.	Inspection Fees for Single Connection .....	34
Table 4-4.	Non-Compliance Sampling Fees .....	35



# 1 Comprehensive Wastewater Rate Study

## 1.1 Introduction

HDR Engineering Inc. (HDR) was retained by the Orange County Sanitation District (OC San) to conduct a comprehensive cost of service wastewater rate, fee, and charges study (Study). The purpose of the Study is to develop cost-based rates and fees for the next five year period. The purpose of conducting a cost of service study such as this, is to establish cost-based and proportional rates for OC San's customers and adhere to the requirements for setting rates according to State law under Proposition 218 (Prop 218).

The objective of this Study was to collaborate with OC San staff to develop a wastewater financial plan and cost-based rates necessary to meet the operation and maintenance (O&M) expenses and the capital improvement plan for OC San. This Study determined the adequacy of the existing wastewater rates and provides the framework for future revenue (rate) adjustments.

## 1.2 Key Objectives of the Study

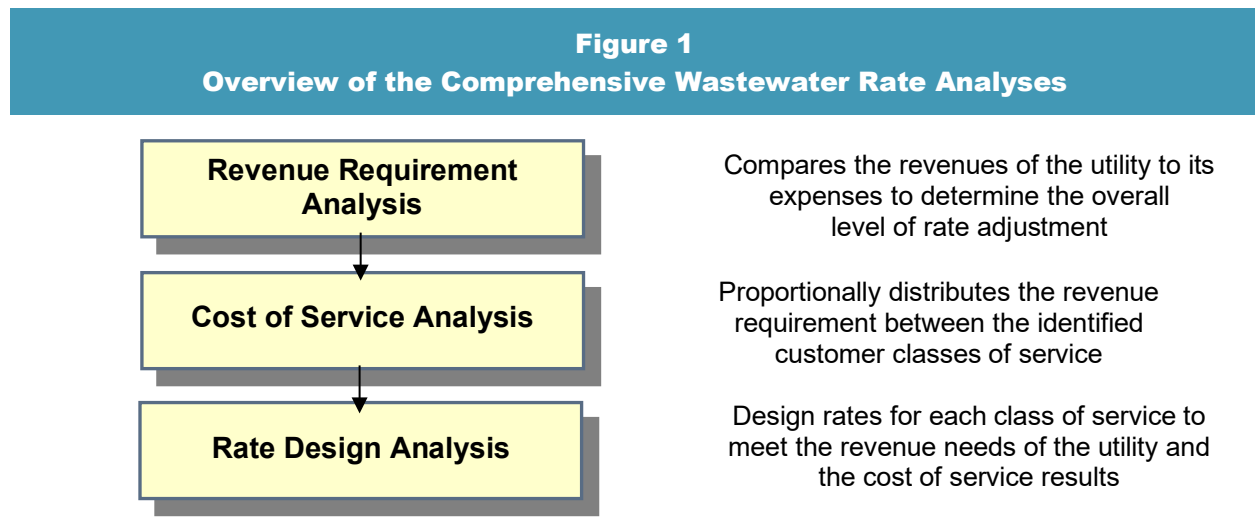
OC San had a number of key objectives in developing the Study. These key objectives were as follows:

- Set rates in a manner that is consistent with the principles and methodologies established by the Water Environment Federation Manual of Practice number 27.
- Develop OC San's revenue requirement analysis to provide prudent and adequate funding levels for O&M and capital infrastructure.
- Develop a ten-year financial planning model (revenue requirement) that provides prudent funding levels for O&M activities along with the capital infrastructure identified in OC San's capital improvement planning documents.
- Develop a cost allocation methodology that proportionally distributes the cost of providing wastewater service to OC San's customers.
- Develop proposed wastewater rates for a five-year period which are cost-based, proportional, and legally defensible.
- Update OC San's Capital Facility Capacity Charges (CFCC) and Supplemental Capital Facility Capacity Charges (SCFCC) to conform to legal requirements
- Update other miscellaneous charges including permit and sampling charges.

These key objectives provided guidance as the Study was developed and progressed.

## 1.3 Overview of the Rate Study Process

Wastewater rates must be set at a level where a utility's annual operating and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the existing rates, comprehensive rate studies are often performed. A comprehensive wastewater rate study consists of three interrelated analyses. Figure 1 provides an overview of these analyses.



The above framework was utilized in the development of the OC Sans Study. Provided below is a summary of the analyses undertaken and our findings, conclusions, and recommendations.

## 1.4 Development of the Revenue Requirement Analysis

The development of revenue requirement analysis is the first step in the comprehensive wastewater rate study process. A revenue requirement analysis determines the adequacy of the overall level of OC San's wastewater rates. From this analysis, a determination can be made as to the level of the revenue (rate) adjustments needed to provide adequate and prudent funding for projected operating and capital needs.

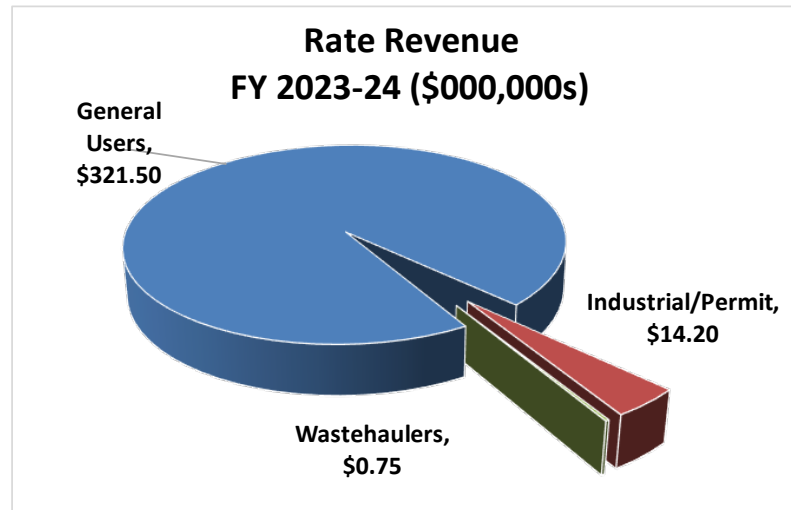
### 1.4.1 Determination of Time Period and Method of Accumulating Costs

The initial step in calculating the revenue requirement for OC San was to establish a "test period", or time frame of reference for the revenue requirement analysis. For this particular study, the focus of the revenue requirement was for the 5-year projected time period of FY 2023-24 through FY 2027-28. However, the model developed by HDR projects rates over a 10-year period to take into consideration future revenue needs and plan for future capital improvements. By reviewing costs over an extended time period, OC San can anticipate and plan around any significant changes or needs in operating and capital requirements.

The second step in determining the revenue requirements for OC San was to determine the basis of accumulating costs. In this case, a “cash basis” revenue requirement methodology was utilized. This methodology includes both operating and capital costs within the total revenue requirements and was the methodology used in previous rate studies completed for OC San.

## 1.4.2 Projection of Revenues

The first step in developing the revenue requirement was to develop a projection of rate revenues, at present rate levels. In developing this portion of the analysis, the customer billing units for the historical FY 2020-21 were reviewed and then escalated to reflect OC San’s estimated billing units for the projected time period of FY 2023-24 through FY 2031-32. OC San charges its primary customer type, General Users, a rate based on an Equivalent Dwelling Unit (EDU) basis.



Industrial/Permit user are charge based on their actual volume of wastewater and calculated pounds of Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). Wastehaulers, the final customer class, are a much smaller customer group and are charged by the gallon of wastewater discharged into the system.

The billing units for each customer group were multiplied by the applicable current (present) rates, which included the most recent rate adjustment implemented for the fiscal year 2022-23, to develop the projection of annual rate revenues over the 5-year period.

This calculation resulted in annual rate revenues of approximately \$336 million in FY 2023-24. OC San also has several other revenue streams in addition to the annual rate revenue received. The other, or miscellaneous revenue, for FY 2023-24 includes property tax of \$112 million, Irving Ranch Water District (IRWD) of \$16 million, and Santa Ana Water Project Authority (SAWPA) \$3 million. IRWD and SAWPA are customers of OC San, however, their wastewater rates are established by contracts rather than through this Study.

## 1.4.3 Projection of Operation and Maintenance Costs

The revenue requirement projected the operation and maintenance (O&M) expenses by utilizing OC San’s most recent preliminary budgeted expenses and escalating them over the ten-year period. The annual rate of inflation was estimated on average to be 3% per year. Total current (FY 2023/24) O&M expenses for OC San are approximately \$210 million. With escalation, O&M expenses are projected to increase to approximately \$236 million in FY 2027/28.



#### 1.4.4 Projection of Debt Service Payments

OC San's cash basis revenue requirement includes a component for annual debt service payments. Debt service payments relates to annual debt service obligations (principal and interest) when capital projects are financed through long-term debt. OC San has several outstanding debt issues used to fund prior capital expenditures. For the fiscal year 2023-24 principal and interest payments are approximately \$68.6 million according to debt schedules provided by OC San. In the development of the capital funding analysis, no additional debt issuances assumed or were there any refunding of existing outstanding debt.

#### 1.4.5 Projection of Wastewater Capital Improvement Projects Funded from Rate Revenues

The focus of this portion of the analysis is on the funding of capital improvement projects. During the projected five-year period OC San has capital improvement projects for their collection system and treatment plant which total approximately \$1.663 billion. These capital projects were provided by OC San staff as outlined in the current capital improvement plan.

The funding of OC San's capital program has been historically funded through a combination of current revenues, reserve funds, capital facility charges, and long-term debt. The revenue requirement assumes the \$1.663 billion in capital expenditures will be funded using \$1.388 billion of current revenue, \$98 million of capital facility charge revenue, and the remaining from reserves, assumed savings, and deferrals. A summary of the funding plan is shown below in Table 1-1.

**Table 1-1. Summary of the Capital Improvement Plan (\$000,000)**

Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	5-year Total
<b>Capital Improvement Projects</b>						
Capital Expenditures	\$329	\$312	\$322	\$323	\$325	\$1,611
Future Renewal and Replacement	<u>10</u>	<u>2</u>	<u>6</u>	<u>19</u>	<u>16</u>	<u>52</u>
<b>Total Capital Improvement Projects</b>	<b>\$339</b>	<b>\$314</b>	<b>\$328</b>	<b>\$342</b>	<b>\$340</b>	<b>\$1,663</b>
<b>Capital Funding</b>						
CIP Savings & Deferrals	\$24	\$32	\$27	\$49	\$45	\$177
CFCC & SCFCC Revenue	19	20	20	20	20	98
Rate Revenue and Reserve Funds	<u>297</u>	<u>262</u>	<u>281</u>	<u>273</u>	<u>275</u>	<u>1,388</u>
<b>Total Capital Funding</b>	<b>\$339</b>	<b>\$314</b>	<b>\$328</b>	<b>\$342</b>	<b>\$340</b>	<b>\$1,663</b>

As noted previously, no additional long-term debt is being issued over the Study time period to fund planned capital improvement projects. OC San has specifically developed a capital funding analysis that utilizes available reserves to draw reserve balances to target levels and not issue additional long-term debt.



## 1.4.6 Transfers to Reserves

OC San is self-insured and contributes \$3.85 million to their insurance reserve fund annually. Additionally OC San also has a transfer for equity purchases of \$3.50 million in FY 2023-24.

## 1.4.7 Summary of the Wastewater Revenue Requirements

The above components of the revenue requirement are summed to develop the overall wastewater revenue requirements for OC San. Provided below in Table 1-2 is a summary of OC San's revenue requirement analysis for FY 2023-24 – FY 2027-28.

**Table 1-2. Summary of the Revenue Requirement Analysis (\$000,000)**

Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
<b>Revenues –</b>					
Rate Revenues	\$336.4	\$337.4	\$338.4	\$339.4	\$340.3
Other Revenue	<u>149.2</u>	<u>138.0</u>	<u>142.7</u>	<u>146.6</u>	<u>150.9</u>
<b>Total Revenues</b>	<b>\$485.7</b>	<b>\$475.4</b>	<b>\$481.1</b>	<b>\$485.9</b>	<b>\$491.3</b>
<b>Expenses –</b>					
Total O&M Expenses	\$209.9	\$216.2	\$222.7	\$229.4	\$236.2
Total Rate Funded Capital <sup>[1]</sup>	296.8	262.3	\$280.9	273.0	274.9
Debt Service (P+I)	\$68.6	68.6	\$68.6	68.5	72.7
Transfers to Reserves	<u>7.4</u>	<u>3.9</u>	<u>3.9</u>	<u>3.9</u>	<u>3.9</u>
<b>Total Rev. Requirement</b>	<b>\$582.6</b>	<b>\$550.9</b>	<b>\$576.1</b>	<b>\$574.7</b>	<b>\$587.6</b>
Draw Down of Fund Balance	(\$85.2)	(\$51.4)	(\$58.2)	(\$38.7)	(\$32.5)
Deficiency of Funds	<b>(\$11.8)</b>	<b>(\$24.0)</b>	<b>(\$36.8)</b>	<b>(\$50.1)</b>	<b>(\$63.9)</b>
Bal./Defic. As a % of Rates	3.5%	7.1%	10.9%	14.8%	18.8%
<b>Assumed Rate Adjustment</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>
Additional Revenue from Rate Adjust.	\$11.8	\$24.0	\$36.8	\$50.1	\$63.9

The results shown in Table 1-2 indicate a deficiency of nearly 18.8% over next five years. It should be noted that these deficiencies are cumulative and any rate adjustments in the initial years will reduce the overall deficiency in the remaining years. This deficiency also reflects the use of \$266 million of reserve funds over the time period to reduce the impact to customers while also drawing down fund balance to minimum target levels.

## 1.4.8 Review of Debt Service Coverage Ratios

As noted, OC San has debt financed significant portion of past capital improvements using Certificates of Participation (COP). COPs are repayment obligations, rather than a traditional bonds or loans. Though COPs are technically different than a bond, they do function in the same way where OC San



pays the holder of the COP annual payments for principal and interest on the outstanding balance. The COP agreements require OC San to maintain a minimum Debt Service Coverage Ratio of 1.25.

**Table 1-3. Debt Service Coverage Ratio**

	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Debt Service Coverage Minimum	1.25				
Debt Service Coverage Before Rate Adjustment	4.02	3.78	3.77	3.75	3.51
Debt Service Coverage After Rate Adjustment	4.19	4.13	4.30	4.48	4.39

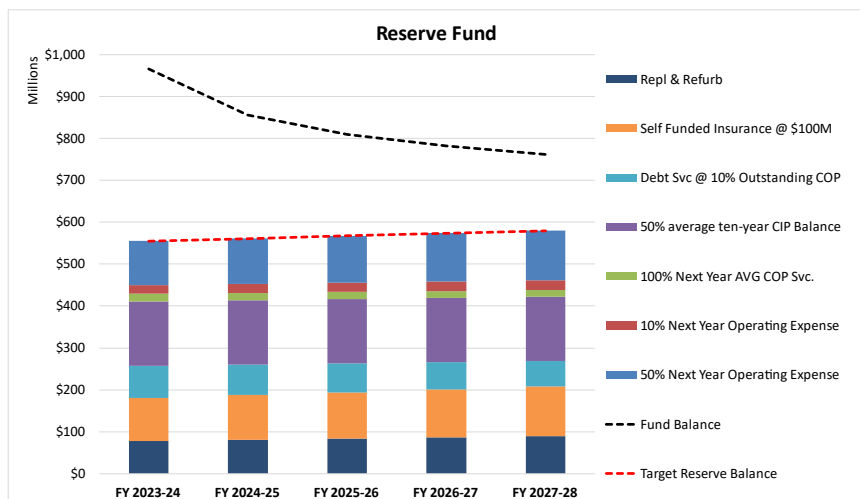
The calculation of debt service coverage ratios in the Study projects OC San to be significantly higher than the 1.25 minimum requirement throughout the analysis period and reflect the strong financial health of OC San. As a point of reference, HDR is not acting in the capacity of a financial advisor. The calculation of the debt service coverage ratio is for illustrative purposes only. OC San should work with their financial advisor or bond counsel to calculate the debt service coverage for financial purposes.

### 1.4.9 Summary of Reserve Levels

Reserve funds are critical to a utility's operations and adequate levels of reserve reflect prudent financial management. Over the years OC San has refined the target reserve balance to best reflect their financial needs. The target balance is a combination of calculations that represent the considerations when establishing minimum target fund balances. These considerations include, cashflow to pay the utilities expenses, funding for capital projects, annual debt service payments, self-insurance, and other unforeseen situations or emergencies. For the 2023-24 fiscal year, the target fund balance is \$555 million, while the 2023-24 fiscal year beginning fund balance is approximately \$964 million.

One of OC San's objectives for the Study was to draw

down existing fund balance to the target minimum levels over a 10-year period. The chart above shows the projected ending fund balance sloping down over the five years of the analysis with the goal of reaching the target balance in the next ten years. As noted, approximately \$266 million of reserves are being used to fund capital improvements as well as transition rates to cost-based levels over the projected time period. After adding back projected accumulated interest earnings, in 2027-28 fiscal year the fund balance is projected to reduce by approximately \$200 million.







## 1.4.10 Revenue Requirement Summary and Recommendations

The revenue requirement analysis undertaken herein was developed using generally accepted rate making principles. In establishing the revenue requirement analysis consideration was given the proper and adequate funding of OC San's operating and capital costs. The revenue requirements as developed herein are reflective of the OC San's current financial policies and rate philosophies.

Based on the results of the revenue requirement analysis, it is recommended that OC San adjust the overall level of rate revenues by 3.5% annually in FY 2023-24 through FY 2027-28. As noted, this assumes the use of available reserves to fund the annual differences between total annual expenses and revenues. In total, approximately \$266 million is projected to be needed to prudently fund the O&M and capital needs over this projected five year period.

## 1.5 Development of the Cost of Service Analysis

A cost of service analysis is concerned with the proportional distribution of the total revenue requirement between the customer classes of service. For this Study, the classes of service were identified as general user, industrial/permit user, and wastehaulers. The previously developed revenue requirement analysis was utilized in the development of the cost of service analysis.

### 1.5.1 Objectives of a Cost of Service Analysis

There are two primary objectives in conducting a cost of service analysis:

- Proportionally distribute the revenue requirement between the customer classes of service
- Derive average unit costs for subsequent rate designs

The objectives of the wastewater cost of service analysis are different from determining the revenue requirement. As noted above, the revenue requirement analysis determines the utility's overall financial needs, while the cost of service study determines the proportional manner to collect the financial needs from the identified customer classes of service. The second rationale for conducting a cost of service analysis is to provide the basis for designing the proposed rates that reasonably reflect the costs incurred by OC San to provide service.

Wastewater utility incurs costs to convey and treat the wastewater to the degree required by government regulation. Treatment plants are designed around the overall volume of the wastewater and the amount of pollutants, or strength, of the wastewater. Different treatment plant components are designed to address the volume and/or the removal of the pollutants.

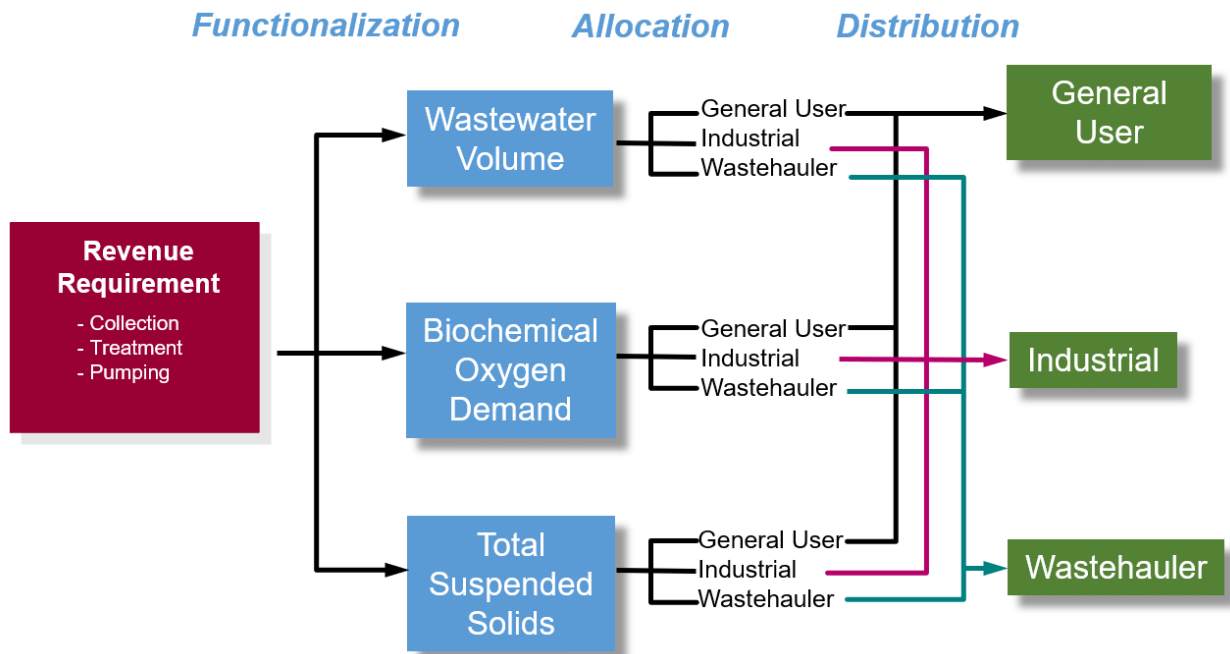
For this Study, the two types of pollutants the treatment plants are designed to treat are biochemical oxygen demand (BOD) and total suspended solids (TSS). Wastewater coming from different customer types often have different levels of concentration of BOD and TSS. Customers with higher than average concentration of either, or both, BOD and TSS utilize the treatment plant to a greater extent than an average user. Because these customers with higher than average concentration of pollutants utilize treatment plant components designed to treat the pollutants they should then be responsible for a higher proportionate share of the cost to treat the pollutant.

Each of these types of costs may be collected in a slightly different manner as to allow for the development of rates that attempt to collect costs in the same manner as they are incurred.



## 1.5.2 Overview of the Cost of Service Analysis

A cost of service study utilizes a three-step approach to review costs; functionalization, allocation, and distribution of costs. The graphic shown below provides a simple overview of the three-step process of functionalizing costs, allocating them to the various cost components (e.g., volume, BOD or TSS) and then proportionally distributing costs to the identified customer classes of service (i.e., General User, Industrial/Permit user, Wastehauler).



The above illustration is greatly simplified for purposes of explaining the cost of service process. These basic concepts are adapted and tailored to OC San's specific wastewater system. In this case, OC San's cost of service study uses the basic approach illustrated above, but it has been tailored to reflect the specific and unique characteristics and customers of OC San's wastewater system.

Provided below is a more detailed discussion of the general procedures, or steps, illustrated above and used within OC San's wastewater cost of service analysis.

**Functionalization** – Functionalization is the arrangement of expenses and asset (plant) data by major operating functions within the utility (e.g., treatment, conveyance). For OC San's Study, the functionalization of the cost data was accomplished through OC San's system of asset and expense accounts. More specifically for expenses, OC San has a detailed account level that breaks the expense into areas that are easily functionalized. Functional categories used in this Study were:

- Headworks
- Primary Sedimentation
- Secondary Sedimentation
- Trickling Filters
- Activated Sludge Process
- Sludge Thickening
- Digestion
- Solids Handling
- Solids Disposal
- Effluent Disposal



- Oxygen Activated Sludge Process
- Aeration Equipment and Structures
- Blower Equipment and Structures
- Interplant
- Collection

These are the same functional categories as used in prior cost of service studies for OC San.

**Allocation** – The next step of the cost of service is the allocation of the functionalized assets and costs. Allocation determines what purpose assets serve and why expenses were incurred or what type of need is being met. OC San's plant accounts and revenue requirement were reviewed and allocated based on two types of allocators:

- **Volume-Related Asset or Costs:** Volume assets are those assets that are put into place to treat the overall volume of wastewater. Volume costs are costs that tend to vary with the total quantity of wastewater produced by a customer. Chemicals or electricity used in the treatment of water is an example of a volume-related allocation since these costs tend to vary based upon the total flow of wastewater.
- **Strength Related Assets and Costs:** For this Study, and as noted, two primary types of pollutants were identified, BOD and TSS. Strength of wastewater is the concentration of the BOD and TSS of the wastewater, typically expressed as milligram per liters. Strength of wastewater is important because the higher the strength of the wastewater, either BOD or TSS, the higher the costs to treat that wastewater. Assets and costs of the wastewater treatment process are necessary to specifically treat either, or both, BOD and TSS.

The allocation of assets, capital and expenditures, used in OC San prior studies were reviewed by HDR to determine if they remain appropriate. Based on the review, HDR found the allocations used in past studies were appropriate and used to allocate costs in the development of this Study. Table 1-4 summarizes the functional categories described above and the allocation.



**Table 1-4. Allocation of Functional Categories**

Description	Asset Allocation			Expense Allocation		
	Volume	Strength		Volume	Strength	
		BOD	TSS		BOD	TSS
Headworks	75%	5%	20%	75%	5%	20%
Primary Sedimentation		30%	70%	15%	25%	60%
Secondary Sedimentation		70%	30%		100%	
Trickling Filters		100%			100%	
Activated Sludge Process		100%			100%	
Oxygen Activated Sludge Process		100%			100%	
Aeration Equipment and Structures		100%			100%	
Blower Equipment and Structures		100%			100%	
Sludge Thickening		25%	75%		25%	75%
Digestion		25%	75%		25%	75%
Solids Handling		25%	75%		25%	75%
Solids Disposal		45%	55%		45%	55%
Effluent Disposal	100%			100%		
Collection	90%	10%		90%	5%	5%
Interplant		70%	30%		70%	30%

The results of the individual asset and expense allocation can be summed up by combining the total asset, capital and operations and maintenance expense and arriving at an overall allocation. Table 1-5 shows the summary level allocation.

**Table 1-5. Summary of the Allocations**

Description	Volume	Strength	
		BOD	TSS
Allocation of Plant Assets	54%	25%	21%
Allocation of Operations & Maintenance Expenses	23%	30%	47%
Allocation of Capital Expenses	47%	27%	27%

Table 1-5 provides the results of the allocation process which determined that 54% of plant in service is necessary to serve the total volume of wastewater, 25% necessary to treat BOD, and 21% TSS. The allocation of plant assets in Table 1-5 is a composite of individual asset groups that best reflect their function within the overall system. The asset allocations were used as a means of allocating debt service and policy driven assumptions within the revenue requirement. Similarly, the O&M expense allocation is a composite of several lines of individual types of expenses specifically allocated based on their function which are combined to equal 23% volume, 30% BOD and 47% TSS. The allocation of capital expenses is also a combined value based on each individual capital project, when combined



they result in 47% volume, 27% BOD, and 27% TSS related. The capital allocation was used to allocate capital funded from rates which is the annual amount of funding from current rate revenues. Each of these allocations along with specific cost allocations are used in the process of allocating the total revenue requirement. Table 1-6 below provides the summary of the revenue requirement allocation.

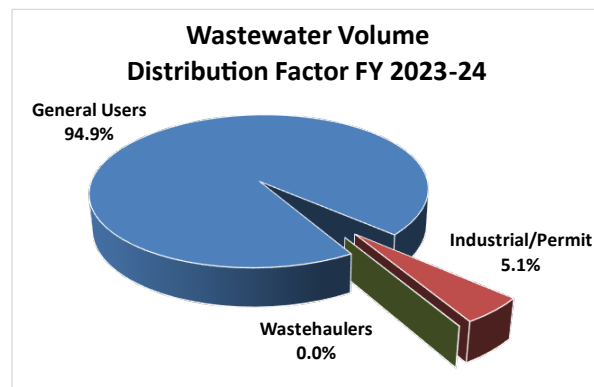
**Table 1-6. Summary of the Revenue Requirement Allocation (\$000,000s)**

Description	Total	Volume	Strength	
			BOD	TSS
Allocation of Revenue Requirement				
Expense Allocation	\$209.89	\$49.07	\$63.16	\$97.66
Capital Funded Through Rates	296.77	127.52	80.72	88.54
Net Transfers	(77.85)	(44.28)	(19.34)	(14.23)
Debt Service	68.61	36.85	18.30	13.46
Total Revenue Requirement	\$497.43	\$169.16	\$142.85	\$185.43
Percent Allocation of Revenue Requirement	100%	34%	29%	37%

**Distribution of Costs** – The first step in the distribution of the revenue requirement is to establish, or identify, customer classes or groups of customers. OC San has three basic customer groups that this Study is designing rates, General Users, Industrial/Permit Users, and Wastehaulers. The General User group is the largest customer group, and it can be further broken down into various user types. All Single family homes are charged a fixed rate which represents one EDU. All other customers within the General User group are charged a fixed percentage of the EDU per 1,000 square feet. The percentage per 1,000 square feet charge is based on the assumed flow and strength for each non single family customer as compared to a single family customer/EDU. Permit/Industrial Users are customers who's wastewater exceeds strength and flow limits requiring a special permit and are charged by volume and rate per pound for BOD and TSS. Wastehaulers are charged a per gallon rate reflecting the cost of treatment and administrative charges.

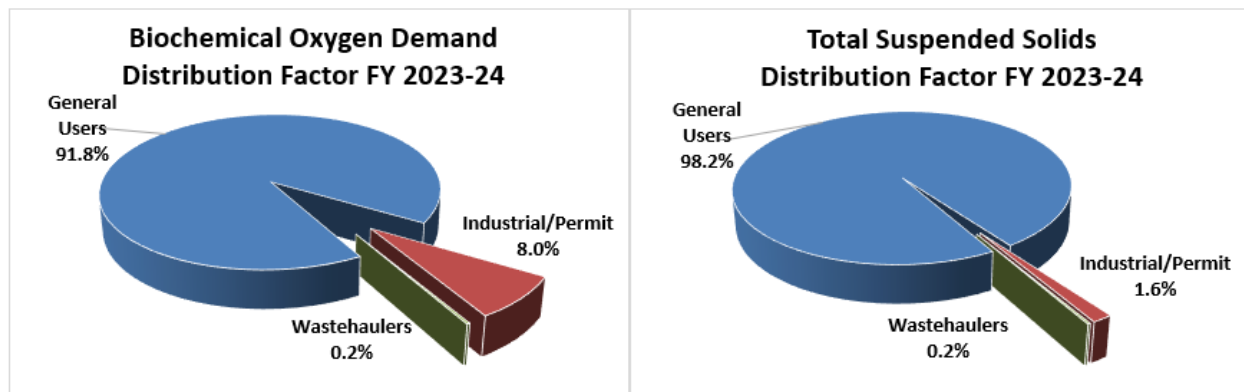
Once the allocation of the revenue requirement process is complete, and the customer groups have been defined, the allocated costs are distributed to each customer group. OC San's allocated costs were distributed to the various customer groups using the following distribution methods and factors.

- Volume Distribution Factor:** As noted above, volume-related assets and costs vary with the total flow of wastewater to the treatment plant. Therefore, the volume distribution factor is based the projected volume of wastewater for each customer class of service for FY 2023-34. The determination of flow by customer type was determined based on available customer and system information. General User flow is not specifically known by OC San, given wastewater is not metered, and the customers are not direct OC San customers.



However, other customer types such as, Industrial/Permit users, wastehauler, SAWPA and IRWD flows are known or reasonably able to be estimated. General user flows were determined by subtracting the known flow of other customer types from the known flow received at the treatment plants. The volume distribution factor is used to distribute allocated volume related costs and to establish the volume unit cost that are ultimately used in the rate design step in this analysis. A more detailed discussion of the specific costs which are applied to these base distribution factors is contained in the following subsection of this report.

- Strength Distribution Factors:** Strength is the level of pollutants in the wastewater. As noted, for OC Sans Study the main pollutants of concern are BOD and TSS. BOD is essentially the measurement of organic pollutants in the wastewater, while TSS is the amount of undissolved matter suspended in the wastewater. Both pollutants are typically measured in as the amount of dry weight, in milligrams, contained within in a volume of water, such as a liter. Different types of OC San's customers have different concentrations of BOD and TSS. The goal of any wastewater rate is to design it in a way that recovers the proportionate share of volume and strength costs.



According to the 1998 State Water Resource Control Board (SWRCB) in California, Revenue Program Guidelines Appendix G a single family residence has a BOD or TSS concentration between 175 to 250 milligram per liter and 100 to 200 gallons per day. Since the 1998 SWRCB Revenue Program Guidelines OC San's wastewater customer characteristics have changed. Specifically, water usage per capita has decreased as a result of water conservation efforts, water efficient appliances, and other changes in customer behavior. The result in reduction in per capita water use for a wastewater utility is less water being received at OC San's treatment plants. However, generally speaking, the amount of BOD and TSS remains the same even as the flow is reduced. The result in lower volume but same amount of pollutants is higher concentration of BOD and TSS. Based on the total pounds removed at the plants, the known pounds from industrial and wastehauler customers, the projected pounds for the general user class was calculated.

### 1.5.3 Major Assumptions of the Cost of Service Analysis

A number of key assumptions were used within OC San's cost of service analysis. Below is a brief discussion of the major assumptions used.

- The test period used for the cost of service analysis was FY 2023/24. The revenue and expense data for this time period was previously developed within the revenue requirement analysis.



- The allocation of plant was based on the prior studies and information developed by OC San. HDR wastewater engineering staff reviewed the allocation of plant in service from these prior studies and confirmed that it is an appropriate and valid means of allocating individual plant assets.
- The prior study and information also formed the basis for allocating expense and was also reviewed by HDR and deemed a valid method of allocating expense and was used for this study.
- Capital funded from rates was allocated based on the overall allocation of capital projects.

#### 1.5.4 Cost of Service Results

In summary form, the cost of service analysis began by functionalizing OC San's asset and expenses. The functionalized assets and expense were then allocated to volume, BOD, and TSS. The distribution of costs reflects the facilities and costs allocated to each customer class based on their respective benefit. Based on the allocated costs, the next step in the cost of service is to develop average unit costs for rate design purposes. Average unit costs are simply the allocated volume cost divided by total volume, or total allocated strength cost divided by pounds of BOD or TSS. Table 1-7 is the system average unit cost for volume and strength.

**Table 1-7. Summary of the Unit Costs**

Description	Volume	Strength	
		BOD	TSS
Allocated Revenue Requirement (\$1,000,000s)	\$97.08	\$109.18	\$141.96
Unit, (MG   1,000 Pounds BOD/TSS)	55,375	143	165
Unit Cost (\$/1,000 Gallon   \$/Pound BOD/ TSS)	\$1.75	\$0.76	\$0.86

The unit cost in Table 1-7 is a system average unit cost as a whole. The exception is Wastehaulers that have a lower volume unit cost because they do not use the conveyance system facilities which are a substantial portion of the volume costs. Wastehauler BOD and TSS unit cost are the same as the overall system costs.

#### 1.5.5 Cost of Service Conclusions and Recommendations

HDR has closely examined the results of the cost of service and is of the professional opinion that the results are reflective of an proportional distribution of costs. HDR is of the opinion that OC San should follow the results of the cost of service in making the final rate adjustments.

#### 1.5.6 Summary of the Cost of Service Analysis

This section of the report has provided an analysis of the cost of service developed for OC San. This analysis was prepared using generally accepted cost of service techniques.



## 1.6 Development of the Wastewater Rate Designs

The final step of the comprehensive wastewater rate study process is the design of proposed rates to collect the desired levels of revenues, based upon the results of the revenue requirement and cost of service analyses. Each of the three customer groups in the cost of service have different rates. General users are charged a rate per EDU, which is a rate based on an average single family home. There are over one hundred other general user rates charged a percentage of the EDU on a per 1,000 square feet basis. The percentages used for other General Users rates is a percent that reflects the customer types usage compared to a single EDU. For example a multifamily housing unit is 70% of an EDU while a bowling alley is 112% of an EDU. In both cases, the percentage reflects the flows and strength of each customer type as compared to a single family home/EDU. Industrial/Permit customers are customers who wastewater volume or concentrations are outside the parameters of the general user rates. These customers are charged individual rate for volume, BOD, and TSS. Wastehaulers are charged a rate per gallon for treatment and an administrative charge.

### 1.6.1 Review of the Overall Rate Adjustments

As indicated in the revenue requirement analysis, it is projected that OC San will need to adjust the overall level of revenues to meet the projected O&M and capital improvement needs. There are considerations that should be evaluated during the rate design step of the cost of service analysis. A few of these considerations are continuity of rate philosophy, impact to customers, and sufficient revenue generation. The rate design has followed the cost of service for General Use customers. It was determined through discussions with OC San staff to phase in the adjustments to the Industrial/Permit User rate over the 5 year rate adjustment period. The phase in was done to reduce the impact to the Industrial/Permit user while still getting the rate to the appropriate level by the end of the 5 year period. Provided below in Table 1-8 is a summary of the proposed rates by customer group.

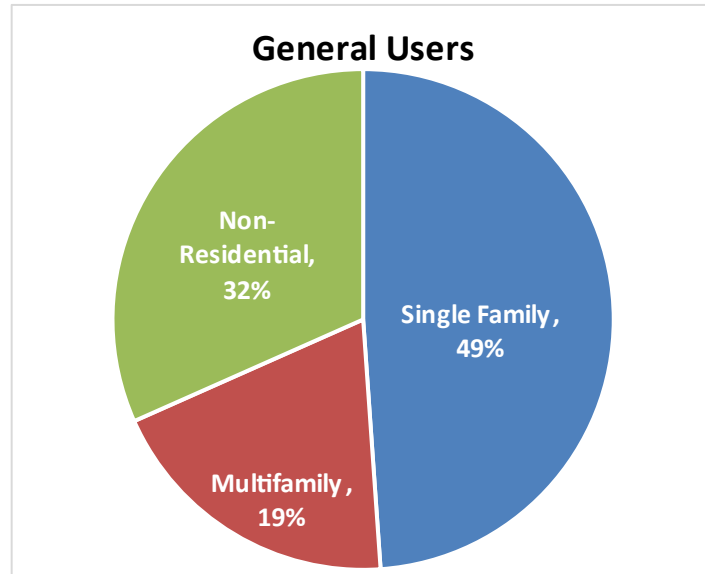
**Table 1-8. Summary of the Proposed Revenues and Adjustments to Rates (\$1,000,000)**

Description	Present Rate Revenues	Proposed Revenues	\$ Difference	% Difference
General User	\$321.50	\$331.69	\$10.19	3.2%
Industrial/Permit User	14.20	14.94	0.74	5.2%
Wastehaulers	0.75	0.75	0.00	0.0%
<b>Total</b>	<b>\$336.45</b>	<b>\$347.38</b>	<b>\$10.93</b>	<b>3.2%</b>

## 1.6.2 General User Rates

The General User group is the largest of OC San's customer groups with single family customers comprising nearly 50% of all of general user revenue. Multifamily customers are several different types of users including duplex, triplex, and customers with more than three units. The Non-residential customers includes a wide range of customer types covering specific types of establishments.

For General Users as single family is used as the basis for the definition of an EDU, or the billing unit for all other customer types. Table 1-9 contains the current and proposed rates for Single family and Multifamily customers.



**Table 1-9. Single Family and Multi-family Rates**

	Current Rate	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Single Residence	\$347.00	\$358.00	\$371.00	\$384.00	\$397.00	\$411.00
Multifamily per 1,000 square feet	242.90	250.60	259.70	268.80	277.90	287.70

All other customer types are measured as and equivalent to a single family as a percent per one thousand square feet.

## 1.6.3 Industrial/Permit User Rates

OC San has approximately 300 customers who are charged rates for their actual volume of wastewater and the pounds of BOD and TSS treated. These customers are charged individual rates as the flows and pounds vary between customers and they generally have higher average volume and strength of wastewater. Table 1-10 show the current and projected rates for the Industrial/Permit users.

**Table 1-10. Industrial/Permit User**

	Current Rate	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Volume (\$/Million Gallons)	\$1,601.28	\$1,676.09	\$1,754.41	\$1,836.37	\$1,922.17	\$2,011.98
Biochemical Oxygen Demand (\$/1,000 lbs)	667.99	705.08	744.23	785.55	829.17	875.21
Total Suspended Solids (\$/1,000 lbs)	777.00	815.51	855.92	898.34	942.86	989.58





The results of the cost of service analysis showed that Industrial/Permit user rates should be increased substantially. Given the impact this would have on individual customer bills, it was determined that the rates would be phased in over the five year rate setting period is proposed. The rate transition results in an approximately 5% average annual rate increase for Industrial/Permit users.

#### 1.6.4 Wastehauler Rates

Wastehaulers are unique among OC San's customer in that they are not served by the conveyance system but rather bring their waste to OC San for treatment. The concentration of Wastehauler wastewater is generally much higher than a typical residential customer. OC San has set the rate for Wastehaulers on a per gallon basis. there are two main components that make up the Wastehauler rate, the treatment costs and the cost to administratively process the manifests generated per truckload. Table 1-11 shows the calculation of the Wastehauler Rates.

**Table 1-11. Wastehauler Rates**

Description	Costs Component	Gallons	\$ Per Gallon
<b>Allocated Treatment Cost</b>			
BOD	\$270,336		
TSS	305,665		
Volume	6,557		
<b>Total Allocated Cost</b>	<b>\$582,558</b>	<b>13,360,000</b>	<b>\$0.04</b>
<b>Wastehauler Administrative Charges</b>			
Administrative Cost per Manifest	\$101		
Number of Manifests	X 6,832		
<b>Total Administrative Costs</b>	<b>\$690,032</b>	<b>13,360,000</b>	<b>\$0.05</b>
<b>Total Wastehauler Charge per Gallon</b>			<b>\$0.09</b>

The Wastehauler rate was kept flat for the five year rate setting period. Table 1-12 provides the Wastehauler rates.

**Table 1-12. Wastehauler Rates per Gallon**

	Current Rate	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Treatment Charge	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Administrative Charge	0.05	0.05	0.05	0.05	0.05	0.05
<b>Total Wastehauler Rate</b>	<b>\$0.09</b>	<b>\$0.09</b>	<b>\$0.09</b>	<b>\$0.09</b>	<b>\$0.09</b>	<b>\$0.09</b>

Wastehaulers outside OC San's service area are charged a capital charge that is based on the annexation fee and the CFCC amortized over 50 years which equals \$0.23 per gallon in addition to the rates in Table 1-12.



## 1.7 Summary of Wastewater Rate Study

The wastewater rates, as proposed herein, are cost-based and were developed using generally accepted rate making methods and principles. The proposed rates have been developed based on the results of the revenue requirement and cost of service analysis. The implementation of proposed rates should generate the additional revenue needed to meet the projected O&M and capital needs.

## 1.8 Rate Survey

There are many factors that go into a utility's cost to serve its customers and their resulting rates. A few of those factors include the relative size of the utility, density of customers, if it is primarily a regional system, age of the system, type treatment process, availability of other revenue such as property tax and cost of borrowing. OC San is unique in many ways, it largely is a regional wastewater that does not directly serve many of its customers with the exception of a small subset of customers. Table 1-13 provides annual rates for wastewater collection and/or treatment utilities and a few key characteristics for comparison purposes.

**Table 1-13. Survey of Other Wastewater Utilities**

	Annual Wastewater Bill	Average Day MGD	Population Served	
Napa Sanitation	\$739	10	86,250	Regional
Eastern MWD	408	43	870,000	
East Bay MUD	475	63	740,000	Regional
San Francisco PUD	1,270	80	1,840,000	
Sacramento Regional County Sanitation District	444	124	1,600,000	Regional
<b>Orange County Sanitation District</b>	<b>358</b>	<b>181</b>	<b>2,600,000</b>	<b>Regional</b>
City of San Diego	687	180	2,500,000	
Los Angeles Sanitation (City)	636	400	4,000,000	
Los Angeles County Sanitation District	226	510	5,000,000	Regional



## 2 Capital Facility Capacity Charges

### 2.1 Capital Facility Capacity Charge Study

#### 2.1.1 Introduction

The purpose of wastewater Capital Facility Capacity Charges (CFCCs) is to provide for payment of an equitable share of capital costs attributable to new customers connecting to, or existing customers requesting additional capacity on, OC San's wastewater system. By establishing cost based CFCCs, OC San attempts to have growth pay for growth by having new customers pay their equitable share of the infrastructure already in place, which has been funded by existing customers, and which provides the available capacity to serve new customers (growth), and future infrastructure necessary to serve new customers.

The wastewater CFCC was last reviewed in 2017. Industry best practice recommends CFCCs should be adjusted annually to reflect changes in construction costs (i.e., inflation), and to update the CFCCs whenever comprehensive planning documents for the system have been updated, or significant infrastructure projects have been completed. OC San most recently updated the wastewater CFCCs based on an inflationary index as of July 1, 2022.

#### 2.1.2 CFCC Study Overview

The wastewater CFCCs are calculated in conformance with California legal requirements, generally accepted industry standard practices, and are based on OC San's specific wastewater system planning and design criteria. CFCCs are based on the existing infrastructure, and if applicable future capital improvements needed to serve growth, divided by the number of equivalent dwelling units (EDUs) that will be served by the system capacity. A component buy-in (existing) and expansion (future) approach is often taken in developing the CFCCs because each component can have different planning and design criteria.

OC San has previously used the combined methodology for calculating the wastewater CFCCs which adds both components (buy-in and expansion) approach together. The Water Environment Federation (WEF) Manual of Practice No. 271 discusses that the combined methodology is used when the wastewater system has available capacity in the existing wastewater system and future capital improvements are needed to serve new customers. Given this is the case for OC San, this Study and analysis will focus on a "combined" approach (existing + future).

The calculations must also take into account the financing mechanisms of capital improvements. CFCCs must be implemented according to the new connections proportionate share of the wastewater system. This way, the CFCCs are related to the new customer's share of the wastewater system and infrastructure in place as well as their proportionate share of the future infrastructure required to serve them.

OC San, as a matter of policy, may charge any amount up to the calculated and cost-based CFCC but not over that amount. Charging an amount greater than the net allowable CFCC would not meet the

---

<sup>1</sup> Water Environment Federation Manual of Practice No. 27, 4<sup>th</sup> Edition, p. 206-211.



practical basis of charging cost-based charges that are an equitable share related to the benefit derived by the customer.

OC San currently implements and assesses the wastewater CFCC based on the number of bedrooms for residential customers, and on a per 1,000 square feet basis for non-residential, residential accessory structures, and accessory dwelling units. One EDU equals the base charge of a single-family, 3+ Bedrooms. Customers with more bedroom units are charged by the number of additional bedroom units to determine the number of EDUs. Table 2-1, below, provides the present wastewater CFCC for OC San.

**Table 2-1. Present Capital Facilities Capacity Charge<sup>(1),(2)</sup>**

Use Category	Ratio	Present CFCC <sup>(1),(2)</sup>
<b>Single Family Residential (SFR), per unit</b>		
5+ Bedrooms	1.39	\$7,949
4+ Bedrooms	1.19	6,806
<b>3+ Bedrooms, *Base Charge</b>	<b>1.00</b>	<b>5,719</b>
2+ Bedrooms	0.81	4,633
1+ Bedrooms	0.62	3,545
<b>Multi-Family Residential (MFR)</b>		
4+ Bedrooms	1.08	\$6,177
3+ Bedrooms	0.89	5,090
2+ Bedrooms	0.70	4,004
1+ Bedrooms	0.50	2,859
Studio	0.32	1,829
<b>Non-Residential, Residential Accessory Structures, and Accessory Dwelling Units, Per 1,000 square feet</b>		
Low Demand		\$360
Average Demand		2,234
High Demand		5,309

(1) Equivalent dwelling unit for residential is 3+ bedroom units as the base charge.

(2) Present CFCC as of July 1, 2022.

It should be noted that IRWD is not required to pay CFCCs based on a contractual agreement. IRWD provides funding to OC San for construction of costs of certain wastewater collection, transmission, treatment, and disposal facilities to be used by IRWD.



### 2.1.3 CFCC Calculation

There are various approaches that can be used to establish CFCCs which ultimately depend on the available capacity in the utility (i.e., ability to meet future customer demands). The Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater Systems, Fourth Edition discusses three generally accepted tap fees methods:

- The **buy-in method** is based on the value of the existing system's capacity. This method is typically used when the existing system has sufficient capacity to serve new development now and into the future.
- The **incremental cost method** is based on the value or cost to needed to add to the existing system to serve additional customers. This method is typically used when the existing system has limited or no capacity to serve new development now and into the future.
- The **combined approach** is based on a blended value of both the existing and future costs needed to serve a new customers. This method is typically used where some capacity is available in the existing system, but future projects are needed in other parts (e.g., wastewater lift station) to serve new development at some point in the future.

The combined approach was used for OC San's wastewater CFCC calculation. The wastewater system has specific expansion needs to serve new customers. Therefore, the combined approach is the approach that best fits OC San's expansion of facilities given the impacts of growth outlined in the Master Plan. Therefore, the existing and future component cost per EDU is determined, and the cost per EDU for each existing and future component is added together for a combined total.

Within the generally accepted CFCC methodologies,<sup>2</sup> there are a number of different steps used to establish cost-based and equitable CFCCs. These steps are as follows:

- **Step 1** – Determination of system planning criteria
- **Step 2** – Determination of equivalent dwelling units (EDUs)
- **Step 3** – Valuation of system component costs
- **Step 4** – Determination of any credits

#### Step 1 – Determination of System Planning Criteria

The first step in establishing the CFCC is the determination of the system planning criteria. This implies calculating the amount of capacity required by a single-family residential customer, or one EDU. The use of an adopted facility plan or master plan for the utility provides the basis for the CFCC system planning criteria. These planning documents provide the rational planning basis and criteria for the facilities and investment needed to operate and maintain the system properly and adequately. Generally, for a wastewater system the planning criterion is the average flow per EDU. The OC San standard specifications in the National Pollutant Discharge Elimination System (NPDES) permit, Master Plan, and Capital Improvement Plan are the documents and information that are referenced

---

<sup>2</sup> Methodologies established in industry documents referenced as System Development Charges for Water, Wastewater, and Stormwater Facilities, by Arthur C. Nelson; AWWA M-1 Manual, 7<sup>th</sup> Edition and WEF Manual of Practice No. 27, Financing and Charges for Wastewater Systems, Fourth Edition.



for the determination of the system planning criteria. Table 2-2, below, provides the planning data for OC San based on their NPDES permit.

**Table 2-2. CFCC – Planning Data**

Treatment Plant Permit Capacity	Permit Rated Capacity Dry Weather Flow (MGD)
Plant 1 Fountain Valley	182.00
Plant 2 Huntington Beach	<u>150.00</u>
Total Permit Dry Weather Flow <sup>(1)</sup>	332.00
SAWPA Rights <sup>(2)</sup>	(30.00)
RA 14 <sup>(2)</sup>	(10.00)
Urban Dry Weather Runoff <sup>(2)</sup>	<u>(10.00)</u>
<b>Total</b>	<b>282.00</b>

(1) NPDES Order no. R8-202, NPDES No. CA01, dry weather flow of 332 MGD.

(2) 2017 Master Plan, Chapter 7, page 7-5, Table 7-1; Maximum SAWPA, RA14 (IRWD), Urban Runoff. SAWPA has the rights to purchase up to 30 MGD, SAWPA has currently only purchased 17 MGD.

## Step 2 – Determination of Equivalent Dwelling Unit (EDU)

The next step is the determination of the EDUs. An EDU provides a “common denominator” for assessing impact on a utility system. The determination of the total system EDUs is an important calculation in that it provides the linkage between the amounts of infrastructure necessary to provide service to a set number of customers. This implies that if the system is designed to provide service for demands up to the year 2035, then the infrastructure costs are divided by the total EDUs projected to be connected by 2035 to determine the equitable and proportionate cost per EDU.

System planning criteria are used to establish the capacity needs of an equivalent dwelling unit. The average day flow in gallons per EDU is 230 gallons per EDU based on the Master Plan planning assumption for 2035. This is based on Master Plan of 75 gallons per person per day and the number of persons per household of 3.1 based on current Census information ( $75 \times 3.1 = 230$  gallons per EDU). The system capacity in MGD is divided by the average day flow per EDU to estimate the total EDUs. The current system average day flow is 221 MGD reflecting existing EDUs of 962,963 ( $221.00 \div 230 = 962,963$  EDUs). The future EDUs based on total system capacity of 282 MGD is 61 MGD ( $282 \text{ MGD} - 221 \text{ MGD existing} = 61 \text{ MGD}$ ) or 265,795 future EDUs ( $61.00 \div 230 = 265,795$  EDUs). A summary of the existing, future and total EDUs is presented in Table 2-3.



**Table 2-3. CFCC – Equivalent Dwelling Units**

EDU Calculation	Total Capacity (MGD)(1)	Average Daily Flow in Gallons per EDU(2)	Total EDUs	% EDUs
<b>Equivalent Dwelling Units – Existing</b>				
Residential			630,912	
Commercial			292,199	
Industrial			<u>39,854</u>	
Equivalent Dwelling Units Existing	221.00	230	962,963	
<b>Equivalent Dwelling Units – Future</b>				
Residential			174,143	
Commercial			80,652	
Industrial			<u>11,000</u>	
Equivalent Dwelling Units Future	61.00	230	265,795	
<b>Total</b>	<b>282.00</b>	<b>230</b>	<b>1,228,758</b>	
<b>Summary</b>				
Residential			805,055	65.5%
Non-Residential			<u>423,706</u>	<u>34.5%</u>
<b>Total</b>			<b>1,228,758</b>	<b>100.0%</b>

(1) Total permit capacity from previous table and the existing capacity of 2022 average flow at plant from 2022 wastewater rate study.

(2) 2017 Master Plan, Chapter 7, page 7-3, average daily flow of 230 for 2035.

It is important to note the percentage of EDU split between Residential and Non-Residential of 65.5% and 34.5% respectively, will be used later to convert EDUs to a square footage basis for Non-Residential. Given the development of the wastewater system EDUs the focus shifts to the calculation of the CFCC for each component. This aspect of the analysis is discussed in the next steps below.

### Step 3 – Valuation of System Component Costs

The next step of the analysis is to review the major functional system infrastructure to determine the CFCC for the wastewater system. In calculating the CFCC for OC San, existing components, debt service for existing facilities net of capital fund reserves, and future capital improvements relating to expansion were included. The methodology used to calculate each of these components is described below.

#### *Existing or Buy-in Component*

To calculate the value of the existing assets for the CFCC, OC San's methodology considered the original cost of each asset. OC San provided an asset listing for the various existing components and their installation dates. This data was reviewed in this analysis by OC San staff and HDR for elimination of non-backbone infrastructure such as equipment and vehicles, and finally elimination of assets that were not OC San paid and were instead funded by grants or developer contributions. A replacement cost new less depreciation method was used. To accomplish this, the original cost of each asset was



escalated to current, September 2022 dollars, based on the Construction Cost Index (CCI) for the Los Angeles area published in the Engineering News-Record (ENR). Based on the installation date and an estimated useful life, provided by OC San for each asset, the replacement cost for each asset was depreciated. The total net, CFCC eligible asset value as of June 2022, totaled \$2.64 billion. Further detail can be seen on Exhibit 7 of the Technical Appendix.

In addition, construction work in progress as of June 2021 was added in the amount of \$407 million. This added to the existing assets at RCNLD totals \$3.0 billion (\$2.64 billion assets + \$407 million CWIP = \$3.0 billion total). Further detail on CWIP can be seen on Exhibit 4 of the Technical Appendix.

### *Reserves*

The capital fund reserves are considered to be asset valuation adjustments to the overall wastewater system since they are infrastructure costs that relate to the wastewater system as a whole. This approach assumes that OC San could retire any outstanding debt with their reserves on hand. The total capital fund reserve, as of June 2021 is \$961 million. Further detail can be seen on Exhibit 6 of the Technical Appendix.

### *Future Component*

An important requirement for a CFCC study is the connection between the anticipated future growth on the system and the required facilities needed to accommodate that growth. For purposes of this study, OC San's most current Capital Improvement Plan (CIP) for the ten-year planning period of 2023 to 2032 was provided by OC San. This included construction work in progress projects that were not included as booked assets in 2021 and are shown in the CIP plan under years 2021 and 2022. It should be noted that the future components are in today's dollars (2022). Exhibit 8 of the Technical Appendix contains the details of this portion of the CFCC.

The total future capital projects totaled \$3.6 billion. The total future component of \$3.6 billion divided by total EDUs of 1,228,758 results in \$2,944 per EDU for the future component ( $\$3.6 \text{ billion} \div 1,228,758 \text{ EDUs} = \$2,944 \text{ per EDU}$ ). The capital improvement listing can be seen on Exhibit 8 of the Technical Appendix.

## **Step 4 – Determination of Any Credits**

The last step in the calculation of the CFCC is the determination of any credits. The credit considers the method used to finance infrastructure on the system so that customers are not paying twice for infrastructure. The double payment can come in through the imposition of a CFCC and then the requirement to pay debt service within a customer's wastewater rates.

This component accounts for the outstanding debt principal on existing assets. By segregating the debt service out, the cost can be clearly identified and calculated appropriately. To avoid double-counting of the assets financed with debt, the future principal associated with those assets is deducted from the existing infrastructure value.

OC San has several outstanding debt issues from 2010 to the recent 2022 Refunding issue. The total outstanding debt principal is \$789 million or \$643 per EDU debt credit ( $\$789 \text{ million} \div 1,228,758 \text{ EDUs} = \$643 \text{ per EDU debt service credit}$ ). Further detail can be seen on Exhibit 5 of the Technical Appendix.





## 2.1.4 CFCC Summary of Net Allowable Calculation

Based on the sum of the component costs calculated above, the allowable wastewater CFCC was determined. “Allowable” refers to the concept that the calculated CFCC is OC San’s cost-based CFCC. OC San, as a matter of policy, may charge any amount up to the allowable CFCC, but not over that amount. Charging an amount greater than the allowable CFCC would not meet the practical basis of a cost-based CFCC. Table 2-4 shows a summary of the allowable CFCC. Details are provided in Exhibit 3 of the Technical Appendix.

**Table 2-4. Summary of CFCC per EDU**

Component	Total CFCC
Existing Wastewater System (Replacement Cost Less Depreciation)	\$2,644,655,192
Construction Work in Progress	407,684,294
Less: Outstanding Debt Principal	(789,750,000)
Plus: Reserves	961,618,916
Future Wastewater Infrastructure	<u>3,617,505,992</u>
Net Existing and Future Infrastructure	<b>\$6,841,714,393</b>
Total Existing and Future EDUs	1,228,758
<b>Total Capital Facilities Capacity Charge per EDU<sup>(1)</sup></b>	<b>\$5,568</b>

(1) One EDU equals 3+ Bedrooms.

This calculated wastewater CFCC of \$5,568 compares to OC San’s current CFCC of \$5,719 per EDU, or a decrease of \$151. The \$5,568 per EDU reflects one (1) equivalent dwelling unit which is a 3+ bedroom unit. The small decrease should not be compared to exact cost since this analysis is based on the value of the current system in today’s dollars. OC San adjusts the CFCC annually based on an ENR index as of July each year. It is our recommendation that OC San hold the CFCC at the current level until next year’s ENR update.

## 2.1.5 CFCC Implementation

OC San implements the Non-Residential CFCC based on 1,000 square feet basis. This is based on one EDU equaling 1,581.52 square feet. Table 2-5 develops the CFCC per EDU converted to 1,000 square feet for non-residential.



**Table 2-5. CFCC per EDU Converted to 1,000 Square Feet**

Component			Total CFCC
<b>Net Existing and Future Infrastructure</b>			<b>\$6,841,714,393</b>
<b>Residential Percentage of EDUs</b>			65.5%
\$ Percentage Share			\$4,482,539,528
Total Residential EDUs			805,055
<b>Dollars per EDU CFCC</b>			<b>\$5,568</b>
<b>Non-Residential Percentage of EDUs</b>			34.5%
\$ Percentage Share			\$2,359,19,075
Total Non-Residential EDUs <sup>(1)</sup>		423,706	
Assumption of Square Foot per EDU <sup>(2)</sup>	X	1,581.52	
Non-Residential Square Footage (1,000 sq. ft.)	=	670,099	670,099
<b>Dollars per 1,000 square feet CFCC</b>			<b>\$3,521</b>

(1) Non-Residential EDUs calculated in planning data. See Table 2-3 of this report.

(2) OC San One EDU equals 1,581.52 square feet.

Table 2-6 below summarizes the CFCC for present and calculated for Residential and Non-Residential. As shown in the table the overall adjustment for Residential is a slight decrease which has been recommended to hold at the current level until next year's annual ENR adjustment. However the Non-Residential shows an increase. This is due to the implementation of the CFCC in the past. This study updates the CFCC for Non-Residential customers that reflects cost based levels.



**Table 2-6. Present and Calculated Capital Facilities Capacity Charge**

Use Category	Ratio	Present CFCC <sup>(1)(2)</sup>	Calculated CFCC <sup>(3)</sup>	% Change
<b>Single Family Residential (SFR), per unit</b>				
5+ Bedrooms	1.39	\$7,949	<b>\$7,739</b>	(2.6%)
4+ Bedrooms	1.19	6,806	<b>6,626</b>	(2.6%)
<b>3+ Bedrooms, *Base Charge</b>	<b>1.00</b>	<b>5,719</b>	<b>5,568</b>	<b>(2.6%)</b>
2+ Bedrooms	0.81	4,633	<b>4,511</b>	(2.6%)
1+ Bedrooms	0.62	3,545	<b>3,452</b>	(2.6%)
<b>Multi-Family Residential (MFR)</b>				
4+ Bedrooms	1.08	\$6,177	<b>\$6,014</b>	(2.6%)
3+ Bedrooms	0.89	5,090	<b>4,956</b>	(2.6%)
2+ Bedrooms	0.70	4,004	<b>3,898</b>	(2.6%)
1+ Bedrooms	0.50	2,859	<b>2,783</b>	(2.6%)
Studio	0.32	1,829	<b>1,781</b>	(2.6%)
<b>Non-Residential, Residential Accessory Structures, and Accessory Dwelling Units, Per 1,000 square feet</b>				
Low Demand	1.08	\$360	<b>\$242</b>	(32.8%)
Average Demand	0.89	2,234	<b>1,485</b>	(33.5%)
High Demand	0.70	5,309	<b>3,521</b>	(33.7%)

(1) 1 equivalent dwelling unit for residential is 3+ bedroom units as the base charge.

(2) Present CFCC as of July 1, 2022.

(3) Combined methodology established in Water Environment Federation (WEF) Manual of Practice No. 27, 4<sup>th</sup> Edition, p. 206-211.

Based on the recommendation to hold the Residential at current level until next year's ENR analysis, Table 2-7 shows the proposed 5-year adjustments for the CFCC.

**Table 2-7. Proposed Capital Facilities Capacity Charge<sup>(1),(2)</sup>**

CFCC	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Residential 3+	\$5,719	<b>\$5,719</b>	ENR	ENR	ENR	ENR
Non-Residential						
Low Demand	\$360	<b>\$242</b>	ENR	ENR	ENR	ENR
Average Demand	\$2,234	<b>\$1,485</b>	ENR	ENR	ENR	ENR
High Demand	\$5,309	<b>\$3,521</b>	ENR	ENR	ENR	ENR

The wastewater CFCC developed and presented in this section of the report are based on the planning and engineering design criteria of OC San's wastewater system, the value of the existing assets, future projects and generally accepted ratemaking principles. Consistently updating the charge annually based on the Engineering New Record Construction Cost Index 20-City Average and updating the



CFCC on a routine basis will continue to create equitable and cost-based charges for new customers connecting to OC San's wastewater system.

## 2.2 Supplemental Capital Facility Capacity Charge Study

OC San's current industrial use ordinance, determines if additional CFCCs, or Supplemental Capital Facility Capacity Charge (SCFCC) can be imposed on industrial users who place larger than average demands on the wastewater system. The SFCC is calculated on the same methodology as the CFCC. OC San's total existing and future asset value is divided by the total number of EDUs served. The existing and future asset values allocated between Flow, BOD, and TSS in the CFCC analysis are used to develop the SCFCC. The details of the total existing and future value of \$6.8 billion allocated between Flow, BOD, and TSS can be found in Exhibit 3 of the Technical Appendix. The allocated value of Flow, BOD, and TSS are amortized over a thirty-year period at an interest rate equal to the current Bond Buyer 20-Bond Index interest rate. The SCFCC calculation is shown in Table 2-8. The SCFCC details can be seen on Exhibit 2 of the Technical Appendix.

**Table 2-8. Calculated Supplemental Capital Facilities Capacity Charge<sup>(1),(2)</sup>**

Use Category	Total <sup>(1)</sup>	Flow (gpd)	BOD (mg/L)	TSS (mg/L)
<b>A</b> Value of Existing/Future Assets	<b>\$6,841,714,393</b>	\$3,319,186,756	\$1,880,886,372	\$1,641,641,266
<b>B</b> Total EDUs	<b>1,228,758</b>	1,228,758	1,228,758	1,228,758
<b>C</b> SCFCC per EDU (A ÷ B)	<b>\$5,568</b>	2,701	1,531	1,336
<b>D</b> 30 Year Amortized SCFCC <sup>(2)</sup>		\$144	\$82	\$71
<b>E</b> EDU Basis		185	288	290
			0.4481	0.4503
		gpd	lbs/day	lbs/day
<b>F</b> SCFCC (D ÷ E +365 Days)		<b>\$0.002140 per gallon</b>	<b>\$0.500628 per lb.</b>	<b>\$0.434827 per lb.</b>

(1) Calculated CFCC based on "Combined" methodology established in Water Environment Federation (WEF) Manual of Practice No. 27, 4<sup>th</sup> Edition, p. 206-211.

(2) Bond Buyer's 20 Bond Index as of July 2022 at a rate of 3.4% for 30 years.

OC San will continue to review the SCFC on a regular basis to review potential capital cost shifts and to maintain SCFCC rate payer equity. Table 2-9 shows the comparison of the present SCFCC and the calculated SCFCC.



**Table 2-9. Present and Calculated Supplemental Capital Facilities Capacity Charge<sup>(1),(2)</sup>**

Use Category	Present SCFCC <sup>(1)</sup>	Calculated SCFCC <sup>(3)</sup>	\$ Change	% Change
<b>Daily Charge<sup>(2)</sup></b>				
Flow	\$0.001996	<b>\$0.002140</b>	\$0.000144	7.2%
BOD	\$0.481210	<b>\$0.500628</b>	\$0.019418	4.0%
TSS	\$0.270840	<b>\$0.434827</b>	\$0.163987	60.5%

(1) Present SCFCC Ordinance No. OCSD-57, Table D, for July 1, 2022.

(2) 2.10 (i) an increase of discharge flow of 25,000 gallons per day (gpd), or 25% per day over its established baseline whichever is less; or (ii) an increase of either BOD or SS discharge of 150 pounds each per day, or 25% each per day, whichever is lesser, over its established baseline authorization. The daily averages will be based on the daily discharges for a year, utilizing discharge records and reports of the discharge or the District.

The large change to TSS was reviewed and is a result of several factors, first the addition of the Ground Water Replenishment asset shifted costs between flow and BOD and TSS, secondly previous studies did not adopt, or transition to, the calculated level for TSS. Given the large change, Table 2-10 shows the recommended transition of the TSS SFCC over the upcoming five year period.

**Table 2-10. Present and Calculated Supplemental Capital Facilities Capacity Charge<sup>(1),(2)</sup>**

SCFCC	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Flow	\$0.001996	<b>\$0.002140</b>	ENR	ENR	ENR	ENR
BOD	\$0.481210	<b>\$0.500628</b>	ENR	ENR	ENR	ENR
TSS <sup>(1)</sup>	\$0.270840	<b>\$0.303640</b>	\$0.336440	\$0.369240	\$0.402040	\$0.434830

(1) All 2022-23 rates are as of July 1, 2022; 2023-24 Flow and BOD are the calculated rate.

(2) For TSS, the difference between 2027-28 and 2022-23 was spread over 5 year period.

## 2.3 Annexation Charge Study

OC San does not receive any tax exchange from annexed properties because of an agreement with the County of Orange. The annexation charge is established through Ordinance No. OCSD-33, beginning January 1, 2004 to be paid for annexation to OC San for wastewater services. Table 2-11 shows the present Annexation Charge.

**Table 2-11. Present Annexation Charge<sup>(1)</sup>**

Revenue Area	\$ per Acre
Consolidated Revenue Area Nos. 1-13	\$4,235 per Acre
Revenue Area No. 14	Not Applicable

(1) Present Annexation Charge Ordinance No. OCSD-33.

The collection of the annexation fee will not result in any specific project and will not result in a direct physical change in the environment. The annexation fees were established based on a rational basis between the fees charged each property that is annexing, and the service and facilities provided to each annexed property by OC San.



In order to keep up with inflation of costs since the implementation of the charge in 2004, the proposed annexation charge has been updated to reflect annual Consumer Price Index (CPI) changes from 2004 to present day of 2022. The LA CPI was used for the calculation resulting in an increase of the Annexation Charge from \$4,235 per acre to \$6,767 per acre. Table 2-12 details the calculation.

**Table 2-12. Present and Calculated Annexation Charge**

Revenue Area	\$ per Acre
Jan. 2004 LA Consumer Price Index	188.50
Jan. 2022 LA Consumer Price Index	301.21
LA CPI Factor 2004 to 2022 ( $301.21 \div 188.50 = 1.60$ )	1.60
2004 Consolidated Revenue Area Nos. 1-13	\$4,235 per Acre
Multiplied by LA CPI Factor	1.60
<b>2022 Revenue Area No. 14</b>	<b>\$6,767 per Acre</b>



## 3 Rebate Program

### 3.1 Introduction

OC San provides its non-residential general user customers the opportunity to apply for a water efficiency rebate or reduced charge. The water efficiency rebate, or reduced charge, is a reduced rate that represents the difference between the calculated charge and the actual flow for the customer based on past water consumption. Customers may request a rebate from prior billing periods and or request a reduced rate going forward. Verifiable proof, such as water bills of the reduced water usage must be provided to the OC San General Manager or his/her designee. The bill charged to any customer seeking a rebate or reduced future rate cannot be less than that of the single family rate. The current ordinance also allows for a reduction in the BOD and TSS component of the rate if it is significant and with verifiable proof to the satisfaction of the OC San General Manager. Once the reduction in billed volume or BOD or TSS is established the customer can lock that reduction in for three years.

### 3.2 Analysis

OC San's customers benefit from the rebate program to achieve equitable rates for customers who do not conform to the flow and concentration of pollutants per 1,000 square feet per EDU of their user group. An alternative rate design often used is a volume-based rate such as the City of Los Angeles Sanitation department's rates. This type of rate design avoids the flow-based differences among customer groups by utilizing the City's water meters as a surrogate for measuring wastewater flow. This type of rate design is not feasible for OC San because they do not have access to their customer's water meters.

OC San has been evaluating if the current rebate program is working as intended and has asked HDR to analyze the program for possible changes. There are a few complicating factors that have risen over the years. One issue is if the BOD and TSS levels should be adjusted at the same rate as the volume. Conservation programs generally reduce water consumption but not necessarily the amount of pollutants that go into the wastewater. As water is reduced the concentration of the pollutants generally increases, in other words the actual weight of the pollutants stay the same at the reduced consumption level. It is possible for a customer within a specific usage type to have less BOD and TSS than another like customer due to different physical process or if they have installed facilities that reduce the amount of pollutants from entering the wastewater. The problem a customer may face when seeking a reduced rate based on lower BOD and or TSS concentrations is they might not be able to find a company that will test their wastewater thus providing verifiable proof. The goal of this program is to adjust rates equitably to reflect the actual customer characteristics and reduce the administrative burden on OC San Staff.

### 3.3 Alternative Rebate Calculation

Rebate programs for sewer utilities with EDU based charges are not unique to OC San. Los Angeles County Sanitation District (LACSD) also has an EDU based rate and has a rebate program for their customers. LACSD's Low-Water Rebate Program provides rebate to customers based on the percent



of flow reduction within structured tiers. Unlike OC San's current rebate program that individually calculates the rebate based on the customer's actual flow, LACSD's tiered structure is based on the ratio of the average daily flow to the assumed flow for the customer's parcel. Customer's flow must be below 90% of the assumed flow to qualify for the rebate. Table 3-1 shows LACSD's rebate tiers. Table 3-1. Los Angeles County Sanitation District Tiered Rebate program

Customer's Average Daily Flow Divided by Assumed Flow	Customer Percent Reduction
90% or Greater	0%
70% to 89%	20%
50% to 69%	40%
30% to 39%	60%
29% or Less	80%

The benefit for a tiered rebate program like LACSD is the simplicity. If a customer falls within the tier they receive a set reduction in their rate. However, the LACSD program does not account for changes in the actual weight of the pollutants like BOD or TSS. As discussed in the Cost of Service section 1.5 of this report, the cost to treat wastewater typically has three cost components, the volume of the wastewater, the weight of BOD and weight of TSS. Reduced water is likely to be a result of water conservation efforts like low water use appliances or a reduction in irrigation which do not impact the weight of BOD or TSS.

## 3.4 Recommendations

HDR recommends OC San closely consider the benefits and drawbacks when considering making changes to their rebate program. The intent of the program is to adjust the customer rates that more closely match the customers cost of service and in doing so results in a more equitable rate. The administrative burden of their current system requires a calculation for each customer requesting a rebate resulting in more time and thus higher costs to run the program. Stability and transparency are also important aspects to any rate related program. Having a program like the LACSD tiered rebate program would be easily explained by OC Staff and more easily understood by customers. The current rebate program also has some issues that are not easily addressed. The main issue being that the basis of the flow and concentration of the pollutants are based on the 1998 State Water Resource Control Board (SWRCB) in California, Revenue Program Guidelines Appendix G which is 24 years old and cannot be accurately verified.

OC San should also consider extending the lock-in program from 3 years to 5 years. Extending the lock-in period to 5 years would reduce amount of staff time spent on matters dealing with customer rebates and also provide stability in the funds returned to customers from the rebate from year to year. The 5 year lock-in program is also beneficial to the customers who would have to submit paperwork less frequently.





## 4 Miscellaneous Fees and Charges

### 4.1 Introduction

OC San has requested several other fees be updated along with this study. These fees include, permit fees, sampling fees, and inspection fees. It is in the interest of OC San and its customers to charge fees to customers for tasks that require significant expense or labor. Charging these fees at the cost to provide them prevents other customers from subsidizing customers requiring the activities involved with these other services. These fees should be updated at regular intervals to verify the charges reflect current and future assumed costs of materials, labor, and overhead costs. Whenever possible specific hourly rates, and times associates with the fee were used to more closely approximate the true cost of the permit or other activity.

### 4.2 Administrative Fees and Charges

Administrative Fees and Charges Related to Permittees for Class 1 and 2 dischargers were calculated using estimated time to process the permit and current average hourly staff rates, plus 33% for overhead. The results of this calculation were as much as 36% increase. To reduce the impact of this large increase those fees were phased in over the five year period. Wastehauler and Administrative processing fees were not change over the five year period. Table 4-1 shows the class 1 and 2 administrative, Wastehauler and administrative processing fees.



**Table 4-1. Administrative Fees and Charges Related to Permittees per Year**

Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
<b>Administrative Fees and Charges Related to Permittees per Year</b>					
A. Class I/Certified Discharger	\$1,685.00	\$1,791.00	\$1,904.00	\$2,024.00	\$2,152.00
B. Class II	554.00	591.00	630.00	672.00	717.00
C. SPDP1	1,192.00	1,225.00	1,259.00	1,293.00	1,328.00
SPDP Renewal	860.00	913.00	969.00	1,029.00	1,092.00
D. Wastehauler	207.00	225.00	245.00	267.00	291.00
E. Certified Zero/No Discharge	126.00	133.00	140.00	147.00	155.00
<b>Wastehauler</b>					
F. Permit Decal Initial Issue	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
G. Permit Decal Replacement	50.00	50.00	50.00	50.00	50.00
H. Entry Card Initial Issue	50.00	50.00	50.00	50.00	50.00
I. Entry Card Replacement	100.00	100.00	100.00	100.00	100.00
J. After Hours Discharge - Prearranged	102.00	102.00	102.00	102.00	102.00
K. After Hours Discharge - Emergency	165.00	165.00	165.00	165.00	165.00
<b>Administrative/Processing Fees</b>					
L. OCSD's Collection of Water Consumption Data	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00
M. Appeal Hearing Filing Fee	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00
N. Late Application (30 days or less from expiration date)	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00
O. Late Application (15 days or less from expiration date)	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00

## 4.3 Industrial Discharger, Source Control and Non-compliance Sampling Fees

Industrial Discharger, Source Control and Non-compliance Sampling Fees were not adjusted for the five year adjustment period. Table 4-2 shows the Industrial discharger, source control and non-compliance sampling fees.



**Table 4-2. Industrial Discharger, Source Control and Non-compliance Sampling Fees**

Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Cost of Processing and Sampling Following a Minor Violation	\$200.00	\$200.00	\$200.00	\$200.00	\$200.00
Cost of Processing and Sampling Following a Major Violation	400.00	400.00	400.00	400.00	400.00
Non-Compliance Resampling Fee	275.00	275.00	275.00	275.00	275.00

## 4.4 Inspection Fees

Inspection fees were adjusted by the Los Angeles Consumer Price Index for the 2023-24 fees and then 3% thereafter to account for expected inflation. Table 4-3 provides the inspection fees for the next five years.

**Table 4-3. Inspection Fees for Single Connection**

Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Lateral installation to property line:	\$950.00	\$980.00	\$1,010.00	\$1,040.00	\$1,070.00
Lateral installation to property line with optional cleanout to existing manhole:	1,250.00	1,290.00	1,330.00	1,370.00	1,410.00
Core drilling into existing manhole base - add	1,630.00	1,680.00	1,730.00	1,780.00	1,835.00
Installation of new manhole over existing wastewater:	2,065.00	2,125.00	2,190.00	2,255.00	2,325.00
Gas Flap Installation - add:	510.00	525.00	540.00	555.00	570.00

## 4.5 Non-Compliance Sampling Fees

Non-Compliance Sampling Fees were calculated from estimates of time to conduct the sample multiplied by the average hourly rate, plus a 30% overhead adjustment and lab fees when applicable. Table 4-4 provides the sampling fees for the next 5 years.



**Table 4-4. Non-Compliance Sampling Fees**

Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Ammonia Analysis as Nitrogen	\$38.00	\$39.00	\$40.00	\$41.00	\$43.00
Biochemical Oxygen Demand (BOD)	57.00	59.00	60.00	62.00	64.00
BOD and Suspended Solids (SS) Analysis	114.00	117.00	121.00	124.00	128.00
Chemical Oxygen Demand	38.00	39.00	40.00	41.00	43.00
Conductivity	76.00	78.00	81.00	83.00	85.00
Cyanide (Amenable)	171.00	176.00	181.00	187.00	192.00
Cyanide (Total)	99.00	102.00	105.00	108.00	111.00
Total Radium Determination	207.00	213.00	219.00	226.00	232.00
Gross Alpha and Beta Determination	111.00	114.00	117.00	121.00	124.00
Tritium Determination	102.00	105.00	108.00	112.00	115.00
Strontium Determination	134.00	138.00	142.00	146.00	150.00
Uranium Determination	45.00	46.00	48.00	49.00	50.00
Oil & Grease (Hexane Soluble Matter)	95.00	98.00	101.00	104.00	107.00
Total Organic Nitrogen	76.00	78.00	81.00	83.00	85.00
pH	38.00	39.00	40.00	41.00	43.00
Fluoride	38.00	39.00	40.00	41.00	43.00
Suspended Solids (Total)	57.00	59.00	60.00	62.00	64.00
Suspended Solids (Total and Volatile)	171.00	176.00	181.00	187.00	192.00
Total Dissolved Solids	57.00	59.00	60.00	62.00	64.00
Mercury (EPA 245.1)	76.00	78.00	81.00	83.00	86.00
Heavy Metals	52.00	54.00	56.00	58.00	60.00
Pharmaceutical Industry (EPA 1666)	342.00	352.00	363.00	374.00	385.00
Chlorinated Pesticides and Aroclors (EPA 608)	128.00	132.00	136.00	140.00	144.00
Volatile Organics (EPA 624)	304.00	313.00	322.00	332.00	342.00
Semi-Volatile Organics (EPA 625)	683.00	704.00	725.00	747.00	769.00
Total Sulfides	83.00	87.00	89.00	92.00	95.00
PFAS	413.00	431.00	444.00	457.00	471.00
Dissolved Sulfides	58.00	60.00	62.00	64.00	66.00



# Technical Appendix

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement Summary

	Estimated	Preliminary	Preliminary	Projected							
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
Revenue											
Rate Revenue at Current Rates	\$327,459	\$335,487	\$336,448	\$337,413	\$338,380	\$339,350	\$340,324	\$341,300	\$342,279	\$343,261	\$344,246
Miscellaneous Revenue	140,135	149,963	149,207	138,033	142,720	146,594	150,934	157,241	161,582	166,317	168,820
Total Revenue	\$467,594	\$485,449	\$485,655	\$475,446	\$481,100	\$485,945	\$491,257	\$498,541	\$503,861	\$509,578	\$513,066
Expenditures											
Management & Administrative Services	\$40,592	\$44,433	\$45,648	\$47,018	\$48,428	\$49,881	\$51,377	\$52,919	\$54,506	\$56,141	\$57,826
Environmental Services Department	19,064	22,665	23,842	24,557	25,293	26,052	26,834	27,639	28,468	29,322	30,202
Engineering Department	6,381	8,889	9,040	9,311	9,590	9,878	10,175	10,480	10,794	11,118	11,452
Operation & Maintenance Administration	270	667	703	724	746	769	792	815	840	865	891
Collection Facilities	18,173	19,048	18,638	19,197	19,773	20,367	20,978	21,607	22,255	22,923	23,610
Fleet Services	2,011	2,085	2,150	2,214	2,281	2,349	2,420	2,492	2,567	2,644	2,723
Plant 1&2 Operations & Maintenance	96,087	103,358	109,871	113,167	116,562	120,059	123,660	127,370	131,191	135,127	139,181
Total Expenditures	\$182,579	\$201,145	\$209,892	\$216,189	\$222,674	\$229,354	\$236,235	\$243,322	\$250,622	\$258,140	\$265,885
Rate Funded Capital	\$186,115	\$250,244	\$296,775	\$262,290	\$280,905	\$273,021	\$274,888	\$329,087	\$323,690	\$325,733	\$260,463
Debt Service	\$67,846	\$68,568	\$68,611	\$68,572	\$68,626	\$68,500	\$72,653	\$72,652	\$72,650	\$71,141	\$74,731
Transfers	\$3,270	\$7,190	\$7,350	\$3,850	\$3,850	\$3,850	\$3,850	\$3,850	\$3,850	\$3,850	\$3,850
<b>Total Revenue Requirement</b>	<b>\$439,811</b>	<b>\$527,147</b>	<b>\$582,628</b>	<b>\$550,901</b>	<b>\$576,055</b>	<b>\$574,725</b>	<b>\$587,626</b>	<b>\$648,910</b>	<b>\$650,812</b>	<b>\$658,865</b>	<b>\$604,929</b>
Balance/Deficiency of Funds	\$27,784	(\$41,697)	(\$96,972)	(\$75,455)	(\$94,955)	(\$88,780)	(\$96,368)	(\$150,370)	(\$146,951)	(\$149,287)	(\$91,863)
Rate Adj. as a % of Rate Rev	-8.5%	12.4%	28.8%	22.4%	28.1%	26.2%	28.3%	44.1%	42.9%	43.5%	26.7%
<b>Proposed Rate Adjustment</b>	<b>0.00%</b>	<b>0.00%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.50%</b>
Rate Revenue After Adjustment	\$327,459	\$335,487	\$348,224	\$361,445	\$375,168	\$389,412	\$404,198	\$419,545	\$435,474	\$452,009	\$469,172
<b>Debt Service Coverage Ratio</b>											
Before Rate Adjustment	4.20	4.15	4.02	3.78	3.77	3.75	3.51	3.51	3.49	3.53	3.31
After Rate Adjustment	4.20	4.15	4.19	4.13	4.30	4.48	4.39	4.59	4.77	5.06	4.98
Residential Bill (1 EDU)	\$343.00	\$347.00	\$359.15	\$371.72	\$384.73	\$398.19	\$412.13	\$426.55	\$441.48	\$456.93	\$472.93
\$ Change Per Month	0.00	4.00	12.15	12.57	13.01	13.47	13.94	14.42	14.93	15.45	15.99
Cumulative \$ Change per Month	0.00	4.00	16.15	28.72	41.73	55.19	69.13	83.55	98.48	113.93	129.93

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 1 - Escalation Factors  
Scenario 1

	<i>Estimated</i>	<i>Preliminary</i>	<i>Projected</i>	<i>Projected</i>								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
<b>Revenues</b>												
General Users	0.0%	0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	
Industrial	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	
Wastehaulers	0.3%	-28.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
IRWD	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	
SAWPA	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	
Property Tax	2.0%	2.0%	2.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Misc. Revenue	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Flat	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
<b>Expenses</b>												
Salaries, Labor & Benefits	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Training & Meetings	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Chemicals	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Fuel	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Tools and Small Equipment	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Janitorial Supplies	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Janitorial	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Misc. Operating Supplies	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Property Tax Fees	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Solids Removal	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Other Waste Disposal	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Grounds Keeping	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Misc. Services	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Professional Services	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Research & Monitoring	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Repairs & Maintenance	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Telephone	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Diesel	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Natural Gas	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Power	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Water	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Other Operating Supplies	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Other Non-Operating Costs	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Miscellaneous Expense	Actual	9.3%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Flat	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
One-time	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	
	0.0%											
<b>Investment Interest</b>												
		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
<b>New Long-Term Debt Assumptions</b>												
<i>Certificate of Participation (COP)</i>												
Rate		4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	
Term		20	20	20	20	20	20	20	20	20	20	
COP Issuance Costs		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
<i>Low Interest Loan</i>												
Rate		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Term		10	10	10	10	10	10	10	10	10	10	

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 2 - Sources & Application of Funds

Page 1 of 17

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
<b>Revenues</b>												
<b>Rate Revenues</b>												
General Users	\$312,128,000	\$320,534,310	\$321,495,913	\$322,460,401	\$323,427,782	\$324,398,065	\$325,371,259	\$326,347,373	\$327,326,415	\$328,308,395	\$329,293,320	Exhibit 4
Permitted Users	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	Exhibit 4
Wastehaulers	1,129,021	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	Exhibit 4
<b>Total Rate Revenues</b>	<b>\$327,459,387</b>	<b>\$335,486,676</b>	<b>\$336,448,278</b>	<b>\$337,412,766</b>	<b>\$338,380,147</b>	<b>\$339,350,431</b>	<b>\$340,323,625</b>	<b>\$341,299,739</b>	<b>\$342,278,781</b>	<b>\$343,260,760</b>	<b>\$344,245,685</b>	
<b>Other Revenues</b>												
Property Taxes	\$107,623,549	\$109,776,020	\$112,081,316	\$115,443,756	\$118,907,069	\$122,474,281	\$126,148,509	\$129,932,964	\$133,830,953	\$137,845,882	\$141,981,258	As Property Tax
IRWD O&M Assessment	0	0	0	0	0	0	0	0	0	0	0	As IRWD
IRWD Capital Assessment	0	0	0	0	0	0	0	0	0	0	0	As IRWD
IRWD Solids Assessment	0	0	0	0	0	0	0	0	0	0	0	As IRWD
IRWD	8,444,816	14,502,872	16,358,057	15,147,000	15,965,000	15,855,000	16,093,000	18,177,000	18,170,000	18,429,000	16,324,000	Cash Flow File
SAWPA	3,080,817	3,018,000	3,138,000	3,232,000	3,329,000	3,429,000	3,532,000	3,638,000	3,747,000	3,859,000	3,974,000	Cash Flow File
New COP Issues	0	0	0	0	0	0	0	0	0	0	0	As Flat
Interest Revenues	5,751,000											Interest Accumulated in Fund
Capital Facilities Capacity Charges												Applied Directly to Capital
General User Rebates	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	Exhibit 4
Equity Sale to 7 or 14		3,500,000	3,500,000									Cash Flow File
Share of SFI Revenue	3,016,800	3,877,700	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	Cash Flow File
Share of JO Revenue	13,918,000	15,505,010	12,058,809	12,360,000	12,669,000	12,986,000	13,310,000	13,643,000	13,984,000	14,333,000	14,691,000	Cash Flow File
CIP Reimbursements	10,300,000	11,782,925	10,220,909	0	0	0	0	0	0	0	0	Cash Flow File
<b>Total Other Revenues</b>	<b>\$140,134,982</b>	<b>\$149,962,527</b>	<b>\$149,207,091</b>	<b>\$138,032,756</b>	<b>\$142,720,069</b>	<b>\$146,594,281</b>	<b>\$150,933,509</b>	<b>\$157,240,964</b>	<b>\$161,581,953</b>	<b>\$166,316,882</b>	<b>\$168,820,258</b>	
<b>Total Revenues</b>	<b>\$467,594,369</b>	<b>\$485,449,203</b>	<b>\$485,655,370</b>	<b>\$475,445,522</b>	<b>\$481,100,216</b>	<b>\$485,944,711</b>	<b>\$491,257,134</b>	<b>\$498,540,703</b>	<b>\$503,860,734</b>	<b>\$509,577,642</b>	<b>\$513,065,944</b>	



	Estimated	Preliminary	Preliminary	Projected								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
Expenses												
Management & Administrative Services												
Salaries, Wages, & Benefits	\$25,176,434	\$26,213,293	\$27,626,025	\$28,454,806	\$29,308,450	\$30,187,703	\$31,093,335	\$32,026,135	\$32,986,919	\$33,976,526	\$34,995,822	As Salaries, Labor & Benefits
Materials, Supplies, & Services												
Total Administrative Exp	1,688,297	\$1,638,389	\$1,655,648	\$1,705,317	\$1,756,477	\$1,809,171	\$1,863,446	\$1,919,350	\$1,976,930	\$2,036,238	\$2,097,325	As Miscellaneous Expense
Total Printing & Publication	287,630	767,382	343,837	354,152	364,777	375,720	386,992	398,601	410,559	422,876	435,562	As Misc. Services
Training & Meetings												
Meetings - Total	11,250	73,671	79,517	81,903	84,360	86,890	89,497	92,182	94,947	97,796	100,730	As Training & Meetings
Training - Total	316,840	625,370	592,833	610,618	628,937	647,805	667,239	687,256	707,874	729,110	750,983	As Training & Meetings
Total Training & Meetings	\$2,304,017	\$3,104,812	\$2,671,835	\$2,751,990	\$2,834,550	\$2,919,586	\$3,007,174	\$3,097,389	\$3,190,311	\$3,286,020	\$3,384,601	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Chemicals
Odor Control - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Disinfection - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Chemicals - Cogen Op.	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Miscellaneous Chemicals	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Odor & Corrosion Control	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Gas, Diesel, & Oil - Total	970	1,500	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	As Fuel
Tools	2,890	96,800	94,800	97,644	100,573	103,591	106,698	109,899	113,196	116,592	120,090	As Tools and Small Equipment
Safety Equipment/Tools	412,430	211,932	211,934	218,292	224,841	231,586	238,534	245,690	253,060	260,652	268,472	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	2,140	2,606	11,612	11,960	12,319	12,689	13,069	13,461	13,865	14,281	14,710	As Janitorial Supplies
Lab Chemicals & Supplies	80	75	75	77	80	82	84	87	90	92	95	As Chemicals
Misc. Operating Supplies	18,340	16,603	24,106	24,829	25,574	26,341	27,132	27,945	28,784	29,647	30,537	As Misc. Operating Supplies
Property Tax Fees	76,500	76,500	76,500	78,795	81,159	83,594	86,101	88,684	91,345	94,085	96,908	As Property Tax Fees
Total Op Materials & Supplies	\$513,350	\$406,016	\$421,027	\$433,658	\$446,668	\$460,068	\$473,870	\$488,086	\$502,728	\$517,810	\$533,344	
Contractual Services												
Solids Removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Solids Removal
Other Waste Disposal												
Grit & Screenings Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	192,500	376,200	376,200	387,486	399,111	411,084	423,416	436,119	449,202	462,679	476,559	As Other Waste Disposal
Groundskeeping	177,040	200,000	200,000	206,000	212,180	218,545	225,102	231,855	238,810	245,975	253,354	As Grounds Keeping
Janitorial	650,000	659,488	679,273	699,651	720,641	742,260	764,528	787,464	811,087	835,420	860,483	As Janitorial
Outside Lab Services	500	2,000	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	As Misc. Services
Oxygen - O & M contract	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
County Service Fee	503,672	518,782	534,345	550,375	566,887	583,893	601,410	619,452	638,036	657,177	676,892	As Miscellaneous Expense
Temporary Services	162,480	210,000	210,000	216,300	222,789	229,473	236,357	243,448	250,751	258,274	266,022	As Misc. Services
Security Services	1,716,007	1,716,007	1,716,007	1,767,487	1,820,512	1,875,127	1,931,381	1,989,322	2,049,002	2,110,472	2,173,786	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	78,125	83,125	78,125	80,469	82,883	85,369	87,930	90,568	93,285	96,084	98,966	As Misc. Services
Total Contractual Services	\$3,480,324	\$3,765,602	\$3,795,950	\$3,909,829	\$4,027,123	\$4,147,937	\$4,272,375	\$4,400,546	\$4,532,563	\$4,668,540	\$4,808,596	

	Estimated	Preliminary	Preliminary	Projected								Notes
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
Total Professional Services	2,757,615	3,983,925	3,600,700	3,708,721	3,819,983	3,934,582	4,052,620	4,174,198	4,299,424	4,428,407	4,561,259	As Professional Services
Total Research & Monitoring	0	0	0	0	0	0	0	0	0	0	0	As Research & Monitoring
Total Repairs & Maintenance	4,963,600	4,418,183	4,624,215	4,762,941	4,905,830	5,053,005	5,204,595	5,360,733	5,521,555	5,687,201	5,857,817	As Repairs & Maintenance
Utilities												
Telephone	502,500	521,267	536,905	553,012	569,603	586,691	604,291	622,420	641,093	660,325	680,135	As Telephone
Diesel For Generators	0	0	0	0	0	0	0	0	0	0	0	As Fuel
Natural Gas - Total	161,580	130,000	140,000	144,200	148,526	152,982	157,571	162,298	167,167	172,182	177,348	As Natural Gas
Power - Total	790,000	725,000	755,000	777,650	800,980	825,009	849,759	875,252	901,509	928,555	956,411	As Power
Water - Total	9,930	0	0	0	0	0	0	0	0	0	0	As Water
Total Utilities	\$1,464,010	1,376,267	1,431,905	1,474,862	1,519,108	1,564,681	1,611,622	1,659,970	1,709,769	1,761,063	1,813,894	
Total Other Operat. Supplies	2,454,140	2,854,714	3,112,978	3,206,367	3,302,558	3,401,635	3,503,684	3,608,795	3,717,059	3,828,570	3,943,427	As Misc. Operating Supplies
Total General Manager	0	1,469,747	1,523,397	1,569,099	1,616,172	1,664,657	1,714,597	1,766,035	1,819,016	1,873,586	1,929,794	As Miscellaneous Expense
Total Other Non-Operating	65,030	121,670	121,670	125,320	129,080	132,952	136,941	141,049	145,280	149,639	154,128	As Other Non-Operating Costs
Total Matls, Supply, & Svc.	\$18,002,086	\$21,500,936	\$21,303,677	\$21,942,787	\$22,601,071	\$23,279,103	\$23,977,476	\$24,696,800	\$25,437,704	\$26,200,836	\$26,986,861	
Oper Requirement Before Cost Allocation	\$43,178,520	\$47,714,229	\$48,929,702	\$50,397,593	\$51,909,521	\$53,466,806	\$55,070,811	\$56,722,935	\$58,424,623	\$60,177,362	\$61,982,683	
Cost Allocation:												
In/(Out) Svc Div to Line Div	(2,604,700)	(3,299,900)	(3,299,900)	(3,398,897)	(3,500,864)	(3,605,890)	(3,714,067)	(3,825,489)	(3,940,253)	(4,058,461)	(4,180,215)	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	18,420	18,370	18,370	18,921	19,489	20,073	20,676	21,296	21,935	22,593	23,271	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Cost Allocation - Total	(\$2,586,280)	(\$3,281,530)	(\$3,281,530)	(\$3,379,976)	(\$3,481,375)	(\$3,585,816)	(\$3,693,391)	(\$3,804,193)	(\$3,918,318)	(\$4,035,868)	(\$4,156,944)	
Total Management & Administrative Services	\$40,592,240	\$44,432,699	\$45,648,172	\$47,017,617	\$48,428,146	\$49,880,990	\$51,377,420	\$52,918,742	\$54,506,305	\$56,141,494	\$57,825,739	

	Estimated	Preliminary	Preliminary	Projected								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
Environmental Services Department												
Salaries, Wages,& Benefits	\$14,694,900	\$16,016,900	\$16,904,000	\$17,411,120	\$17,933,454	\$18,471,457	\$19,025,601	\$19,596,369	\$20,184,260	\$20,789,788	\$21,413,481	As Salaries, Labor & Benefits
Materials, Supplies, & Services												
Total Administrative Exp	\$133,360	\$139,750	\$136,300	\$140,389	\$144,601	\$148,939	\$153,407	\$158,009	\$162,749	\$167,632	\$172,661	As Miscellaneous Expense
Total Printing & Publication	12,580	11,500	14,000	14,420	14,853	15,298	15,757	16,230	16,717	17,218	17,735	As Misc. Services
Training & Meetings	0	0	0									
Meetings - Total	4,450	31,815	31,815	32,769	33,753	34,765	35,808	36,882	37,989	39,128	40,302	As Training & Meetings
Training - Total	11,035	121,030	135,840	139,915	144,113	148,436	152,889	157,476	162,200	167,066	172,078	As Training & Meetings
Total Training & Meetings	\$161,425	\$304,095	\$317,955	\$327,494	\$337,318	\$347,438	\$357,861	\$368,597	\$379,655	\$391,045	\$402,776	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Chemicals
Odor Control - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Disinfection - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Chemicals - Cogen Op.	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Miscellaneous Chemicals	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Odor & Corrosion Control	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Gas, Diesel, & Oil - Total	14,960	22,000	24,000	24,720	25,462	26,225	27,012	27,823	28,657	29,517	30,402	As Fuel
Tools	24,200	151,700	126,700	130,501	134,416	138,449	142,602	146,880	151,286	155,825	160,500	As Tools and Small Equipment
Safety Equipment/Tools	57,800	85,800	70,800	72,924	75,112	77,365	79,686	82,077	84,539	87,075	89,687	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	17,250	17,500	17,500	18,025	18,566	19,123	19,696	20,287	20,896	21,523	22,168	As Janitorial Supplies
Lab Chemicals & Supplies	619,560	655,000	667,500	687,525	708,151	729,395	751,277	773,815	797,030	820,941	845,569	As Chemicals
Misc. Operating Supplies	6,160	7,160	7,160	7,375	7,596	7,824	8,059	8,300	8,549	8,806	9,070	As Misc. Operating Supplies
Property Tax Fees	0	0	0	0	0	0	0	0	0	0	0	As Property Tax Fees
Total Op Materials & Supplies	\$739,930	\$939,160	\$913,660	\$941,070	\$969,302	\$998,381	\$1,028,332	\$1,059,182	\$1,090,958	\$1,123,687	\$1,157,397	
Contractual Services												
Solids Removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Solids Removal
Other Waste Disposal	0	0	0									
Grit & Screenings Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Groundskeeping	0	0	0	0	0	0	0	0	0	0	0	As Grounds Keeping
Janitorial	0	0	0	0	0	0	0	0	0	0	0	As Janitorial
Outside Lab Services	201,000	325,000	325,000	334,750	344,793	355,136	365,790	376,764	388,067	399,709	411,700	As Misc. Services
Oxygen - O & M contract	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
County Service Fee	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Temporary Services	185,000	286,400	286,400	294,992	303,842	312,957	322,346	332,016	341,977	352,236	362,803	As Misc. Services
Security Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Total Contractual Services	\$386,000	\$611,400	\$611,400	\$629,742	\$648,634	\$668,093	\$688,136	\$708,780	\$730,044	\$751,945	\$774,503	

	Estimated	Preliminary	Preliminary	Projected								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
Total Professional Services	336,795	1,271,221	1,397,000	1,438,910	1,482,077	1,526,540	1,572,336	1,619,506	1,668,091	1,718,134	1,769,678	As Professional Services
Total Research & Monitoring	1,087,170	1,675,450	1,751,363	1,803,904	1,858,021	1,913,762	1,971,174	2,030,310	2,091,219	2,153,956	2,218,574	As Research & Monitoring
Total Repairs & Maintenance	366,480	432,000	432,000	444,960	458,309	472,058	486,220	500,806	515,831	531,306	547,245	As Repairs & Maintenance
Utilities												
Telephone	0	0	0	0	0	0	0	0	0	0	0	As Telephone
Diesel For Generators	0	0	0	0	0	0	0	0	0	0	0	As Fuel
Natural Gas - Total	0	0	0	0	0	0	0	0	0	0	0	As Natural Gas
Power - Total	0	0	0	0	0	0	0	0	0	0	0	As Power
Water - Total	0	0	0	0	0	0	0	0	0	0	0	As Water
Total Utilities	\$0	0	0	0	0	0	0	0	0	0	0	
Total Other Operat. Supplies	1,296,457	1,427,200	1,529,000	1,574,870	1,622,116	1,670,780	1,720,903	1,772,530	1,825,706	1,880,477	1,936,891	As Misc. Operating Supplies
Total General Manager	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Total Other Non-Operating	1,880	2,140	2,140	2,204	2,270	2,338	2,409	2,481	2,555	2,632	2,711	As Other Non-Operating Costs
Total Matls, Supply, & Svc.	\$4,376,137	\$6,662,666	\$6,954,518	\$7,163,154	\$7,378,048	\$7,599,390	\$7,827,371	\$8,062,192	\$8,304,058	\$8,553,180	\$8,809,775	
Oper Requirement Before Cost Allocation	\$19,071,037	\$22,679,566	\$23,858,518	\$24,574,274	\$25,311,502	\$26,070,847	\$26,852,972	\$27,658,561	\$28,488,318	\$29,342,968	\$30,223,257	
Cost Allocation:												
In/(Out) Svc Div to Line Div	(2,800)	(6,400)	(6,400)	(6,592)	(6,790)	(6,993)	(7,203)	(7,419)	(7,642)	(7,871)	(8,107)	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	43,750	43,750	43,750	45,063	46,414	47,807	49,241	50,718	52,240	53,807	55,421	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	(21,400)	(23,200)	(24,200)	(24,926)	(25,674)	(26,444)	(27,237)	(28,054)	(28,896)	(29,763)	(30,656)	As Miscellaneous Expense
(Out) to CIP for OH	(26,400)	(28,900)	(30,140)	(31,044)	(31,976)	(32,935)	(33,923)	(34,941)	(35,989)	(37,068)	(38,180)	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Cost Allocation - Total	(\$6,850)	(\$14,750)	(\$16,990)	(\$17,500)	(\$18,025)	(\$18,565)	(\$19,122)	(\$19,696)	(\$20,287)	(\$20,896)	(\$21,522)	
Total Environmental Services Department	\$19,064,187	\$22,664,816	\$23,841,528	\$24,556,774	\$25,293,477	\$26,052,281	\$26,833,850	\$27,638,865	\$28,468,031	\$29,322,072	\$30,201,734	

	Estimated	Preliminary	Preliminary	Projected								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
Engineering Department												
Salaries, Wages,& Benefits	\$22,127,000	\$24,241,135	\$25,276,435	\$26,034,728	\$26,815,770	\$27,620,243	\$28,448,850	\$29,302,316	\$30,181,385	\$31,086,827	\$32,019,432	As Salaries, Labor & Benefits
Materials, Supplies, & Services												
Total Administrative Exp	\$172,091	\$185,830	\$189,540	\$195,226	\$201,083	\$207,115	\$213,329	\$219,729	\$226,321	\$233,110	\$240,104	As Miscellaneous Expense
Total Printing & Publication	8,700	3,300	3,150	3,245	3,342	3,442	3,545	3,652	3,761	3,874	3,990	As Misc. Services
Training & Meetings												
Meetings - Total	916	9,380	6,870	7,076	7,288	7,507	7,732	7,964	8,203	8,449	8,703	As Training & Meetings
Training - Total	29,200	111,430	80,660	83,080	85,572	88,139	90,784	93,507	96,312	99,202	102,178	As Training & Meetings
Total Training & Meetings	\$210,907	\$309,940	\$280,220	\$288,627	\$297,285	\$306,204	\$315,390	\$324,852	\$334,597	\$344,635	\$354,974	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Chemicals
Odor Control - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Disinfection - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Chemicals - Cogen Op.	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Miscellaneous Chemicals	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Odor & Corrosion Control	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Gas, Diesel, & Oil - Total	2,380	2,500	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	As Fuel
Tools	4,200	4,000	4,000	4,120	4,244	4,371	4,502	4,637	4,776	4,919	5,067	As Tools and Small Equipment
Safety Equipment/Tools	13,120	12,600	11,600	11,948	12,306	12,676	13,056	13,448	13,851	14,267	14,695	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	950	1,300	1,400	1,442	1,485	1,530	1,576	1,623	1,672	1,722	1,773	As Janitorial Supplies
Lab Chemicals & Supplies	20	20	20	21	21	22	23	23	24	25	25	As Chemicals
Misc. Operating Supplies	500	900	950	979	1,008	1,038	1,069	1,101	1,134	1,168	1,203	As Misc. Operating Supplies
Property Tax Fees	0	0	0	0	0	0	0	0	0	0	0	As Property Tax Fees
Total Op Materials & Supplies	\$21,170	\$21,320	\$20,470	\$21,084	\$21,717	\$22,368	\$23,039	\$23,730	\$24,442	\$25,176	\$25,931	
Contractual Services												
Solids Removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Solids Removal
Other Waste Disposal												
Grit & Screenings Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Groundskeeping	0	0	0	0	0	0	0	0	0	0	0	As Grounds Keeping
Janitorial	0	0	0	0	0	0	0	0	0	0	0	As Janitorial
Outside Lab Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Oxygen - O & M contract	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
County Service Fee	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Temporary Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Security Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	400,000	600,000	600,000	618,000	636,540	655,636	675,305	695,564	716,431	737,924	760,062	As Misc. Services
Total Contractual Services	\$400,000	\$600,000	\$600,000	\$618,000	\$636,540	\$655,636	\$675,305	\$695,564	\$716,431	\$737,924	\$760,062	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								<i>Notes</i>
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
<b>Total Professional Services</b>	660,550	804,000	810,000	834,300	859,329	885,109	911,662	939,012	967,182	996,198	1,026,084	As Professional Services
<b>Total Research &amp; Monitoring</b>	0	0	0	0	0	0	0	0	0	0	0	As Research & Monitoring
<b>Total Repairs &amp; Maintenance</b>	300	1,400	1,400	1,442	1,485	1,530	1,576	1,623	1,672	1,722	1,773	As Repairs & Maintenance
<b>Utilities</b>												
Telephone	0	0	0	0	0	0	0	0	0	0	0	As Telephone
Diesel For Generators	0	0	0	0	0	0	0	0	0	0	0	As Fuel
Natural Gas - Total	0	0	0	0	0	0	0	0	0	0	0	As Natural Gas
Power - Total	0	0	0	0	0	0	0	0	0	0	0	As Power
Water - Total	0	0	0	0	0	0	0	0	0	0	0	As Water
<b>Total Utilities</b>	\$0	0	0	0	0	0	0	0	0	0	0	
<b>Total Other Operat. Supplies</b>	41,330	3,450	3,450	3,554	3,660	3,770	3,883	3,999	4,119	4,243	4,370	As Misc. Operating Supplies
<b>Total General Manager</b>	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Total Other Non-Operating</b>	1,500	1,880	1,900	1,957	2,016	2,076	2,138	2,203	2,269	2,337	2,407	As Other Non-Operating Costs
<b>Total Matls, Supply, &amp; Svc.</b>	\$1,335,757	\$1,741,990	\$1,717,440	\$1,768,963	\$1,822,032	\$1,876,693	\$1,932,994	\$1,990,984	\$2,050,713	\$2,112,235	\$2,175,602	
<b>Oper Requirement Before Cost Allocation</b>	\$23,462,757	\$25,983,125	\$26,993,875	\$27,803,691	\$28,637,802	\$29,496,936	\$30,381,844	\$31,293,299	\$32,232,098	\$33,199,061	\$34,195,033	
<b>Cost Allocation:</b>												
In/(Out) Svc Div to Line Div	2,653,800	3,253,500	3,253,500	3,351,105	3,451,638	3,555,187	3,661,843	3,771,698	3,884,849	4,001,395	4,121,436	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	41,780	41,780	41,780	43,033	44,324	45,654	47,024	48,434	49,888	51,384	52,926	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	(6,790,390)	(7,422,300)	(7,735,100)	(7,967,153)	(8,206,168)	(8,452,353)	(8,705,923)	(8,967,101)	(9,236,114)	(9,513,197)	(9,798,593)	As Miscellaneous Expense
(Out) to CIP for OH	(12,986,930)	(12,967,050)	(13,514,110)	(13,919,533)	(14,337,119)	(14,767,233)	(15,210,250)	(15,666,557)	(16,136,554)	(16,620,651)	(17,119,270)	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Cost Allocation - Total</b>	(\$17,081,740)	(\$17,094,070)	(\$17,953,930)	(\$18,492,548)	(\$19,047,324)	(\$19,618,744)	(\$20,207,306)	(\$20,813,526)	(\$21,437,931)	(\$22,081,069)	(\$22,743,501)	
<b>Total Engineering Department</b>	<b>\$6,381,017</b>	<b>\$8,889,055</b>	<b>\$9,039,945</b>	<b>\$9,311,143</b>	<b>\$9,590,478</b>	<b>\$9,878,192</b>	<b>\$10,174,538</b>	<b>\$10,479,774</b>	<b>\$10,794,167</b>	<b>\$11,117,992</b>	<b>\$11,451,532</b>	

	Estimated	Preliminary	Preliminary	Projected								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
Operations & Maintenance Administration												
Salaries, Wages,& Benefits	\$279,500	\$586,900	\$619,400	\$637,982	\$657,121	\$676,835	\$697,140	\$718,054	\$739,596	\$761,784	\$784,637	As Salaries, Labor & Benefits
Materials, Supplies, & Services												
Total Administrative Exp	\$0	\$1,530	\$1,530	\$1,576	\$1,623	\$1,672	\$1,722	\$1,774	\$1,827	\$1,882	\$1,938	As Miscellaneous Expense
Total Printing & Publication	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Training & Meetings												
Meetings - Total	0	1,000	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	As Training & Meetings
Training - Total	0	0	0	0	0	0	0	0	0	0	0	As Training & Meetings
Total Training & Meetings	\$0	\$2,530	\$2,530	\$2,606	\$2,684	\$2,765	\$2,848	\$2,933	\$3,021	\$3,112	\$3,205	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Chemicals
Odor Control - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Disinfection - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Chemicals - Cogen Op.	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Miscellaneous Chemicals	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Odor & Corrosion Control	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Gas, Diesel, & Oil - Total	0	0	0	0	0	0	0	0	0	0	0	As Fuel
Tools	0	0	0	0	0	0	0	0	0	0	0	As Tools and Small Equipment
Safety Equipment/Tools	0	0	0	0	0	0	0	0	0	0	0	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	0	0	0	0	0	0	0	0	0	0	0	As Janitorial Supplies
Lab Chemicals & Supplies	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Misc. Operating Supplies	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
Property Tax Fees	0	0	0	0	0	0	0	0	0	0	0	As Property Tax Fees
Total Op Materials & Supplies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Contractual Services												
Solids Removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Solids Removal
Other Waste Disposal												
Grit & Screenings Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Groundskeeping	0	0	0	0	0	0	0	0	0	0	0	As Grounds Keeping
Janitorial	0	0	0	0	0	0	0	0	0	0	0	As Janitorial
Outside Lab Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Oxygen - O & M contract	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
County Service Fee	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Temporary Services	0	78,000	82,000	84,460	86,994	89,604	92,292	95,060	97,912	100,850	103,875	As Misc. Services
Security Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Total Contractual Services	\$0	\$78,000	\$82,000	\$84,460	\$86,994	\$89,604	\$92,292	\$95,060	\$97,912	\$100,850	\$103,875	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								<i>Notes</i>
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
<b>Total Professional Services</b>	1,000	5,000	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	As Professional Services
<b>Total Research &amp; Monitoring</b>	0	0	0	0	0	0	0	0	0	0	0	As Research & Monitoring
<b>Total Repairs &amp; Maintenance</b>	0	0	0	0	0	0	0	0	0	0	0	As Repairs & Maintenance
<b>Utilities</b>												
Telephone	0	0	0	0	0	0	0	0	0	0	0	As Telephone
Diesel For Generators	0	0	0	0	0	0	0	0	0	0	0	As Fuel
Natural Gas - Total	0	0	0	0	0	0	0	0	0	0	0	As Natural Gas
Power - Total	0	0	0	0	0	0	0	0	0	0	0	As Power
Water - Total	0	0	0	0	0	0	0	0	0	0	0	As Water
<b>Total Utilities</b>	\$0	0	0	0	0	0	0	0	0	0	0	
<b>Total Other Operat. Supplies</b>	90	100	100	103	106	109	113	116	119	123	127	As Misc. Operating Supplies
<b>Total General Manager</b>	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Total Other Non-Operating</b>	0	40	40	41	42	44	45	46	48	49	51	As Other Non-Operating Costs
<b>Total Matls, Supply, &amp; Svc.</b>	\$0	\$0	\$0	\$92,360	\$95,131	\$97,985	\$100,924	\$103,952	\$107,071	\$110,283	\$113,591	
<b>Oper Requirement Before Cost Allocation</b>	\$0	\$0	\$0	\$730,342	\$752,252	\$774,820	\$798,065	\$822,006	\$846,667	\$872,067	\$898,229	
<b>Cost Allocation:</b>												
In/(Out) Svc Div to Line Div	(10,300)	(5,700)	(5,700)	(5,871)	(6,047)	(6,229)	(6,415)	(6,608)	(6,806)	(7,010)	(7,221)	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Cost Allocation - Total</b>	<b>(\$10,300)</b>	<b>(\$5,700)</b>	<b>(\$5,700)</b>	<b>(\$5,871)</b>	<b>(\$6,047)</b>	<b>(\$6,229)</b>	<b>(\$6,415)</b>	<b>(\$6,608)</b>	<b>(\$6,806)</b>	<b>(\$7,010)</b>	<b>(\$7,221)</b>	
<b>Total Operations &amp; Maintenance Administration</b>	<b>\$270,290</b>	<b>\$666,870</b>	<b>\$703,370</b>	<b>\$724,471</b>	<b>\$746,205</b>	<b>\$768,591</b>	<b>\$791,649</b>	<b>\$815,399</b>	<b>\$839,861</b>	<b>\$865,056</b>	<b>\$891,008</b>	



	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
<b>Collection Facilities</b>												
Salaries, Wages,& Benefits	\$4,406,800	\$4,616,300	\$4,833,800	\$4,978,814	\$5,128,178	\$5,282,024	\$5,440,484	\$5,603,699	\$5,771,810	\$5,944,964	\$6,123,313	As Salaries, Labor & Benefits
<b>Materials, Supplies, &amp; Services</b>												
Total Administrative Exp	\$58,929	\$14,290	\$14,730	\$15,172	\$15,627	\$16,096	\$16,579	\$17,076	\$17,588	\$18,116	\$18,660	As Miscellaneous Expense
Total Printing & Publication	1,250	1,300	1,300	1,339	1,379	1,421	1,463	1,507	1,552	1,599	1,647	As Misc. Services
Training & Meetings												
Meetings - Total	1,000	5,660	5,660	5,830	6,005	6,185	6,370	6,561	6,758	6,961	7,170	As Training & Meetings
Training - Total	10,000	34,870	28,070	28,912	29,779	30,673	31,593	32,541	33,517	34,523	35,558	As Training & Meetings
Total Training & Meetings	\$71,179	\$56,120	\$49,760	\$51,253	\$52,790	\$54,374	\$56,005	\$57,685	\$59,416	\$61,199	\$63,034	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Chemicals
Odor Control - Total	5,807,789	7,025,286	8,229,078	8,475,950	8,730,229	8,992,136	9,261,900	9,539,757	9,825,949	10,120,728	10,424,350	As Chemicals
Disinfection - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Chemicals - Cogen Op.	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Miscellaneous Chemicals	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Odor & Corrosion Control	20,000	50,000	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	As Chemicals
Gas, Diesel, & Oil - Total	18,960	26,500	36,500	37,595	38,723	39,885	41,081	42,314	43,583	44,890	46,237	As Fuel
Tools	63,000	90,000	90,000	92,700	95,481	98,345	101,296	104,335	107,465	110,689	114,009	As Tools and Small Equipment
Safety Equipment/Tools	44,690	95,000	66,880	68,886	70,953	73,082	75,274	77,532	79,858	82,254	84,722	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	18,216	18,580	18,952	19,521	20,106	20,709	21,331	21,971	22,630	23,309	24,008	As Janitorial Supplies
Lab Chemicals & Supplies	416	424	432	445	458	472	486	501	516	531	547	As Chemicals
Misc. Operating Supplies	10,000	13,000	14,000	14,420	14,853	15,298	15,757	16,230	16,717	17,218	17,735	As Misc. Operating Supplies
Property Tax Fees	0	0	0	0	0	0	0	0	0	0	0	As Property Tax Fees
Total Op Materials & Supplies	\$5,983,071	\$7,318,790	\$8,505,842	\$8,761,017	\$9,023,848	\$9,294,563	\$9,573,400	\$9,860,602	\$10,156,420	\$10,461,113	\$10,774,946	
Contractual Services												
Solids Removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Solids Removal
Other Waste Disposal												
Grit & Screenings Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Groundskeeping	0	0	0	0	0	0	0	0	0	0	0	As Grounds Keeping
Janitorial	0	0	0	0	0	0	0	0	0	0	0	As Janitorial
Outside Lab Services	15,000	20,000	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	As Misc. Services
Oxygen - O & M contract	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
County Service Fee	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Temporary Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Security Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Total Contractual Services	\$15,000	\$20,000	\$15,000	\$15,450	\$15,914	\$16,391	\$16,883	\$17,389	\$17,911	\$18,448	\$19,002	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								<i>Notes</i>
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
<b>Total Professional Services</b>	181,560	165,000	110,000	113,300	116,699	120,200	123,806	127,520	131,346	135,286	139,345	As Professional Services
<b>Total Research &amp; Monitoring</b>	0	0	0	0	0	0	0	0	0	0	0	As Research & Monitoring
<b>Total Repairs &amp; Maintenance</b>	6,575,792	5,922,271	4,161,460	4,286,304	4,414,893	4,547,340	4,683,760	4,824,273	4,969,001	5,118,071	5,271,613	As Repairs & Maintenance
<b>Utilities</b>												
Telephone	0	0	0	0	0	0	0	0	0	0	0	As Telephone
Diesel For Generators	0	0	0	0	0	0	0	0	0	0	0	As Fuel
Natural Gas - Total	0	0	0	0	0	0	0	0	0	0	0	As Natural Gas
Power - Total	695,140	709,042	723,223	744,920	767,267	790,285	813,994	838,414	863,566	889,473	916,157	As Power
Water - Total	23,490	23,959	24,438	25,171	25,926	26,704	27,505	28,330	29,180	30,056	30,957	As Water
<b>Total Utilities</b>	\$718,630	733,001	747,661	770,091	793,194	816,989	841,499	866,744	892,746	919,529	947,115	
<b>Total Other Operat. Supplies</b>	66,360	66,360	68,076	70,118	72,222	74,388	76,620	78,919	81,286	83,725	86,237	As Misc. Operating Supplies
<b>Total General Manager</b>	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Total Other Non-Operating</b>	370	600	600	618	637	656	675	696	716	738	760	As Other Non-Operating Costs
<b>Total Matls, Supply, &amp; Svc.</b>	\$13,611,962	\$14,282,142	\$13,658,399	\$14,068,151	\$14,490,195	\$14,924,901	\$15,372,648	\$15,833,828	\$16,308,843	\$16,798,108	\$17,302,051	
<b>Oper Requirement Before Cost Allocation</b>	\$18,018,762	\$18,898,442	\$18,492,199	\$19,046,965	\$19,618,374	\$20,206,925	\$20,813,133	\$21,437,527	\$22,080,653	\$22,743,072	\$23,425,364	
<b>Cost Allocation:</b>												
In/(Out) Svc Div to Line Div	(17,400)	(21,500)	(21,500)	(22,145)	(22,809)	(23,494)	(24,198)	(24,924)	(25,672)	(26,442)	(27,236)	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	222,740	222,740	222,740	229,422	236,305	243,394	250,696	258,217	265,963	273,942	282,160	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	(19,780)	(21,300)	(22,900)	(23,587)	(24,295)	(25,023)	(25,774)	(26,547)	(27,344)	(28,164)	(29,009)	As Miscellaneous Expense
(Out) to CIP for OH	(31,230)	(29,980)	(32,230)	(33,197)	(34,193)	(35,219)	(36,275)	(37,363)	(38,484)	(39,639)	(40,828)	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Cost Allocation - Total</b>	\$154,330	\$149,960	\$146,110	\$150,493	\$155,008	\$159,658	\$164,448	\$169,382	\$174,463	\$179,697	\$185,088	
<b>Total Collection Facilities</b>	<b>\$18,173,092</b>	<b>\$19,048,402</b>	<b>\$18,638,309</b>	<b>\$19,197,458</b>	<b>\$19,773,382</b>	<b>\$20,366,583</b>	<b>\$20,977,581</b>	<b>\$21,606,908</b>	<b>\$22,255,116</b>	<b>\$22,922,769</b>	<b>\$23,610,452</b>	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								<i>Notes</i>
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
<b><i>Fleet Services</i></b>												
Salaries, Wages,& Benefits	\$1,271,300	\$1,246,600	\$1,311,300	\$1,350,639	\$1,391,158	\$1,432,893	\$1,475,880	\$1,520,156	\$1,565,761	\$1,612,734	\$1,661,116	As Salaries, Labor & Benefits
<b><u>Materials, Supplies, &amp; Services</u></b>												
Total Administrative Exp	\$3,200	\$4,630	\$4,710	\$4,851	\$4,997	\$5,147	\$5,301	\$5,460	\$5,624	\$5,793	\$5,966	As Miscellaneous Expense
Total Printing & Publication	150	150	150	155	159	164	169	174	179	184	190	As Misc. Services
Training & Meetings												
Meetings - Total	0	500	500	515	530	546	563	580	597	615	633	As Training & Meetings
Training - Total	0	22,150	6,700	6,901	7,108	7,321	7,541	7,767	8,000	8,240	8,487	As Training & Meetings
Total Training & Meetings	\$3,350	\$27,430	\$12,060	\$12,422	\$12,794	\$13,178	\$13,574	\$13,981	\$14,400	\$14,832	\$15,277	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Chemicals
Odor Control - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Disinfection - Total	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Chemicals - Cogen Op.	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Miscellaneous Chemicals	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Odor & Corrosion Control	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Gas, Diesel, & Oil - Total	408,500	346,485	355,110	365,763	376,736	388,038	399,679	411,670	424,020	436,741	449,843	As Fuel
Tools	60,000	69,000	71,000	73,130	75,324	77,584	79,911	82,308	84,778	87,321	89,941	As Tools and Small Equipment
Safety Equipment/Tools	6,000	6,000	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	1,470	1,500	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	As Janitorial Supplies
Lab Chemicals & Supplies	30	50	50	52	53	55	56	58	60	61	63	As Chemicals
Misc. Operating Supplies	450	500	500	515	530	546	563	580	597	615	633	As Misc. Operating Supplies
Property Tax Fees	0	0	0	0	0	0	0	0	0	0	0	As Property Tax Fees
Total Op Materials & Supplies	\$476,450	\$423,535	\$434,160	\$447,185	\$460,600	\$474,418	\$488,651	\$503,310	\$518,410	\$533,962	\$549,981	
Contractual Services												
Solids Removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Solids Removal
Other Waste Disposal												
Grit & Screenings Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Groundskeeping	0	0	0	0	0	0	0	0	0	0	0	As Grounds Keeping
Janitorial	0	0	0	0	0	0	0	0	0	0	0	As Janitorial
Outside Lab Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Oxygen - O & M contract	0	0	0	0	0	0	0	0	0	0	0	As Misc. Operating Supplies
County Service Fee	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Temporary Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Security Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Total Contractual Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								<i>Notes</i>
	<i>FY 2021-22</i>	<i>FY 2022-23</i>	<i>FY 2023-24</i>	<i>FY 2024-25</i>	<i>FY 2025-26</i>	<i>FY 2026-27</i>	<i>FY 2027-28</i>	<i>FY 2028-29</i>	<i>FY 2029-30</i>	<i>FY 2030-31</i>	<i>FY 2031-32</i>	
<b>Total Professional Services</b>	7,000	12,025	12,025	12,386	12,757	13,140	13,534	13,940	14,358	14,789	15,233	As Professional Services
<b>Total Research &amp; Monitoring</b>	0	0	0	0	0	0	0	0	0	0	0	As Research & Monitoring
<b>Total Repairs &amp; Maintenance</b>	567,332	648,669	648,669	668,129	688,173	708,818	730,083	751,985	774,545	797,781	821,714	As Repairs & Maintenance
<b>Utilities</b>												
Telephone	0	0	0	0	0	0	0	0	0	0	0	As Telephone
Diesel For Generators	75,000	55,000	60,000	61,800	63,654	65,564	67,531	69,556	71,643	73,792	76,006	As Fuel
Natural Gas - Total	0	0	0	0	0	0	0	0	0	0	0	As Natural Gas
Power - Total	0	0	0	0	0	0	0	0	0	0	0	As Power
Water - Total	0	0	0	0	0	0	0	0	0	0	0	As Water
<b>Total Utilities</b>	\$75,000	55,000	60,000	61,800	63,654	65,564	67,531	69,556	71,643	73,792	76,006	
<b>Total Other Operat. Supplies</b>	10,240	50,500	50,500	52,015	53,575	55,183	56,838	58,543	60,300	62,109	63,972	As Misc. Operating Supplies
<b>Total General Manager</b>	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Total Other Non-Operating</b>	150	200	200	206	212	219	225	232	239	246	253	As Other Non-Operating Costs
<b>Total Matls, Supply, &amp; Svc.</b>	\$1,139,522	\$1,217,359	\$1,217,614	\$1,254,142	\$1,291,767	\$1,330,520	\$1,370,435	\$1,411,548	\$1,453,895	\$1,497,512	\$1,542,437	
<b>Oper Requirement Before Cost Allocation</b>	\$2,410,822	\$2,463,959	\$2,528,914	\$2,604,781	\$2,682,925	\$2,763,413	\$2,846,315	\$2,931,704	\$3,019,656	\$3,110,245	\$3,203,553	
<b>Cost Allocation:</b>												
In/(Out) Svc Div to Line Div	53,000	73,300	73,300	75,499	77,764	80,097	82,500	84,975	87,524	90,150	92,854	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	(452,350)	(452,350)	(452,350)	(465,921)	(479,898)	(494,295)	(509,124)	(524,398)	(540,130)	(556,333)	(573,023)	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Cost Allocation - Total</b>	(\$399,350)	(\$379,050)	(\$379,050)	(\$390,422)	(\$402,134)	(\$414,198)	(\$426,624)	(\$439,423)	(\$452,606)	(\$466,184)	(\$480,169)	
<b>Total Fleet Services</b>	<b>\$2,011,472</b>	<b>\$2,084,909</b>	<b>\$2,149,864</b>	<b>\$2,214,360</b>	<b>\$2,280,791</b>	<b>\$2,349,214</b>	<b>\$2,419,691</b>	<b>\$2,492,282</b>	<b>\$2,567,050</b>	<b>\$2,644,062</b>	<b>\$2,723,383</b>	

	Estimated	Preliminary	Preliminary	Projected								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
Plant No. 1 & 2 Operations & Maintenance												
Salaries, Wages,& Benefits	\$37,172,700	\$39,850,454	\$41,804,054	\$43,058,176	\$44,349,921	\$45,680,419	\$47,050,831	\$48,462,356	\$49,916,227	\$51,413,713	\$52,956,125	As Salaries, Labor & Benefits
Materials, Supplies, & Services												
Total Administrative Exp	\$199,220	\$268,760	\$202,250	\$208,318	\$214,567	\$221,004	\$227,634	\$234,463	\$241,497	\$248,742	\$256,204	As Miscellaneous Expense
Total Printing & Publication	14,821	25,700	25,700	26,471	27,265	28,083	28,926	29,793	30,687	31,608	32,556	As Misc. Services
Training & Meetings												
Meetings - Total	1,850	5,420	5,420	5,583	5,750	5,923	6,100	6,283	6,472	6,666	6,866	As Training & Meetings
Training - Total	34,010	118,800	157,780	162,513	167,389	172,410	177,583	182,910	188,398	194,049	199,871	As Training & Meetings
Total Training & Meetings	\$249,901	\$418,680	\$391,150	\$402,885	\$414,971	\$427,420	\$440,243	\$453,450	\$467,054	\$481,065	\$495,497	
Operating Materials & Supplies												
Chem. Coagulants - Total	\$11,204,746	\$12,103,086	\$12,585,600	\$12,963,168	\$13,352,063	\$13,752,625	\$14,165,204	\$14,590,160	\$15,027,865	\$15,478,701	\$15,943,062	As Chemicals
Odor Control - Total	741,194	818,000	830,500	855,415	881,077	907,510	934,735	962,777	991,660	1,021,410	1,052,053	As Chemicals
Disinfection - Total	163,080	198,500	162,500	167,375	172,396	177,568	182,895	188,382	194,033	199,855	205,850	As Chemicals
Chemicals - Cogen Op.	305,000	350,000	384,000	395,520	407,386	419,607	432,195	445,161	458,516	472,272	486,440	As Chemicals
Miscellaneous Chemicals	42,000	85,000	96,000	98,880	101,846	104,902	108,049	111,290	114,629	118,068	121,610	As Chemicals
Odor & Corrosion Control	0	0	0	0	0	0	0	0	0	0	0	As Chemicals
Gas, Diesel, & Oil - Total	349,630	406,400	406,400	418,592	431,150	444,084	457,407	471,129	485,263	499,821	514,815	As Fuel
Tools	444,400	454,000	454,000	467,620	481,649	496,098	510,981	526,310	542,100	558,363	575,114	As Tools and Small Equipment
Safety Equipment/Tools	491,950	522,000	524,000	539,720	555,912	572,589	589,767	607,460	625,683	644,454	663,788	As Tools and Small Equipment
Solv,Paint,Janitor Supplies	86,100	93,500	93,500	96,305	99,194	102,170	105,235	108,392	111,644	114,993	118,443	As Janitorial Supplies
Lab Chemicals & Supplies	22,020	24,750	24,750	25,493	26,257	27,045	27,856	28,692	29,553	30,439	31,353	As Chemicals
Misc. Operating Supplies	134,680	146,000	146,000	150,380	154,891	159,538	164,324	169,254	174,332	179,562	184,948	As Misc. Operating Supplies
Property Tax Fees	0	0	0	0	0	0	0	0	0	0	0	As Property Tax Fees
Total Op Materials & Supplies	\$13,984,800	\$15,201,236	\$15,707,250	\$16,178,468	\$16,663,822	\$17,163,736	\$17,678,648	\$18,209,008	\$18,755,278	\$19,317,936	\$19,897,474	
Contractual Services												
Solids Removal	\$12,030,000	\$13,740,000	\$14,790,000	\$15,233,700	\$15,690,711	\$16,161,432	\$16,646,275	\$17,145,664	\$17,660,033	\$18,189,834	\$18,735,530	As Solids Removal
Other Waste Disposal												
Grit & Screenings Disposal	650,000	715,000	746,000	768,380	791,431	815,174	839,630	864,818	890,763	917,486	945,010	As Other Waste Disposal
Other Residual Solids	0	0	0	0	0	0	0	0	0	0	0	As Other Waste Disposal
Other Waste Disposal	126,000	126,000	126,000	129,780	133,673	137,684	141,814	146,069	150,451	154,964	159,613	As Other Waste Disposal
Groundskeeping	0	0	0	0	0	0	0	0	0	0	0	As Grounds Keeping
Janitorial	0	0	0	0	0	0	0	0	0	0	0	As Janitorial
Outside Lab Services	5,000	10,000	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	As Misc. Services
Oxygen - O & M contract	415,000	476,000	561,000	577,830	595,165	613,020	631,410	650,353	669,863	689,959	710,658	As Misc. Operating Supplies
County Service Fee	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
Temporary Services	85,990	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Security Services	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
In-Plant Line Cleaning	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Other	0	0	0	0	0	0	0	0	0	0	0	As Misc. Services
Total Contractual Services	\$13,311,990	\$15,067,000	\$16,233,000	\$16,719,990	\$17,221,590	\$17,738,237	\$18,270,385	\$18,818,496	\$19,383,051	\$19,964,542	\$20,563,479	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								<i>Notes</i>
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
<b>Total Professional Services</b>	1,285,790	1,584,000	1,632,000	1,680,960	1,731,389	1,783,330	1,836,830	1,891,935	1,948,693	2,007,154	2,067,369	As Professional Services
<b>Total Research &amp; Monitoring</b>	0	0	0	0	0	0	0	0	0	0	0	As Research & Monitoring
<b>Total Repairs &amp; Maintenance</b>	22,281,730	20,712,851	23,917,195	24,634,711	25,373,752	26,134,965	26,919,014	27,726,584	28,558,382	29,415,133	30,297,587	As Repairs & Maintenance
<b>Utilities</b>												
Telephone	0	0	0	0	0	0	0	0	0	0	0	As Telephone
Diesel For Generators	31,410	0	0	0	0	0	0	0	0	0	0	As Fuel
Natural Gas - Total	1,050,695	1,447,000	1,395,000	1,436,850	1,479,956	1,524,354	1,570,085	1,617,187	1,665,703	1,715,674	1,767,144	As Natural Gas
Power - Total	6,574,619	8,340,000	8,048,000	8,289,440	8,538,123	8,794,267	9,058,095	9,329,838	9,609,733	9,898,025	10,194,966	As Power
Water - Total	995,200	852,000	876,400	902,692	929,773	957,666	986,396	1,015,988	1,046,467	1,077,861	1,110,197	As Water
<b>Total Utilities</b>	\$8,651,924	10,639,000	10,319,400	10,628,982	10,947,851	11,276,287	11,614,576	11,963,013	12,321,903	12,691,560	13,072,307	
<b>Total Other Operat. Supplies</b>	9,710	14,300	14,300	14,729	15,171	15,626	16,095	16,578	17,075	17,587	18,115	As Misc. Operating Supplies
<b>Total General Manager</b>	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Total Other Non-Operating</b>	15,766	7,520	7,520	7,746	7,978	8,217	8,464	8,718	8,979	9,249	9,526	As Other Non-Operating Costs
<b>Total Matls, Supply, &amp; Svc.</b>	\$59,791,611	\$63,644,587	\$68,221,815	\$70,268,469	\$72,376,524	\$74,547,819	\$76,784,254	\$79,087,781	\$81,460,415	\$83,904,227	\$86,421,354	
<b>Oper Requirement Before Cost Allocation</b>	\$96,964,311	\$103,495,041	\$110,025,869	\$113,326,645	\$116,726,444	\$120,228,238	\$123,835,085	\$127,550,137	\$131,376,642	\$135,317,941	\$139,377,479	
<b>Cost Allocation:</b>												
In/(Out) Svc Div to Line Div	(646,820)	114,800	114,800	118,244	121,791	125,445	129,208	133,085	137,077	141,190	145,425	As Miscellaneous Expense
In/(Out) OCSD Equip Rental	125,640	125,640	125,640	129,409	133,291	137,290	141,409	145,651	150,021	154,521	159,157	As Miscellaneous Expense
In/(Out) Lab Charges	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
(Out) to CIP for Salary	(159,160)	(172,400)	(180,700)	(186,121)	(191,705)	(197,456)	(203,379)	(209,481)	(215,765)	(222,238)	(228,905)	As Miscellaneous Expense
(Out) to CIP for OH	(197,000)	(205,130)	(215,020)	(221,471)	(228,115)	(234,958)	(242,007)	(249,267)	(256,745)	(264,447)	(272,381)	As Miscellaneous Expense
In/<Out> to RA for Salary	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for OH	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
In/<Out> to RA for Non-Sal	0	0	0	0	0	0	0	0	0	0	0	As Miscellaneous Expense
<b>Cost Allocation - Total</b>	(\$877,340)	(\$137,090)	(\$155,280)	(\$159,938)	(\$164,737)	(\$169,679)	(\$174,769)	(\$180,012)	(\$185,412)	(\$190,975)	(\$196,704)	
<b>Total Plant No. 1 &amp; 2 Operations &amp; Maintenance</b>	<b>\$96,086,971</b>	<b>\$103,357,951</b>	<b>\$109,870,589</b>	<b>\$113,166,707</b>	<b>\$116,561,708</b>	<b>\$120,058,559</b>	<b>\$123,660,316</b>	<b>\$127,370,125</b>	<b>\$131,191,229</b>	<b>\$135,126,966</b>	<b>\$139,180,775</b>	

	<i>Estimated</i>	<i>Preliminary</i>	<i>Preliminary</i>	<i>Projected</i>								
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Notes
<i>Additional Expenditures (Input on Dashboard)</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>Total Operations &amp; Maintenance Expense</b>	<b>\$182,579,269</b>	<b>\$201,144,702</b>	<b>\$209,891,777</b>	<b>\$216,188,530</b>	<b>\$222,674,186</b>	<b>\$229,354,412</b>	<b>\$236,235,044</b>	<b>\$243,322,095</b>	<b>\$250,621,758</b>	<b>\$258,140,411</b>	<b>\$265,884,623</b>	
<i>Annual % Change in O&amp;M Expense</i>		10.2%	4.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
<b>Capital Funding Analysis</b>												
Capital Expenditures	\$203,320,511	\$284,617,363	\$329,320,433	\$311,961,390	\$321,793,493	\$322,826,459	\$324,753,539	\$353,913,646	\$308,176,430	\$251,753,302	\$249,061,975	\$3,058,178,030
Plus: Future Renewal and Replacement	0	0	10,000,000	2,157,930	5,876,342	18,770,190	15,621,645	40,551,097	64,524,757	92,799,943	105,705,540	\$356,007,444
Additional Capital Expenditures	0	0	0	0	0	0	0	0	0	0	0	
<b>Capital Expenditures</b>	<b>\$203,320,511</b>	<b>\$284,617,363</b>	<b>\$339,320,433</b>	<b>\$314,119,320</b>	<b>\$327,669,835</b>	<b>\$341,596,649</b>	<b>\$340,375,184</b>	<b>\$394,464,743</b>	<b>\$372,701,187</b>	<b>\$344,553,245</b>	<b>\$354,767,515</b>	
<b>Transfer in from Other Funds to Pay for Capital</b>												
Less: CIP Savings & Deferrals	\$0	(\$16,449,864)	(\$24,012,792)	(\$32,206,601)	(\$26,986,247)	(\$48,638,749)	(\$45,384,259)	(\$45,113,230)	(\$28,580,844)	\$1,779,946	(\$73,536,991)	(\$339,129,631) Input from Cashflow
CFCC & SCFCC Revenue	(17,205,244)	(17,923,752)	(18,533,000)	(19,623,000)	(19,779,000)	(19,937,000)	(20,103,000)	(20,265,000)	(20,430,000)	(20,600,000)	(20,768,000)	Cashflow file
Grant Funding	0	0	0	0	0	0	0	0	0	0	0	
Revenue Bonds	0	0	0	0	0	0	0	0	0	0	0	
Low Interest Loans	0	0	0	0	0	0	0	0	0	0	0	
<b>Capital Funded Through Rates (Capital Exp less Transfer In)</b>	<b>\$186,115,267</b>	<b>\$250,243,747</b>	<b>\$296,774,641</b>	<b>\$262,289,719</b>	<b>\$280,904,588</b>	<b>\$273,020,900</b>	<b>\$274,887,925</b>	<b>\$329,086,513</b>	<b>\$323,690,343</b>	<b>\$325,733,191</b>	<b>\$260,462,524</b>	\$2,877,094,091 \$287,709,409.08
<b>Transfers Out</b>												
Equity Purchases (Joint Operations)	\$0	\$3,500,000	\$3,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Self Insurance Fund Requirements	3,269,700	3,690,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	
<b>Total Transfers Out</b>	<b>\$3,269,700</b>	<b>\$7,190,000</b>	<b>\$7,350,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	<b>\$3,850,000</b>	
<b>Transfers In</b>												
Blank	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>Total Transfers In</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Debt Service</b>												
2010A Build America Bonds	\$2,984,334	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	\$2,986,574	Debt Schedule
2010C Build America Bonds	6,724,010	6,724,010	6,724,010	6,724,010	6,724,010	6,724,010	6,724,010	6,724,010	6,724,010	12,459,010	23,382,068	Debt Schedule
2011A	2,019,050	0	0	0	0	0	0	0	0	0	0	Debt Schedule
2012A	3,735,900	0	0	0	0	0	0	0	0	0	0	Debt Schedule
2012B	8,446,150	0	0	0	0	0	0	0	0	0	0	Debt Schedule
2014A Refunding	11,049,000	11,046,750	11,044,000	11,049,750	11,052,500	11,051,250	0	0	0	0	0	Debt Schedule
2015A Refunding	6,375,500	6,375,500	6,375,500	6,375,500	6,375,500	6,375,500	21,615,500	21,658,500	20,776,250	10,228,000	3,702,250	Debt Schedule
2016A Refunding	11,389,800	11,391,550	11,396,050	11,392,550	11,390,800	11,390,050	11,394,550	11,388,300	11,391,050	11,411,550	11,413,050	Debt Schedule
2017A Refunding	3,290,750	3,290,750	3,290,750	3,290,750	3,290,750	18,405,750	18,365,000	18,323,500	19,204,500	0	0	Debt Schedule
2018A	2,356,278	0	0	0	0	0	0	0	0	0	0	Debt Schedule
2021A Refunding	8,844,836	22,672,000	22,713,500	22,672,250	22,725,250	7,485,750	7,486,000	7,489,750	7,486,250	7,490,250	7,485,750	Debt Schedule
2022A Refunding	0	4,081,000	4,081,000	4,081,000	4,081,000	4,081,000	4,081,000	4,081,000	4,081,000	26,566,000	25,761,750	Debt Schedule
New Low Interest Loan	0	0	0	0	0	0	0	0	0	0	0	Calculated @ 4.5% for 20 yrs
New COP	0	0	0	0	0	0	0	0	0	0	0	Calculated @ 3% for 10 yrs
Debt Issuance Costs	630,847	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>\$67,846,455</b>	<b>\$68,568,134</b>	<b>\$68,611,384</b>	<b>\$68,572,384</b>	<b>\$68,626,384</b>	<b>\$68,499,884</b>	<b>\$72,652,634</b>	<b>\$72,651,634</b>	<b>\$72,649,634</b>	<b>\$71,141,384</b>	<b>\$74,731,442</b>	

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 2 - Sources & Application of Funds

Page 17 of 17

	Estimated FY 2021-22	Preliminary FY 2022-23	Preliminary FY 2023-24	Projected								Notes
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
<b>Total Revenue Requirements</b>	<b>\$439,810,691</b>	<b>\$527,146,583</b>	<b>\$582,627,802</b>	<b>\$550,900,633</b>	<b>\$576,055,158</b>	<b>\$574,725,196</b>	<b>\$587,625,603</b>	<b>\$648,910,242</b>	<b>\$650,811,735</b>	<b>\$658,864,986</b>	<b>\$604,928,589</b>	
<i>Annual % Change in Revenue Requirement</i>			10.5%	-5.4%	4.6%	-0.2%	2.2%	10.4%	0.3%	1.2%	-8.2%	
Balance / (Deficiency) of Funds	\$27,783,678	(\$41,697,380)	(\$96,972,432)	(\$75,455,111)	(\$94,954,942)	(\$88,780,484)	(\$96,368,469)	(\$150,369,539)	(\$146,951,001)	(\$149,287,344)	(\$91,862,646)	
Rate Adjust. as a % of Rate Rev		12.4%	28.8%	22.4%	28.1%	26.2%	28.3%	44.1%	42.9%	43.5%	26.7%	
<b>Proposed Rate Adjustment [July]</b>	<b>0.0%</b>	<b>0.0%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	
Add'l Rev from Proposed Adj.	\$0	\$0	\$11,775,690	\$24,032,224	\$36,787,971	\$50,061,994	\$63,874,084	\$78,244,783	\$93,195,414	\$108,748,111	\$124,925,848	
Net Bal/(Def) of Funds After Rate Adj.	\$27,783,678	(\$41,697,380)	(\$85,196,742)	(\$51,422,887)	(\$58,166,972)	(\$38,718,491)	(\$32,494,385)	(\$72,124,756)	(\$53,755,587)	(\$40,539,233)	\$33,063,202	
<b>Additional Rate Increase Needed</b>		12.4%	25.3%	15.2%	17.2%	11.4%	9.5%	21.1%	15.7%	11.8%	-9.6%	
<b>Residential Bill (1 EDU)</b>	\$343.00	\$347.00	\$359.15	\$371.72	\$384.73	\$398.19	\$412.13	\$426.55	\$441.48	\$456.93	\$472.93	
\$ Change Per Year		4.00	12.15	12.57	13.01	13.47	13.94	14.42	14.93	15.45	15.99	
Cumulative \$ Change per Year		4.00	16.15	28.72	41.73	55.19	69.13	83.55	98.48	113.93	129.93	
<b>Debt Service Coverage Ratio w/o CFCC</b>												
Before Rate Adjustment	4.20	4.15	4.02	3.78	3.77	3.75	3.51	3.51	3.49	3.53	3.31	
After Rate Adjustment	4.20	4.15	4.19	4.13	4.30	4.48	4.39	4.59	4.77	5.06	4.98	
Target Coverage		1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	
Required Coverage		1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	
<b>Cash Reserves</b>												
<b>Wastewater Fund Working Cash</b>												
<b>Beginning Balance</b>	<b>\$964,225,021</b>	<b>\$992,008,699</b>	<b>\$964,903,926</b>	<b>\$893,541,767</b>	<b>\$855,136,335</b>	<b>\$809,360,156</b>	<b>\$782,491,679</b>	<b>\$761,490,961</b>	<b>\$700,247,633</b>	<b>\$656,592,594</b>	<b>\$625,598,205</b>	
Plus: Revenue	327,459,387	335,486,676	336,448,278	337,412,766	338,380,147	339,350,431	340,323,625	341,299,739	342,278,781	343,260,760	344,245,685	
Plus: Additional Revenue with Rate Adjustment	0	0	11,775,690	24,032,224	36,787,971	50,061,994	63,874,084	78,244,783	93,195,414	108,748,111	124,925,848	
Plus Misc Revenue	134,383,982	149,962,527	149,207,091	138,032,756	142,720,069	146,594,281	150,933,509	157,240,964	161,581,953	166,316,882	168,820,258	
Plus: Debt Proceeds	0	0	0	0	0	0	0	0	0	0	0	
Less: Expense	(182,579,269)	(201,144,702)	(209,891,777)	(216,188,530)	(222,674,186)	(229,354,412)	(236,235,044)	(243,322,095)	(250,621,758)	(258,140,411)	(265,884,623)	
Less: Capital Funded Through Rates	(186,115,267)	(250,243,747)	(296,774,641)	(262,289,719)	(280,904,588)	(273,020,900)	(274,887,925)	(329,086,513)	(323,690,343)	(325,733,191)	(260,462,524)	
Less: Equity Purchase/Self Insurance Fund	(3,269,700)	(7,190,000)	(7,350,000)	(3,850,000)	(3,850,000)	(3,850,000)	(3,850,000)	(3,850,000)	(3,850,000)	(3,850,000)	(3,850,000)	
Less: Debt Service	(67,846,455)	(68,568,134)	(68,611,384)	(68,572,384)	(68,626,384)	(68,499,884)	(72,652,634)	(72,651,634)	(72,649,634)	(71,141,384)	(74,731,442)	
Interest Earnings	5,751,000	14,592,608	13,834,583	13,017,455	12,390,793	11,850,014	11,493,667	10,881,429	10,100,548	9,544,845	9,631,947	
<b>Ending Balance</b>	<b>\$992,008,699</b>	<b>\$964,903,926</b>	<b>\$893,541,767</b>	<b>\$855,136,335</b>	<b>\$809,360,156</b>	<b>\$782,491,679</b>	<b>\$761,490,961</b>	<b>\$700,247,633</b>	<b>\$656,592,594</b>	<b>\$625,598,205</b>	<b>\$668,293,354</b>	
Target Balance	530,575,102	547,681,180	555,145,550	561,161,477	567,303,124	573,586,906	579,590,739	585,603,049	591,722,035	598,097,312	604,172,824	
<b>Target Balance Calculation</b>												
50% Next Year Operating Expense	91,289,635	100,572,351	104,945,889	108,094,265	111,337,093	114,677,206	118,117,522	121,661,048	125,310,879	129,070,206	132,942,312	
10% Next Year Operating Expense	18,257,927	20,114,470	20,989,178	21,618,853	22,267,419	22,935,441	23,623,504	24,332,210	25,062,176	25,814,041	26,588,462	
100% Next Year AVG COP Svc.	22,781,248	19,266,567	18,515,692	17,726,192	16,898,192	16,027,442	15,116,317	14,055,817	12,942,317	11,773,192	10,508,221	
50% average ten-year CIP Balance	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	153,752,792	
Debt Svc @ 10% Outstanding COP	81,978,500	78,975,000	75,817,000	72,505,000	69,022,000	65,377,500	61,135,500	56,681,500	52,005,000	47,245,500	41,874,000	
Self Funded Insurance @ \$100M	100,000,000	100,000,000	103,500,000	107,122,500	110,871,788	114,752,300	118,768,631	122,925,533	127,227,926	131,680,904	136,289,735	
Repl & Refurb	62,515,000	75,000,000	77,625,000	80,341,875	83,153,841	86,064,225	89,076,473	92,194,149	95,420,945	98,760,678	102,217,301	
*Reserve Reduction (in accordance with Board action allowing a \$40M reduction to total reserves)										0	0	Removed
Target Reserve Balance	530,575,102	547,681,180	555,145,550	561,161,477	567,303,124	573,586,906	579,590,739	585,603,049	591,722,035	598,097,312	604,172,824	
*Reserve Reduction (in accordance with Board action allowing a \$40M reduction to total reserves)												



Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 3 - Capital Plan

Page 1 of 7

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
11-33 Edinger Pump Station Replacement		\$653,065	\$1,215,193	\$932,542	\$1,852,613	\$7,634,876	\$3,453,562	\$1,456,768				\$17,198,619
11-34 Slater Pump Station Rehabilitation							1,606,374	1,458,981	7,458,939	12,931,486	3,880,275	27,336,055
1-23 Santa Ana Trunk Sewer Rehabilitation		2,200,761	1,545,729	1,274,915	15,283,398	18,833,312	11,675,617	3,665,465				54,479,197
1-24 Greenville Trunk Improvements		543,619	2,425,601	1,088,843	1,100,575	10,674,040	12,244,802	11,658,673	6,998,798	1,822,313		48,557,264
2-49 Taft Branch Improvements		908,635	1,630,432	8,469,720	8,682,681	2,914,405	281,031					22,886,904
2-72B Newhope-Placentia Trunk Replacement, Segment B		1,605,022										1,605,022
2-73 Yorba Linda Pump Station Removal and Dosing Station Installation			65,408	238,718	407,599	407,599	3,646,246	4,580,429	1,920,000			11,265,999
2-78 Santa Ana Canyon South River Trunk Rehabilitation			99,337	360,193	503,976	503,976	505,907	1,951,957	3,797,881	3,812,488	2,579,968	14,115,683
3-60 Knott - Miller Holder – Artesia Branch Rehabilitation		186,776	697,296	708,453	3,925,008	10,913,605	6,575,862	5,310,000				28,317,000
3-62 Westminster Blvd Force Main Replacement		5,482,851	2,043,590	428,374								7,954,815
3-64B Los Alamitos Trunk Sewer Rehabilitation		14,213,386	839,496	129,366								15,182,248
3-64C Los Alamitos Sub-Trunk and Westside Relief Interceptor Rehabilitation		2,930,426	15,876,397	18,493,912	18,592,885	522,080						56,415,700
3-66 Interstate 405 Widening Project Impacts on OCSW Sewers		71,348										71,348
3-67 Seal Beach Pump Station Replacement		1,199,571	11,577,544	25,564,010	23,848,046	13,291,693	4,403,044					79,883,908
3-68 Los Alamitos Sub-Trunk Extension					176,219	1,175,487	2,099,842	2,083,813	2,083,813	15,961,806	28,764,604	52,345,584
5-66 Crystal Cove Pump Station Rehabilitation				100,943	369,259	450,188	451,913	3,083,315	4,990,871	2,086,511	2,370,000	13,903,000
5-67 Bay Bridge Pump Station Replacement		2,500,810	5,275,140	12,934,273	23,080,645	23,624,408	14,101,299	9,843,724	2,934,970			94,295,269
5-68 Newport Beach Pump Station Pressurization Improvements		1,148,196	1,101,915	259,162								2,509,273
6-20 Fairview Trunk Rehabilitation		604,157	859,273	1,636,246	7,311,129	6,806,200	1,959,346					19,176,351
7-63 MacArthur Pump Station Rehabilitation		50,828	203,387	293,967	302,069	947,694	3,385,234	2,555,821	1,590,000			9,329,000
7-64 Main Street Pump Station Rehabilitation						134,639	710,670	1,130,083	1,130,083	1,678,885	26,458,639	31,242,999
7-65 Gisler-Red Hill Interceptor and Baker Force Main Rehabilitation		9,688,401	18,268,938	12,465,155	2,029,322							42,451,816
7-66 Sunflower and Red Hill Interceptor Repairs		3,325,654	307,066									3,632,720
7-68 MacArthur Force Main Improvements		312,173	5,024,553	754,452	472,280							6,563,458
7-69 North Trunk - Yorba Street Sub-Trunk Improvements			101,207	328,649	437,910	437,910	3,519,473	4,168,853	1,860,000			10,854,002
Equipment Equipment Purchases		6,949,700	7,851,002									14,800,702
FE10-21 Area 02 Craig Regional Park Manhole Improvements		150,404	11,556									161,960
FE17-03 Battery Storage System at Plant No. 1		1,486										1,486
FE17-05 Plant 1 ICS Network Extension		91,844										91,844
FE18-06 CenGen Instrument Air Compressors Replacement at Plant No. 1		388,316	351,021	147,200								886,537
FE18-08 West Trunk Bypass Sewer Realignment												0
FE18-11 Headworks Explosive Gas Monitoring Systems at Plant No. 1 and No. 2		15,818										15,818

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
FE18-12 Erosion Control at Santa Ana River and Hamilton Ave		51,425										51,425
FE18-13 Redhill Relief Sewer Relocation at State Route 55		2,535,656	279,204	174,476								2,989,336
FE18-14 Plant Water Pipeline Replacement in Kinnison, Lindstrom, and Scott Tunnels at Plant No. 2		707,753	199,631									907,384
FE18-15 Plant Boiler System Relief at Plant No. 2		49,219	21,607									70,826
FE18-16 Truck Loading Basement Drain Modifications at Plant No. 1		119,493	19,983									139,476
FE18-19 12KV Distribution B and East RAS Pump Station Roofing Replacement		82,085										82,085
FE18-20 DAFT Air Compressors Replacement at Plant No. 1		543,146	428,211	126,230								1,097,587
FE19-01 Pump Station Portable Generator Connectors		1,470,229	362,585	328,050								2,160,864
FE19-02 Cengen Plant Water Pipe Replacement at Plant No. 1		197,983	2,850,342	550,351	149,696							3,748,372
FE19-03 Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1		593,722	921,145	1,170,277								2,685,144
FE19-04 Sunflower Pump Replacement at Plant No. 1		1,732,102	1,369,851	332,305								3,434,258
FE19-06 EPSA Motor Cooling Improvements at Plant No. 2		1,036,119	38,046									1,074,165
FE19-08 Secondary Treatment VFD Replacements at Plant No. 2		469,550	1,287,126	840,262	65,871							2,662,809
FE19-10 Digesters C, D, F, G and I Gas Balance Lines Replacement at Plant No. 2		1,754,988	163,823	156,706								2,075,517
FE19-11 Primary Clarifiers Nos. 6-31 Lighting and Alarm Improvements at Plant No. 1		12,079	17,940	80,918	48,651							159,588
FE19-12 Rebuild Shop Fume Extractor Installation at Plant No 1		399,458	36,383									435,841
FE19-13 VFD Replacements at Seal Beach Pump Station		208,296	65,577									273,873
FE20-01 Wastehauler Station Safety and Security Improvements		176,706	885,754	243,878								1,306,338
FE20-02 Digester C, D, F, and G Mechanical Rehabilitation at Plant No. 2		364,793	2,172,081	1,104,456								3,641,330
FE20-03 Return Activated Sludge Discharge Piping Replacement at Activated Sludge Plant No. 1		516,630	3,151,866	855,593								4,524,089
FE20-04 Cengen Cooling Water Pipe Replacement at Plant No. 2		253,719	998,739	2,681,158	1,019,096	2,530						4,955,242
FE20-05 Plant Water Piping Replacement at Secondary Clarifiers 1-26 at Plant No. 1		911,695	268,380	268,159								1,448,234
FE20-06 Thickening and Dewatering Building Pipe Support Improvements at Plant No. 1		870,461	309,245									1,179,706
FE20-07 Santa Ana Trunk Rehabilitation at Plant No. 1		597,011	50,672									647,683
FE20-08 Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River		211,911	2,266,894	162,102								2,640,907
FE20-09 CenGen Smoke Detection Improvements at Plant No. 1 and No. 2		117,904	405,360	64,964								588,228
FE20-10 Adolfo Lopez Chemical Dosing Station Installation		164,119	685,089	86,269	6,276							941,753
FE21-01 Plasma Cutting Fume Extractor installation at Plant No. 1 Rebuild Shop		222,842	36,915									259,757
FE21-02 Lighting Improvements Boiler and Sludge Dewatering Areas at Plant No. 1		232,764	38,026									270,790
FE21-04 Thickening and Dewatering Facility Handrail Installation at Plant No. 1		145,722	37,444	3,036								186,202
FE21-05 Warehouse Stations and Demolition at Plant No. 2		291,508	1,652,322	219,191								2,163,021
FE21-06 Chemical Dosing Station Installation at Westside Pump Station		187,356	264,827	56,258								508,441
IT16-09 iPACS Enhancements				664	42,780	12,831						56,275
IT18-09 Records Management Information System												0
IT19-01 IT Safety VPP Systems (IT19-01)												0

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 3 - Capital Plan

Page 3 of 7

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
IT19-05 IT P1 & P2 Data Refresh (IT19-05)		1,070,000										1,070,000
IT20-05 Client Management Modernization (ICE-69_IT20-05) 6520005		71,603										71,603
IT20-06 Nintex Workflow Cloud Implementation (ICE-75_IT20-06) 6520006												0
IT20-07 Professional Services for Valo/SharePoint (ICE-74_IT20-07) 6520007		27,835										27,835
IT20-08 Field Computer for Nerissa and Interface with LIMS(ICE-68_IT20-07) 6520008		77,822										77,822
IT20-09 ITSM Migration (ICE-70_IT20-09) 6520009												0
IT20-10 Digitize Quality Assurance Tracking Processes /TNI/ELAP StandardsICE-76_IT20-10) 6520010		89,317										89,317
IT20-12 Web-based Cloud Proxy Security with an Isolation Platform (ICE-78_6520012)												0
IT21-01 Access Network Equipment Obsolescence Replacement (ICE-79_IT21-01) 6521001		1,009,193										1,009,193
IT21-02 Hyper Converged Infrastructure for Plant 1 ICS network (ICE-80 IT21-02) 6521002		139,321										139,321
IT21-03 Door Access Control System for P2 Construction Management Trailers (ICE-83_IT21-036521003												0
IT21-04 Databridge Scale Management Software (ICE - 84_IT21-04)		35,946										35,946
IT21-05 JD Edwards Server Migration and Upgrade (ICE - 86_IT21-05)		68,628										68,628
IT21-06 Dig-Smart Fusion (ICE - 89_I6521006_T21-06)												0
IT21-07 Advanced Email Security (ICE - 90_I6521007_T21-07)												0
J-117B Outfall Low Flow Pump Station		19,862,966	15,084,374	14,757,711	1,459,625							51,164,676
J-120 Process Control Systems Upgrades		7,399,012	6,560,418	5,520,288	4,781,569	6,528,988						30,790,275
J-120A Control Room Reconfiguration at Plant No. 1 and Plant No. 2		302,051	679,900	2,414,697	368,945							3,765,593
J-124 Digester Gas Facilities Replacement		146,143	902,218	25,642,216	28,641,424	28,855,782	29,017,652	28,071,955	15,317,316	353,603		156,948,309
J-127 Natural Gas Pipelines Replacement at Plant Nos. 1 and 2		78,826										78,826
J-128 Project Management Information System		670,937										670,937
J-133 Laboratory Rehabilitation/Replacement at Plant No 1			923,219	2,672,251	2,745,896	2,745,896	6,865,716	21,479,548	21,586,207	20,900,267	20,081,000	100,000,000
J-135 Central Generation Engine Overhauls at Plant No. 1 and 2		71,165	71,165	72,304	1,028,970	5,955,937	5,976,457	1,698,637				14,874,635
J-135A Central Generation Engine Overhaul at Plant No. 1												0
J-135B Engine and Generator Overhauls at Plant No. 1 and 2		1,423,029	8,281,455	6,213,391	6,925,238	1,156,887						24,000,000
J-136 Power Building Structural Seismic Improvements at Plant No. 1 and 2		215,186	523,480	960,224	2,079,332	1,438,535	147,523					5,364,280
J-137 120-inch Ocean Outfall Rehabilitation		38,022	686,862	2,314,826	2,378,620	2,378,620	4,866,988	8,399,741	10,183,630	13,634,227	20,086,463	64,967,999
J-36-2 GWRS Final Expansion Coordination		272,061										272,061
J-98 Electrical Power Distribution System Improvements		2,119,310	5,283,711	5,550,105	5,792,820	3,883,910	1,661,830					24,291,686
M-FE Small Construction Projects Program		3,040,666	3,029,015	3,040,666	3,040,666	3,040,666	3,052,316	3,029,015	3,017,365			24,290,375
M-MC-IT Information Technology Capital Program		418,281	418,281	424,973	436,685	436,685	438,358	435,012	435,012	436,685	438,358	4,318,330
M-RESEARCH Research Program		253,856	253,856	257,918	265,026	265,026	266,042	264,011	264,011			2,089,746
M-SM-CAP Operations & Maintenance Capital Program		998,441	998,441	1,014,416	1,042,372	1,042,372	1,046,366	1,038,379	1,038,379	1,042,372	1,042,372	10,303,910
M-STUDIES Planning Studies Program		1,803,657	1,803,659	1,832,517	1,883,020	1,883,020	1,890,235	1,875,805	1,875,805			14,847,718
P1-101 Sludge Dewatering and Odor Control at Plant 1												0

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
P1-105 Headworks Rehabilitation at Plant 1		34,978,473	77,053,946	38,199,385	35,716,381	25,793,517	20,396,147	28,689,509				260,827,358
P1-126 Primary Sedimentation Basins No. 3-5 Replacement at Plant No. 1		2,729,469	3,209,282	5,426,802	5,778,971	4,657,459	17,353,718	50,373,386	50,307,339	17,573,189	11,218,474	168,628,089
P1-127 Central Generation Rehabilitation at Plant No. 1							316,114	1,555,021	1,664,845	6,645,842	11,702,420	21,884,242
P1-128A Headquarters Complex at Plant No. 1		61,197,824	20,767,264	3,160,783								85,125,871
P1-129 Return Activated Sludge Piping Replacement at Activated Sludge Plant No. 1												0
P1-132 Uninterruptable Power Supply Improvements at Plant 1		1,931,268	3,016,195	658,489								5,605,952
P1-133 Primary Sedimentation Basins No. 6-31 Reliability Improvements at Plant No. 1		2,629,590	5,359,565	2,164,631	1,325,470							11,479,256
P1-134 South Perimeter Security and Utility Improvements at Plant No.1		3,738,937	395,278									4,134,215
P1-135 Digester Ferric Chloride Piping Replacement at Plant No. 1		89,718	125,953									215,671
P1-136 12.47 kV Switchgear Replacement at Central Generation at Plant No. 1				116,610	620,407	917,016	1,725,909	2,718,663	2,718,663	2,729,119	1,411,613	12,958,000
P1-137 Supports Buildings Seismic Improvements at Plant No. 1		769,029	1,604,316	2,392,194	4,936,630	4,968,870	4,872,965	2,840,724	1,258,507			23,643,235
P1-138 Industrial Control System and IT Data Center Relocation at Plant No. 1		219,007	348,263	1,118,009	2,696,326	911,655	406,741					5,700,001
P1-140 Activated Sludge-1 and Secondary Clarifier Rehabilitation		1,096,587	3,480,928	5,021,352	6,081,208	8,740,959	23,171,695	46,932,491	69,684,749	52,561,716	44,380,768	261,152,453
P1-141 Administrative Facilities and Power Building 3A Demolition		62,055	202,542	541,015	3,213,458	3,270,930	1,620,000					8,910,000
P2-119 Central Generation Rehabilitation at Plant No. 2						83,594	1,488,701	2,814,117	2,814,117	14,471,620	15,018,247	36,690,396
P2-122 Headworks Modifications at Plant No. 2 for GWRS Final Expansion		4,930,161	965,602									5,895,763
P2-123 Return Activated Sludge Piping Replacement at Plant 2		1,233,062	97,580									1,330,642
P2-124 Interim Food Waste Receiving Facility		10,140	16,899	2,741,215	2,009,722	170,558						4,948,534
P2-127 Collections Yard Relocation		168,067	1,296,029	378,996								1,843,092
P2-128 TPAD Digester Facility at Plant No.2		10,444,998	9,502,649	12,986,772	27,365,504	57,515,733	63,336,895	62,705,249	62,290,170	43,092,505	27,041,661	376,282,136
P2-128A TPAD Perimeter Wall			10,598,838	21,393,098	19,071,238	2,136,826						53,200,000
P2-129 Digester P, Q, R, and S Replacement					297,610	1,811,097	2,716,091	2,695,357	2,695,357	22,754,201	26,430,316	59,400,029
P2-133 B/C-Side Primary Sedimentation Basins Rehabilitation at Plant No. 2								330,662	3,219,097	6,133,298	6,156,797	15,839,854
P2-135 Sodium Bisulfite Station Rehabilitation at Plant No. 2		167,537	431,386	581,128	2,752,130	738,913	288,713					4,959,807
P2-136 Activated Sludge Aeration Basin Rehabilitation at Plant No. 2		297,355	2,392,285	1,704,046	3,010,558	14,536,946	23,615,192	7,773,508	12,208,734			65,538,624
P2-137 Digesters Rehabilitation at Plant No. 2		1,843,646	1,486,783	8,989,585	11,258,867	10,731,550	6,063,725					40,374,156
P2-138 Operations and Maintenance Complex at Plant No. 2		832,402	2,370,340	2,560,121	2,589,540	8,651,512	23,309,476	22,722,610	9,631,772	11,131,169		83,798,942
P2-139 Emergency Overflow Wingwalls Rehabilitation at Plant No. 2		117,241	224,545	234,118	1,523,041	2,271,054						4,369,999
P2-140 Truck Loading Bay Odor Control Improvements at Plant No. 2			95,012	287,368	372,342	416,596	2,706,318	2,522,364	1,200,000			7,600,000
P2-98A A-Side Primary Clarifiers Replacement at Plant 2		30,540,734	35,935,487	29,809,992	16,726,884	15,237,784	5,515,434					133,766,315
P2-98B B/C-Side Primary Clarifiers Interim Repair at Plant 2												0
PS17-03 Active Fault Location Study at Plant No. 2												0
PS18-06 Go/No-Go Lights and Signage		99,262										99,262
PS18-09 Ocean Outfall Condition Assessment and Scoping Study		55,300										55,300
PS19-03 Laboratory Rehabilitation Feasibility Study		12,593										12,593

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
PS20-01 Collections Yard Relocation Feasibility Study		69,513										69,513
PS20-02 Collection System Flow Level Monitoring Study		197,168	302,937	113,391	6,751							620,247
PS20-03 Truck Loading Bay Odor Control Improvements Study at Plant No. 2		160,469										160,469
PS20-04 Power Generation Overhaul Feasibility Study												0
PS20-05 Cen Gen Pressure Vessel Integrity Assessment at Plant Nos. 1 and 2		233,863										233,863
PS20-07 College Pump Station Wet Well Condition Assessment Study		67,425										67,425
PS20-08 Euclid Trunk Sewer Hydraulic Modeling and Odor Control Analyses		205,952										205,952
PS20-09 Thickening & Dewatering Plant Water Study at Plant No. 1		258,320	70,192									328,512
PS21-01 Exterior Lighting Study at Plant Nos. 1 and 2		301,867	221,877									523,744
PS21-02 Public Announcement and Fire System at Plant Nos. 1 and 2		307,605	151,009									458,614
PS21-03 Process Model for Denitrification Alternatives at Activated Sludge 1		9,698										9,698
PS21-04 Energy and Digester Gas Master Plan		782,721	285,741									1,068,462
PS21-05 CAD Design Manual Update for 3D Design		468,372	210,392									678,764
PS21-06 Regional Urban Runoff Optimization Study		117,587	673,604	177,140								968,331
RE19-01 Primary Scum Equipment Evaluation at Plant No. 1		15,405										15,405
RE20-01 Co-Thickened Sludge Density Meter Trial at Plant No. 1		1,931										1,931
RE20-02 Chemical Resilience Study at Plant No. 1 and 2		22,396										22,396
RE20-04 Holding Digester 6 Solids Shredder Study at Plant No. 1		17,649										17,649
RE20-06 Co-Thickened Sludge Pump Trial at Plant No. 1			15,000									15,000
RE21-01 Supercritical Water Oxidation Demonstration at Plant No. 1		5,690,537	1,182,571									6,873,108
SC18-05 P1 Laboratory HVAC Boiler Burner Replacement At Plant No.1												0
SC19-03 Return Activated Sludge Pump Station Elevator Rehabilitation at Plant No. 2		189,949	173,044									362,993
SC19-06 EPSA Standby Power Generator Control Upgrades at Plant No. 2		141,326	440,448	2,007,955	474,025	364,093						3,427,847
SC20-02 Ocean Outfall Booster Station Elevator Rehabilitation		299,953	77,076	4,790								381,819
SP-100 EAM Software and Process Implementation		383,372	383,372	389,506	1,388,238							2,544,488
SP-195 Capital Improvement Program Management Services		324,865										324,865
X-006 Waste Sidestream Pump Station Rehabilitation at Plant No. 1				1,010,181	1,877,528	11,669,291	2,730,000					17,287,000
X-007 Waste Sidestream Pump Station 2A Upgrade at Plant No. 2					202,213	479,790	522,463	3,328,711	3,626,823	1,530,000		9,690,000
X-014 Trickling Filter Solids Contact Basins Odor Control at Plant No. 2											117,817	117,817
X-015 Trickling Filters Rehabilitation at Plant No. 1									326,129	1,311,545	4,179,121	5,816,795
X-017 Primary Sedimentation Basins No. 6-31 Rehabilitation at Plant No. 1												0
X-018 Activated Sludge - 2 Rehabilitation at Plant No. 1												0
X-022 15th Street Pump Station and Force Main Rehabilitation												0
X-023 Lido Pump Station Rehabilitation							228,325	557,934	557,934	795,655	7,707,443	9,847,291
X-024 Rocky Point Pump Station Rehabilitation											82,553	82,553

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 3 - Capital Plan

Page 6 of 7

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
X-025 Bitter Point Pump Station Rehabilitation											365,469	365,469
X-030 Headworks Rehabilitation at Plant 2										898,266	4,377,482	5,275,748
X-031 Trickling Filter Solids Contact Facility Rehabilitation at Plant No. 2												0
X-036 City Water Pump Station Rehabilitation at Plant No. 2						403,977	702,489	697,126	1,848,279	5,662,081	4,126,047	13,439,999
X-037 Plant Water Pump Station and 12 KV Distribution Center A Demolition at Plant No. 2						55,825	193,680	228,430	764,786	1,590,796	675,483	3,509,000
X-038 City Water Pump Station Rehabilitation at Plant No. 1						63,354	330,948	472,981	472,981	2,094,588	3,856,884	7,291,736
X-039 Plant Water Pump Station Rehabilitation at Plant No. 1							455,209	690,935	771,202	5,666,957	2,976,696	10,560,999
X-040 College Pump Station Replacement and Force Main Rehabilitation								48,532	303,036	535,298	537,349	1,424,215
X-041 A Street Pump Station and Force Main Rehabilitation												0
X-044 Steve Anderson Lift Station Rehabilitation												0
X-052 Activated Sludge RAS/WAS/PEPS/Vaporizers Rehabilitation at Plant No. 2					187,007	1,352,431	2,053,294	2,037,620	5,283,956	11,388,788	11,432,424	33,735,520
X-059 Plantwide Miscellaneous Tunnels Rehabilitation					18,047	214,102	660,967	889,501	889,501	10,334,552	16,344,044	29,350,714
X-061 Imperial Relief Interceptor / Miller Holder Trunk Rehabilitation												0
X-065 Tustin-Orange Interceptor Rehabilitation												0
X-066 Tustin-Orange Interceptor / Orange Park Acres Trunk Rehabilitation								110,431	265,180	279,392	280,462	935,465
X-068 North Trunk - Panorama Heights - Tustin-Orange Rehabilitation				60,432	267,526	383,911	385,382	1,403,775	3,317,707	2,155,267	1,650,000	9,624,000
X-071 Bolsa Chica / Edinger / Springdale Trunk Sewer Rehabilitation			256,263		587,505	590,399	592,661	2,393,659	4,699,126	4,655,664	3,197,723	16,973,000
X-078 Air Jumpers Additions/Rehabilitations							63,413	541,957	1,110,332	1,164,330	10,935,620	13,815,652
X-084 Tustin Avenue Sewer Improvements								16,791	54,833	70,082	70,350	212,056
X-085 Hoover-Western Sub-Trunk and Lampson Branch Improvements						140,679	792,474	1,050,816	3,427,407	9,199,982	9,235,231	23,846,589
X-086 Santa Ana River Interceptor Improvements												0
X-095 Southern California Edison Substation and Service Center Replacement at Plant 2								459,116	1,383,695	1,695,230	1,903,759	5,441,800
X-096 Bushard Diversion Structure Improvements					111,185	269,484	271,572	1,560,959	1,626,852	803,535	78,412	4,721,999
X-098 Effluent Pump Station Annex Rehabilitation								105,558	909,288	1,732,098	1,738,734	4,485,678
X-100 Flood Wall along Brookhurst Street								489,621	1,743,266	1,754,664	1,761,386	5,748,937
X-102 Wastehauler Facility Improvements								12,600	70,594	85,657	1,135,511	1,304,362
X-104 Central Generation Facilities and Power Bldg. 2 Seismic Upgrades				291,087	953,319	1,025,700	1,152,150	6,663,256	6,663,256	6,335,233	5,130,000	28,214,001
X-105 OOBs Seismic Improvements at Plant No. 2				257,186	841,445	905,302	1,093,830	8,825,891	8,459,345	4,530,000		24,912,999
X-107 DAFTs Seismic Improvements at Plant No. 2											389,911	389,911
X-108 Lateral Spreading Mitigation at Plant No. 2												0
X-109 Lateral Spreading Mitigation at Plant No. 1												0
X-110 Solids Processing Facilities Seismic Improvements at Plant No. 1								34,832	141,349	240,022	240,941	657,144
X-112 Southwest Corner Stormwater Drainage Modifications at Plant No. 1								27,873	93,658	99,521	634,779	855,831
X-114 Activated Sludge Facility Replacement at Plant No. 2												0
X-115 Short Outfall Rehabilitation at Plant No. 2							125,076	919,360	1,550,002	1,555,963	1,561,925	5,712,326

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 3 - Capital Plan

Page 7 of 7

Project and Name	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
X-116 Outfall Land Section Rehabilitation at Plant No. 2												0
X-118 84-inch Interplant Pipeline Rehabilitation at Plant 1												0
X-119 Thickening, Dewatering and Truck Loadout Rehabilitation at Plant 1												0
X-120 Digester Rehabilitation/Replacement at Plant 1												0
X-121 Lido Pump Station Replacement												0
X-122 MacArthur Pump Station Replacement Project												0
X-124 Electric Vehicle Fleet Services Building					242,986	511,167	534,362	530,283	2,826,877	5,197,000	2,638,324	12,480,999
X-125 66-inch Interplant Pipeline Rehabilitation at Plant 1						83,905	359,560	514,587	4,793,650	449,916	639,382	6,841,000
X-126 Lake Ave and Atlanta Int Rehabilitation						24,772	339,881	564,047	564,047	4,943,684	2,522,570	8,959,001
X2-72 Contingency Reserve for 2-72			10,000,000									10,000,000
X2-79 Fullerton-Brea Int and Rollings Hills Dr Subtrunk Rehabilitation				282,781	587,581	596,101	1,756,180	4,177,468	3,799,889	1,856,017	243,983	13,300,000
XP2-130 Food Waste Receiving Facility at Plant No. 2												0
XP2-131 Digester I, J, and K Replacement at Plant No. 2							277,729	1,196,447	2,179,777	2,188,160	2,937,725	8,779,838
XP2-132 Digester Demolition at Plant No. 2												0
Actual	203,320,511											203,320,511
												0
<b>Total</b>	<b>\$203,320,511</b>	<b>\$284,617,363</b>	<b>\$339,320,433</b>	<b>\$314,119,320</b>	<b>\$327,669,835</b>	<b>\$341,596,649</b>	<b>\$340,375,184</b>	<b>\$394,464,743</b>	<b>\$372,701,187</b>	<b>\$344,553,245</b>	<b>\$354,767,515</b>	<b>\$3,617,505,985</b>
Capital Projects	\$0	\$284,617,363	\$329,320,433	\$311,961,390	\$321,793,493	\$322,826,459	\$324,753,539	\$353,913,646	\$308,176,430	\$251,753,302	\$249,061,975	\$3,058,178,030
Renewal and Replacement Projects	203,320,511	0	10,000,000	2,157,930	5,876,342	18,770,190	15,621,645	40,551,097	64,524,757	92,799,943	105,705,540	559,327,955
	<b>\$203,320,511</b>	<b>\$284,617,363</b>	<b>\$339,320,433</b>	<b>\$314,119,320</b>	<b>\$327,669,835</b>	<b>\$341,596,649</b>	<b>\$340,375,184</b>	<b>\$394,464,743</b>	<b>\$372,701,187</b>	<b>\$344,553,245</b>	<b>\$354,767,515</b>	<b>\$3,617,505,985</b>

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 4 - Existing Debt

Page 1 of 4

Total Principal and Interest

Fiscal Year of Payments	2010A Build America Bonds Acq./Const.	2010C Build America Bonds Acq./Const.	2011A	2012A	2012B	2014A Refunding (Partial 2007B)	2015A Refunding (Partial 2007B)	2016A Refunding (Partial 2009A)	2017A Refunding (Remain 2007A)	2018A	2021A Refunding (Partial 2011A and 2018A)	2022A Refunding (2012A and Partial 2012B)	Total Interest per Fiscal Year
FY 2021-22	\$2,984,334	\$6,724,010	\$2,019,050	\$3,735,900	\$8,446,150	\$11,049,000	\$6,375,500	\$11,389,800	\$3,290,750	\$2,356,278	\$8,844,836	\$0	\$67,215,608
FY 2022-23	2,986,574	6,724,010	0	0	0	11,046,750	6,375,500	11,391,550	3,290,750	0	22,672,000	4,081,000	68,568,134
FY 2023-24	2,986,574	6,724,010	0	0	0	11,044,000	6,375,500	11,396,050	3,290,750	0	22,713,500	4,081,000	68,611,384
FY 2024-25	2,986,574	6,724,010	0	0	0	11,049,750	6,375,500	11,392,550	3,290,750	0	22,672,250	4,081,000	68,572,384
FY 2025-26	2,986,574	6,724,010	0	0	0	11,052,500	6,375,500	11,390,800	3,290,750	0	22,725,250	4,081,000	68,626,384
FY 2026-27	2,986,574	6,724,010	0	0	0	11,051,250	6,375,500	11,390,050	18,405,750	0	7,485,750	4,081,000	68,499,884
FY 2027-28	2,986,574	6,724,010	0	0	0	0	21,615,500	11,394,550	18,365,000	0	7,486,000	4,081,000	72,652,634
FY 2028-29	2,986,574	6,724,010	0	0	0	0	21,658,500	11,388,300	18,323,500	0	7,489,750	4,081,000	72,651,634
FY 2029-30	2,986,574	6,724,010	0	0	0	0	20,776,250	11,391,050	19,204,500	0	7,486,250	4,081,000	72,649,634
FY 2030-31	2,986,574	12,459,010	0	0	0	0	10,228,000	11,411,550	0	0	7,490,250	26,566,000	71,141,384
FY 2031-32	2,986,574	23,382,068	0	0	0	0	3,702,250	11,413,050	0	0	7,485,750	25,761,750	74,731,442
FY 2032-33	2,986,574	23,476,472	0	0	0	0	3,702,250	11,415,550	0	0	7,487,500	38,146,500	87,214,846
FY 2033-34	12,576,574	13,967,040	0	0	0	0	20,882,250	11,408,050	0	0	7,489,500	0	66,323,414
FY 2034-35	12,696,056	13,897,232	0	0	0	0	20,883,250	11,415,050	0	0	7,486,000	0	66,377,588
FY 2035-36	12,919,416	13,834,528	0	0	0	0	20,881,250	11,409,800	0	0	7,486,500	0	66,531,494
FY 2036-37	13,151,453	13,758,096	0	0	0	0	20,879,250	11,411,800	0	0	0	0	59,200,599
FY 2037-38	13,399,607	13,667,936	0	0	0	0	0	11,411,000	0	0	0	0	38,478,543
FY 2038-39	13,658,823	13,574,048	0	0	0	0	0	11,414,000	0	0	0	0	38,646,871
FY 2039-40	13,937,832	13,481,016	0	0	0	0	0	0	0	0	0	0	27,418,848
FY 2040-41	0	22,698,216	0	0	0	0	0	0	0	0	0	0	22,698,216
FY 2041-42	0	13,457,728	0	0	0	0	0	0	0	0	0	0	13,457,728
FY 2042-43	0	10,305,640	0	0	0	0	0	0	0	0	0	0	10,305,640
FY 2043-44	0	2,583,168	0	0	0	0	0	0	0	0	0	0	2,583,168
Totals	\$128,176,409	\$265,058,288	\$2,019,050	\$3,735,900	\$8,446,150	\$66,293,250	\$203,461,750	\$205,234,550	\$90,752,500	\$2,356,278	\$174,501,086	\$123,122,250	\$1,273,157,461



Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 4 - Existing Debt

Page 2 of 4

Interest													
	2010A Build	2010C Build	2011A	2012A	2012B	2014A	2015A	2016A	2017A	2018A	2021A	2022A	
Fiscal Year	America	America				Refunding	Refunding	Refunding	Refunding		Refunding	Refunding	
of	Bonds	Bonds											
Payments	Acq./Const.	Acq./Const.				(Partial	(Partial	(Partial	(Remain		(Partial	(2012A and	Total Interest
						2007B)	2007B)	2009A)	2007A)		2011A	Partial 2012B)	per Fiscal Year
FY 2021-22	\$2,984,334	\$6,724,010	\$2,019,050	\$3,735,900	\$276,150	\$2,804,000	\$6,375,500	\$6,524,800	\$3,290,750	\$2,356,278	\$3,374,836	\$0	\$40,465,608
FY 2022-23	2,986,574	6,724,010				2,391,750	6,375,500	6,281,550	3,290,750		6,402,000	4,081,000	38,533,134
FY 2023-24	2,986,574	6,724,010				1,959,000	6,375,500	6,026,050	3,290,750		5,588,500	4,081,000	37,031,384
FY 2024-25	2,986,574	6,724,010				1,504,750	6,375,500	5,757,550	3,290,750		4,732,250	4,081,000	35,452,384
FY 2025-26	2,986,574	6,724,010				1,027,500	6,375,500	5,475,800	3,290,750		3,835,250	4,081,000	33,796,384
FY 2026-27	2,986,574	6,724,010				526,250	6,375,500	5,180,050	3,290,750		2,890,750	4,081,000	32,054,884
FY 2027-28	2,986,574	6,724,010				0	6,375,500	4,869,550	2,535,000		2,661,000	4,081,000	30,232,634
FY 2028-29	2,986,574	6,724,010				0	5,613,500	4,543,300	1,743,500		2,419,750	4,081,000	28,111,634
FY 2029-30	2,986,574	6,724,010				0	4,811,250	4,201,050	914,500		2,166,250	4,081,000	25,884,634
FY 2030-31	2,986,574	6,724,010				0	4,013,000	3,841,550	0		1,900,250	4,081,000	23,546,384
FY 2031-32	2,986,574	6,287,068				0	3,702,250	3,463,050	0		1,620,750	2,956,750	21,016,442
FY 2032-33	2,986,574	5,581,472				0	3,702,250	3,065,550	0		1,327,500	1,816,500	18,479,846
FY 2033-34	2,986,574	4,837,040				0	3,702,250	2,648,050	0		1,019,500	0	15,193,414
FY 2034-35	2,551,056	4,457,232				0	2,843,250	2,210,050	0		696,000	0	12,757,588
FY 2035-36	2,184,416	4,064,528				0	1,941,250	1,749,800	0		356,500	0	10,296,494
FY 2036-37	1,796,453	3,658,096				0	994,250	1,266,800	0		0	0	7,715,599
FY 2037-38	1,384,607	3,237,936				0	0	861,000	0		0	0	5,483,543
FY 2038-39	948,823	2,804,048				0	0	439,000	0		0	0	4,191,871
FY 2039-40	487,832	2,356,016				0	0	0	0		0	0	2,843,848
FY 2040-41	0	1,893,216				0	0	0	0		0	0	1,893,216
FY 2041-42	0	1,027,728				0	0	0	0		0	0	1,027,728
FY 2042-43	0	510,640				0	0	0	0		0	0	510,640
FY 2043-44	0	103,168				0	0	0	0		0	0	103,168
Totals	\$48,176,409	\$108,058,288	\$2,019,050	\$3,735,900	\$276,150	\$10,213,250	\$75,951,750	\$68,404,550	\$24,937,500	\$2,356,278	\$40,991,086	\$41,502,250	\$426,622,461

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 4 - Existing Debt

Page 3 of 4

Principal	2010A Build	2010C Build	2011A	2012A	2012B	2014A	2015A	2016A	2017A	2018A	2021A	2022A	
Fiscal Year	America	America				Refunding	Refunding	Refunding	Refunding		Refunding	Refunding	
of	Bonds	Bonds				(Partial	(Partial	(Partial	(Remain		(Partial 2011A	(2012A and	Total Interest
Payments	Acq./Const.	Acq./Const.				2007B)	2007B)	2009A)	2007A)		and 2018A)	Partial 2012B)	per Fiscal Year
FY 2021-22	\$0	\$0			\$8,170,000	\$8,245,000	\$0	\$4,865,000	\$0		\$5,470,000	\$0	\$26,750,000
FY 2022-23	0	0				8,655,000	0	5,110,000	0		16,270,000	0	\$30,035,000
FY 2023-24	0	0				9,085,000	0	5,370,000	0		17,125,000	0	31,580,000
FY 2024-25	0	0				9,545,000	0	5,635,000	0		17,940,000	0	33,120,000
FY 2025-26	0	0				10,025,000	0	5,915,000	0		18,890,000	0	34,830,000
FY 2026-27	0	0				10,525,000	0	6,210,000	15,115,000		4,595,000	0	36,445,000
FY 2027-28	0	0				0	15,240,000	6,525,000	15,830,000		4,825,000	0	42,420,000
FY 2028-29	0	0				0	16,045,000	6,845,000	16,580,000		5,070,000	0	44,540,000
FY 2029-30	0	0				0	15,965,000	7,190,000	18,290,000		5,320,000	0	46,765,000
FY 2030-31	0	5,735,000				0	6,215,000	7,570,000	0		5,590,000	22,485,000	47,595,000
FY 2031-32	0	17,095,000				0	0	7,950,000	0		5,865,000	22,805,000	53,715,000
FY 2032-33	0	17,895,000				0	0	8,350,000	0		6,160,000	36,330,000	68,735,000
FY 2033-34	9,590,000	9,130,000				0	17,180,000	8,760,000	0		6,470,000	0	51,130,000
FY 2034-35	10,145,000	9,440,000				0	18,040,000	9,205,000	0		6,790,000	0	53,620,000
FY 2035-36	10,735,000	9,770,000				0	18,940,000	9,660,000	0		7,130,000	0	56,235,000
FY 2036-37	11,355,000	10,100,000				0	19,885,000	10,145,000	0		0	0	51,485,000
FY 2037-38	12,015,000	10,430,000				0	0	10,550,000	0		0	0	32,995,000
FY 2038-39	12,710,000	10,770,000				0	0	10,975,000	0		0	0	34,455,000
FY 2039-40	13,450,000	11,125,000				0	0	0	0		0	0	24,575,000
FY 2040-41	0	20,805,000				0	0	0	0		0	0	20,805,000
FY 2041-42	0	12,430,000				0	0	0	0		0	0	12,430,000
FY 2042-43	0	9,795,000				0	0	0	0		0	0	9,795,000
FY 2043-44	0	2,480,000				0	0	0	0		0	0	2,480,000
Totals	\$80,000,000	\$157,000,000				\$56,080,000	\$127,510,000	\$136,830,000	\$65,815,000		\$133,510,000	\$81,620,000	\$846,535,000

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 4 - Existing Debt

Page 4 of 4

Principal Balance													
	2010A Build	2010C Build	2011A	2012A	2012B	2014A	2015A	2016A	2017A	2018A	2021A	2022A	
Fiscal Year	America	America				Refunding	Refunding	Refunding	Refunding		Refunding	Refunding	
of	Bonds	Bonds											
Payments	Acq./Const.	Acq./Const.				(Partial	(Partial	(Partial	(Remain		(Partial 2011A	(2012A and	Total Interest
						2007B)	2007B)	2009A)	2007A)		and 2018A)	Partial 2012B)	per Fiscal Year
FY 2021-22	80,000,000	157,000,000	0	0	8,170,000	56,080,000	127,510,000	136,830,000	65,815,000	0	133,510,000	81,620,000	846,535,000
FY 2022-23	80,000,000	157,000,000	0	0	0	47,835,000	127,510,000	131,965,000	65,815,000	0	128,040,000	81,620,000	819,785,000
FY 2023-24	80,000,000	157,000,000	0	0	0	39,180,000	127,510,000	126,855,000	65,815,000	0	111,770,000	81,620,000	789,750,000
FY 2024-25	80,000,000	157,000,000	0	0	0	30,095,000	127,510,000	121,485,000	65,815,000	0	94,645,000	81,620,000	758,170,000
FY 2025-26	80,000,000	157,000,000	0	0	0	20,550,000	127,510,000	115,850,000	65,815,000	0	76,705,000	81,620,000	725,050,000
FY 2026-27	80,000,000	157,000,000	0	0	0	10,525,000	127,510,000	109,935,000	65,815,000	0	57,815,000	81,620,000	690,220,000
FY 2027-28	80,000,000	157,000,000	0	0	0	0	127,510,000	103,725,000	50,700,000	0	53,220,000	81,620,000	653,775,000
FY 2028-29	80,000,000	157,000,000	0	0	0	0	112,270,000	97,200,000	34,870,000	0	48,395,000	81,620,000	611,355,000
FY 2029-30	80,000,000	157,000,000	0	0	0	0	96,225,000	90,355,000	18,290,000	0	43,325,000	81,620,000	566,815,000
FY 2030-31	80,000,000	157,000,000	0	0	0	0	80,260,000	83,165,000	0	0	38,005,000	81,620,000	520,050,000
FY 2031-32	80,000,000	151,265,000	0	0	0	0	74,045,000	75,595,000	0	0	32,415,000	59,135,000	472,455,000
FY 2032-33	80,000,000	134,170,000	0	0	0	0	74,045,000	67,645,000	0	0	26,550,000	36,330,000	418,740,000
FY 2033-34	80,000,000	116,275,000	0	0	0	0	74,045,000	59,295,000	0	0	20,390,000	0	350,005,000
FY 2034-35	70,410,000	107,145,000	0	0	0	0	56,865,000	50,535,000	0	0	13,920,000	0	298,875,000
FY 2035-36	60,265,000	97,705,000	0	0	0	0	38,825,000	41,330,000	0	0	7,130,000	0	245,255,000
FY 2036-37	49,530,000	87,935,000	0	0	0	0	19,885,000	31,670,000	0	0	0	0	189,020,000
FY 2037-38	38,175,000	77,835,000	0	0	0	0	0	21,525,000	0	0	0	0	137,535,000
FY 2038-39	26,160,000	67,405,000	0	0	0	0	0	10,975,000	0	0	0	0	104,540,000
FY 2039-40	13,450,000	56,635,000	0	0	0	0	0	0	0	0	0	0	70,085,000
FY 2040-41	0	45,510,000	0	0	0	0	0	0	0	0	0	0	45,510,000
FY 2041-42	0	24,705,000	0	0	0	0	0	0	0	0	0	0	24,705,000
FY 2042-43	0	12,275,000	0	0	0	0	0	0	0	0	0	0	12,275,000
FY 2043-44	0	2,480,000	0	0	0	0	0	0	0	0	0	0	2,480,000

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 5 - EDU Definitions

Page 1 of 4

	factor per sqft		% Rate	Revenue	Concentrations			lbs/Year		Gal per Year
	APNs (Parcels)	EDUs			BOD, mgl	SS, mgl	Flow, gpd	BOD	TSS	
000 - CONVERSION-C/I, RURAL PC LIEN DATE	12	9	100.00%	3,144	238	327	175	1,163	1,598	585,479
001 - VACANT LAND PARCEL	6,275	0	0.00%	0	0	0	0	0	0	0
002 - ONE RESIDENCE	451,281	451,297	100.00%	154,794,891	238	327	175	57,255,572.55	78,666,270	28,826,599,599
003 - TWO OR MORE RESIDENCES	8,615	13,257	70.00%	4,547,185	238	327	122	1,172,534.35	1,611,003	590,338,663
004 - MISCELLANEOUS IMPROVEMENTSONLY	1,508	239	100.00%	82,088	238	327	122	21,167.28	29,083	10,657,142
005 - COMMON AREA PARCEL	865	0	0.00%	0	0	0	0	-	0	0
006 - "HOLD" PARCEL	254	0	0.00%	0	0	0	0	-	0	0
007 - MOBILEHOME	19,552	126	50.00%	43,218	238	327	88	8,038.42	11,044	4,047,120
008 - EQUIVALENT TO VACANT	91	0	0.00%	0	0	0	0	-	0	0
010 - DUPLEX ONLY	5,851	8,219	70.00%	2,819,117	238	327	122	726,935.74	998,773	365,992,070
011 - TRIPLEX ONLY	2,333	4,881	70.00%	1,674,269	238	327	122	431,725.89	593,170	217,362,063
012 - 04-UNITS ONLY	6,987	19,502	70.00%	6,689,203	238	327	122	1,724,873.73	2,369,890	868,426,287
013 - APARTMENTS ONLY	4,436	26,317	70.00%	9,026,794	238	327	122	2,327,643.40	3,198,065	1,171,904,171
014 - 17-25 UNITS ONLY	604	8,664	70.00%	2,971,786	238	327	122	766,302.95	1,052,862	385,812,373
015 - 26-40 UNITS ONLY	386	8,632	70.00%	2,960,776	238	327	122	763,463.84	1,048,961	384,382,960
016 - 41-99 UNITS ONLY	628	26,889	70.00%	9,222,824	238	327	122	2,378,191.63	3,267,515	1,197,353,811
017 - 100 OR MORE UNITS	502	63,024	70.00%	21,617,232	238	327	122	5,574,205.88	7,658,678	2,806,458,720
018 - DEVELOPED WITH A MIX OF FORM TYPES	647	5,080	70.00%	1,742,457	238	327	122	449,308.85	617,328	226,214,597
019 - SF WITH 1 OR 2 RENTAL UNITS	50	95	85.00%	32,465	238	327	122	8,371.39	11,502	4,214,765
020 - AMUSEMENT PARKS	35	5,345	144.00%	1,833,229	247	358	239	961,075.71	1,392,976	466,244,004
021 - AUTOMOBILE DEALERSHIP	187	1,467	41.00%	503,054	248	366	68	75,339.21	111,186	36,401,725
022 - AUTO REPAIR SHOP	594	1,245	41.00%	427,114	248	366	68	63,966.19	94,402	30,906,614
023 - AUTOMOTIVE SERVICE	442	1,074	41.00%	368,514	248	366	68	55,190.03	81,450	26,666,227
024 - USED CAR LOT	130	130	41.00%	44,555	248	366	68	6,672.66	9,848	3,224,034
026 - AIRPORT AND RELATED BUILDINGS	145	456	53.00%	156,358	265	314	97	35,693.01	42,293	16,139,495
028 - BOWLING ALLEYS	7	227	112.00%	77,750	676	582	103	48,076.09	41,391	8,521,873
029 - CONVENTIONAL CAR WASH	76	1,054	796.00%	361,617	20	199	2712	174,186.76	1,733,158	1,043,608,868
030 - COIN OPERATED CAR WASH	54	162	151.00%	55,414	20	199	479	4,714.46	46,909	28,245,853
032 - CEMETERY AND RELATED BUILDINGS	63	205	101.00%	70,343	766	1063	68	32,539.05	45,155	5,090,128
033 - CHURCH BUILDINGS	835	2,816	20.00%	965,915	242	349	35	72,655.49	104,780	35,975,403
034 - DORMITORY	16	617	97.00%	211,702	254	328	173	82,613.63	106,682	38,973,608
035 - ENTERTAINMENT CENTER	23	474	144.00%	162,668	247	358	239	85,278.99	123,603	41,371,163

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 5 - EDU Definitions

Page 2 of 4

	factor per sqft				Concentrations			lbs/Year		Gal per Year
	APNs (Parcels)	EDUs	% Rate	Revenue	BOD, mg/l	SS, mg/l	Flow, gpd	BOD	TSS	
036 - FINANCIAL BUILDINGS	237	564	27.00%	193,396	248	366	68	28,963.76	42,745	13,994,453
037 - FRATERNAL BUILDINGS	73	368	51.00%	126,342	249	349	86	24,026.53	33,676	11,562,304
038 - FUNERAL HOME	16	119	101.00%	40,937	766	1063	68	18,936.48	26,279	2,962,260
039 - GOLF COURSE	234	349	41.00%	119,620	248	366	68	17,914.68	26,439	8,655,857
040 - HEALTH CLUB	51	306	29.00%	104,913	174	273	59	9,564.78	15,007	6,586,859
042 - HOSPITAL	45	3,826	97.00%	1,312,215	238	327	175	485,362.37	666,863	244,366,550
043 - HIGH DEMAND HOTEL/MOTEL	77	8,305	97.00%	2,848,710	174	273	195	858,377.20	1,346,764	591,128,009
044 - LUMBER/CONST. MATERIALSYARD	29	54	17.00%	18,677	238	327	31	1,223.74	1,681	616,118
045 - MARINAS	101	34	53.00%	11,586	265	314	97	2,644.79	3,134	1,195,908
047 - SUPERMARKET	116	4,467	151.00%	1,532,293	768	1057	103	1,076,431.78	1,481,495	167,949,185
048 - CONVENIENCE MARKET	140	581	151.00%	199,444	248	366	68	29,869.49	44,082	14,432,075
050 - SINGLE MEDICAL BLDGS TO 3 STORIES	961	5,504	124.00%	1,888,028	248	360	205	852,432.61	1,237,402	411,870,781
051 - SMALL MEDICAL CENTER	28	429	124.00%	147,155	248	360	205	66,439.64	96,445	32,101,714
052 - MEDICAL CENTER COMPLEX	29	1,413	124.00%	484,707	248	360	205	218,842.34	317,674	105,738,288
053 - HIGH RISE MEDICAL	58	2,284	124.00%	783,384	248	360	205	353,693.12	513,426	170,894,288
054 - CONVERTED RESIDENCE TO MED OFFICE	32	72	124.00%	24,589	248	360	205	11,101.79	16,116	5,364,065
055 - MOBILEHOME PARK	328	12,200	50.00%	4,184,429	254	328	90	849,490.47	1,096,980	400,753,575
056 - LOW DEMAND HOTEL/MOTEL	354	12,184	70.00%	4,179,073	174	273	195	1,259,244.30	1,975,711	867,188,194
057 - MOTORCYCLE/SMALL VEHICLEBLDGS	11	23	41.00%	7,954	248	366	68	1,191.23	1,758	575,567
058 - NURSERIES	31	26	10.00%	8,918	256	390	16	324.39	494	151,840
060 - NURSING HOME	48	1,488	102.00%	510,434	249	355	179	202,040.15	288,049	97,227,909
061 - CONVALESCENT HOSPITALS	65	1,916	102.00%	657,289	249	355	171	248,540.95	354,346	119,605,519
062 - CONVERTED RES USED ASNURSING HOME	19	81	102.00%	27,658	249	355	179	10,947.68	15,608	5,268,359
063 - LOW RISE RETIREMENT BUILDING(S)	41	1,544	70.00%	529,610	174	273	195	159,582.88	250,380	109,897,970
064 - HIGH RISE RETIREMENT BUILDING(S)	29	766	70.00%	262,681	174	273	195	79,151.30	124,186	54,508,149
065 - SINGLE OFFICE BLDGS TO 3STORIES	3,507	16,473	41.00%	5,650,085	248	357	69	858,621.71	1,236,000	414,861,175
066 - SMALL OFFICE CENTER	152	1,522	41.00%	522,199	248	357	69	79,356.59	114,235	38,342,807
067 - OFFICE COMPLEX	70	937	41.00%	321,378	248	357	69	48,838.55	70,304	23,597,377
068 - HIGH RISE OFFICE	191	6,226	30.00%	2,135,504	248	357	69	324,524.37	467,158	156,800,789
069 - CONVERTED RESIDENCE TOOFFICE	309	327	41.00%	112,275	248	357	69	17,061.96	24,561	8,243,846
071 - PARKING GARAGE	66	56	17.00%	19,208	254	328	31	1,343.14	1,734	633,639
072 - PAVED PARKING LOT	876	5	17.00%	1,784	254	328	31	124.73	161	58,840
073 - RECREATION	44	552	143.00%	189,492	247	358	239	99,341.56	143,985	48,193,296

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 5 - EDU Definitions

Page 3 of 4

	factor per sqft		% Rate	Revenue	Concentrations			lbs/Year		Gal per Year
	APNs (Parcels)	EDUs			BOD, mg/l	SS, mg/l	Flow, gpd	BOD	TSS	
074 - RECREATION VEHICLE PARK	8	1	27.00%	343	356	403	38	41.21	47	13,870
076 - RESTAURANT - LOW DEMAND	543	5,341	300.00%	1,831,846	553	402	331	2,977,749.48	2,164,657	645,231,612
077 - RESTAURANT - COFFEE SHOP	397	6,557	600.00%	2,249,163	553	402	662	7,312,237.31	5,315,587	1,584,447,148
078 - RESTAURANT - DINNER HOUSE	206	6,078	600.00%	2,084,639	553	402	662	6,777,352.77	4,926,756	1,468,546,057
079 - RESTAURANT - CONVERSION FROM SFR	5	47	600.00%	16,188	553	402	662	52,629.42	38,259	11,403,971
081 - PRE-SCHOOLS, NURSERY ORCHILDCARE	148	642	82.00%	220,151	254	328	138	68,529.77	88,495	32,329,440
082 - PRIVATE SCHOOLS	145	4,486	82.00%	1,538,764	254	328	138	478,995.11	618,545	225,969,580
083 - AUTOMOTIVE SERVICE STATION	244	257	41.00%	88,218	248	366	68	13,211.84	19,498	6,383,580
084 - MARINE SERVICE STATION	1	1	41.00%	343	248	366	68	51.37	76	24,820
085 - COMBIN:SERVICESTATION/RESTAURANT	4	44	100.00%	15,009	248	366	68	2,247.80	3,317	1,086,073
086 - COMBIN:SERVICESTATION/CONVENIENCE	229	231	41.00%	79,225	248	366	68	11,865.07	17,511	5,732,856
088 - LOW DEMAND CENTER	770	7,834	53.00%	2,686,982	577	529	55	757,267.72	694,271	157,262,887
089 - AVERAGE DEMAND CENTER	677	21,669	139.00%	7,432,460	577	529	138	5,255,736.81	4,818,518	1,091,466,490
090 - HIGH FLOW CENTER	1,063	32,423	226.00%	11,121,253	577	529	224	12,765,083.87	11,703,170	2,650,943,491
092 - SKATING RINKS	5	212	112.00%	72,754	676	582	103	44,986.84	38,731	7,974,279
094 - DEPARTMENT STORE	41	1,048	23.00%	359,378	248	366	38	30,076.85	44,388	14,532,263
095 - DISCOUNT STORE	72	1,019	23.00%	349,570	248	366	38	29,256.07	43,176	14,135,686
096 - UNATTACHED SINGLE STORE	1,144	2,344	23.00%	803,959	248	366	38	67,284.53	99,299	32,509,938
097 - STRIP STORE	243	494	23.00%	169,460	248	366	38	14,182.39	20,930	6,852,520
098 - STORE WITH OFFICES OR LIVING UNITS	750	2,316	82.00%	794,391	254	328	138	247,282.34	319,325	116,657,322
099 - STORE WITH OFFICES UPSTAIRS	44	305	82.00%	104,533	254	328	138	32,539.73	42,020	15,350,863
100 - DRIVE-IN THEATER			10.00%		256	390	16	-	0	0
101 - UNATTACHED THEATER	27	278	51.00%	95,367	249	349	86	18,135.94	25,419	8,727,568
103 - CHEMICAL TANK AND BULKSTORAGE	1	1	100.00%	494	238	327	175	182.69	251	91,980
104 - FOOD PROCESSING PLANT	26	1,630	100.00%	559,226	238	327	175	206,846.60	284,197	104,141,549
105 - COLD STORAGE PLANT	7	259	100.00%	88,989	238	327	175	32,915.39	45,224	16,571,989
106 - FACTORY	31	760	100.00%	260,631	238	327	175	96,402.24	132,452	48,535,866
107 - LIGHT INDUSTRIAL - SINGLETENANT	1,664	16,676	50.00%	5,719,715	238	327	52	628,638.28	863,717	316,502,012
108 - LIGHT INDUSTRIAL - MULTI TENANT	690	6,475	50.00%	2,220,801	238	327	52	244,082.13	335,357	122,888,614
109 - RESEARCH AND DEVELOPMENT	28	552	50.00%	189,399	238	327	52	20,816.28	28,601	10,480,424
110 - WAREHOUSE - SINGLE TENANT	3,574	14,164	17.00%	4,858,336	530	572	17	388,739.33	419,545	87,889,142
111 - WAREHOUSE - MULTI TENANT	1,804	5,380	17.00%	1,845,493	530	572	17	147,666.94	159,369	33,385,664
112 - STEEL BUILDING	116	179	7.00%	61,507	530	572	7	2,026.48	2,187	458,162

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 5 - EDU Definitions

Page 4 of 4

	factor per sqft		% Rate	Revenue	Concentrations			lbs/Year		Gal per Year
	APNs (Parcels)	EDUs			BOD, mgl	SS, mgl	Flow, gpd	BOD	TSS	
113 - MINI-WAREHOUSE	167	707	7.00%	242,358	530	572	7	7,985.06	8,618	1,805,323
114 - INDUSTRIAL PARK	703	7,295	50.00%	2,502,070	238	327	52	274,995.73	377,830	138,452,758
115 - RECREATIONAL VEHICLE STORAGE YARD	12	16	17.00%	5,322	530	572	17	425.85	460	96,280
116 - TRUCK TERMINAL	20	280	17.00%	96,053	530	572	17	7,685.66	8,295	1,737,633
118 - GOVERNMENTAL USE/VACANT/DEVELOPED	7,512	5,577	82.00%	1,913,026	248	357	137	577,217.14	830,913	278,894,626
119 - PUBLIC UTILITY	50	53	100.00%	18,247	238	327	175	6,749.05	9,273	3,397,960
120 - WATER MUTUAL OR COMPANY	22	139	100.00%	47,525	238	327	175	17,578.45	24,152	8,850,265
121 - PARCEL OF MINIMAL OR NO VALUE	1,251	0	0.00%	0			0	-	0	0
122 - SUBSURFACE PARCELS	18	0	0.00%	0			0	-	0	0
124 - OIL/MINERAL RIGHTS	9	0	0.00%	0			0	-	0	0
125 - MINERAL RIGHTS EQUIPMENT							0	-	0	0
126 - VACANT COMMON AREA-IMPSALLOCATED	20	0	0.00%	0			0	-	0	0
127 -							0	-	0	0
128 -					260	270	3825	-	0	0
222 - OFFICE CONDO W/OUT INDIVIDUAL BATHROOMS	6	0	21.00%	0				-	0	0
223 - LAUNDROMAT			1800.00%							
224 - NIGHTCLUB	59	667	200.00%	228,937	288	274	350	204,938.40	194,976	85,267,486
225 - UNITED STATES POST OFFICE	39	363	35.00%	124,572	405	354		-	0	0
333 - IRVINE RANCH WATER DISTRICT	6,489	0	0.00%	0				-	0	0
555 - OPEN AIR FACILITIES	1	0	1133.00%	0				-	0	0
666 - UNASSIGNED VACANT	317	0	0.00%	0			0	-	0	0
777 - SEPTIC TANK	1,832	0	0.00%	0				-	0	0
888 - CONVERSION-COMPOSITE PROPERTY	13	1	100.00%	343	206	219	253	158.76	169	92,345
999 - Manually Calculated Fee	1,514	31,803	100.00%	10,908,514				0	0	0
Total	556,613	923,111		\$316,627,199				123,424,683	151,870,431	52,333,583,290
Total per Day lbs and Gallons								338,150	416,083	143,379,680
Total per mg and liter								55,984,494,456,898	68,887,268,582,863	198,104,162,676
Total per EDU ( mg/L, GPD)								283	348	143

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 6 - Revenue at Present Rates

Page 1 of 5

		EDU Forecast										
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
000 - CONVERSION-C/I, RURAL PC LIEN DATE	9	9	9	9	9	9	9	9	9	9	9	9 As General Users
001 - VACANT LAND PARCEL	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
002 - ONE RESIDENCE	451,297	451,297	451,599	452,954	454,313	455,676	457,043	458,414	459,790	461,169	462,552	463,940 As General Users
003 - TWO OR MORE RESIDENCES	13,257	13,257	13,266	13,306	13,346	13,386	13,426	13,466	13,507	13,547	13,588	13,628 As General Users
004 - MISCELLANEOUS IMPROVEMENTSONLY	239	239	239	240	241	242	242	243	244	245	245	246 As General Users
005 - COMMON AREA PARCEL	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
006 - "HOLD" PARCEL	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
007 - MOBILEHOME	126	126	126	126	127	127	128	128	128	129	129	130 As General Users
008 - EQUIVALENT TO VACANT	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
010 - DUPLEX ONLY	8,219	8,219	8,225	8,249	8,274	8,299	8,324	8,349	8,374	8,399	8,424	8,449 As General Users
011 - TRIPLEX ONLY	4,881	4,881	4,885	4,899	4,914	4,929	4,943	4,958	4,973	4,988	5,003	5,018 As General Users
012 - 04-UNITS ONLY	19,502	19,502	19,515	19,574	19,632	19,691	19,750	19,810	19,869	19,929	19,988	20,048 As General Users
013 - APARTMENTS ONLY	26,317	26,317	26,335	26,414	26,493	26,573	26,652	26,732	26,812	26,893	26,974	27,054 As General Users
014 - 17-25 UNITS ONLY	8,664	8,664	8,670	8,696	8,722	8,748	8,774	8,801	8,827	8,854	8,880	8,907 As General Users
015 - 26-40 UNITS ONLY	8,632	8,632	8,638	8,664	8,690	8,716	8,742	8,768	8,794	8,821	8,847	8,874 As General Users
016 - 41-99 UNITS ONLY	26,889	26,889	26,907	26,987	27,068	27,150	27,231	27,313	27,395	27,477	27,559	27,642 As General Users
017 - 100 OR MORE UNITS	63,024	63,024	63,066	63,255	63,445	63,636	63,826	64,018	64,210	64,403	64,596	64,790 As General Users
018 - DEVELOPED WITH A MIX OF FORM TYPES	5,080	5,080	5,083	5,099	5,114	5,129	5,145	5,160	5,176	5,191	5,207	5,222 As General Users
019 - SF WITH 1 OR 2 RENTAL UNITS	95	95	95	95	95	96	96	96	96	97	97	97 As General Users
020 - AMUSEMENT PARKS	5,345	5,345	5,348	5,364	5,380	5,397	5,413	5,429	5,445	5,462	5,478	5,494 As General Users
021 - AUTOMOBILE DEALERSHIP	1,467	1,467	1,468	1,472	1,476	1,481	1,485	1,490	1,494	1,499	1,503	1,508 As General Users
022 - AUTO REPAIR SHOP	1,245	1,245	1,246	1,250	1,254	1,257	1,261	1,265	1,269	1,272	1,276	1,280 As General Users
023 - AUTOMOTIVE SERVICE	1,074	1,074	1,075	1,078	1,082	1,085	1,088	1,091	1,095	1,098	1,101	1,104 As General Users
024 - USED CAR LOT	130	130	130	130	131	131	132	132	132	133	133	134 As General Users
026 - AIRPORT AND RELATED BUILDINGS	456	456	456	458	459	460	462	463	464	466	467	469 As General Users
028 - BOWLING ALLEYS	227	227	227	228	228	229	230	230	231	232	232	233 As General Users
029 - CONVENTIONAL CAR WASH	1,054	1,054	1,055	1,058	1,061	1,065	1,068	1,071	1,074	1,077	1,081	1,084 As General Users
030 - COIN OPERATED CAR WASH	162	162	162	162	163	163	164	164	165	165	166	166 As General Users
032 - CEMETERY AND RELATED BUILDINGS	205	205	205	206	206	207	208	208	209	210	210	211 As General Users
033 - CHURCH BUILDINGS	2,816	2,816	2,818	2,826	2,835	2,843	2,852	2,860	2,869	2,878	2,886	2,895 As General Users
034 - DORMITORY	617	617	618	619	621	623	625	627	629	631	633	634 As General Users
035 - ENTERTAINMENT CENTER	474	474	475	476	477	479	480	482	483	485	486	488 As General Users
036 - FINANCIAL BUILDINGS	564	564	564	566	568	569	571	573	574	576	578	580 As General Users
037 - FRATERNAL BUILDINGS	368	368	369	370	371	372	373	374	375	376	378	379 As General Users
038 - FUNERAL HOME	119	119	119	120	120	121	121	121	122	122	122	123 As General Users



Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 6 - Revenue at Present Rates

Page 2 of 5

		EDU Forecast										
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
039 - GOLF COURSE	349	349	349	350	351	352	353	354	355	356	357	359 As General Users
040 - HEALTH CLUB	306	306	306	307	308	309	310	311	312	313	313	314 As General Users
042 - HOSPITAL	3,826	3,826	3,828	3,840	3,851	3,863	3,874	3,886	3,898	3,909	3,921	3,933 As General Users
043 - HIGH DEMAND HOTEL/MOTEL	8,305	8,305	8,311	8,336	8,361	8,386	8,411	8,436	8,462	8,487	8,512	8,538 As General Users
044 - LUMBER/CONST. MATERIALSYARD	54	54	54	55	55	55	55	55	55	56	56	56 As General Users
045 - MARINAS	34	34	34	34	34	34	34	34	34	35	35	35 As General Users
047 - SUPERMARKET	4,467	4,467	4,470	4,484	4,497	4,511	4,524	4,538	4,551	4,565	4,579	4,592 As General Users
048 - CONVENIENCE MARKET	581	581	582	584	585	587	589	591	592	594	596	598 As General Users
050 - SINGLE MEDICAL BLDGS TO 3 STORIES	5,504	5,504	5,508	5,525	5,541	5,558	5,575	5,591	5,608	5,625	5,642	5,659 As General Users
051 - SMALL MEDICAL CENTER	429	429	429	431	432	433	434	436	437	438	440	441 As General Users
052 - MEDICAL CENTER COMPLEX	1,413	1,413	1,414	1,418	1,423	1,427	1,431	1,435	1,440	1,444	1,448	1,453 As General Users
053 - HIGH RISE MEDICAL	2,284	2,284	2,285	2,292	2,299	2,306	2,313	2,320	2,327	2,334	2,341	2,348 As General Users
054 - CONVERTED RESIDENCE TO MED OFFICE	72	72	72	72	72	72	73	73	73	73	73	74 As General Users
055 - MOBILEHOME PARK	12,200	12,200	12,208	12,244	12,281	12,318	12,355	12,392	12,429	12,466	12,504	12,541 As General Users
056 - LOW DEMAND HOTEL/MOTEL	12,184	12,184	12,192	12,229	12,265	12,302	12,339	12,376	12,413	12,450	12,488	12,525 As General Users
057 - MOTORCYCLE/SMALL VEHICLEBLDGS	23	23	23	23	23	23	23	24	24	24	24	24 As General Users
058 - NURSERIES	26	26	26	26	26	26	26	26	26	27	27	27 As General Users
060 - NURSING HOME	1,488	1,488	1,489	1,494	1,498	1,503	1,507	1,512	1,516	1,521	1,525	1,530 As General Users
061 - CONVALESCENT HOSPITALS	1,916	1,916	1,918	1,923	1,929	1,935	1,941	1,947	1,952	1,958	1,964	1,970 As General Users
062 - CONVERTED RES USED ASNURSING HOME	81	81	81	81	81	81	82	82	82	82	83	83 As General Users
063 - LOW RISE RETIREMENT BUILDING(S)	1,544	1,544	1,545	1,550	1,554	1,559	1,564	1,568	1,573	1,578	1,583	1,587 As General Users
064 - HIGH RISE RETIREMENT BUILDING(S)	766	766	766	769	771	773	776	778	780	783	785	787 As General Users
065 - SINGLE OFFICE BLDGS TO 3STORIES	16,473	16,473	16,484	16,533	16,583	16,632	16,682	16,732	16,783	16,833	16,883	16,934 As General Users
066 - SMALL OFFICE CENTER	1,522	1,522	1,523	1,528	1,533	1,537	1,542	1,546	1,551	1,556	1,560	1,565 As General Users
067 - OFFICE COMPLEX	937	937	938	940	943	946	949	952	955	957	960	963 As General Users
068 - HIGH RISE OFFICE	6,226	6,226	6,230	6,249	6,268	6,286	6,305	6,324	6,343	6,362	6,381	6,400 As General Users
069 - CONVERTED RESIDENCE TOOFFICE	327	327	328	329	330	331	331	332	333	334	335	337 As General Users
071 - PARKING GARAGE	56	56	56	56	56	57	57	57	57	57	57	58 As General Users
072 - PAVED PARKING LOT	5	5	5	5	5	5	5	5	5	5	5	5 As General Users
073 - RECREATION	552	552	553	554	556	558	559	561	563	565	566	568 As General Users
074 - RECREATION VEHICLE PARK	1	1	1	1	1	1	1	1	1	1	1	1 As General Users
076 - RESTAURANT - LOW DEMAND	5,341	5,341	5,344	5,360	5,376	5,392	5,409	5,425	5,441	5,457	5,474	5,490 As General Users
077 - RESTAURANT - COFFEE SHOP	6,557	6,557	6,562	6,581	6,601	6,621	6,641	6,661	6,681	6,701	6,721	6,741 As General Users
078 - RESTAURANT - DINNER HOUSE	6,078	6,078	6,082	6,100	6,118	6,137	6,155	6,174	6,192	6,211	6,229	6,248 As General Users
079 - RESTAURANT - CONVERSION FROM SFR	47	47	47	47	48	48	48	48	48	48	48	49 As General Users
081 - PRE-SCHOOLS, NURSERY ORCHILDCARE	642	642	642	644	646	648	650	652	654	656	658	660 As General Users

Orange County Sanitation District  
Cost of Service Rate Study  
Revenue Requirement  
Exhibit 6 - Revenue at Present Rates

Page 3 of 5

		EDU Forecast										
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
082 - PRIVATE SCHOOLS	4,486	4,486	4,489	4,503	4,516	4,530	4,543	4,557	4,571	4,584	4,598	4,612 As General Users
083 - AUTOMOTIVE SERVICE STATION	257	257	257	258	259	260	260	261	262	263	264	264 As General Users
084 - MARINE SERVICE STATION	1	1	1	1	1	1	1	1	1	1	1	1 As General Users
085 - COMBIN:SERVICESTATION/RESTAURANT	44	44	44	44	44	44	44	44	45	45	45	45 As General Users
086 - COMBIN:SERVICESTATION/CONVENIENCE	231	231	231	232	233	233	234	235	235	236	237	237 As General Users
088 - LOW DEMAND CENTER	7,834	7,834	7,839	7,863	7,886	7,910	7,934	7,957	7,981	8,005	8,029	8,053 As General Users
089 - AVERAGE DEMAND CENTER	21,669	21,669	21,684	21,749	21,814	21,879	21,945	22,011	22,077	22,143	22,209	22,276 As General Users
090 - HIGH FLOW CENTER	32,423	32,423	32,445	32,543	32,640	32,738	32,836	32,935	33,034	33,133	33,232	33,332 As General Users
092 - SKATING RINKS	212	212	212	213	214	214	215	215	216	217	217	218 As General Users
094 - DEPARTMENT STORE	1,048	1,048	1,048	1,052	1,055	1,058	1,061	1,064	1,067	1,071	1,074	1,077 As General Users
095 - DISCOUNT STORE	1,019	1,019	1,020	1,023	1,026	1,029	1,032	1,035	1,038	1,041	1,045	1,048 As General Users
096 - UNATTACHED SINGLE STORE	2,344	2,344	2,345	2,353	2,360	2,367	2,374	2,381	2,388	2,395	2,402	2,410 As General Users
097 - STRIP STORE	494	494	494	496	497	499	500	502	503	505	506	508 As General Users
098 - STORE WITH OFFICES OR LIVING UNITS	2,316	2,316	2,318	2,325	2,331	2,338	2,345	2,353	2,360	2,367	2,374	2,381 As General Users
099 - STORE WITH OFFICES UPSTAIRS	305	305	305	306	307	308	309	310	310	311	312	313 As General Users
101 - UNATTACHED THEATER	278	278	278	279	280	281	282	282	283	284	285	286 As General Users
103 - CHEMICAL TANK AND BULKSTORAGE	1	1	1	1	1	1	1	1	1	1	1	1 As General Users
104 - FOOD PROCESSING PLANT	1,630	1,630	1,631	1,636	1,641	1,646	1,651	1,656	1,661	1,666	1,671	1,676 As General Users
105 - COLD STORAGE PLANT	259	259	260	260	261	262	263	264	264	265	266	267 As General Users
106 - FACTORY	760	760	760	763	765	767	770	772	774	776	779	781 As General Users
107 - LIGHT INDUSTRIAL - SINGLETENANT	16,676	16,676	16,687	16,737	16,787	16,837	16,888	16,939	16,989	17,040	17,091	17,143 As General Users
108 - LIGHT INDUSTRIAL - MULTI TENANT	6,475	6,475	6,479	6,498	6,518	6,537	6,557	6,577	6,596	6,616	6,636	6,656 As General Users
109 - RESEARCH AND DEVELOPMENT	552	552	553	554	556	558	559	561	563	564	566	568 As General Users
110 - WAREHOUSE - SINGLE TENANT	14,164	14,164	14,174	14,216	14,259	14,302	14,345	14,388	14,431	14,474	14,518	14,561 As General Users
111 - WAREHOUSE - MULTI TENANT	5,380	5,380	5,384	5,400	5,416	5,433	5,449	5,465	5,482	5,498	5,515	5,531 As General Users
112 - STEEL BUILDING	179	179	179	180	181	181	182	182	183	183	184	184 As General Users
113 - MINI-WAREHOUSE	707	707	707	709	711	713	716	718	720	722	724	726 As General Users
114 - INDUSTRIAL PARK	7,295	7,295	7,300	7,321	7,343	7,365	7,388	7,410	7,432	7,454	7,477	7,499 As General Users
115 - RECREATIONAL VEHICLE STORAGE YARD	16	16	16	16	16	16	16	16	16	16	16	16 As General Users
116 - TRUCK TERMINAL	280	280	280	281	282	283	284	284	285	286	287	288 As General Users
118 - GOVERNMENTAL USEVACANT/DEVELOPED	5,577	5,577	5,581	5,598	5,615	5,631	5,648	5,665	5,682	5,699	5,716	5,734 As General Users
119 - PUBLIC UTILITY	53	53	53	53	54	54	54	54	54	54	55	55 As General Users
120 - WATER MUTUAL OR COMPANY	139	139	139	139	139	140	140	141	141	142	142	142 As General Users
121 - PARCEL OF MINIMAL OR NO VALUE	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
122 - SUBSURFACE PARCELS	0	0	0	0	0	0	0	0	0	0	0	0 As General Users

		EDU Forecast										
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
124 - OIL/MINERAL RIGHTS	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
126 - VACANT COMMON AREA-IMPSALLOCATED	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
222 - OFFICE CONDO W/OUT INDIVIDUAL BATHROOMS	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
223 - LAUNDROMAT	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
224 - NIGHTCLUB	667	667	668	670	672	674	676	678	680	682	684	686 As General Users
225 - UNITED STATES POST OFFICE	363	363	363	365	366	367	368	369	370	371	372	373 As General Users
333 - IRVINE RANCH WATER DISTRICT	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
555 - OPEN AIR FACILITIES	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
666 - UNASSIGNED VACANT	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
777 - SEPTIC TANK	0	0	0	0	0	0	0	0	0	0	0	0 As General Users
888 - CONVERSION-COMPOSITE PROPERTY	1	1	1	1	1	1	1	1	1	1	1	1 As General Users
999 - Manually Calculated Fee	31,803	31,803	31,825	31,920	32,016	32,112	32,208	32,305	32,402	32,499	32,596	32,694 As General Users
Total EDUs	923,111	923,111	923,730	926,501	929,281	932,069	934,865	937,669	940,482	943,304	946,134	948,972
	924944	920967	923730	926501	929281	932069	934865	937670				
APN and Permittee Summary												
General Users	556,619	556,619	556,992	558,663	560,339	562,020	563,706	565,397	567,093	568,795	570,501	572,213 As General Users
Permitted Users	308	308	308	309	310	311	312	313	314	315	316	317 As General Users
Total APN and Permittees	556,927	556,927	557,300	558,972	560,649	562,331	564,018	565,710	567,407	569,109	570,817	572,529
	2020-21	2021-22										
General Users												
General User Rate \$/EDU	\$343	\$347	347									
General User Revenue	\$316,627,199	\$320,319,644	\$320,534,310	\$321,495,913	\$322,460,401	\$323,427,782	\$324,398,065	\$325,371,259	\$326,347,373	\$327,326,415	\$328,308,395	\$329,293,320
Less Assumed Rebates	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000)	(12,000,000) As Flat
Net General User Revenue	\$304,627,199	\$308,319,644	\$308,534,310	\$309,495,913	\$310,460,401	\$311,427,782	\$312,398,065	\$313,371,259	\$314,347,373	\$315,326,415	\$316,308,395	\$317,293,320

Orange County Sanitation District  
 Cost of Service Rate Study  
 Revenue Requirement  
 Exhibit 6 - Revenue at Present Rates

Page 5 of 5

		EDU Forecast										
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
<b>Permit User</b>												
Flow - \$/1,000,000 Gallons	\$1,545.35	\$1,601.28										
BOD - \$/1,000 lbs	\$664.69	\$667.99										
SS - \$/1,000 lbs	\$756.86	\$777.00										
Million Gallons of Flow	2,806.05	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806 As Flat
Thousand lbs of BOD	11,450.13	11,450	11,450	11,450	11,450	11,450	11,450	11,450	11,450	11,450	11,450	11,450 As Flat
Thousand lbs of SS	2,651.91	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652 As Flat
	13,954,229	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366	14,202,366
Property Tax Credit	0	0	0	0	0	0	0	0	0	0	0	0 As Property Tax
<b>Net Permit User Revenue</b>	<b>\$13,954,229</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>	<b>\$14,202,366</b>
<b>Wastehauler</b>												
<b>Inside OCSAN Boundries</b>												
# of Discharges	7150	7,171	5,145	5,145	5,145	5,145	5,145	5,145	5,145	5,145	5,145	5,145 As Wastehaulers
Inside OCSAN - \$/Gallon	\$0.08	\$0.09										
Gallons	10,823,720	10,856,191	7,788,238	7,788,238	7,788,238	7,788,238	7,788,238	7,788,238	7,788,238	7,788,238	7,788,238	7,788,238 As Wastehaulers
Inside OCSAN Wastehauler Revenue	865,898	977,057	700,941	700,941	700,941	700,941	700,941	700,941	700,941	700,941	700,941	700,941
<b>Outside OCSAN Boundries</b>												
# of Discharges	790	792	568	568	568	568	568	568	568	568	568	568 As Wastehaulers
Outside OCSAN - \$/Gallon	\$0.18	\$0.20										
Gallons	757,547	759,820	545,095	545,095	545,095	545,095	545,095	545,095	545,095	545,095	545,095	545,095 As Wastehaulers
Outside OCSAN Wastehauler Revenue	136,358	151,964	109,019	109,019	109,019	109,019	109,019	109,019	109,019	109,019	109,019	109,019
<b>Total Wastehauler Revenue</b>	<b>\$1,002,256</b>	<b>\$1,129,021</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>	<b>\$809,960</b>

Orange County Sanitation District  
Cost of Service Rate Study  
Development of Distribution Factors  
Exhibit 7 - Volume Distribution Factor

Page 1 of 2

Customer Class	FY 2023-24 Annual Flow (1,000 Gal)	4.0% Inflow and Infiltration <sup>[1]</sup>	Total Annual Flow at Plant (1,000 Gal)	Avg. Daily Flow At Plant (MGD)	Volume All % of Total	Volume -WH % of Total
General Users	52,560,962	3,153,658	55,714,620	152.64	94.92%	94.93%
Permitted Users	2,806,046	168,363	2,974,409	8.15	5.07%	5.07%
Wastehaulers	8,333	167	8,500	0.02	0.01%	
Total Billed Volume	55,375,341	3,322,187	58,697,528	160.82	100.00%	100.00%
IRWD	2,075,755	41,515	2,117,270	5.80		
SAWPA	5,110,000	102,200	5,212,200	14.28		
Total Including IRWD and SAWPA	62,561,096	3,465,902	66,026,998	180.90		
Inflow Volume At Treatment Plants [2]			65,948,000	180.68		
Distribution Factor					(VOL-1)	(VOL-2)
[1] Inflow and Infiltration assigned to General and Permitted Users. All customers attributed 2% for Urban Dry Weather Runoff						
[2] 2021 data from P1-P2 Influent.xlsx File Provided by OC San						
[3] 2021 Avg Daily Flow in MGD, contract capacity = 17 MGD						
Urban Dry Weather Run Off	1,350,500	0	1,350,500	3.70	2.1%	

Orange County Sanitation District  
Cost of Service Rate Study  
Development of Distribution Factors  
Exhibit 8 - Strength Distribution Factors

Page 2 of 2

Customer Class	Biological Oxygen Demand			
	Daily Flow (MGD)	Avg. Factor (mg/l)	Calculated Pounds <sup>[1]</sup>	% of Total
General Users	152.64	283	131,313,501	91.8%
Permitted Users	8.15	461	11,450,126	8.0%
Wastehaulers	0.02	5,000	354,450	0.2%
Totals	160.82	292	143,118,077	1.00
IRWD	5.80	138	2,436,809	1.7%
SAWPA	14.28	39	1,709,665	1.2%
	180.90	267	147,264,551	
Concentration At Treatment Plant [2]	180.68	262	144,216,821	
Distribution Factor				(BOD)

Total Suspended Solids		
Avg. Factor (mg/l)	Calculated Pounds <sup>[1]</sup>	% of Total
348	161,577,388	98.2%
107	2,651,906	1.6%
5,000	354,450	0.2%
336	164,583,744	100.00%
170	3,001,866	1.8%
93	4,027,037	2.4%
311	171,612,647	
318	174,710,659	
		(TSS)

[1]

[2] 2021 data from P1-P2 Influent.xlsx File Provided by OC San

Description	6/30/2020	Volume All	Volume -WH	Wastewater Concentration		Basis of Classification
				Biological Oxygen Demand	Total Suspended Solids	
		(VOL-1)	(VOL-2)	(BOD)	(TSS)	
<b>Original Cost</b>						
<b>Treatment Plant Structures and Improvement</b>						
Structures and Improvements	\$345,477,114	\$121,173,840	\$0	\$116,809,403	\$107,493,871	As Treatment Less Interplant Collection
Electrical	47,006,877	16,487,355	0	15,893,514	14,626,008	As Treatment Less Interplant Collection
Land	35,317,555	12,387,402	0	11,941,233	10,988,921	As Treatment Less Interplant Collection
Ground Water Replenishment System	208,568,242	208,568,242	0	0	0	100% (VOL-1)
Total - Treatment Plant Structures and Improvement	\$636,369,788	\$358,616,839	\$0	\$144,644,149	\$133,108,801	
<b>Wastewater Treatment</b>						
Pretreatment	\$5,434,618	\$4,075,963	\$0	\$271,731	\$1,086,924	Headworks
Headworks	35,943,851	26,957,888	0	1,797,193	7,188,770	Headworks
Influent Metering and Diversion	34,714,461	26,035,846	0	1,735,723	6,942,892	Headworks
Bar Screen	115,103,066	86,327,299	0	5,755,153	23,020,613	Headworks
Blower	45,588,757	34,191,568	0	2,279,438	9,117,751	Headworks
Boiler	8,967,007	8,070,306	0	896,701	0	Interplant
Foul Air Scrubber	117,949,630	88,462,223	0	5,897,482	23,589,926	Headworks
Air Quality	14,136,779	10,602,584	0	706,839	2,827,356	Headworks
Wet Well	144,717	108,538	0	7,236	28,943	Headworks
Grit Removal	62,903,321	47,177,491	0	3,145,166	12,580,664	Headworks
Primary Basin	72,138,907	0	0	21,641,672	50,497,235	Primary Sedimentation
Secondary Basin	2,425,324	0	0	1,697,726	727,597	Secondary Sedimentation
Digester	206,792,971	0	0	51,698,243	155,094,728	Digestion
Primary Clarifiers	150,783,220	0	0	45,234,966	105,548,254	Primary Sedimentation
Secondary Clarifiers	182,700,680	0	0	127,890,476	54,810,204	Secondary Sedimentation
Trickling Filter	136,815,816	0	0	136,815,816	0	Trickling Filters
Aeration Basin	124,727,870	0	0	124,727,870	0	Aeration Equipment and Structures
Chemical Feed System	14,469,082	0	0	3,617,270	10,851,811	Sludge Thickening
Polymer Feed	2,017,438	0	0	504,360	1,513,079	Sludge Thickening
Chlorination	5,093,783	0	0	1,273,446	3,820,337	Sludge Thickening
Sludge Handling	56,844,197	0	0	14,211,049	42,633,148	Sludge Thickening
Belt Press	7,187,547	0	0	1,796,887	5,390,660	Sludge Thickening
Solids Handling	19,565,030	0	0	4,891,257	14,673,772	Solids Handling
Effluent Distribution	103,072,258	103,072,258	0	0	0	Effluent Disposal
Dissolved Air Flotation	45,582,781	0	0	13,674,834	31,907,946	Primary Sedimentation
Secondary Treatment	35,045,994	0	0	24,532,196	10,513,798	Secondary Sedimentation
Activated Sludge Clarifier	17,305,256	0	0	17,305,256	0	Activated Sludge Process
Return Activated Sludge Pump	3,614,786	0	0	3,614,786	0	Activated Sludge Process
SCADA	1,608,549	1,447,694	0	160,855	0	Interplant
Instrumentation and Telemetry	10,951,109	9,855,998	0	1,095,111	0	Interplant
Monitoring/Sampling Equipment	9,113,895	8,202,506	0	911,390	0	Interplant
Control Equipment	38,876,860	34,989,174	0	3,887,686	0	Interplant
Instrument & Testing Equipment	8,784,876	7,906,389	0	878,488	0	Interplant
Water Supply	14,368,367	12,931,530	0	1,436,837	0	Interplant
Methane Collection	13,197,089	0	0	3,299,272	9,897,817	Digestion
Gas Compressor	2,800,759	2,520,683	0	280,076	0	Interplant
Chopper Pump	592,132	532,919	0	59,213	0	Interplant
Centrifuge	576,672	519,005	0	57,667	0	Interplant
Pumps	10,324,045	9,291,640	0	1,032,404	0	Interplant
Valves	1,308,439	1,177,595	0	130,844	0	Interplant

Description	6/30/2020	Wastewater Concentration				Basis of Classification
		Volume All	Volume -WH	Biological Oxygen Demand	Total Suspended Solids	
		(VOL-1)	(VOL-2)	(BOD)	(TSS)	
Sluice gate	78,327	70,494	0	7,833	0	Interplant
Knife Gate Valve	58,240	52,416	0	5,824	0	Interplant
High Strength BOD	9,405	0	0	2,351	7,054	Sludge Thickening
Ocean Outfall Booster Station	25,516,205	25,516,205	0	0	0	Effluent Disposal
Outfall	72,134,035	72,134,035	0	0	0	Effluent Disposal
Surge Sturcture	53,010	53,010	0	0	0	Effluent Disposal
Wastehauler Facilities	2,224,344	2,001,910	0	222,434	0	Interplant
Air Compressor	2,457,295	2,211,566	0	245,730	0	Interplant
Interplant Interceptor	5,762,020	5,185,818	0	576,202	0	Interplant
Tunnel & Piping	29,548,004	26,593,204	0	2,954,800	0	Interplant
Bypass	390,568	351,512	0	39,057	0	Interplant
Lift Station	83,004,862	74,704,376	0	8,300,486	0	Interplant
Pump Stations	42,746,807	38,472,127	0	4,274,681	0	Interplant
Collection Line	70,798,481	63,718,633	0	7,079,848	0	Interplant
Flow Meter	1,415,253	1,273,727	0	141,525	0	Interplant
Force Main	929,394	836,454	0	92,939	0	Interplant
Total - Wastewater Treatment	\$2,076,698,187	\$837,632,584	\$0	\$654,794,323	\$584,271,281	
<b>Revenue Area 14</b>						
Trunkline	\$26,162,942	\$0	\$23,546,647	\$2,616,294	\$0	Collection
Pump Station	7,186,481	0	6,467,833	718,648	0	Collection
Telemetry	19,644	5,823	4,688	5,072	4,061	As All Others
Misc. Equipment	6,139	1,820	1,465	1,585	1,269	As All Others
Total - Revenue Area 14	\$33,375,206	\$7,643	\$30,020,634	\$3,341,599	\$5,330	
<b>Revenue Area 15</b>						
Land	\$3,974,869	\$1,178,238	\$948,614	\$1,026,292	\$821,724	As All Others
Trunk	366,775,089	0	330,097,580	36,677,509	0	Collection
Pump Station	118,421,602	0	106,579,442	11,842,160	0	Collection
Diversion Sewer	3,425,917	0	3,083,325	342,592	0	Collection
Siphon	11,291,496	0	10,162,346	1,129,150	0	Collection
Interceptor	94,171,908	0	84,754,717	9,417,191	0	Collection
Force Main	48,138,759	0	43,324,883	4,813,876	0	Collection
Wet Well	52,030	39,022	0	2,601	10,406	Headworks
Manhole	12,382,651	0	11,144,386	1,238,265	0	Collection
Gates and Valves	60,327,214	0	54,294,492	6,032,721	0	Collection
Telemetry	287,646	85,265	68,648	74,269	59,465	As All Others
Flowmeter	1,172,378	0	1,055,141	117,238	0	Collection
Misc. Equipment	43,686	12,949	10,426	11,279	9,031	As All Others
Generator	116,167	34,434	27,724	29,994	24,015	As All Others
Odor Control	19,164	14,373	0	958	3,833	Headworks
JOS Outfall	98,475	98,475	0	0	0	Effluent Disposal
Total - Revenue Area 15	\$720,699,050	\$1,462,757	\$645,551,724	\$72,756,095	\$928,474	
<b>Original Cost Plant Before General Plant</b>	<b>\$3,467,142,232</b>	<b>\$1,197,719,822</b>	<b>\$675,572,358</b>	<b>\$875,536,167</b>	<b>\$718,313,886</b>	



Description	6/30/2020	Wastewater Concentration				Basis of Classification
		Volume All	Volume -WH	Biological Oxygen Demand	Total Suspended Solids	
		(VOL-1)	(VOL-2)	(BOD)	(TSS)	
<b>General Plant</b>						
Lab Equipment	\$6,325,142	\$1,874,911	\$1,509,514	\$1,633,122	\$1,307,596	As All Others
Portable Office Space	7,580,302	2,246,968	1,809,062	1,957,198	1,567,075	As All Others
Portable Equipment	3,354,812	994,440	800,636	866,197	693,540	As All Others
Ocean Monitoring Vesse	1,300,000	385,348	310,249	335,654	268,749	As All Others
Vactor Truck	1,156,316	342,757	275,958	298,555	239,045	As All Others
Underground Storage Tank	1,084,429	321,449	258,802	279,994	224,184	As All Others
Plans	238,542	70,709	56,929	61,590	49,314	As All Others
Misc. Equipment	132,268,127	39,207,171	31,566,186	34,151,003	27,343,766	As All Others
Office Equipment	154,852	45,901	36,956	39,982	32,012	As All Others
Office Furnishings	1,618,021	479,617	386,146	417,765	334,493	As All Others
Security Equipment	357,610	106,004	85,345	92,333	73,929	As All Others
IT Equipment	44,193,843	13,100,024	10,546,994	11,410,641	9,136,185	As All Others
Vehicles	12,054,324	3,573,166	2,876,801	3,112,369	2,491,988	As All Others
HVAC	6,860,455	2,033,589	1,637,268	1,771,337	1,418,261	As All Others
Software	4,235,131	1,255,386	1,010,727	1,093,491	875,528	As All Others
Generators	30,472,891	9,032,833	7,272,447	7,867,956	6,299,655	As All Others
Total General Plant	\$253,254,799	\$75,070,272	\$60,440,019	\$65,389,188	\$52,355,320	
<b>Total Original Cost Plant in Service</b>	<b>\$3,720,397,031</b>	<b>\$1,272,790,093</b>	<b>\$736,012,378</b>	<b>\$940,925,355</b>	<b>\$770,669,205</b>	
<b>Accumulated Depreciation</b>						
<b>Depreciation of Structures and Improvement</b>						
Structures and Improvements	\$239,669,264	\$84,062,428	\$0	\$81,034,669	\$74,572,167	As Treatment Less Interplant Collection
Electrical	28,325,492	9,934,981	0	9,577,143	8,813,368	As Treatment Less Interplant Collection
Land	0	0	0	0	0	As Treatment Less Interplant Collection
Ground Water Replenishment System	69,522,747	69,522,747	0	0	0	100% (VOL-1)
Total - Depreciation of Structures and Improvement	\$337,517,504	\$163,520,157	\$0	\$90,611,812	\$83,385,534	
<b>Depreciation of Wastewater Treatment</b>						
Pretreatment	\$2,219,260	\$1,664,445	\$0	\$110,963	\$443,852	Headworks
Headworks	27,433,246	20,574,935	0	1,371,662	5,486,649	Headworks
Influent Metering and Diversion	12,201,596	9,151,197	0	610,080	2,440,319	Headworks
Bar Screen	27,949,705	20,962,279	0	1,397,485	5,589,941	Headworks
Blower	13,261,665	9,946,249	0	663,083	2,652,333	Headworks
Boiler	2,709,752	2,438,777	0	270,975	0	Interplant
Foul Air Scrubber	49,045,554	36,784,165	0	2,452,278	9,809,111	Headworks
Air Quality	12,976,046	9,732,035	0	648,802	2,595,209	Headworks
Wet Well	144,555	108,416	0	7,228	28,911	Headworks
Grit Removal	18,837,416	14,128,062	0	941,871	3,767,483	Headworks
Primary Basin	46,657,814	0	0	13,997,344	32,660,470	Primary Sedimentation
Secondary Basin	2,421,693	0	0	1,695,185	726,508	Secondary Sedimentation
Digester	104,567,175	0	0	26,141,794	78,425,381	Digestion
Primary Clarifiers	59,360,420	0	0	17,808,126	41,552,294	Primary Sedimentation
Secondary Clarifiers	57,495,919	0	0	40,247,143	17,248,776	Secondary Sedimentation
Trickling Filter	36,118,744	0	0	36,118,744	0	Trickling Filters
Aeration Basin	42,305,724	0	0	42,305,724	0	Aeration Equipment and Structures
Chemical Feed System	6,382,079	0	0	1,595,520	4,786,560	Sludge Thickening
Polymer Feed	1,852,014	0	0	463,004	1,389,011	Sludge Thickening
Chlorination	5,014,990	0	0	1,253,748	3,761,243	Sludge Thickening
Sludge Handling	25,754,640	0	0	6,438,660	19,315,980	Sludge Thickening
Belt Press	6,728,134	0	0	1,682,033	5,046,100	Sludge Thickening
Solids Handling	7,737,501	0	0	1,934,375	5,803,125	Solids Handling
Effluent Distribution	44,325,301	44,325,301	0	0	0	Effluent Disposal

Orange County Sanitation District  
Cost of Service Rate Study  
Functionalization and Allocation  
Exhibit 9 - Allocation of Plant In Service

Description	6/30/2020	Wastewater Concentration				Basis of Classification
		Volume All	Volume -WH	Biological Oxygen Demand	Total Suspended Solids	
		(VOL-1)	(VOL-2)	(BOD)	(TSS)	
Dissolved Air Flotation	14,480,801	0	0	4,344,240	10,136,560	Primary Sedimentation
Secondary Treatment	24,186,694	0	0	16,930,686	7,256,008	Secondary Sedimentation
Activated Sludge Clarifier	5,354,771	0	0	5,354,771	0	Activated Sludge Process
Return Activated Sludge Pump	2,146,077	0	0	2,146,077	0	Activated Sludge Process
SCADA	1,608,549	1,447,694	0	160,855	0	Interplant
Instrumentation and Telemetry	9,403,677	8,463,310	0	940,368	0	Interplant
Monitoring/Sampling Equipment	7,399,264	6,659,337	0	739,926	0	Interplant
Control Equipment	31,292,150	28,162,935	0	3,129,215	0	Interplant
Instrument & Testing Equipment	6,749,708	6,074,737	0	674,971	0	Interplant
Water Supply	7,316,095	6,584,485	0	731,609	0	Interplant
Methane Collection	9,400,643	0	0	2,350,161	7,050,482	Digestion
Gas Compressor	2,800,759	2,520,683	0	280,076	0	Interplant
Chopper Pump	431,156	388,041	0	43,116	0	Interplant
Centrifuge	569,353	512,417	0	56,935	0	Interplant
Pumps	9,208,732	8,287,859	0	920,873	0	Interplant
Valves	881,220	793,098	0	88,122	0	Interplant
Sluice gate	37,526	33,774	0	3,753	0	Interplant
Knife Gate Valve	35,056	31,551	0	3,506	0	Interplant
High Strength BOD	9,405	0	0	2,351	7,054	Sludge Thickening
Ocean Outfall Booster Station	20,413,774	20,413,774	0	0	0	Effluent Disposal
Outfall	32,148,089	32,148,089	0	0	0	Effluent Disposal
Surge Sturcture	27,830	27,830	0	0	0	Effluent Disposal
Wastehauler Facilities	1,982,951	1,784,656	0	198,295	0	Interplant
Air Compressor	1,474,200	1,326,780	0	147,420	0	Interplant
Interplant Interceptor	5,601,560	5,041,404	0	560,156	0	Interplant
Tunnel & Piping	23,093,660	20,784,294	0	2,309,366	0	Interplant
Bypass	390,568	351,512	0	39,057	0	Interplant
Lift Station	23,893,442	21,504,097	0	2,389,344	0	Interplant
Pump Stations	15,464,926	13,918,433	0	1,546,493	0	Interplant
Collection Line	17,128,150	15,415,335	0	1,712,815	0	Interplant
Flow Meter	1,401,957	1,261,762	0	140,196	0	Interplant
Force Main	842,186	757,967	0	84,219	0	Interplant
Total - Depreciation of Wastewater Treatment	\$890,675,870	\$374,511,712	\$0	\$248,184,797	\$267,979,361	
<b>Depreciation of Revenue Area 14</b>						
Trunkline	\$14,952,281	\$0	\$13,457,053	\$1,495,228	\$0	Collection
Pump Station	\$5,055,360	0	4,549,824	505,536	0	Collection
Telemetry	\$19,644	5,823	4,688	5,072	4,061	As All Others
Misc. Equipment	\$6,139	1,820	1,465	1,585	1,269	As All Others
Total - Depreciation of Revenue Area 14	\$20,033,425	\$7,643	\$18,013,031	\$2,007,421	\$5,330	

Description	6/30/2020	Wastewater Concentration				Basis of Classification
		Volume All	Volume -WH	Biological Oxygen Demand	Total Suspended Solids	
		(VOL-1)	(VOL-2)	(BOD)	(TSS)	
<b>Depreciation of Revenue Area 15</b>						
Land	\$33,913	\$10,053	\$8,094	\$8,756	\$7,011	As All Others
Trunk	180,474,791	0	162,427,312	18,047,479	0	Collection
Pump Station	54,354,242	0	48,918,818	5,435,424	0	Collection
Diversion Sewer	1,953,231	0	1,757,908	195,323	0	Collection
Siphon	3,697,139	0	3,327,425	369,714	0	Collection
Interceptor	70,093,970	0	63,084,573	7,009,397	0	Collection
Force Main	12,411,864	0	11,170,678	1,241,186	0	Collection
Wet Well	52,030	39,022	0	2,601	10,406	Headworks
Manhole	6,057,388	0	5,451,649	605,739	0	Collection
Gates and Valves	14,961,770	0	13,465,593	1,496,177	0	Collection
Telemetry	287,646	85,265	68,648	74,269	59,465	As All Others
Flowmeter	1,168,785	0	1,051,907	116,879	0	Collection
Misc. Equipment	23,535	6,976	5,617	6,077	4,865	As All Others
Generator	7,744	2,296	1,848	2,000	1,601	As All Others
Odor Control	19,164	14,373	0	958	3,833	Headworks
JOS Outfall	98,475	98,475	0	0	0	Effluent Disposal
Total - Depreciation of Revenue Area 15	\$345,695,689	\$256,459	\$310,740,069	\$34,611,979	\$87,181	
<b>Depreciation of Plant Before General Plant</b>	<b>\$1,593,922,487</b>	<b>\$538,295,971</b>	<b>\$328,753,100</b>	<b>\$375,416,010</b>	<b>\$351,457,407</b>	
<b>Depreciation of General Plant</b>						
Lab Equipment	6,317,055	\$1,872,514	\$1,507,584	\$1,631,034	\$1,305,924	As All Others
Portable Office Space	4,845,157	1,436,211	1,156,311	1,250,996	1,001,638	As All Others
Portable Equipment	2,606,521	772,630	622,054	672,991	538,846	As All Others
Ocean Monitoring Vesse	1,300,000	385,348	310,249	335,654	268,749	As All Others
Vactor Truck	798,555	236,709	190,578	206,183	165,085	As All Others
Underground Storage Tank	797,821	236,492	190,402	205,994	164,933	As All Others
Plans	238,542	70,709	56,929	61,590	49,314	As All Others
Misc. Equipment	90,315,500	26,771,493	21,554,066	23,319,034	18,670,907	As All Others
Office Equipment	154,852	45,901	36,956	39,982	32,012	As All Others
Office Furnishings	1,547,592	458,740	369,338	399,581	319,933	As All Others
Security Equipment	163,153	48,362	38,937	42,125	33,728	As All Others
IT Equipment	41,203,069	12,213,493	9,833,236	10,638,437	8,517,903	As All Others
Vehicles	8,310,451	2,463,400	1,983,314	2,145,719	1,718,018	As All Others
HVAC	5,497,336	1,629,531	1,311,956	1,419,386	1,136,463	As All Others
Software	3,852,718	1,142,030	919,463	994,754	796,472	As All Others
Generators	30,472,891	9,032,833	7,272,447	7,867,956	6,299,655	As All Others
Total General Plant	\$198,421,213	\$58,816,396	\$47,353,819	\$51,231,416	\$41,019,582	
<b>Total Depreciation of Capital Plant in Service</b>	<b>\$1,792,343,701</b>	<b>\$597,112,367</b>	<b>\$376,106,919</b>	<b>\$426,647,426</b>	<b>\$392,476,989</b>	
<b>Plus: Work In Process</b>	<b>\$0</b>	\$0	\$0	\$0	\$0	As Original Cost Plant Before General
<b>Original Cost Less Depreciation</b>	<b>\$1,928,053,330</b>	<b>\$675,677,727</b>	<b>\$359,905,458</b>	<b>\$514,277,929</b>	<b>\$378,192,216</b>	

Description		Expenses FY 2023-24	Total	Volume All (VOL-1)	Volume -WH (VOL-2)	Strength		Basis of Classification
						Biological Oxygen Demand (BOD)	Total Suspended Solids (TSS)	
Expenses								
Total Operations & Maintenance Expense		\$209,891,777						
Preliminary Treatment - Plant #1	3.1%	\$6,439,560	\$4,829,670	\$0	\$321,978	\$1,287,912	Headworks	
Primary Treatment - Plant #1	6.4%	13,444,703	2,016,705	0	3,361,176	8,066,822	Primary Sedimentation O&M	
Secondary Treatment - Plant #1	2.6%	5,413,501	0	0	5,413,501	0	Secondary Sedimentation O&M	
Effluent Disposal - Plant #1	0.0%	41,555	41,555	0	0	0	Effluent Disposal	
Solids Handling - Plant #1								
- Solids Handling	10.8%	\$22,636,221	\$0	\$0	\$5,659,055	\$16,977,166	Solids Handling	
- Solids Disposals	8.1%	17,093,598	0	0	7,692,119	9,401,479	Solids Disposal	
Co-Generation Facilities - Plant #1	8.2%	17,187,959	0	0	4,296,990	12,890,969	Digestion	
Utility Units - Plant #1	1.3%	2,743,651	246,831	394,583	825,599	1,276,638	As All Others O&M	
Electrical Distribution - Plant #1	0.8%	1,692,893	152,300	243,466	509,413	787,714	As All Others O&M	
Miscellaneous Buildings - Plant #1	5.0%	10,528,011	947,147	1,514,103	3,168,011	4,898,750	As All Others O&M	
Preliminary Treatment - Plant #2	2.5%	5,194,118	3,895,589	0	259,706	1,038,824	Headworks	
Primary Treatment - Plant #2	3.4%	7,181,356	1,077,203	0	1,795,339	4,308,813	Primary Sedimentation O&M	
Secondary Treatment - Plant #2	3.3%	6,881,627	0	0	6,881,627	0	Secondary Sedimentation O&M	
Oxygen Generation Facility (Air Product)	0.5%	1,094,468	0	0	1,094,468	0	100% (BOD)	
Effluent Disposal - Plant #2	0.7%	1,504,016	1,504,016	0	0	0	Effluent Disposal	
Solids - Plant #2								
- Solids Handling	6.1%	\$12,887,915	\$0	\$0	\$3,221,979	\$9,665,936	Solids Handling	
- Solids Disposals	3.7%	7,816,481	0	0	3,517,416	4,299,064	Solids Disposal	
Central Generation Facility - Plant #2	3.1%	6,596,431	593,444	948,677	1,984,949	3,069,361	As All Others O&M	
Utility Units - Plant #2	0.8%	1,659,356	149,283	238,643	499,321	772,109	As All Others O&M	
Electrical Distribution - Plant #2	0.6%	1,311,431	117,982	188,606	394,626	610,217	As All Others O&M	
Miscellaneous Buildings - Plant #2	1.7%	3,495,583	314,478	502,723	1,051,865	1,626,517	As All Others O&M	
External Location	0.3%	650,543	58,526	93,559	195,757	302,702	As All Others O&M	
Nerissa	0.1%	299,978	26,987	43,142	90,267	139,581	As All Others O&M	
Revenue Area 13	0.0%	9,634	0	8,671	482	482	Collection O&M	
Revenue Area 1	0.2%	404,290	0	363,861	20,214	20,214	Collection O&M	
Revenue Area 2	2.6%	5,551,050	0	4,995,945	277,553	277,553	Collection O&M	
Revenue Area 3	3.6%	7,487,637	0	6,738,874	374,382	374,382	Collection O&M	
Revenue Area 14	0.0%	98,878	0	88,990	4,944	4,944	Collection O&M	
Revenue Area 5	2.8%	5,827,290	0	5,244,561	291,364	291,364	Collection O&M	
Revenue Area 6	0.3%	600,369	0	540,332	30,018	30,018	Collection O&M	
Revenue Area 7	0.6%	1,354,052	0	1,218,647	67,703	67,703	Collection O&M	
Revenue Area 11	1.1%	2,405,454	0	2,164,908	120,273	120,273	Collection O&M	
Joint Revenue Areas	0.7%	1,462,451	131,569	210,325	440,070	680,488	As All Others O&M	
Non Area Specific	14.7%	30,895,718	2,779,517	4,443,319	9,296,910	14,375,972	As All Others O&M	
Additional Expenditures (Input on Dashboard)		\$0	\$0	\$0	\$0	\$0	As All Others O&M	
Total Operations & Maintenance Expense		\$209,891,777	\$18,882,803	\$30,185,933	\$63,159,074	\$97,663,967		

Description	Total	Strength				Basis of Classification
	Expenses FY 2023-24	Volume All (VOL-1)	Volume -WH (VOL-2)	Biological Oxygen Demand (BOD)	Total Suspended Solids (TSS)	
<b>Capital Funded Through Rates (Capital Exp less Transfer In)</b>	<b>\$296,774,641</b>	<b>\$86,561,706</b>	<b>\$40,955,955</b>	<b>\$80,720,561</b>	<b>\$88,536,419</b>	Capital
<b>Transfers Out</b>						
Equity Purchases (Joint Operations)	\$3,500,000	\$314,876	\$503,358	\$1,053,194	\$1,628,572	As Total Operations & Maintenance
Self Insurance Fund Requirements	3,850,000	346,363	553,694	1,158,513	1,791,429	As Total Operations & Maintenance
<b>Total Transfers Out</b>	<b>\$7,350,000</b>	<b>\$661,239</b>	<b>\$1,057,052</b>	<b>\$2,211,707</b>	<b>\$3,420,001</b>	
<b>Transfers In</b>						
Use of Fund Balance (Policy Driven Adjustment)	(\$85,196,742)	(\$29,146,774)	(\$16,854,614)	(\$21,547,102)	(\$17,648,252)	As Original Cost Plant In Service
<b>Total Transfers In</b>	<b>(\$85,196,742)</b>	<b>(\$29,146,774)</b>	<b>(\$16,854,614)</b>	<b>(\$21,547,102)</b>	<b>(\$17,648,252)</b>	
<b>Debt Service</b>						
2010A Build America Bonds	\$2,986,574	\$1,046,632	\$557,497	\$796,622	\$585,824	Original Cost Less Depreciation
2010C Build America Bonds	6,724,010	2,356,399	1,255,156	1,793,524	1,318,930	Original Cost Less Depreciation
2014A Refunding	11,044,000	3,870,321	2,061,559	2,945,813	2,166,307	Original Cost Less Depreciation
2015A Refunding	6,375,500	2,234,266	1,190,101	1,700,564	1,250,569	Original Cost Less Depreciation
2016A Refunding	11,396,050	3,993,695	2,127,275	3,039,717	2,235,362	Original Cost Less Depreciation
2017A Refunding	3,290,750	1,153,229	614,277	877,756	645,488	Original Cost Less Depreciation
2021A Refunding	22,713,500	7,959,845	4,239,879	6,058,469	4,455,307	Original Cost Less Depreciation
2022A Refunding	4,081,000	1,430,168	761,791	1,088,543	800,498	Original Cost Less Depreciation
New Low Interest Loan	0	0	0	0	0	Total Capital
New COP	0	0	0	0	0	Total Capital
Debt Issuance Costs	0	0	0	0	0	Total Capital
<b>Total Debt Service</b>	<b>\$68,611,384</b>	<b>\$24,044,555</b>	<b>\$12,807,536</b>	<b>\$18,301,009</b>	<b>\$13,458,285</b>	
<b>Total Revenue Requirements</b>	<b>\$497,431,060</b>	<b>\$101,003,529</b>	<b>\$68,151,862</b>	<b>\$142,845,249</b>	<b>\$185,430,420</b>	
<b>Less: Miscellaneous Revenues</b>						
Property Taxes	\$112,081,316	\$22,758,146	\$15,355,998	\$32,185,935	\$41,781,238	As Total Revenue Requirement Less Direct A
IRWD O&M Assessment	0	0	0	0	0	As Total Revenue Requirement Less Direct A
IRWD Capital Assessment	0	0	0	0	0	As Total Revenue Requirement Less Direct A
IRWD Solids Assessment	0	0	0	0	0	As Total Revenue Requirement Less Direct A
IRWD	16,358,057	16,358,057	0	0	0	100% (VOL-1)
SAWPA	3,138,000	3,138,000	0	0	0	100% (VOL-1)
New COP Issues	0	0	0	0	0	As Total Revenue Requirement Less Direct A
Interest Revenues	0	0	0	0	0	As Total Revenue Requirement Less Direct A
Capital Facilities Capacity Charges	0	0	0	0	0	As Total Revenue Requirement Less Direct A
General User Rebates	(12,000,000)	(2,436,604)	(1,644,092)	(3,445,991)	(4,473,313)	As Total Revenue Requirement Less Direct A
Equity Sale to 7 or 14	3,500,000	314,876	503,358	1,053,194	1,628,572	As Total Operations & Maintenance
Share of SFI Revenue	3,850,000	346,363	553,694	1,158,513	1,791,429	As Total Operations & Maintenance
Share of JO Revenue	12,058,809	12,058,809	0	0	0	100% (VOL-1)
CIP Reimbursements	10,220,909	3,187,879	1,577,973	2,711,361	2,743,696	Total Capital
<b>Total Miscellaneous Revenues</b>	<b>\$149,207,091</b>	<b>\$55,725,526</b>	<b>\$16,346,932</b>	<b>\$33,663,012</b>	<b>\$43,471,622</b>	
<b>Net Revenue Requirements</b>	<b>\$348,223,968</b>	<b>\$45,278,003</b>	<b>\$51,804,930</b>	<b>\$109,182,237</b>	<b>\$141,958,798</b>	

Orange County Sanitation District  
Cost of Service Rate Study  
Functionalization and Allocation  
Exhibit 11 - Summary of Basis of Allocation

Description	Plant/ Revenue Requirement	Volume All	Volume -WH	Strength		Totals
				Biological Oxygen Demand	Total Suspended Solids	
		(VOL-1)	(VOL-2)	(BOD)	(TSS)	
100% (VOL-1)	2/3	100.0%				100.00%
100% (VOL-2)	0/0		100.0%			100.00%
100% (BOD)	0/1			100.0%		100.00%
100% (TSS)	0/0				100.0%	100.00%
<b>Allocation of Plant Assets Types</b>	0/0					
Collection	22/0	0.0%	90.0%	10.0%		100.00%
Primary Sedimentation	6/0			30.0%	70.0%	100.00%
Secondary Sedimentation	6/0			70.0%	30.0%	100.00%
Interplant	48/0	90.0%		10.0%		100.00%
Headworks	22/2	75.0%		5.0%	20.0%	100.00%
As All Others	44/0	29.6%	23.9%	25.8%	20.7%	100.00%
Effluent Disposal	10/2	100.0%				100.00%
Activated Sludge Process	4/0			100.0%		100.00%
Oxygen Activated Sludge Process	0/0			100.0%		100.00%
Blower Equipment and Structures	0/0			100.0%		100.00%
Aeration Equipment and Structures	2/0			100.0%		100.00%
Trickling Filters	2/0			100.0%		100.00%
Sludge Thickening	12/0			25.0%	75.0%	100.00%
Digestion	4/1			25.0%	75.0%	100.00%
Solids Handling	2/2			25.0%	75.0%	100.00%
Solids Disposal	0/2			45.0%	55.0%	100.00%
<b>Allocations Based on Plant In Service</b>	0/0					
As Treatment Plant	0/0	40.3%	0.0%	31.5%	28.1%	100.00%
As Treatment Plant Structures and Improvements	0/0	56.4%	0.0%	22.7%	20.9%	100.00%
As Treatment Less Interplant Collection	6/0	35.1%	0.0%	33.8%	31.1%	100.00%
As Revenue Area 14	0/0	0.0%	89.9%	10.0%	0.0%	100.00%
As Revenue Area 15	0/0	0.2%	89.6%	10.1%	0.1%	100.00%
As Collection (Rev. 14 & 15)	0/0	0.2%	89.6%	10.1%	0.1%	100.00%
As Original Cost Plant Before General	1/0	34.5%	19.5%	25.3%	20.7%	100.00%
As Original Cost Plant In Service	0/1	34.2%	19.8%	25.3%	20.7%	100.00%
As Orginal Cost Plant Before General Less Direct Assignment	0/0	34.5%	19.5%	25.3%	20.7%	100.00%
Original Cost Less Depreciation	0/12	35.0%	18.7%	26.7%	19.6%	100.00%
As Original Cost General Plant	0/0	29.6%	23.9%	25.8%	20.7%	100.00%
As Orginal Cost of Vehicles	0/0	29.6%	23.9%	25.8%	20.7%	100.00%
<b>Allocation of Expense Types</b>	0/0					
Secondary Sedimentation O&M	0/2			100.0%		100.00%
Collection O&M	0/9	0.0%	90.0%	5.0%	5.0%	100.00%
Primary Sedimentation O&M	0/2	15.0%		25.0%	60.0%	100.00%
As All Others O&M	0/12	9.0%	14.4%	30.1%	46.5%	100.00%
<b>Allocation Based on Revenue Requirements</b>	0/0					
As Total Operations & Maintenance	0/10	9.0%	14.4%	30.1%	46.5%	100.00%
As Total Revenue Requirement	0/0	20.3%	13.7%	28.7%	37.3%	100.00%
As Total Revenue Requirement Less Direct Assignment	0/8	20.3%	13.7%	28.7%	37.3%	100.00%
<b>Allocation Based on Capital Projects</b>	0/0					
Capital	0/1	29.2%	13.8%	27.2%	29.8%	100.00%
Rehabilitation	0/0	47.4%	28.6%	21.1%	2.8%	100.00%
Total Capital	0/4	31.2%	15.4%	26.5%	26.8%	100.00%

Orange County Sanitation District  
Cost of Service Rate Study  
Functionalization and Allocation  
Exhibit 12 - Allocation by Component

Classification Components	Net Revenue Requirement	General Users	Permitted Users	Wastehaulers	Allocation Factor	Checks
Volume						
Volume All	\$45,278,003	\$42,977,052	\$2,294,394	\$6,557	(VOL-1)	
Volume Less Collection	51,804,930	49,179,414	2,625,517	0	(VOL-2)	
Total Volume	\$97,082,934	\$92,156,466	\$4,919,911	\$6,557		
Strength Distribution						
Biochemical Oxygen Demand	\$109,182,237	\$100,176,735	\$8,735,098	\$270,404	(BOD)	
Total Suspended Solids	141,958,798	139,365,719	2,287,354	305,725	(TSS)	
Total Strength Distribution	\$160,987,167	\$149,356,149	\$11,360,615	\$270,404		
Net Revenue Requirement	\$348,223,968	\$331,698,920	\$15,942,363	\$582,685		

Description		General Users	Permitted Users	Wastehaulers
Revenues at Present Rates	\$336,448,278	\$321,495,913	\$14,202,366	\$750,000
Less: Allocated O&M Expenses	\$348,223,968	\$331,698,920	\$15,942,363	\$582,685
Balance/(Deficiency) of Rates	(\$11,775,690)	(\$10,203,007)	(\$1,739,998)	\$167,315
Required % Change in Rates	3.5%	3.2%	12.3%	-22.3%



Orange County Sanitation District  
Cost of Service Rate Study  
Cost of Service Summary  
Exhibit 14 - Average Unit Cost

Description	Total	General Users	Permitted Users	Wastehaulers	
Volume (kgal)	\$1.75	\$1.75	\$1.75	\$0.79	44.88%
Strength Related					
BOD \$/Lbs	\$0.76	\$0.76	\$0.76	\$0.76	
TSS \$/Lbs	\$0.86	\$0.86	\$0.86	\$0.86	
	\$1.63	\$1.63	\$1.63	\$1.63	
Rate per EDU (doesn't account for Strength)	\$359.08	\$358.01	\$389.51	\$249.63	
Volume Rate (Simple)	\$100.11	\$99.47	\$120.21	\$2.81	
BOD Rate (Simple)	112.59	108.12	213.42	115.85	
TSS Rate (Simple)	146.38	150.42	55.89	130.98	
Total	\$359.08	\$358.01	\$389.51	\$249.63	
Basic Data:					
Annual Water Consumption(/Kgal)	55,375,341	52,560,962	2,806,046	8,333	
BOD (Lbs)	143,118,077	131,313,501	11,450,126	354,450	
TSS (Lbs)	164,583,744	161,577,388	2,651,906	354,450	
Number of Accounts	558,973	558,663	309	1	
Equivelant Residential Unit	969,764	926,501	40,929	2,334	
Weighted Customer	558,973	558,663	309	1	
Wastehauler Trips				7,940	
	Total	Flow	BOD	TSS	
Revenue Requirement	\$348,223,968	\$97,082,934	\$109,182,237	\$141,958,798	
Percent Allocation of Revenue Requirement	100.0%	27.9%	31.4%	40.8%	
Per unit Cost (\$/MG   \$/1,000 lbs)		\$1,753.18	\$ 762.88	\$ 862.53	
		\$1.75	\$0.76	\$0.86	

Orange County Sanitation District  
Cost of Service Rate Study  
Rate Design  
Exhibit 15 - Use Code Rate Calculation

Page 1 of 5

General Users	% of EDU	Current Rate		Proposed Rates							
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
000 - CONVERSION-C/I, RURAL PC LIEN DATE	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
001 - VACANT LAND PARCEL	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>002 - ONE RESIDENCE</b>	<b>100%</b>	<b>347.00</b>	<b>358.00</b>	<b>371.00</b>	<b>384.00</b>	<b>397.00</b>	<b>411.00</b>	<b>425.00</b>	<b>440.00</b>	<b>455.00</b>	<b>471.00</b>
003 - TWO OR MORE RESIDENCES	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
004 - MISCELLANEOUS IMPROVEMENTSONLY	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
005 - COMMON AREA PARCEL	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
006 - "HOLD" PARCEL	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
007 - MOBILEHOME	50%	173.50	179.00	185.50	192.00	198.50	205.50	212.50	220.00	227.50	235.50
008 - EQUIVALENT TO VACANT	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
010 - DUPLEX ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
011 - TRIPLEX ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
012 - 04-UNITS ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
013 - APARTMENTS ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
014 - 17-25 UNITS ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
015 - 26-40 UNITS ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
016 - 41-99 UNITS ONLY	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
017 - 100 OR MORE UNITS	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
018 - DEVELOPED WITH A MIX OF FORM TYPES	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
019 - SF WITH 1 OR 2 RENTAL UNITS	85%	294.95	304.30	315.35	326.40	337.45	349.35	361.25	374.00	386.75	400.35
020 - AMUSEMENT PARKS	144%	499.68	515.52	534.24	552.96	571.68	591.84	612.00	633.60	655.20	678.24
021 - AUTOMOBILE DEALERSHIP	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
022 - AUTO REPAIR SHOP	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
023 - AUTOMOTIVE SERVICE	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
024 - USED CAR LOT	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
026 - AIRPORT AND RELATED BUILDINGS	53%	183.91	189.74	196.63	203.52	210.41	217.83	225.25	233.20	241.15	249.63
028 - BOWLING ALLEYS	112%	388.64	400.96	415.52	430.08	444.64	460.32	476.00	492.80	509.60	527.52
029 - CONVENTIONAL CAR WASH	796%	2,762.12	2,849.68	2,953.16	3,056.64	3,160.12	3,271.56	3,383.00	3,502.40	3,621.80	3,749.16
030 - COIN OPERATED CAR WASH	151%	523.97	540.58	560.21	579.84	599.47	620.61	641.75	664.40	687.05	711.21
032 - CEMETERY AND RELATED BUILDINGS	101%	350.47	361.58	374.71	387.84	400.97	415.11	429.25	444.40	459.55	475.71

Orange County Sanitation District  
Cost of Service Rate Study  
Rate Design  
Exhibit 15 - Use Code Rate Calculation

Page 2 of 5

General Users	% of EDU	Current Rate					Proposed Rates				
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
033 - CHURCH BUILDINGS	20%	69.40	71.60	74.20	76.80	79.40	82.20	85.00	88.00	91.00	94.20
034 - DORMITORY	97%	336.59	347.26	359.87	372.48	385.09	398.67	412.25	426.80	441.35	456.87
035 - ENTERTAINMENT CENTER	144%	499.68	515.52	534.24	552.96	571.68	591.84	612.00	633.60	655.20	678.24
036 - FINANCIAL BUILDINGS	27%	93.69	96.66	100.17	103.68	107.19	110.97	114.75	118.80	122.85	127.17
037 - FRATERNAL BUILDINGS	51%	176.97	182.58	189.21	195.84	202.47	209.61	216.75	224.40	232.05	240.21
038 - FUNERAL HOME	101%	350.47	361.58	374.71	387.84	400.97	415.11	429.25	444.40	459.55	475.71
039 - GOLF COURSE	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
040 - HEALTH CLUB	29%	100.63	103.82	107.59	111.36	115.13	119.19	123.25	127.60	131.95	136.59
042 - HOSPITAL	97%	336.59	347.26	359.87	372.48	385.09	398.67	412.25	426.80	441.35	456.87
043 - HIGH DEMAND HOTEL/MOTEL	97%	336.59	347.26	359.87	372.48	385.09	398.67	412.25	426.80	441.35	456.87
044 - LUMBER/CONST. MATERIALSYARD	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
045 - MARINAS	53%	183.91	189.74	196.63	203.52	210.41	217.83	225.25	233.20	241.15	249.63
047 - SUPERMARKET	151%	523.97	540.58	560.21	579.84	599.47	620.61	641.75	664.40	687.05	711.21
048 - CONVENIENCE MARKET	151%	523.97	540.58	560.21	579.84	599.47	620.61	641.75	664.40	687.05	711.21
050 - SINGLE MEDICAL BLDGS TO 3 STORIES	124%	430.28	443.92	460.04	476.16	492.28	509.64	527.00	545.60	564.20	584.04
051 - SMALL MEDICAL CENTER	124%	430.28	443.92	460.04	476.16	492.28	509.64	527.00	545.60	564.20	584.04
052 - MEDICAL CENTER COMPLEX	124%	430.28	443.92	460.04	476.16	492.28	509.64	527.00	545.60	564.20	584.04
053 - HIGH RISE MEDICAL	124%	430.28	443.92	460.04	476.16	492.28	509.64	527.00	545.60	564.20	584.04
054 - CONVERTED RESIDENCE TO MED OFFICE	124%	430.28	443.92	460.04	476.16	492.28	509.64	527.00	545.60	564.20	584.04
055 - MOBILEHOME PARK	50%	173.50	179.00	185.50	192.00	198.50	205.50	212.50	220.00	227.50	235.50
056 - LOW DEMAND HOTEL/MOTEL	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
057 - MOTORCYCLE/SMALL VEHICLEBLDGS	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
058 - NURSERIES	10%	34.70	35.80	37.10	38.40	39.70	41.10	42.50	44.00	45.50	47.10
060 - NURSING HOME	102%	353.94	365.16	378.42	391.68	404.94	419.22	433.50	448.80	464.10	480.42
061 - CONVALESCENT HOSPITALS	102%	353.94	365.16	378.42	391.68	404.94	419.22	433.50	448.80	464.10	480.42
062 - CONVERTED RES USED ASNURSING HOME	102%	353.94	365.16	378.42	391.68	404.94	419.22	433.50	448.80	464.10	480.42
063 - LOW RISE RETIREMENT BUILDING(S)	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
064 - HIGH RISE RETIREMENT BUILDING(S)	70%	242.90	250.60	259.70	268.80	277.90	287.70	297.50	308.00	318.50	329.70
065 - SINGLE OFFICE BLDGS TO 3STORIES	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
066 - SMALL OFFICE CENTER	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11

Orange County Sanitation District  
Cost of Service Rate Study  
Rate Design  
Exhibit 15 - Use Code Rate Calculation

Page 3 of 5

General Users	% of EDU	Current Rate				Proposed Rates					
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
067 - OFFICE COMPLEX	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
068 - HIGH RISE OFFICE	30%	104.10	107.40	111.30	115.20	119.10	123.30	127.50	132.00	136.50	141.30
069 - CONVERTED RESIDENCE TOOFFICE	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
071 - PARKING GARAGE	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
072 - PAVED PARKING LOT	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
073 - RECREATION	143%	496.21	511.94	530.53	549.12	567.71	587.73	607.75	629.20	650.65	673.53
074 - RECREATION VEHICLE PARK	27%	93.69	96.66	100.17	103.68	107.19	110.97	114.75	118.80	122.85	127.17
076 - RESTAURANT - LOW DEMAND	300%	1,041.00	1,074.00	1,113.00	1,152.00	1,191.00	1,233.00	1,275.00	1,320.00	1,365.00	1,413.00
077 - RESTAURANT - COFFEE SHOP	600%	2,082.00	2,148.00	2,226.00	2,304.00	2,382.00	2,466.00	2,550.00	2,640.00	2,730.00	2,826.00
078 - RESTAURANT - DINNER HOUSE	600%	2,082.00	2,148.00	2,226.00	2,304.00	2,382.00	2,466.00	2,550.00	2,640.00	2,730.00	2,826.00
079 - RESTAURANT - CONVERSION FROM SFR	600%	2,082.00	2,148.00	2,226.00	2,304.00	2,382.00	2,466.00	2,550.00	2,640.00	2,730.00	2,826.00
081 - PRE-SCHOOLS, NURSERY ORCHILDCARE	82%	284.54	293.56	304.22	314.88	325.54	337.02	348.50	360.80	373.10	386.22
082 - PRIVATE SCHOOLS	82%	284.54	293.56	304.22	314.88	325.54	337.02	348.50	360.80	373.10	386.22
083 - AUTOMOTIVE SERVICE STATION	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
084 - MARINE SERVICE STATION	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
085 - COMBIN:SERVICESTATION/RESTAURANT	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
086 - COMBIN:SERVICESTATION/CONVENIENCE	41%	142.27	146.78	152.11	157.44	162.77	168.51	174.25	180.40	186.55	193.11
088 - LOW DEMAND CENTER	53%	183.91	189.74	196.63	203.52	210.41	217.83	225.25	233.20	241.15	249.63
089 - AVERAGE DEMAND CENTER	139%	482.33	497.62	515.69	533.76	551.83	571.29	590.75	611.60	632.45	654.69
090 - HIGH FLOW CENTER	226%	784.22	809.08	838.46	867.84	897.22	928.86	960.50	994.40	1,028.30	1,064.46
092 - SKATING RINKS	112%	388.64	400.96	415.52	430.08	444.64	460.32	476.00	492.80	509.60	527.52
094 - DEPARTMENT STORE	23%	79.81	82.34	85.33	88.32	91.31	94.53	97.75	101.20	104.65	108.33
095 - DISCOUNT STORE	23%	79.81	82.34	85.33	88.32	91.31	94.53	97.75	101.20	104.65	108.33
096 - UNATTACHED SINGLE STORE	23%	79.81	82.34	85.33	88.32	91.31	94.53	97.75	101.20	104.65	108.33
097 - STRIP STORE	23%	79.81	82.34	85.33	88.32	91.31	94.53	97.75	101.20	104.65	108.33
098 - STORE WITH OFFICES OR LIVING UNITS	82%	284.54	293.56	304.22	314.88	325.54	337.02	348.50	360.80	373.10	386.22
099 - STORE WITH OFFICES UPSTAIRS	82%	284.54	293.56	304.22	314.88	325.54	337.02	348.50	360.80	373.10	386.22
100 - DRIVE-IN THEATER	10%	34.70	35.80	37.10	38.40	39.70	41.10	42.50	44.00	45.50	47.10
101 - UNATTACHED THEATER	51%	176.97	182.58	189.21	195.84	202.47	209.61	216.75	224.40	232.05	240.21
103 - CHEMICAL TANK AND BULKSTORAGE	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00

Orange County Sanitation District  
Cost of Service Rate Study  
Rate Design  
Exhibit 15 - Use Code Rate Calculation

Page 4 of 5

General Users	% of EDU	Current Rate		Proposed Rates							
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
104 - FOOD PROCESSING PLANT	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
105 - COLD STORAGE PLANT	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
106 - FACTORY	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
107 - LIGHT INDUSTRIAL - SINGLETENANT	50%	173.50	179.00	185.50	192.00	198.50	205.50	212.50	220.00	227.50	235.50
108 - LIGHT INDUSTRIAL - MULTI TENANT	50%	173.50	179.00	185.50	192.00	198.50	205.50	212.50	220.00	227.50	235.50
109 - RESEARCH AND DEVELOPMENT	50%	173.50	179.00	185.50	192.00	198.50	205.50	212.50	220.00	227.50	235.50
110 - WAREHOUSE - SINGLE TENANT	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
111 - WAREHOUSE - MULTI TENANT	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
112 - STEEL BUILDING	7%	24.29	25.06	25.97	26.88	27.79	28.77	29.75	30.80	31.85	32.97
113 - MINI-WAREHOUSE	7%	24.29	25.06	25.97	26.88	27.79	28.77	29.75	30.80	31.85	32.97
114 - INDUSTRIAL PARK	50%	173.50	179.00	185.50	192.00	198.50	205.50	212.50	220.00	227.50	235.50
115 - RECREATIONAL VEHICLE STORAGE YARD	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
116 - TRUCK TERMINAL	17%	58.99	60.86	63.07	65.28	67.49	69.87	72.25	74.80	77.35	80.07
118 - GOVERNMENTAL USEVACANT/DEVELOPED	82%	284.54	293.56	304.22	314.88	325.54	337.02	348.50	360.80	373.10	386.22
119 - PUBLIC UTILITY	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
120 - WATER MUTUAL OR COMPANY	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
121 - PARCEL OF MINIMAL OR NO VALUE	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122 - SUBSURFACE PARCELS	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
124 - OIL/MINERAL RIGHTS	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125 - MINERAL RIGHTS EQUIPMENT	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126 - VACANT COMMON AREA-IMPSALLOCATED	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127 -	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128 -	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
222 - OFFICE CONDO W/OUT INDIVIDUAL BATHROOMS	21%	72.87	75.18	77.91	80.64	83.37	86.31	89.25	92.40	95.55	98.91
223 - LAUNDROMAT	1800%	6,246.00	6,444.00	6,678.00	6,912.00	7,146.00	7,398.00	7,650.00	7,920.00	8,190.00	8,478.00
224 - NIGHTCLUB	200%	694.00	716.00	742.00	768.00	794.00	822.00	850.00	880.00	910.00	942.00
225 - UNITED STATES POST OFFICE	35%	121.45	125.30	129.85	134.40	138.95	143.85	148.75	154.00	159.25	164.85
333 - IRVINE RANCH WATER DISTRICT	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
555 - OPEN AIR FACILITIES	1133%	3,931.51	4,056.14	4,203.43	4,350.72	4,498.01	4,656.63	4,815.25	4,985.20	5,155.15	5,336.43
666 - UNASSIGNED VACANT	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
777 - SEPTIC TANK	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
888 - CONVERSION-COMPOSITE PROPERTY	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00
999 - Manually Calculated Fee	100%	347.00	358.00	371.00	384.00	397.00	411.00	425.00	440.00	455.00	471.00

General Users	Current Rate		Proposed Rates								
	% of EDU	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
			1.753199412	\$0.000020	0.001%						
Permit User (industrial)											
	Allocated Costs	Property Tax Adj	Net Costs	Units							
Biochemical Oxygen Demand (1,000 lbs)	\$8,735,098	\$0	\$8,735,098	11,450							
Total Suspended Solids (1,000 lbs)	2,287,354	0	2,287,354	2,652							
Volume (Million Gallons)	4,919,911	0	4,919,911	2,806							
Total	\$15,942,363	\$0	\$15,942,363								
COSA Results											
5 Year Rate Transition											
Biochemical Oxygen Demand (1,000 lbs)		\$667.99	\$705.11	\$744.28	\$785.64	\$829.29	\$875.37	\$906.06	\$937.78	\$970.60	\$1,004.57
Total Suspended Solids (1,000 lbs)		777.00	815.53	855.98	898.42	942.98	989.74	1,024.42	1,060.27	1,097.38	1,135.79
Volume (Million Gallons)		1,601.28	1,676.10	1,754.41	1,836.38	1,922.18	2,011.99	2,082.40	2,155.28	2,230.72	2,308.79
Biochemical Oxygen Demand % Change			5.6%	5.6%	5.6%	5.6%	5.6%	3.5%	3.5%	3.5%	3.5%
Total Suspended Solids % Change			5.0%	5.0%	5.0%	5.0%	5.0%	3.5%	3.5%	3.5%	3.5%
Volume (Million Gallons) % Change			4.7%	4.7%	4.7%	4.7%	4.7%	3.5%	3.5%	3.5%	3.5%
Wastehaulers Treatment Charge											
Proposed Rate											
	Current Rate	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	
In-County											
Treatment		\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040
Adminstrative		0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Capital Charge		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Wastehauler Charge	\$0.09	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Out of County											
Treatment		\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040	\$0.040
Adminstrative		0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Capital Charge		0.230	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
Total Wastehauler Charge	\$0.20	\$0.320	\$0.330	\$0.330	\$0.330	\$0.330	\$0.330	\$0.330	\$0.330	\$0.330	\$0.330

Orange County Sanitation District - 2022

Exhibit 1

Present and Calculated Capital Facilities Capacity Charge

Use Category	Ratio	Present CFCC <sup>(1)</sup>	Calculated CFCC <sup>(2)</sup>	\$ Difference	% Change
<b>2023</b>					
<b>Single Family Residential (SFR), Per Unit*</b>					
5+ Bedrooms	1.39	\$7,949	\$7,739	(\$210)	-2.6%
4+ Bedrooms	1.19	6,806	6,626	(180)	-2.6%
3+ Bedrooms, *Base Charge	1.00	5,719	5,568	(151)	-2.6%
2+ Bedrooms	0.81	4,633	4,511	(122)	-2.6%
1+ Bedrooms	0.62	3,545	3,452	(94)	-2.6%
<b>Multi-Family Residential (MFR)</b>					
4+ Bedrooms	1.08	\$6,177	\$6,014	(\$163)	-2.6%
3+ Bedrooms	0.89	5,090	4,956	(134)	-2.6%
2+ Bedrooms	0.70	4,004	3,898	(106)	-2.6%
1+ Bedrooms	0.50	2,859	2,783	(76)	-2.7%
Studio	0.32	1,829	1,781	(48)	-2.6%
<b>Non-Residential, Residential Accessory Structures, and Accessory Dwelling Units, Per 1,000 square feet <sup>(3)</sup></b>					
Low Demand		\$360	\$242	(\$118)	-32.8%
Average Demand		2,234	1,485	(749)	-33.5%
High Demand		5,309	3,521	(\$1,788)	-33.7%

**NOTES:**

(1) Present CFCC effective July 1, 2022.

(2) Calculated CFCC based on "Combined" methodology established in Water Environment Federation (WEF) Manual of Practice No. 27, 4th Edition, p. 206-211.

(3) Average demand is Commercial per 1,000 sq. ft. See Exhibit 3.

Orange County Sanitation District - 2022

Exhibit 2

Supplemental Capital Facilities Capacity Charge

Calculated Supplemental Capital Facilities Capacity Charge

	Rate	Years	Total <sup>(1)</sup>	Flow (gpd)	BOD (mg/L)	TSS (mg/L)
A Value of Existing and Future Assets, \$ Per Million			\$6,842	\$3,319	\$1,881	\$1,642
B Total EDUs			1,228,758	1,228,758	1,228,758	1,228,758
C SCFCC per EDU (A ÷ B)			\$5,568	\$2,701	\$1,531	\$1,336
D 30-Year Amortized SCFCC <sup>(2)</sup>	3.4%	30		\$144	\$82	\$71
E EDU Basis				185	288	290
					0.4481	0.4503
				gpd	lbs/day <sup>(3)</sup>	lbs/day <sup>(3)</sup>
F SCFCC (D ÷ E ÷ 365 Days)				\$0.002140 per gallon	\$0.500628 per lb.	\$0.434827 per lb.

Present and Calculated Supplemental Capital Facilities Capacity Charge

Use Category	Present SCFCC <sup>(4)</sup>	Calculated SCFCC	\$ Difference	% Change
<b>2022</b>				
<b>Daily Charge <sup>(5)</sup></b>				
FLOW	\$0.001996	<b>\$0.002140</b>	\$0.000144	7.2%
BOD	\$0.481210	<b>\$0.500628</b>	\$0.019418	4.0%
TSS	\$0.270840	<b>\$0.434827</b>	\$0.163987	60.5%

NOTES:

(1) Calculated CFCC based on "Combined" methodology established in Water Environment Federation (WEF) Manual of Practice No. 27, 4th Edition, p. 206-211.

(2) Bond Buyer's 20 Bond Index as of July 2022.

(3) Calculated pounds equals (annual flow (x) 748 (x) strength factor mg/l (x) 8.34) / 1,000,000

(4) Present SCFCC Ordinance No. OCSD-57, Table D, for July 1, 2022.

(5) 2.10 (i) an increase of discharge flow of 25,000 gallons per day (gpd), or 25% per day over its established baseline whichever is less; or (ii) an increase of either BOD or SS discharge of 150 pounds each per day, or 25% each per day, whichever is lesser, over its established baseline authorization. The daily averages will be based on the daily discharges for a year, utilizing discharge records and reports of the discharge or the District.



Orange County Sanitation District - 2022  
Exhibit 3  
Development of Calculated Capital Facilities Capacity Charge

Description	FLOW	BOD	TSS	TOTAL
<b>BUY-IN (Existing)</b>				
<b>Assets <sup>(1)</sup> (RCNLD)</b>				
Sewage Collection Facilities	\$503,494,522 +	\$55,943,836 +	\$0 =	\$559,438,358
Sewage Treatment Facilities	\$747,036,211 +	\$675,868,426 +	\$535,137,514 =	\$1,958,042,151
Effluent Disposal	85,569,158 +	0 +	0 =	85,569,158
Solids Disposal Facility	0 +	3,974,804 +	11,924,411 =	15,899,214
Total Treatment	\$832,605,368	\$679,843,229	\$547,061,925	\$2,059,510,523
Managed by IRWD	23,135,681 +	2,570,631 +	0 =	25,706,312
<b>Total Assets <sup>(1)</sup> (RCNLD)</b>	\$1,359,235,570	\$738,357,696	\$547,061,925	\$2,644,655,192
Plus: Construction Work In Progress <sup>(2)</sup>	190,381,235 +	110,980,326 +	106,322,733 =	407,684,294
<b>Total Assets</b>	\$1,549,616,806	\$849,338,022	\$653,384,658	\$3,052,339,486
Less: Outstanding Debt Principal <sup>(3)</sup>	(\$368,799,051) +	(\$214,986,727) +	(\$205,964,222) =	(\$789,750,000)
Plus: Reserves <sup>(4)</sup>	\$449,058,744 +	\$261,773,097 +	\$250,787,075 =	\$961,618,916
TOTAL BUY-IN (Existing)	\$1,629,876,499 +	\$896,124,392 +	\$698,207,511 =	\$3,224,208,402
<b>INCREMENTAL (FUTURE) <sup>(5)</sup></b>	<u>1,689,310,256 +</u>	<u>\$984,761,980 +</u>	<u>\$943,433,755 =</u>	<u>\$3,617,505,992</u>
<b>TOTAL BUY-IN AND INCREMENTAL</b>	\$3,319,186,756	\$1,880,886,372	\$1,641,641,266	\$6,841,714,393
Divided (÷) by Total EDUs <sup>(6)</sup>	1,228,758	1,228,758	1,228,758	1,228,758
<b>TOTAL CAPITAL FACILITIES CAPACITY CHARGE <sup>(7)</sup></b>	<b>\$2,701</b>	<b>\$1,531</b>	<b>\$1,336</b>	<b>\$5,568</b>
Present Capital Facilities Capacity Charge 2023 <sup>(8)</sup>	\$2,065	\$1,990	\$1,665	\$5,719
\$ Change				(\$151)
<b>Residential Percentage EDUs <sup>(9)</sup></b>	65.5%	65.5%	65.5%	65.5%
\$ percentage share	\$2,174,657,546	\$1,232,315,035	\$1,075,566,947	\$4,482,539,528
Total Residential EDUs	805,055	805,055	805,055	805,055
<b>\$ per EDU CFCC</b>	<b>\$2,701</b>	<b>\$1,531</b>	<b>\$1,336</b>	<b>\$5,568</b>
Present Capital Facilities Capacity Charge 2023 <sup>(8)</sup>	\$2,065	\$1,990	\$1,665	\$5,719
\$ Change	\$636	(\$459)	(\$328)	(\$151)
<b>Commercial/Industrial Percentage EDUs <sup>(10)</sup></b>	34.5%	34.5%	34.5%	34.5%
\$ percentage share	\$1,144,536,103	\$648,575,244	\$566,077,728	\$2,359,189,075
Total Commercial-Industrial Square Footage (1,000 sq ft)	670,099	670,099	670,099	670,099
<b>\$ per 1,000 sq. ft. CFCC</b>	<b>\$1,708</b>	<b>\$968</b>	<b>\$845</b>	<b>\$3,521</b>
Present Capital Facilities Capacity Charge 2023 <sup>(8)</sup>	\$1,314	\$1,265	\$1,059	\$3,638
\$ Change	\$394	(\$297)	(\$214)	(\$117)

**NOTES:**

- (1) Asset listing as of June, 2021, service date of asset and Sept 2022 ENR, CCI for 20-City Average. See Exhibit 7.
- (2) Construction work in progress as of June 2021. See Exhibit 3.
- (3) Outstanding debt service principal as of June 2022. See Exhibit 5. Flow, BOD, TSS split based on % of CIP see Exhibit 8.
- (4) Cash reserve levels as of June 2022. See Exhibit 6. Flow, BOD, TSS split based on % of CIP see Exhibit 8.
- (5) Future projects based on Ten-Year CIP from 2021/22 to 2031/32. See Exhibit 8.
- (6) Existing and future EDUs based on capacity. See Exhibit 7.
- (7) Calculated CFCC based on "Combined" methodology established in Water Environment Federation (WEF) Manual of Practice No. 27, 4th Edition, p. 206-211.
- (8) Present CFCC as of July 1, 2022 Residential, 3+ Bedrooms, \*Base Charge
- (9) Percentage of residential EDUs see Exhibit 7.
- (10) Percentage of commercial/industrial EDUs and total square footage per EDU see Exhibit 7.

Orange County Sanitation District - 2022

Exhibit 4

Development of Construction Work in Progress

CATEGORY <sup>(1)</sup>	LA ENR-CCI	13,120	September 2022		(2)			\$		
	DATE	June 30, 2021 COST	ENR FACTOR	2022 COST	FLOW	BOD	TSS	FLOW	BOD	TSS
Construction Work in Progress	06/01/2021	\$401,200,044	1.02	\$407,684,294	47%	27%	26%	\$190,381,235	\$110,980,326	\$106,322,733
<b>TOTAL</b>		<b>\$401,200,044</b>		<b>\$407,684,294</b>				<b>\$190,381,235</b>	<b>\$110,980,326</b>	<b>\$106,322,733</b>

NOTES:

(1) Construction work in progress as of June 30, 2021 CAFR, page 29.

(2) CWIP allocated based on overall allocation for CIP. See Exhibit 8.

Orange County Sanitation District - 2022

Exhibit 5

Development of Debt Credit (Outstanding debt principal only)

Year	2010A Build America Bonds	2010C Build America Bonds	2014A Refunding	2015A Refunding	2016A Refunding	2017A Refunding	2021A Refunding	2022A Refunding	TOTAL PRINCIPAL (1)
FY 2022-23	0	0	0	0	0	0	0	0	0
FY 2023-24	0	0	9,085,000	0	5,370,000	0	17,125,000	0	31,580,000
FY 2024-25	0	0	9,545,000	0	5,635,000	0	17,940,000	0	33,120,000
FY 2025-26	0	0	10,025,000	0	5,915,000	0	18,890,000	0	34,830,000
FY 2026-27	0	0	10,525,000	0	6,210,000	15,115,000	4,595,000	0	36,445,000
FY 2027-28	0	0	0	15,240,000	6,525,000	15,830,000	4,825,000	0	42,420,000
FY 2028-29	0	0	0	16,045,000	6,845,000	16,580,000	5,070,000	0	44,540,000
FY 2029-30	0	0	0	15,965,000	7,190,000	18,290,000	5,320,000	0	46,765,000
FY 2030-31	0	5,735,000	0	6,215,000	7,570,000	0	5,590,000	22,485,000	47,595,000
FY 2031-32	0	17,095,000	0	0	7,950,000	0	5,865,000	22,805,000	53,715,000
FY 2032-33	0	17,895,000	0	0	8,350,000	0	6,160,000	36,330,000	68,735,000
FY 2033-34	9,590,000	9,130,000	0	17,180,000	8,760,000	0	6,470,000	0	51,130,000
FY 2034-35	10,145,000	9,440,000	0	18,040,000	9,205,000	0	6,790,000	0	53,620,000
FY 2035-36	10,735,000	9,770,000	0	18,940,000	9,660,000	0	7,130,000	0	56,235,000
FY 2036-37	11,355,000	10,100,000	0	19,885,000	10,145,000	0	0	0	51,485,000
FY 2037-38	12,015,000	10,430,000	0	0	10,550,000	0	0	0	32,995,000
FY 2038-39	12,710,000	10,770,000	0	0	10,975,000	0	0	0	34,455,000
FY 2039-40	13,450,000	11,125,000	0	0	0	0	0	0	24,575,000
FY 2040-41	0	20,805,000	0	0	0	0	0	0	20,805,000
FY 2041-42	0	12,430,000	0	0	0	0	0	0	12,430,000
FY 2042-43	0	9,795,000	0	0	0	0	0	0	9,795,000
FY 2043-44	0	2,480,000	0	0	0	0	0	0	2,480,000
<b>TOTAL</b>	<b>\$80,000,000</b>	<b>\$157,000,000</b>	<b>\$39,180,000</b>	<b>\$127,510,000</b>	<b>\$126,855,000</b>	<b>\$65,815,000</b>	<b>\$111,770,000</b>	<b>\$81,620,000</b>	<b>\$789,750,000</b>

NOTES:

(1) Outstanding principal balance as of 2022 provided by OCSD. Payment date for Bonds is Feb 1st.

2010A acquisition, construction, and installation of additional improvements made to the wastewater system.

2010C acquisition, construction, and installation of additional improvements made to the wastewater system.

2014A refund \$93,930,000, 2007 Series B

2015A refund \$152,990,000, 2007 Series B

2016A refund \$162,780,000, 2009 Series A

2017A refund \$91,620,000, 2007 Series A

2021A

2022A

Orange County Sanitation District - 2022  
Exhibit 6  
Summary of Reserve Funds  
For the Year Ended June 30, 2022

Account #	Total	% CFCC Eligible (1)	CFCC
<b>CASH RESERVES</b>	\$961,618,916	100%	\$961,618,916
<b>TARGET RESERVES</b>			
50% Next Year Operating Expense	\$100,572,351	0%	\$0
10% Next Year Operating Expense	20,114,470	0%	0
100% Next Year AUG COP Svc.	19,266,567	0%	0
50% average ten-year CIP Balance	153,752,792	0%	0
Debt Svc @ 10% Outstanding COP	78,975,000	0%	0
Self Funded Insurance @ \$100M	100,000,000	0%	0
Repl & Refurb	<u>75,000,000</u>	0%	<u>0</u>
TOTAL TARGET RESERVES	\$547,681,180		\$0
<b>BALANCE</b>	<b>\$413,937,736</b>		<b>\$961,618,916</b>

**NOTES:**

(1) Reserves that are not debt or CIP related levels.

Orange County Sanitation District - 2022  
Exhibit 7  
Development of Equivalent Dwelling Units

Treatment Plant - Permit Capacity	Permit Rated Capacity Dry Weather Flow (MGD)	MGD
Plant 1 Fountain Valley <sup>(1)</sup>	182.00	
Plant 2 Huntington Beach <sup>(2)</sup>	<u>150.00</u>	
<b>Net <sup>(3)</sup></b>	<b>332.00</b>	<b>332.00</b>
SAWPA <sup>(4)</sup> Rights (17 mgd purchased)		(30.00)
RA 14 <sup>(4)</sup>		(10.00)
Urban Dry Weather Runoff <sup>(4)</sup>		<u>(10.00)</u>
<b>Total</b>		<b>282.00</b>
<b>EDU</b>		
Average Household Gallons per Person Per Day (GPCD) <sup>(5)</sup>	75	
Number of Persons per Household <sup>(6)</sup>	<u>3.1</u>	
Total Gallons per EDU <sup>(6)</sup>	<b>230</b>	

EQUIVALENT DWELLING UNITS						
EDU Calculation	Total Capacity (MGD)	Average Daily Flow gallons Per EDU <sup>(6)</sup>	Total EDUs	% of	% Growth	
<b>Equivalent Dwelling Units - Existing <sup>(7)</sup></b>						
Residential			630,912	65.52%		
Commercial			292,199	30.34%		
Industrial			<u>39,854</u>	<u>4.14%</u>		
Equivalent Dwelling Units - Existing	221.00	230	<b>962,963</b>	100.00%	78.37%	
<b>Equivalent Dwelling Units - Future</b>						
Residential			174,143	65.52%		
Commercial			80,652	30.34%		
Industrial			<u>11,000</u>	<u>4.14%</u>		
Equivalent Dwelling Units - Future	61.00	230	<b>265,795</b>	100.00%	21.63%	
<b>Buildout EDU's</b>	<b>282.00</b>	<b>230</b>	<b>1,228,758</b>		100.00%	

**Total Square Feet for Commercial and Industrial**

Assumption of Square Foot per EDU	1,581.52	square feet per EDU
Total Commercial and Industrial EDUs	423,706	EDUs
<b>Total Square Feet (Comm/Ind EDUs X Sq. Ft. per EDU) ±1,000</b>	<b>670,099</b>	total square feet per 1,000

**NOTES:**

- (1) 2017 Master Plan, Plant 1 Chapter 3, page 3-2, Table 3-2; PWWF Rated Capacity of 310 MGD, net of Sludge Recycle to PCs (7.8 MGD) and GWRS Return to PCs (17.0 MGD). Page 8-21, combined capacity of both plants 660 mgd.
- (2) 2017 Master Plan, Plant 2 Chapter 4, page 4-7, PWWF Rated Capacity of 317 MGD,
- (3) 2017 Master Plan, Interplant Facilities Chapter 5, page 5-4, Interplant Design Criteria 375 MGD  
Page 8-22, Rated PWWF is Plant 1 at 320 MGD and Plant 2 at 340 MGD. Limited by conveyance by two 90" influent pipes.
- (4) 2017 Master Plan, Planning Assumptions Chapter 7, page 7-5, Table 7-3; Maximum SAWPA, RA 14, Urban Runoff.  
SAWPA has the rights to purchase up to 30 mgd, they currently have only purchased 17 mgd. See page 7-16.  
IRWD, called Revenue Area 14, See page 7-16.
- (5) 2017 Master Plan, Planning Assumptions Chapter 7, page 7-4, Table 7-2.
- (6) 2020 <https://www.census.gov/quickfacts/orangecountycalifornia> is 3.0 pph; Table 7-3 average daily flow of 230 for 2035.
- (7) 2022 average flow at plant from 2022 rate study data.

Orange County Sanitation District - 2022  
Exhibit 8  
Development of Capital Improvement Plan

#	Project Type	Function	Ten Year CIP Total	%					\$		
				% Eligible	\$ Eligible	FLOW	BOD	TSS	FLOW	BOD	TSS
1	11-33 Edinger Pump Station Replacement	Collection	\$17,198,620	100.0%	\$17,198,620	90%	10%	0%	\$15,478,758	\$1,719,862	\$0
2	11-34 Slater Pump Station Rehabilitation	Collection	27,336,055	100.0%	27,336,055	90%	10%	0%	24,602,449	2,733,605	0
3	1-23 Santa Ana Trunk Sewer Rehabilitation	Collection	54,479,198	100.0%	54,479,198	90%	10%	0%	49,031,278	5,447,920	0
4	1-24 Greenville Trunk Improvements	Collection	48,557,264	100.0%	48,557,264	90%	10%	0%	43,701,538	4,855,726	0
5	2-49 Taft Branch Improvements	Collection	22,886,903	100.0%	22,886,903	90%	10%	0%	20,598,213	2,288,690	0
6	2-72B Newhope-Placentia Trunk Replacement, Segment B	Collection	1,605,022	100.0%	1,605,022	90%	10%	0%	1,444,520	160,502	0
7	2-73 Yorba Linda Pump Station Removal and Dosing Station Installation	Collection	11,266,000	100.0%	11,266,000	90%	10%	0%	10,139,400	1,126,600	0
8	2-78 Santa Ana Canyon South River Trunk Rehabilitation	Collection	14,115,683	100.0%	14,115,683	90%	10%	0%	12,704,115	1,411,568	0
9	3-60 Knott - Miller Holder - Artesia Branch Rehabilitation	Collection	28,317,000	100.0%	28,317,000	90%	10%	0%	25,485,300	2,831,700	0
10	3-62 Westminster Blvd Force Main Replacement	Collection	7,954,815	100.0%	7,954,815	90%	10%	0%	7,159,333	795,481	0
11	3-64B Los Alamitos Trunk Sewer Rehabilitation	Collection	15,182,248	100.0%	15,182,248	90%	10%	0%	13,664,023	1,518,225	0
12	3-64C Los Alamitos Sub-Trunk and Westside Relief Interceptor Rehabilitation	Collection	56,415,700	100.0%	56,415,700	90%	10%	0%	50,774,130	5,641,570	0
13	3-66 Interstate 405 Widening Project Impacts on OCSW Sewers	Collection	71,348	100.0%	71,348	90%	10%	0%	64,213	7,135	0
14	3-67 Seal Beach Pump Station Replacement	Collection	79,883,908	100.0%	79,883,908	90%	10%	0%	71,895,517	7,988,391	0
15	3-68 Los Alamitos Sub-Trunk Extension	Collection	52,345,584	100.0%	52,345,584	90%	10%	0%	47,111,025	5,234,558	0
16	5-66 Crystal Cove Pump Station Rehabilitation	Collection	13,903,000	100.0%	13,903,000	90%	10%	0%	12,512,700	1,390,300	0
17	5-67 Bay Bridge Pump Station Replacement	Collection	94,295,270	100.0%	94,295,270	90%	10%	0%	84,865,743	9,429,527	0
18	5-68 Newport Beach Pump Station Pressurization Improvements	Collection	2,509,273	100.0%	2,509,273	90%	10%	0%	2,258,346	250,927	0
19	6-20 Fairview Trunk Rehabilitation	Collection	19,176,350	100.0%	19,176,350	90%	10%	0%	17,258,715	1,917,635	0
20	7-63 MacArthur Pump Station Rehabilitation	Collection	9,329,000	100.0%	9,329,000	90%	10%	0%	8,396,100	932,900	0
21	7-64 Main Street Pump Station Rehabilitation	Collection	31,243,000	100.0%	31,243,000	90%	10%	0%	28,118,700	3,124,300	0
22	7-65 Gisler-Red Hill Interceptor and Baker Force Main Rehabilitation	Collection	42,451,815	100.0%	42,451,815	90%	10%	0%	38,206,634	4,245,182	0
23	7-66 Sunflower and Red Hill Interceptor Repairs	Collection	3,632,720	100.0%	3,632,720	90%	10%	0%	3,269,448	363,272	0
24	7-68 MacArthur Force Main Improvements	Collection	6,563,458	100.0%	6,563,458	90%	10%	0%	5,907,112	656,346	0
25	7-69 North Trunk - Yorba Street Sub-Trunk Improvements	Collection	10,854,000	100.0%	10,854,000	90%	10%	0%	9,768,600	1,085,400	0
26	Equipment Equipment Purchases	Collection	14,800,702	100.0%	14,800,702	90%	10%	0%	13,320,632	1,480,070	0
27	FE10-21 Area 02 Craig Regional Park Manhole Improvements	Collection	161,960	100.0%	161,960	90%	10%	0%	145,764	16,196	0
28	FE17-03 Battery Storage System at Plant No. 1	Interplant	1,486	100.0%	1,486	40%	33%	27%	601	491	395
29	FE17-05 Plant 1 ICS Network Extension	Interplant	91,844	100.0%	91,844	40%	33%	27%	37,130	30,318	24,396
30	FE18-06 CenGen Instrument Air Compressors Replacement at Plant No. 1	Interplant	886,537	100.0%	886,537	40%	33%	27%	358,403	292,645	235,488
31	FE18-08 West Trunk Bypass Sewer Realignment	Collection	0	100.0%	0	90%	10%	0%	0	0	0
32	FE18-11 Headworks Explosive Gas Monitoring Systems at Plant No. 1 and No. 2	Headworks	15,818	100.0%	15,818	75%	5%	20%	11,864	791	3,164
33	FE18-12 Erosion Control at Santa Ana River and Hamilton Ave	Collection	51,425	100.0%	51,425	90%	10%	0%	46,283	5,143	0
34	FE18-13 Redhill Relief Sewer Relocation at State Route 55	Collection	2,989,336	100.0%	2,989,336	90%	10%	0%	2,690,402	298,934	0
35	FE18-14 Plant Water Pipeline Replacement in Kinnison, Lindstrom, and Scott Tunnels at Plant No. 2	Interplant	907,384	100.0%	907,384	40%	33%	27%	366,831	299,527	241,026
36	FE18-15 Plant Boiler System Relief at Plant No. 2	Interplant	70,826	100.0%	70,826	40%	33%	27%	28,633	23,380	18,813
37	FE18-16 Truck Loading Basement Drain Modifications at Plant No. 1	Interplant	139,476	100.0%	139,476	40%	33%	27%	56,386	46,041	37,049
38	FE18-19 12KV Distribution B and East RAS Pump Station Roofing Replacement	Interplant	82,085	100.0%	82,085	40%	33%	27%	33,185	27,096	21,804
39	FE18-20 DAFT Air Compressors Replacement at Plant No. 1	Interplant	1,097,587	100.0%	1,097,587	40%	33%	27%	443,725	362,313	291,549
40	FE19-01 Pump Station Portable Generator Connectors	Collection	2,160,864	100.0%	2,160,864	90%	10%	0%	1,944,778	216,086	0
41	FE19-02 Cengen Plant Water Pipe Replacement at Plant No. 1	Interplant	3,748,373	100.0%	3,748,373	40%	33%	27%	1,515,368	1,237,336	995,670
42	FE19-03 Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1	Trickling Filters	2,685,144	100.0%	2,685,144	0%	100%	0%	0	2,685,144	0
43	FE19-04 Sunflower Pump Replacement at Plant No. 1	Interplant	3,434,259	100.0%	3,434,259	40%	33%	27%	1,388,379	1,133,647	912,232
44	FE19-06 EPSA Motor Cooling Improvements at Plant No. 2	Interplant	1,074,165	100.0%	1,074,165	40%	33%	27%	434,256	354,581	285,327
45	FE19-08 Secondary Treatment VFD Replacements at Plant No. 2	Secondary Sedimentation	2,662,809	100.0%	2,662,809	0%	70%	30%	0	1,863,966	798,843
46	FE19-10 Digesters C, D, F, G and I Gas Balance Lines Replacement at Plant No. 2	Digestion	2,075,516	100.0%	2,075,516	0%	25%	75%	0	518,879	1,556,637
47	FE19-11 Primary Clarifiers Nos. 6-31 Lighting and Alarm Improvements at Plant No. 1	Secondary Sedimentation	159,588	100.0%	159,588	0%	70%	30%	0	111,711	47,876
48	FE19-12 Rebuild Shop Fume Extractor Installation at Plant No. 1	Interplant	435,841	100.0%	435,841	40%	33%	27%	176,199	143,871	115,771
49	FE19-13 VFD Replacements at Seal Beach Pump Station	Collection	273,873	100.0%	273,873	90%	10%	0%	246,486	27,387	0
50	FE20-01 Wastehauler Station Safety and Security Improvements	Interplant	1,306,337	100.0%	1,306,337	40%	33%	27%	528,118	431,221	346,999
51	FE20-02 Digester C, D, F, and G Mechanical Rehabilitation at Plant No. 2	Digestion	3,641,330	100.0%	3,641,330	0%	25%	75%	0	910,332	2,730,997
52	FE20-03 Return Activated Sludge Discharge Piping Replacement at Activated Sludge Plant No. 1	Activated Sludge Process	4,524,089	100.0%	4,524,089	0%	100%	0%	0	4,524,089	0
53	FE20-04 Cengen Cooling Water Pipe Replacement at Plant No. 2	Interplant	4,955,241	100.0%	4,955,241	40%	33%	27%	2,003,272	1,635,722	1,316,246
54	FE20-05 Plant Water Piping Replacement at Secondary Clarifiers 1-26 at Plant No. 1	Secondary Sedimentation	1,448,234	100.0%	1,448,234	0%	70%	30%	0	1,013,764	434,470
55	FE20-06 Thickening and Dewatering Building Pipe Support Improvements at Plant No. 1	Sludge Thickening	1,179,706	100.0%	1,179,706	0%	25%	75%	0	294,927	884,780
56	FE20-07 Santa Ana Trunk Rehabilitation at Plant No. 1	Collection	647,683	100.0%	647,683	90%	10%	0%	582,914	64,768	0
57	FE20-08 Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River	Collection	2,640,907	100.0%	2,640,907	90%	10%	0%	2,376,816	264,091	0
58	FE20-09 CenGen Smoke Detection Improvements at Plant No. 1 and No. 2	Interplant	588,228	100.0%	588,228	40%	33%	27%	237,805	194,174	156,249
59	FE20-10 Adolfo Lopez Chemical Dosing Station Installation	Interplant	941,753	100.0%	941,753	40%	33%	27%	380,726	310,872	250,155
60	FE21-01 Plasma Cutting Fume Extractor installation at Plant No. 1 Rebuild Shop	Interplant	259,757	100.0%	259,757	40%	33%	27%	105,013	85,746	68,999
61	FE21-02 Lighting Improvements Boiler and Sludge Dewatering Areas at Plant No. 1	Sludge Thickening	270,790	100.0%	270,790	0%	25%	75%	0	67,697	203,092
62	FE21-04 Thickening and Dewatering Facility Handrail Installation at Plant No. 1	Sludge Thickening	186,202	100.0%	186,202	0%	25%	75%	0	46,550	139,651
63	FE21-05 Warehouse Stations and Demolition at Plant No. 2	Interplant	2,163,021	100.0%	2,163,021	40%	33%	27%	874,452	714,012	574,557

Orange County Sanitation District - 2022  
Exhibit 8  
Development of Capital Improvement Plan

#	Project Type	Function	Ten Year CIP Total	%					\$		
				% Eligible	\$ Eligible	FLOW	BOD	TSS	FLOW	BOD	TSS
64	FE21-06 Chemical Dosing Station Installation at Westside Pump Station	Interplant	508,441	100.0%	508,441	40%	33%	27%	205,549	167,836	135,056
65	IT16-09 IPACS Enhancements	Collection	56,275	100.0%	56,275	90%	10%	0%	50,648	5,628	0
66	IT18-09 Records Management Information System	Collection	0	100.0%	0	90%	10%	0%	0	0	0
67	IT19-01 IT Safety VPP Systems (IT19-01)	Collection	0	100.0%	0	90%	10%	0%	0	0	0
68	IT19-05 IT P1 & P2 Data Refresh (IT19-05)	Collection	1,070,000	100.0%	1,070,000	90%	10%	0%	963,000	107,000	0
69	IT20-05 Client Management Modernization (ICE-69_IT20-05) 6520005	Collection	71,603	100.0%	71,603	90%	10%	0%	64,443	7,160	0
70	IT20-06 Nintex Workflow Cloud Implementation (ICE-75_IT20-06) 6520006	Collection	0	100.0%	0	90%	10%	0%	0	0	0
71	IT20-07 Professional Services for Valo/SharePoint (ICE-74_IT20-07) 6520007	Collection	27,835	100.0%	27,835	90%	10%	0%	25,052	2,784	0
72	IT20-08 Field Computer for Nerissa and Interface with LIMS(ICE-68_IT20-07) 6520008	Collection	77,822	100.0%	77,822	90%	10%	0%	70,040	7,782	0
73	IT20-09 ITSM Migration (ICE-70_IT20-09) 6520009	Collection	0	100.0%	0	90%	10%	0%	0	0	0
74	IT20-10 Digitize Quality Assurance Tracking Processes /TNI/ELAP Standards(ICE-76_IT20-10) 6520010	Collection	89,317	100.0%	89,317	90%	10%	0%	80,385	8,932	0
75	IT20-12 Web-based Cloud Proxy Security with an Isolation Platform (ICE-78_6520012)	Collection	0	100.0%	0	90%	10%	0%	0	0	0
76	IT21-01 Access Network Equipment Obsolescence Replacement (ICE-79_IT21-01) 6521001	Collection	1,009,193	100.0%	1,009,193	90%	10%	0%	908,274	100,919	0
77	IT21-02 Hyper Converged Infrastructure for Plant 1 ICS network (ICE-80 IT21-02) 6521002	Collection	139,321	100.0%	139,321	90%	10%	0%	125,389	13,932	0
78	IT21-03 Door Access Control System for P2 Construction Management Trailers (ICE-83_IT21-036521003	Collection	0	100.0%	0	90%	10%	0%	0	0	0
79	IT21-04 Databridge Scale Management Software (ICE - 84_IT21-04)	Collection	35,946	100.0%	35,946	90%	10%	0%	32,351	3,595	0
80	IT21-05 JD Edwards Server Migration and Upgrade (ICE - 86_IT21-05)	Collection	68,628	100.0%	68,628	90%	10%	0%	61,765	6,863	0
81	IT21-06 Dig-Smart Fusion (ICE - 89_I6521006_T21-06)	Collection	0	100.0%	0	90%	10%	0%	0	0	0
82	IT21-07 Advanced Email Security (ICE - 90_I6521007_T21-07)	Collection	0	100.0%	0	90%	10%	0%	0	0	0
83	J-117B Outfall Low Flow Pump Station	Effluent Disposal	51,164,677	100.0%	51,164,677	100%	0%	0%	51,164,677	0	0
84	J-120 Process Control Systems Upgrades	Interplant	30,790,276	100.0%	30,790,276	40%	33%	27%	12,447,690	10,163,852	8,178,733
85	J-120A Control Room Room Reconfiguration at Plant No. 1 and Plant No. 2	Interplant	3,765,593	100.0%	3,765,593	40%	33%	27%	1,522,329	1,243,020	1,000,244
86	J-124 Digester Gas Facilities Replacement	Digestion	156,948,308	100.0%	156,948,308	0%	25%	75%	0	39,237,077	117,711,231
87	J-127 Natural Gas Pipelines Replacement at Plant Nos. 1 and 2	Interplant	78,826	100.0%	78,826	40%	33%	27%	31,867	26,021	20,938
88	J-128 Project Management Information System	Collection	670,937	100.0%	670,937	90%	10%	0%	603,843	67,094	0
89	J-133 Laboratory Rehabilitation/Replacement at Plant No 1	Interplant	100,000,000	100.0%	100,000,000	40%	33%	27%	40,427,342	33,009,942	26,562,716
90	J-135 Central Generation Engine Overhauls at Plant No. 1 and 2	Interplant	14,874,635	100.0%	14,874,635	40%	33%	27%	6,013,420	4,910,109	3,951,107
91	J-135A Central Generation Engine Overhaul at Plant No. 1	Interplant	0	100.0%	0	40%	33%	27%	0	0	0
92	J-135B Engine and Generator Overhauls at Plant No. 1 and 2	Interplant	24,000,000	100.0%	24,000,000	40%	33%	27%	9,702,562	7,922,386	6,375,052
93	J-136 Power Building Structural Seismic Improvements at Plant No. 1 and 2	Interplant	5,364,280	100.0%	5,364,280	40%	33%	27%	2,168,636	1,770,746	1,424,898
94	J-137 120-inch Ocean Outfall Rehabilitation	Effluent Disposal	64,968,000	100.0%	64,968,000	100%	0%	0%	64,968,000	0	0
95	J-36-2 GWRS Final Expansion Coordination	Interplant	272,061	100.0%	272,061	40%	33%	27%	109,987	89,807	72,267
96	J-98 Electrical Power Distribution System Improvements	Collection	24,291,686	100.0%	24,291,686	90%	10%	0%	21,862,518	2,429,169	0
97	M-FE Small Construction Projects Program	Collection	24,290,374	100.0%	24,290,374	90%	10%	0%	21,861,337	2,429,037	0
98	M-MC-IT Information Technology Capital Program	Collection	4,318,329	100.0%	4,318,329	90%	10%	0%	3,886,496	431,833	0
99	M-RESEARCH Research Program	Collection	2,089,746	100.0%	2,089,746	90%	10%	0%	1,880,772	208,975	0
100	M-SM-CAP Operations & Maintenance Capital Program	Collection	10,303,912	100.0%	10,303,912	90%	10%	0%	9,273,520	1,030,391	0
101	M-STUDIES Planning Studies Program	Collection	14,847,718	100.0%	14,847,718	90%	10%	0%	13,362,946	1,484,772	0
102	P1-101 Sludge Dewatering and Odor Control at Plant 1	Sludge Thickening	0	100.0%	0	0%	25%	75%	0	0	0
103	P1-105 Headworks Rehabilitation at Plant 1	Headworks	260,827,359	100.0%	260,827,359	75%	5%	20%	195,620,519	13,041,368	52,165,472
104	P1-126 Primary Sedimentation Basins No. 3-5 Replacement at Plant No. 1	Primary Sedimentation	168,628,090	100.0%	168,628,090	0%	30%	70%	0	50,588,427	118,039,663
105	P1-127 Central Generation Rehabilitation at Plant No. 1	Interplant	21,884,242	100.0%	21,884,242	40%	33%	27%	8,847,217	7,223,976	5,813,049
106	P1-128A Headquarters Complex at Plant No. 1	Interplant	85,125,871	100.0%	85,125,871	40%	33%	27%	34,414,127	28,100,001	22,611,743
107	P1-129 Return Activated Sludge Piping Replacement at Activated Sludge Plant No. 1	Activated Sludge Process	0	100.0%	0	0%	100%	0%	0	0	0
108	P1-132 Uninterruptable Power Supply Improvements at Plant 1	Interplant	5,605,952	100.0%	5,605,952	40%	33%	27%	2,266,337	1,850,521	1,489,093
109	P1-133 Primary Sedimentation Basins No. 6-31 Reliability Improvements at Plant No. 1	Primary Sedimentation	11,479,256	100.0%	11,479,256	0%	30%	70%	0	3,443,777	8,035,479
110	P1-134 South Perimeter Security and Utility Improvements at Plant No.1	Interplant	4,134,215	100.0%	4,134,215	40%	33%	27%	1,671,353	1,364,702	1,098,160
111	P1-135 Digester Ferric Chloride Piping Replacement at Plant No. 1	Digestion	215,671	100.0%	215,671	0%	25%	75%	0	53,918	161,753
112	P1-136 12.47 kV Switchgear Replacement at Central Generation at Plant No. 1	Interplant	12,958,000	100.0%	12,958,000	40%	33%	27%	5,238,575	4,277,428	3,441,997
113	P1-137 Supports Buildings Seismic Improvements at Plant No. 1	Interplant	23,643,235	100.0%	23,643,235	40%	33%	27%	9,558,331	7,804,618	6,280,285
114	P1-138 Industrial Control System and IT Data Center Relocation at Plant No. 1	Interplant	5,700,000	100.0%	5,700,000	40%	33%	27%	2,304,358	1,881,567	1,514,075
115	P1-140 Activated Sludge-1 and Secondary Clarifier Rehabilitation	Activated Sludge Process	261,152,452	100.0%	261,152,452	0%	100%	0%	0	261,152,452	0
116	P1-141 Administrative Facilities and Power Building 3A Demolition	Collection	8,910,000	100.0%	8,910,000	90%	10%	0%	8,019,000	891,000	0
117	P2-119 Central Generation Rehabilitation at Plant No. 2	Interplant	36,690,396	100.0%	36,690,396	40%	33%	27%	14,832,952	12,111,479	9,745,966
118	P2-122 Headworks Modifications at Plant No. 2 for GWRS Final Expansion	Headworks	5,895,763	100.0%	5,895,763	75%	5%	20%	4,421,822	294,788	1,179,153
119	P2-123 Return Activated Sludge Piping Replacement at Plant 2	Activated Sludge Process	1,330,642	100.0%	1,330,642	0%	100%	0%	0	1,330,642	0
120	P2-124 Interim Food Waste Receiving Facility	Collection	4,948,534	100.0%	4,948,534	90%	10%	0%	4,453,681	494,853	0
121	P2-127 Collections Yard Relocation	Collection	1,843,092	100.0%	1,843,092	90%	10%	0%	1,658,782	184,309	0
122	P2-128 TPAD Digester Facility at Plant No.2	Digestion	376,282,135	100.0%	376,282,135	0%	25%	75%	0	94,070,534	282,211,601
123	P2-128A TPAD Perimeter Wall	Interplant	53,200,000	100.0%	53,200,000	40%	33%	27%	21,507,346	17,561,289	14,131,365
124	P2-129 Digester P, Q, R, and S Replacement	Digestion	59,400,030	100.0%	59,400,030	0%	25%	75%	0	14,850,007	44,550,022
125	P2-133 B/C-Side Primary Sedimentation Basins Rehabilitation at Plant No. 2	Primary Sedimentation	15,839,853	100.0%	15,839,853	0%	30%	70%	0	4,751,956	11,087,897
126	P2-135 Sodium Bisulfite Station Rehabilitation at Plant No. 2	Interplant	4,959,808	100.0%	4,959,808	40%	33%	27%	2,005,118	1,637,230	1,317,460

Orange County Sanitation District - 2022  
Exhibit 8  
Development of Capital Improvement Plan

#	Project Type	Function	Ten Year CIP Total	%			\$		
				% Eligible	\$ Eligible	FLOW BOD TSS	FLOW BOD TSS	FLOW BOD TSS	FLOW BOD TSS
127	P2-136 Activated Sludge Aeration Basin Rehabilitation at Plant No. 2	Activated Sludge Process	65,538,625	100.0%	65,538,625	0% 100% 0%	0 65,538,625	0 65,538,625	0 65,538,625
128	P2-137 Digesters Rehabilitation at Plant No. 2	Digestion	40,374,156	100.0%	40,374,156	0% 25% 75%	0 10,093,539	0 10,093,539	30,280,617
129	P2-138 Operations and Maintenance Complex at Plant No. 2	Collection	83,798,943	100.0%	83,798,943	90% 10% 0%	75,419,049	8,379,894	0
130	P2-139 Emergency Overflow Wingwalls Rehabilitation at Plant No. 2	Interplant	4,370,000	100.0%	4,370,000	40% 33% 27%	1,766,675	1,442,534	1,160,791
131	P2-140 Truck Loading Bay Odor Control Improvements at Plant No. 2	Interplant	7,600,000	100.0%	7,600,000	40% 33% 27%	3,072,478	2,508,756	2,018,766
132	P2-98A A-Side Primary Clarifiers Replacement at Plant 2	Primary Sedimentation	133,766,315	100.0%	133,766,315	0% 30% 70%	0 40,129,895	93,636,421	0
133	P2-98B B/C-Side Primary Clarifiers Interim Repair at Plant 2	Primary Sedimentation	0	100.0%	0	0% 30% 70%	0 0	0 0	0 0
134	PS17-03 Active Fault Location Study at Plant No. 2	Interplant	0	100.0%	0	40% 33% 27%	0 0	0 0	0 0
135	PS18-06 Go/No-Go Lights and Signage	Collection	99,262	100.0%	99,262	90% 10% 0%	89,336	9,926	0
136	PS18-09 Ocean Outfall Condition Assessment and Scoping Study	Effluent Disposal	55,300	100.0%	55,300	100% 0% 0%	55,300	0	0
137	PS19-03 Laboratory Rehabilitation Feasibility Study	Collection	12,593	100.0%	12,593	90% 10% 0%	11,333	1,259	0
138	PS20-01 Collections Yard Relocation Feasibility Study	Collection	69,513	100.0%	69,513	90% 10% 0%	62,562	6,951	0
139	PS20-02 Collection System Flow Level Monitoring Study	Collection	620,246	100.0%	620,246	90% 10% 0%	558,222	62,025	0
140	PS20-03 Truck Loading Bay Odor Control Improvements Study at Plant No. 2	Interplant	160,469	100.0%	160,469	40% 33% 27%	64,873	52,971	42,625
141	PS20-04 Power Generation Overhaul Feasibility Study	Interplant	0	100.0%	0	40% 33% 27%	0 0	0 0	0 0
142	PS20-05 Cen Gen Pressure Vessel Integrity Assessment at Plant Nos. 1 and 2	Interplant	233,863	100.0%	233,863	40% 33% 27%	94,545	77,198	62,120
143	PS20-07 College Pump Station Wet Well Condition Assessment Study	Collection	67,425	100.0%	67,425	90% 10% 0%	60,682	6,742	0
144	PS20-08 Euclid Trunk Sewer Hydraulic Modeling and Odor Control Analyses	Collection	205,952	100.0%	205,952	90% 10% 0%	185,357	20,595	0
145	PS20-09 Thickening & Dewatering Plant Water Study at Plant No. 1	Sludge Thickening	328,511	100.0%	328,511	0% 25% 75%	0 82,128	246,383	0
146	PS21-01 Exterior Lighting Study at Plant Nos. 1 and 2	Interplant	523,744	100.0%	523,744	40% 33% 27%	211,736	172,887	139,121
147	PS21-02 Public Announcement and Fire System at Plant Nos. 1 and 2	Interplant	458,614	100.0%	458,614	40% 33% 27%	185,405	151,388	121,820
148	PS21-03 Process Model for Denitrification Alternatives at Activated Sludge 1	Activated Sludge Process	9,698	100.0%	9,698	0% 100% 0%	0 9,698	0 9,698	0 0
149	PS21-04 Energy and Digester Gas Master Plan	Interplant	1,068,462	100.0%	1,068,462	40% 33% 27%	431,951	352,699	283,812
150	PS21-05 CAD Design Manual Update for 3D Design	Collection	678,763	100.0%	678,763	90% 10% 0%	610,887	67,876	0
151	PS21-06 Regional Urban Runoff Optimization Study	Collection	968,330	100.0%	968,330	90% 10% 0%	871,497	96,833	0
152	RE19-01 Primary Scum Equipment Evaluation at Plant No. 1	Sludge Thickening	15,405	100.0%	15,405	0% 25% 75%	0 3,851	11,553	0
153	RE20-01 Co-Thickened Sludge Density Meter Trial at Plant No. 1	Sludge Thickening	1,931	100.0%	1,931	0% 25% 75%	0 483	1,449	0
154	RE20-02 Chemical Resilience Study at Plant No.1 and 2	Interplant	22,396	100.0%	22,396	40% 33% 27%	9,054	7,393	5,949
155	RE20-04 Holding Digester 6 Solids Shredder Study at Plant No. 1	Digestion	17,649	100.0%	17,649	0% 25% 75%	0 4,412	13,237	0
156	RE20-06 Co-Thickened Sludge Pump Trial at Plant No. 1	Sludge Thickening	15,000	100.0%	15,000	0% 25% 75%	0 3,750	11,250	0
157	RE21-01 Supercritical Water Oxidation Demonstration at Plant No. 1	Interplant	6,873,109	100.0%	6,873,109	40% 33% 27%	2,778,615	2,268,809	1,825,684
158	SC18-05 P1 Laboratory HVAC Boiler Burner Replacement At Plant No.1	Interplant	0	100.0%	0	40% 33% 27%	0 0	0 0	0 0
159	SC19-03 Return Activated Sludge Pump Station Elevator Rehabilitation at Plant No. 2	Activated Sludge Process	362,992	100.0%	362,992	0% 100% 0%	0 362,992	0 362,992	0 0
160	SC19-06 EPSA Standby Power Generator Control Upgrades at Plant No. 2	Interplant	3,427,847	100.0%	3,427,847	40% 33% 27%	1,385,787	1,131,530	910,529
161	SC20-02 Ocean Outfall Booster Station Elevator Rehabilitation	Effluent Disposal	381,819	100.0%	381,819	100% 0% 0%	381,819	0	0
162	SP-100 EAM Software and Process Implementation	Collection	2,544,488	100.0%	2,544,488	90% 10% 0%	2,290,039	254,449	0
163	SP-195 Capital Improvement Program Management Services	Collection	324,865	100.0%	324,865	90% 10% 0%	292,379	32,487	0
164	X-006 Waste Sidestream Pump Station Rehabilitation at Plant No. 1	Interplant	17,287,000	100.0%	17,287,000	40% 33% 27%	6,988,675	5,706,429	4,591,897
165	X-007 Waste Sidestream Pump Station 2A Upgrade at Plant No. 2	Interplant	9,690,000	100.0%	9,690,000	40% 33% 27%	3,917,409	3,198,663	2,573,927
166	X-014 Trickling Filter Solids Contact Basins Odor Control at Plant No. 2	Trickling Filters	117,817	100.0%	117,817	0% 100% 0%	0 117,817	0 117,817	0 0
167	X-015 Trickling Filters Rehabilitation at Plant No. 1	Trickling Filters	5,816,795	100.0%	5,816,795	0% 100% 0%	0 5,816,795	0 5,816,795	0 0
168	X-017 Primary Sedimentation Basins No. 6-31 Rehabilitation at Plant No. 1	Primary Sedimentation	0	100.0%	0	0% 30% 70%	0 0	0 0	0 0
169	X-018 Activated Sludge - 2 Rehabilitation at Plant No. 1	Activated Sludge Process	0	100.0%	0	0% 100% 0%	0 0	0 0	0 0
170	X-022 15th Street Pump Station and Force Main Rehabilitation	Collection	0	100.0%	0	90% 10% 0%	0 0	0 0	0 0
171	X-023 Lido Pump Station Rehabilitation	Collection	9,847,291	100.0%	9,847,291	90% 10% 0%	8,862,562	984,729	0
172	X-024 Rocky Point Pump Station Rehabilitation	Collection	82,553	100.0%	82,553	90% 10% 0%	74,298	8,255	0
173	X-025 Bitter Point Pump Station Rehabilitation	Collection	365,469	100.0%	365,469	90% 10% 0%	328,922	36,547	0
174	X-030 Headworks Rehabilitation at Plant 2	Headworks	5,275,748	100.0%	5,275,748	75% 5% 20%	3,956,811	263,787	1,055,150
175	X-031 Trickling Filter Solids Contact Facility Rehabilitation at Plant No. 2	Trickling Filters	0	100.0%	0	0% 100% 0%	0 0	0 0	0 0
176	X-036 City Water Pump Station Rehabilitation at Plant No. 2	Interplant	13,440,000	100.0%	13,440,000	40% 33% 27%	5,433,435	4,436,536	3,570,029
177	X-037 Plant Water Pump Station and 12 KV Distribution Center A Demolition at Plant No. 2	Interplant	3,509,000	100.0%	3,509,000	40% 33% 27%	1,418,595	1,158,319	932,086
178	X-038 City Water Pump Station Rehabilitation at Plant No. 1	Interplant	7,291,736	100.0%	7,291,736	40% 33% 27%	2,947,855	2,406,998	1,936,883
179	X-039 Plant Water Pump Station Rehabilitation at Plant No. 1	Interplant	10,561,000	100.0%	10,561,000	40% 33% 27%	4,269,532	3,486,180	2,805,288
180	X-040 College Pump Station Replacement and Force Main Rehabilitation	Collection	1,424,214	100.0%	1,424,214	90% 10% 0%	1,281,792	142,421	0
181	X-041 A Street Pump Station and Force Main Rehabilitation	Collection	0	100.0%	0	90% 10% 0%	0 0	0 0	0 0
182	X-044 Steve Anderson Lift Station Rehabilitation	Collection	0	100.0%	0	90% 10% 0%	0 0	0 0	0 0
183	X-052 Activated Sludge RAS/WAS/PEPS/Vaporizers Rehabilitation at Plant No. 2	Activated Sludge Process	33,735,521	100.0%	33,735,521	0% 100% 0%	0 33,735,521	0 33,735,521	0 0
184	X-059 Plantwide Miscellaneous Tunnels Rehabilitation	Interplant	29,350,713	100.0%	29,350,713	40% 33% 27%	11,865,713	9,688,653	7,796,347
185	X-061 Imperial Relief Interceptor / Miller Holder Trunk Rehabilitation	Collection	0	100.0%	0	90% 10% 0%	0 0	0 0	0 0
186	X-065 Tustin-Orange Interceptor Rehabilitation	Collection	0	100.0%	0	90% 10% 0%	0 0	0 0	0 0
187	X-066 Tustin-Orange Interceptor / Orange Park Acres Trunk Rehabilitation	Collection	935,465	100.0%	935,465	90% 10% 0%	841,918	93,546	0
188	X-068 North Trunk - Panorama Heights - Tustin-Orange Rehabilitation	Collection	9,624,000	100.0%	9,624,000	90% 10% 0%	8,661,600	962,400	0
189	X-071 Bolsa Chica / Edinger / Springdale Trunk Sewer Rehabilitation	Collection	16,973,000	100.0%	16,973,000	90% 10% 0%	15,275,700	1,697,300	0



Orange County Sanitation District - 2022  
Exhibit 8  
Development of Capital Improvement Plan

#	Project Type	Function	Ten Year CIP Total	%					\$		
				Eligible	\$ Eligible	FLOW	BOD	TSS	FLOW	BOD	TSS
190	X-078 Air Jumpers Additions/Rehabilitations	Collection	13,815,651	100.0%	13,815,651	90%	10%	0%	12,434,086	1,381,565	0
191	X-084 Tustin Avenue Sewer Improvements	Collection	212,056	100.0%	212,056	90%	10%	0%	190,850	21,206	0
192	X-085 Hoover-Western Sub-Trunk and Lampson Branch Improvements	Collection	23,846,588	100.0%	23,846,588	90%	10%	0%	21,461,929	2,384,659	0
193	X-086 Santa Ana River Interceptor Improvements	Collection	0	100.0%	0	90%	10%	0%	0	0	0
194	X-095 Southern California Edison Substation and Service Center Replacement at Plant 2	Collection	5,441,800	100.0%	5,441,800	90%	10%	0%	4,897,620	544,180	0
195	X-096 Bushard Diversion Structure Improvements	Headworks	4,722,000	100.0%	4,722,000	75%	5%	20%	3,541,500	236,100	944,400
196	X-098 Effluent Pump Station Annex Rehabilitation	Effluent Disposal	4,485,679	100.0%	4,485,679	100%	0%	0%	4,485,679	0	0
197	X-100 Flood Wall along Brookhurst Street	Collection	5,748,938	100.0%	5,748,938	90%	10%	0%	5,174,044	574,894	0
198	X-102 Wastehauler Facility Improvements	Interplant	1,304,362	100.0%	1,304,362	40%	33%	27%	527,319	430,569	346,474
199	X-104 Central Generation Facilities and Power Bldg. 2 Seismic Upgrades	Interplant	28,214,000	100.0%	28,214,000	40%	33%	27%	11,406,170	9,313,425	7,494,405
200	X-105 OOBs Seismic Improvements at Plant No. 2	Interplant	24,913,000	100.0%	24,913,000	40%	33%	27%	10,071,664	8,223,767	6,617,569
201	X-107 DAFTs Seismic Improvements at Plant No. 2	Interplant	389,911	100.0%	389,911	40%	33%	27%	157,631	128,709	103,571
202	X-108 Lateral Spreading Mitigation at Plant No. 2	Interplant	0	100.0%	0	40%	33%	27%	0	0	0
203	X-109 Lateral Spreading Mitigation at Plant No. 1	Interplant	0	100.0%	0	40%	33%	27%	0	0	0
204	X-110 Solids Processing Facilities Seismic Improvements at Plant No. 1	Solids Handling	657,144	100.0%	657,144	0%	25%	75%	0	164,286	492,858
205	X-112 Southwest Corner Stormwater Drainage Modifications at Plant No. 1	Collection	855,832	100.0%	855,832	90%	10%	0%	770,249	85,583	0
206	X-114 Activated Sludge Facility Replacement at Plant No. 2	Activated Sludge Process	0	100.0%	0	0%	100%	0%	0	0	0
207	X-115 Short Outfall Rehabilitation at Plant No. 2	Effluent Disposal	5,712,326	100.0%	5,712,326	100%	0%	0%	5,712,326	0	0
208	X-116 Outfall Land Section Rehabilitation at Plant No. 2	Effluent Disposal	0	100.0%	0	100%	0%	0%	0	0	0
209	X-118 84-inch Interplant Pipeline Rehabilitation at Plant 1	Interplant	0	100.0%	0	40%	33%	27%	0	0	0
210	X-119 Thickening, Dewatering and Truck Loadout Rehabilitation at Plant 1	Sludge Thickening	0	100.0%	0	0%	25%	75%	0	0	0
211	X-120 Digester Rehabilitation/Replacement at Plant 1	Digestion	0	100.0%	0	0%	25%	75%	0	0	0
212	X-121 Lido Pump Station Replacement	Collection	0	100.0%	0	90%	10%	0%	0	0	0
213	X-122 MacArthur Pump Station Replacement Project	Collection	0	100.0%	0	90%	10%	0%	0	0	0
214	X-124 Electric Vehicle Fleet Services Building	Collection	12,481,000	100.0%	12,481,000	90%	10%	0%	11,232,900	1,248,100	0
215	X-125 66-inch Interplant Pipeline Rehabilitation at Plant 1	Interplant	6,841,000	100.0%	6,841,000	40%	33%	27%	2,765,635	2,258,210	1,817,155
216	X-126 Lake Ave and Atlanta Int Rehabilitation	Collection	8,959,000	100.0%	8,959,000	90%	10%	0%	8,063,100	895,900	0
217	X2-72 Contingency Reserve for 2-72	Collection	10,000,000	100.0%	10,000,000	90%	10%	0%	9,000,000	1,000,000	0
218	X2-79 Fullerton-Brea Int and Rollings Hills Dr Subtrunk Rehabilitation	Collection	13,300,000	100.0%	13,300,000	90%	10%	0%	11,970,000	1,330,000	0
219	XP2-130 Food Waste Receiving Facility at Plant No. 2	Interplant	0	100.0%	0	40%	33%	27%	0	0	0
220	XP2-131 Digester I, J, and K Replacement at Plant No. 2	Digestion	8,779,838	100.0%	8,779,838	0%	25%	75%	0	2,194,959	6,584,878
221	XP2-132 Digester Demolition at Plant No. 2	Digestion	0	100.0%	0	0%	25%	75%	0	0	0
	Actual	Collection	203,320,511	100.0%	203,320,511	90%	10%	0%	182,988,460	20,332,051	0
Total			\$3,617,505,992		\$3,617,505,992				\$1,689,310,256	\$984,761,980	\$943,433,755

CATEGORY	Ten Year CIP Total	\$ Eligible	FLOW	BOD	TSS
Collection	\$1,221,084,006	\$1,221,084,006	\$1,098,975,606	\$122,108,401	\$0
Interplant	633,270,255	633,270,255	256,014,334	209,042,144	168,213,778
Headworks	276,736,688	276,736,688	207,552,516	13,836,834	55,347,338
Primary Sedimentation	329,713,515	329,713,515	0	98,914,054	230,799,460
Activated Sludge Process	366,654,019	366,654,019	0	366,654,019	0
Oxygen Activated Sludge Process	0	0	0	0	0
Blower Equipment and Structures	0	0	0	0	0
Aeration Equipment and Structures	0	0	0	0	0
Trickling Filters	8,619,756	8,619,756	0	8,619,756	0
Secondary Sedimentation	4,270,630	4,270,630	0	2,989,441	1,281,189
Sludge Thickening	1,997,545	1,997,545	0	499,386	1,498,159
Digestion	647,734,632	647,734,632	0	161,933,658	485,800,974
Solids Handling	657,144	657,144	0	164,286	492,858
Solids Disposal	0	0	0	0	0
Effluent Disposal	126,767,802	126,767,802	126,767,802	0	0
Unallocated	0	0	0	0	0
As All Others	0	0	0	0	0
<b>TOTAL</b>	<b>\$3,617,505,992</b>	<b>\$3,617,505,992</b>	<b>\$1,689,310,256</b>	<b>\$984,761,980</b>	<b>\$943,433,755</b>

# Rate Program Summary 2023-2028

*Presented by:*

**Lorenzo Tyner,**  
*Assistant General  
Manager*

**Administration  
Committee**

**December 14,  
2022**



1

## Preparation and Analysis

- Rate assumptions are included annually with each adopted budget
- Each budget includes a ten-year cashflow estimate
- Capital Improvement Program (CIP) Master Plan was last completed in 2017

2

2

## Preparation and Analysis

- Staff engaged a qualified independent consulting firm, HDR Engineering, to conduct a comprehensive cost of service rate study to validate financial assumptions.
- HDR performed the revenue analysis to develop cost based Regional Sewer Service Fees, Capacity Charges and ancillary charges as well as cost allocation amongst customer classes.
- HDR also evaluated the current rebate program and recommended changes for better efficiency and to simplify the process for both the customer and OC San.

3

3

## Revenue

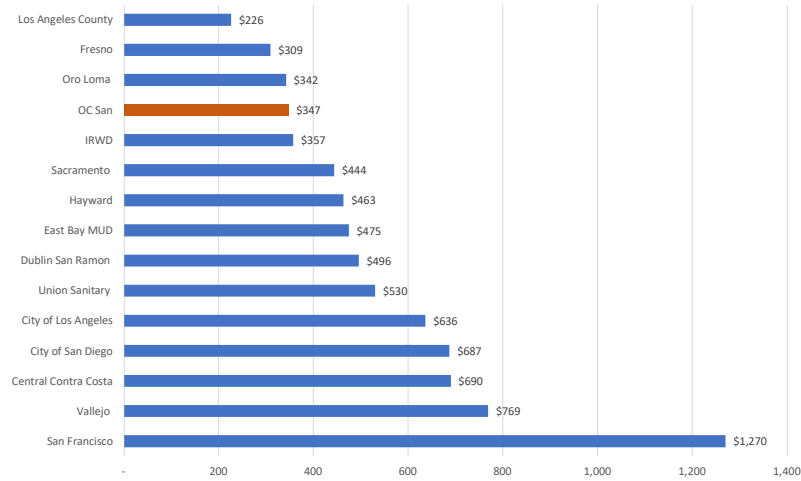
### Majority of OC San Revenue comes from the General User Fees

<b>1) General User Fees</b>	<b>\$ 356.5 M</b>	<b>69.2%</b>
2) Property Taxes	\$ 109.8 M	21.3%
3) Interest/Assessments	\$ 18.0 M	3.5%
4) Other Fees/Charges	\$ 31.1M	6.0%
<b>Total Fees &amp; Charges</b>	<b>\$ 515.4 M</b>	<b>100.0%</b>

4

4

## Comparison of Single-Family Residential Rates (July 2022)



5

5

## General User Fees (69% of total revenue)

**Staff recommends on average 3.5% annual increases**

Year	2018 (Budget)	2022 (Budget)	Proposed Rates
2022 (Current)	\$351	\$347	\$347
2023	\$359	\$358	\$358
2024	\$367	\$370	\$371
2025	\$373	\$382	\$384
2026	\$379	\$395	\$397
2027	\$385	\$408	\$411

6

6

## Industrial O&M Fees

**Industrial User O&M Fee  
High Strength Dischargers  
Represents \$12.5M (2.4% of total revenue)**

- Staff recommends annual increases of 4.7%-5.6% over a five-year period for high strength dischargers.

7

7

## Capital Facilities Capacity Charge

**CFCC  
One-Time Connection Charge  
Represents \$12.9M (2.5% of total revenue)**

- Residential Capacity Charges will remain flat for 2023-24 and increase annually by the Engineering News Record (ENR) Construction Cost Index.
- Non-residential Capacity Charges will decrease by approximately 33% in 2023-24 and then increase annually by the ENR Construction Cost Index.

8

8

## Supplemental Capital Facilities Capacity Charge

### SCFCC

**Annual charge for exceeding established baselines  
Represents \$4.3M (.8% of total revenue)**

- The SCFCC is charged to high strength industrial users who exceed standard discharge amounts.
- Currently, there are 45 industrial dischargers who are charged the SCFCC for one or more constituents.
- These users would see increases on average of 6.3%.

9

9

## Rebates and Refunds

- OC San processes over 2000 rebate/refund requests annually with an additional 1200 customers locked into a reduced charge.
- Staff and our consultant evaluated our current rebate program
- Staff recommends redesigning the program and modeling it after LA County Sanitation Districts tiered rebate program and moving from a 3-year lock-in to a 5-year lock-in to better serve our customers:

<u>Average Flow divided by Assumed Discharge</u>	<u>Customer Reduction</u>
90% or Greater	0%
70% - 89%	20%
50% - 69%	30%
30% - 49%	60%
29% or less	80%

10

10

## Schedule for Adoption

- 1) November Steering Committee – Rate Plan Overview
- 2) December Operations Committee – Rate Plan Overview
- 3) December Admin Committee – Rate Study and Prop. 218 Notices
- 4) December Board – Rate Study and Prop. 218 Notices
- 5) February 2023 – Mail Prop. 218 Notices
- 6) February Board – First Reading of the Ordinances
- 7) March Board – Public Hearing, Second Reading and Adoption
- 8) July 1, 2023 – New rate schedules go into effect

11

11

## Questions



12

12

---

**File #:** 2022-2412

**Agenda Date:** 12/14/2022

**Agenda Item No:** 9.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lorenzo Tyner, Assistant General Manager

**SUBJECT:**

**PROPOSITION 218 NOTIFICATIONS**

**GENERAL MANAGER'S RECOMMENDATION**

**RECOMMENDATION:** Recommend to the Board of Directors to:

- A. Direct staff to prepare and mail Proposition 218 compliant notifications to affected property owners outlining a five-year regional sewer service fee schedule with annual increases of approximately 3.5 percent for fiscal years 2023-24 through 2027-28; and
- B. Authorize the General Manager to select a service provider for preparing, printing, and mailing the Proposition 218 compliant notifications and execute a Purchase Order for an amount not to exceed \$370,000.

**BACKGROUND**

The Orange County Sanitation District's (OC San) current five-year sewer fee rate schedule expires at the end of the current fiscal year. OC San engaged HDR Engineering, Inc, an engineering consulting firm, to provide an independent analysis of OC San's cash flow modeling and a comprehensive cost of service study to ensure the appropriate allocation of costs and fees. This study has been completed and presented to the Administration Committee at this meeting as a separate agenda item. Based on this information, the Facilities Master Plan, forecasted operating expenses, and cash flow modeling, staff recommends annual increases on average of 3.5%. It is anticipated that this increase will be less than average inflation rates and will support OC San's programs while maintaining appropriate reserves levels.

**RELEVANT STANDARDS**

- Stable rates based on a validated cost structure which minimizes unforeseen rate increases.

**PROBLEM**

Proposition 218 requires that OC San notify the affected property owners within OC San's service area of proposed rate increases and to conduct a public hearing that coincides with the second reading of the ordinance. Notices must be mailed to property owners 45 days prior to the public hearing.



## **PROPOSED SOLUTION**

With Board approval, a notice of rate changes will be mailed to every affected property owner within OC San's service area. These rates will be scheduled for adoption through the ordinance process that requires a public hearing, two Board meetings, and a 2/3 majority approval of the Board. The estimated cost of mailing will not exceed \$370,000 for approximately 500,000 notifications.

## **TIMING CONCERNS**

Rate approval schedule:

- December 2022: Administration & Operations Committees - Rate Structure presentation
- December 2022: Board Meeting - Approval of Proposition 218 Notices
- February 2023: Proposition 218 45-day notices mailed for Sanitary Sewer Fees
- February 2023: Board Meeting - 1<sup>st</sup> Reading of the Ordinance
- March 2023: Board Meeting - 2<sup>nd</sup> Reading of the Ordinance, Public Hearing & Adoption
- July 1, 2023: New rates go into effect

Due to the critical, time-sensitive nature of this procurement, staff recommends proceeding with procurement per Section 1.07.B of OC San's Purchasing Ordinance, and that the Board of Directors delegate to the General Manager the authority to execute a Purchase Order with a service provider to prepare, print, and mail the notices.

## **RAMIFICATIONS OF NOT TAKING ACTION**

Existing sewer service fees will be insufficient to support OC San's operating expenses and new facilities included in the Facilities Master Plan.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

### **The Proposed Annual Single Family Residential Fee Schedule:**

Current	\$347
FY 2023-24	\$358
FY 2024-25	\$371
FY 2025-26	\$384
FY 2026-27	\$397
FY 2027-28	\$411

## **CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted.

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

N/A

---

**File #:** 2022-2657

**Agenda Date:** 12/14/2022

**Agenda Item No:** 10.

---

**FROM:** James D. Herberg, General Manager  
Originator: Lan C. Wiborg, Director of Environmental Services

**SUBJECT:**

**DENALI WATER SOLUTIONS, LLC BIOSOLIDS HAULING SERVICES - SPECIFICATION NO. S-2020-1208BD - CONTINGENCY INCREASE**

**GENERAL MANAGER'S RECOMMENDATION**

**RECOMMENDATION:** Recommend to the Board of Directors to:

Approve an additional 10% unit price per ton contingency (for a total of 20% unit price per ton contingency) for Denali Water Solutions, LLC Biosolids Hauling Services Specification No. S-2020-1208BD contract renewal to collect and haul Orange County Sanitation District's biosolids to the Inland Empire Regional Composting Facility and alternative sites for the period between January 1, 2023 through December 31, 2023.

**BACKGROUND**

In early November, Denali Water Solutions, LLC submitted a request for a unit price increase above the originally approved 10% unit price per ton contingency for the Biosolids Hauling Services Specification No. S-2020-1208BD contract renewal to Orange County Sanitation District's (OC San) purchasing division via email communication. OC San staff responded with multiple requests for justification and a reduction in the proposed unit price. As of 11/29/2022, Denali proffered a best and final 20% unit price per ton contingency, which will result in an additional cost of \$3.09 per ton of biosolids.

Denali's justification for increasing the unit price per hauling each ton of biosolids from \$15.45 to \$18.54 includes: increases in labor/driver costs (18.5% since September 2021), increases in vehicle maintenance costs (parts and labor), and fuel costs above the original fuel surcharge.

In combination with the tipping fee at IERCF, the overall cost will change from \$76.45 to \$79.54 per wet ton of biosolids, plus fuel surcharge.

The Inland Empire Regional Composting Facility (IERCF) is one of two local options utilized by OC San. At this time, Denali is the sole hauler under contract for transporting biosolids from OC San to IERCF. OC San is actively developing additional hauling options to IERCF and will continue to review and adjust its biosolids allocations to contractor facilities to optimize cost-effectiveness, diversification of biosolids disposal/reuse portfolio, resiliency, and price stability.

**RELEVANT STANDARDS**

- Maintain and adhere to appropriate internal planning documents (Biosolids Master Plan)
- Safe, beneficial reuse of Biosolids
- Comply with environmental permit requirements

**PROBLEM**

The Denali contract is up for its first one-year renewal, and a unit price that is above the approved annual contingency amount due has been requested. Denali is currently the only hauler under contract with OC San to transport biosolids to IERCF.

**PROPOSED SOLUTION**

Staff recommends the Board of Directors approve the one-year renewal with Denali with the contingency increase to maintain biosolids management diversity and sustainability.

**TIMING CONCERNS**

The current contract expires on December 31, 2022. Board approval is needed prior to expiration due to the significant cost increase above the Board's previously approved 10% contingency.

**RAMIFICATIONS OF NOT TAKING ACTION**

If the contingency increase is not approved, OC San will not be able to deliver biosolids to IERCF until a new hauler is obtained. OC San would temporarily lose one of its two local biosolids management options.

**PRIOR COMMITTEE/BOARD ACTIONS**

March 2021 - Approved a Service Contract to Denali Water Solutions, LLC to collect and haul Orange County Sanitation District's biosolids from Reclamation Plant No. 1 and/or Treatment Plant No. 2 to the Inland Empire Regional Composting Facility and alternative sites if needed for the period beginning May 12, 2021 through December 21, 2022, for the unit price of \$15.45 per ton of biosolids, plus fuel surcharges, for a total amount not to exceed \$600,000 per contract term, with four (4) one-year renewal options; and approved a 10% unit price per ton contingency.

**ADDITIONAL INFORMATION**

N/A

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with the authority levels of OC San's Purchasing Ordinance. This item has been budgeted and the additional contingency is available in: (Line item: Section 5, Page 5).

**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OC San website ([www.ocsan.gov](http://www.ocsan.gov)) with the complete agenda package:*

- Presentation

# Denali Contingency Increase

**Presented by:**

**Lan Wiborg, Director of  
Environmental  
Services**

**Administration  
Committee**

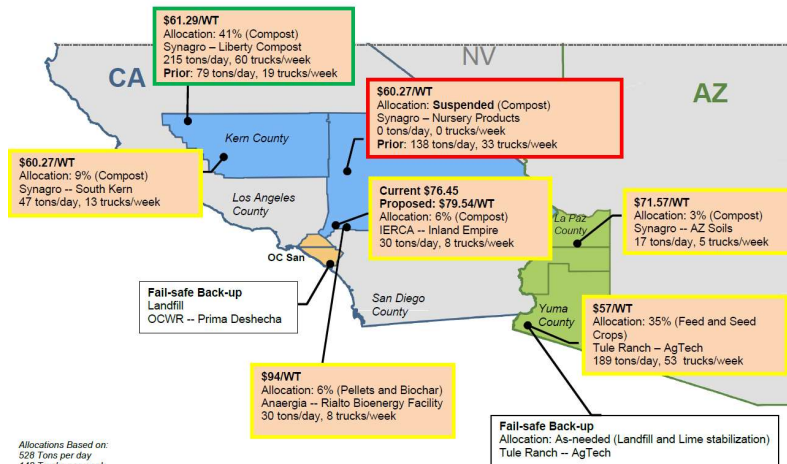
**December 14, 2022**

**OC SAN**  
ORANGE COUNTY SANITATION DISTRICT

1

## Biosolids Portfolio

### Orange County Sanitation District – Biosolids Management Biosolids Allocations by Destination



2

2

## Recommendation

Recommend to the Board of Directors to:

Approve an additional 10% unit price per ton contingency (for a total of 20% unit price per ton contingency) for Denali Water Solutions, LLC Biosolids Hauling Services Specification No. S-2020-1208BD contract renewal to collect and haul Orange County Sanitation District's biosolids to the Inland Empire Regional Composting Facility and alternative sites for the period between January 1, 2023 through December 31, 2023.

3

## ORANGE COUNTY SANITATION DISTRICT COMMON ACRONYMS

<b>ACWA</b>	Association of California Water Agencies	<b>LOS</b>	Level Of Service	<b>RFP</b>	Request For Proposal
<b>APWA</b>	American Public Works Association	<b>MGD</b>	Million Gallons Per Day	<b>RWQCB</b>	Regional Water Quality Control Board
<b>AQMD</b>	Air Quality Management District	<b>MOU</b>	Memorandum of Understanding	<b>SARFPA</b>	Santa Ana River Flood Protection Agency
<b>ASCE</b>	American Society of Civil Engineers	<b>NACWA</b>	National Association of Clean Water Agencies	<b>SARI</b>	Santa Ana River Interceptor
<b>BOD</b>	Biochemical Oxygen Demand	<b>NEPA</b>	National Environmental Policy Act	<b>SARWQCB</b>	Santa Ana Regional Water Quality Control Board
<b>CARB</b>	California Air Resources Board	<b>NGOs</b>	Non-Governmental Organizations	<b>SAWPA</b>	Santa Ana Watershed Project Authority
<b>CASA</b>	California Association of Sanitation Agencies	<b>NPDES</b>	National Pollutant Discharge Elimination System	<b>SCADA</b>	Supervisory Control And Data Acquisition
<b>CCTV</b>	Closed Circuit Television	<b>NWRI</b>	National Water Research Institute	<b>SCAP</b>	Southern California Alliance of Publicly Owned Treatment Works
<b>CEQA</b>	California Environmental Quality Act	<b>O &amp; M</b>	Operations & Maintenance	<b>SCAQMD</b>	South Coast Air Quality Management District
<b>CIP</b>	Capital Improvement Program	<b>OCCOG</b>	Orange County Council of Governments	<b>SOCWA</b>	South Orange County Wastewater Authority
<b>CRWQCB</b>	California Regional Water Quality Control Board	<b>OCHCA</b>	Orange County Health Care Agency	<b>SRF</b>	Clean Water State Revolving Fund
<b>CWA</b>	Clean Water Act	<b>OCSD</b>	Orange County Sanitation District	<b>SSMP</b>	Sewer System Management Plan
<b>CWEA</b>	California Water Environment Association	<b>OCWD</b>	Orange County Water District	<b>SSO</b>	Sanitary Sewer Overflow
<b>EIR</b>	Environmental Impact Report	<b>OOBS</b>	Ocean Outfall Booster Station	<b>SWRCB</b>	State Water Resources Control Board
<b>EMT</b>	Executive Management Team	<b>OSHA</b>	Occupational Safety and Health Administration	<b>TDS</b>	Total Dissolved Solids
<b>EPA</b>	US Environmental Protection Agency	<b>PCSA</b>	Professional Consultant/Construction Services Agreement	<b>TMDL</b>	Total Maximum Daily Load
<b>FOG</b>	Fats, Oils, and Grease	<b>PDSA</b>	Professional Design Services Agreement	<b>TSS</b>	Total Suspended Solids
<b>gpd</b>	gallons per day	<b>PFAS</b>	Per- and Polyfluoroalkyl Substances	<b>WDR</b>	Waste Discharge Requirements
<b>GWRS</b>	Groundwater Replenishment System	<b>PFOA</b>	Perfluorooctanoic Acid	<b>WEF</b>	Water Environment Federation
<b>ICS</b>	Incident Command System	<b>PFOS</b>	Perfluorooctanesulfonic Acid	<b>WERF</b>	Water Environment & Reuse Foundation
<b>IERP</b>	Integrated Emergency Response Plan	<b>POTW</b>	Publicly Owned Treatment Works	<b>WIFIA</b>	Water Infrastructure Finance and Innovation Act
<b>JPA</b>	Joint Powers Authority	<b>ppm</b>	parts per million	<b>WIIN</b>	Water Infrastructure Improvements for the Nation Act
<b>LAFCO</b>	Local Agency Formation Commission	<b>PSA</b>	Professional Services Agreement	<b>WRDA</b>	Water Resources Development Act



## ORANGE COUNTY SANITATION DISTRICT GLOSSARY OF TERMS

---

**ACTIVATED SLUDGE PROCESS** – A secondary biological wastewater treatment process where bacteria reproduce at a high rate with the introduction of excess air or oxygen and consume dissolved nutrients in the wastewater.

**BENTHOS** – The community of organisms, such as sea stars, worms, and shrimp, which live on, in, or near the seabed, also known as the benthic zone.

**BIOCHEMICAL OXYGEN DEMAND (BOD)** – The amount of oxygen used when organic matter undergoes decomposition by microorganisms. Testing for BOD is done to assess the amount of organic matter in water.

**BIOGAS** – A gas that is produced by the action of anaerobic bacteria on organic waste matter in a digester tank that can be used as a fuel.

**BIOSOLIDS** – Biosolids are nutrient rich organic and highly treated solid materials produced by the wastewater treatment process. This high-quality product can be recycled as a soil amendment on farmland or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

**CAPITAL IMPROVEMENT PROGRAM (CIP)** – Projects for repair, rehabilitation, and replacement of assets. Also includes treatment improvements, additional capacity, and projects for the support facilities.

**COLIFORM BACTERIA** – A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere, used as indicators of sewage pollution. E. coli are the most common bacteria in wastewater.

**COLLECTIONS SYSTEM** – In wastewater, it is the system of typically underground pipes that receive and convey sanitary wastewater or storm water.

**CERTIFICATE OF PARTICIPATION (COP)** – A type of financing where an investor purchases a share of the lease revenues of a program rather than the bond being secured by those revenues.

**CONTAMINANTS OF POTENTIAL CONCERN (CPC)** – Pharmaceuticals, hormones, and other organic wastewater contaminants.

**DILUTION TO THRESHOLD (D/T)** – The dilution at which the majority of people detect the odor becomes the D/T for that air sample.

**GREENHOUSE GASES (GHG)** – In the order of relative abundance water vapor, carbon dioxide, methane, nitrous oxide, and ozone gases that are considered the cause of global warming ("greenhouse effect").

**GROUNDWATER REPLENISHMENT SYSTEM (GWRS)** – A joint water reclamation project that proactively responds to Southern California's current and future water needs. This joint project between the Orange County Water District and OCSD provides 70 million gallons per day of drinking quality water to replenish the local groundwater supply.

**LEVEL OF SERVICE (LOS)** – Goals to support environmental and public expectations for performance.

**N-NITROSODIMETHYLAMINE (NDMA)** – A N-nitrosamine suspected cancer-causing agent. It has been found in the GWRS process and is eliminated using hydrogen peroxide with extra ultra-violet treatment.

**NATIONAL BIOSOLIDS PARTNERSHIP (NBP)** – An alliance of the NACWA and WEF, with advisory support from the EPA. NBP is committed to developing and advancing environmentally sound and sustainable biosolids management practices that go beyond regulatory compliance and promote public participation to enhance the credibility of local agency biosolids programs and improved communications that lead to public acceptance.

**PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)** – A large group (over 6,000) of human-made compounds that are resistant to heat, water, and oil and used for a variety of applications including firefighting foam, stain and water-resistant clothing, cosmetics, and food packaging. Two PFAS compounds, perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) have been the focus of increasing regulatory scrutiny in drinking water and may result in adverse health effects including developmental effects to fetuses during pregnancy, cancer, liver damage, immunosuppression, thyroid effects, and other effects.

**PERFLUOROOCTANOIC ACID (PFOA)** – An ingredient for several industrial applications including carpeting, upholstery, apparel, floor wax, textiles, sealants, food packaging, and cookware (Teflon).

**PERFLUOROOCTANESULFONIC ACID (PFOS)** – A key ingredient in Scotchgard, a fabric protector made by 3M, and used in numerous stain repellents.

**PLUME** – A visible or measurable concentration of discharge from a stationary source or fixed facility.

**PUBLICLY OWNED TREATMENT WORKS (POTW)** – A municipal wastewater treatment plant.

**SANTA ANA RIVER INTERCEPTOR (SARI) LINE** – A regional brine line designed to convey 30 million gallons per day of non-reclaimable wastewater from the upper Santa Ana River basin to the ocean for disposal, after treatment.

**SANITARY SEWER** – Separate sewer systems specifically for the carrying of domestic and industrial wastewater.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)** – Regional regulatory agency that develops plans and regulations designed to achieve public health standards by reducing emissions from business and industry.

**SECONDARY TREATMENT** – Biological wastewater treatment, particularly the activated sludge process, where bacteria and other microorganisms consume dissolved nutrients in wastewater.

**SLUDGE** – Untreated solid material created by the treatment of wastewater.

**TOTAL SUSPENDED SOLIDS (TSS)** – The amount of solids floating and in suspension in wastewater.

## **ORANGE COUNTY SANITATION DISTRICT GLOSSARY OF TERMS**

---

**TRICKLING FILTER** – A biological secondary treatment process in which bacteria and other microorganisms, growing as slime on the surface of rocks or plastic media, consume nutrients in wastewater as it trickles over them.

**URBAN RUNOFF** – Water from city streets and domestic properties that carry pollutants into the storm drains, rivers, lakes, and oceans.

**WASTEWATER** – Any water that enters the sanitary sewer.

**WATERSHED** – A land area from which water drains to a particular water body. OCSD's service area is in the Santa Ana River Watershed.