



SPECIAL NOTICE PUBLIC ATTENDANCE & PARTICIPATION AT PUBLIC MEETINGS

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.

IN-PERSON MEETING ATTENDANCE

You may attend the meeting in-person at the following location:

Orange County Sanitation District
Administration Building
10844 Ellis Avenue
Fountain Valley, CA 92708

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: 739 947 153#

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 use *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.

WATCH THE MEETING ONLINE

The meeting will be available for online viewing at:

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

SUBMIT A COMMENT

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 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.

For any questions and/or concerns, please contact the Clerk of the Board's office at 714-593-7433. Thank you for your interest in OC San!

February 22, 2023

NOTICE OF SPECIAL MEETING

**OPERATIONS COMMITTEE
ORANGE COUNTY SANITATION DISTRICT**

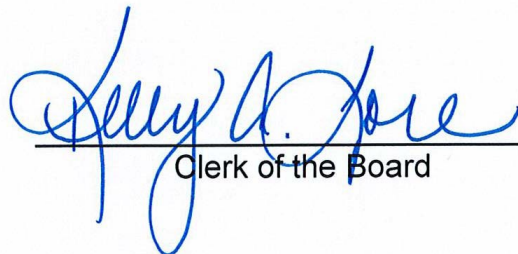
Wednesday, March 1, 2023 – 3:00 P.M.

Administration Building
10844 Ellis Avenue
Fountain Valley, CA 92708

ACCESSIBILITY FOR THE GENERAL PUBLIC

Your participation is always welcome. Specific information as to how to participate in this meeting is detailed on the Special Notice attached to this agenda. In general, OC San offers several ways in which to interact during this meeting: you may participate in person, 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 Special Meeting of the Operations Committee of the Orange County Sanitation District will be held at the above location and in the manner indicated on Wednesday, March 1, 2023 at 3:00 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

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

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

*** Meeting will be held on the second Thursday of the month*

ROLL CALL

OPERATIONS COMMITTEE Engineering and Operations & Maintenance

Meeting Date: March 1, 2023

Time: 3:00 p.m.

Adjourn: _____

COMMITTEE MEMBERS (14)

Marshall Goodman (Chair)	
Bob Ooten (Vice-Chair)	
Brad Avery	
Doug Chaffee	
Jon Dumitru	
Stephen Faessel	
Phil Hawkins	
Johnathan Ryan Hernandez	
Steve Jones	
Schelly Sustarsic (Alternate)	
Scott Minikus	
Bruce Whitaker	
Chad Wanke (Board Chair)	
Ryan Gallagher (Board Vice-Chair)	

OTHERS

Brad Hogin, General Counsel	
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STAFF

Rob Thompson, 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 01/24/2023

AGENCY/CITIES	ACTIVE DIRECTOR	ALTERNATE DIRECTOR
Anaheim	Stephen Faessel	Natalie Meeks
Brea	Christine Marick	Cecilia Hupp
Buena Park	Susan Sonne	Art Brown
Cypress	Scott Minikus	Bonnie Peat
Fountain Valley	Glenn Grandis	Ted Bui
Fullerton	Bruce Whitaker	Nick Dunlap
Garden Grove	Steve Jones	John O'Neill
Huntington Beach	Pat Burns	Gracey Van Der Mark
Irvine	Farrah N. Khan	Tammy Kim
La Habra	Rose Espinoza	Jose Medrano
La Palma	Marshall Goodman	Debbie Baker
Los Alamitos	Jordan Nefulda	Emily Hibard
Newport Beach	Brad Avery	Erik Weigand
Orange	Jon Dumitru	John Gyllenhammer
Placentia	Chad Wanke	Ward Smith
Santa Ana	Johnathan Ryan Hernandez	Benjamin Vazquez
Seal Beach	Sandra Massa-Lavitt	Schelly Sustarsic
Stanton	David Shawver	Carol Warren
Tustin	Ryan Gallagher	Austin Lumbard
Villa Park	Robbie Pitts	Jordan Wu

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	Phil Hawkins	Tom Lindsey

County Areas

Board of Supervisors	Doug Chaffee	Donald P. Wagner
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OPERATIONS COMMITTEE
Special Meeting Agenda
Wednesday, March 1, 2023 - 3:00 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 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 RECORDING: A 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 at least 14 days before the meeting.

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

General Manager: Rob Thompson, rthompson@ocsan.gov / (714) 593-7110
Asst. General Manager: Lorenzo Tyner, ltyner@ocsan.gov / (714) 593-7550
Director of Human Resources: Celia Chandler, cchandler@ocsan.gov / (714) 593-7202
Director of Engineering: Kathy Millea, kmillea@ocsan.gov / (714) 593-7365
Director of Environmental Services: Lan Wiborg, lwiborg@ocsan.gov / (714) 593-7450
Director of Operations & Maintenance: Riaz Moinuddin, rmoinuddin@ocsan.gov / (714) 593-7269

CALL TO ORDER

Members of the Operations Committee will take a tour of Plant No. 1 beginning at 3:00 p.m., with the business meeting reconvening thereafter at 5:00 p.m.

RECESS - TOUR OF PLANT NO. 1**RECONVENE****PLEDGE OF ALLEGIANCE****ROLL CALL AND DECLARATION OF QUORUM:**

Clerk of the Board

PUBLIC COMMENTS:

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REPORTS:

The Committee 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**[2023-2819](#)****RECOMMENDATION:**

Approve Minutes of the Regular meeting of the Operations Committee held February 1, 2023.

Originator: Kelly Lore

Attachments: [Agenda Report](#)
[02-01-2023 Operations Committee Minutes](#)

**2. CHEMICAL SYSTEMS REHABILITATION AT PLANT NO. 2, PROJECT [2023-2770](#)
NO. P2-135**

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Find that Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135 is exempt from CEQA under the Class 1 categorical exemptions set forth in California Code of Regulations Section 15301 and authorize staff to file a Notice of Exemption with the OC Clerk-Recorder;
- B. Approve a Professional Design Services Agreement with Lee & Ro, Inc. to provide engineering services for Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135, for an amount not to exceed \$862,328; and
- C. Approve a contingency of \$86,233 (10%).

Originator: Kathy Millea

Attachments: [Agenda Report](#)
[P2-135 Professional Design Services Agreement Package](#)

3. REPLACEMENT OF GAS FLARE PIPING AT PLANT NO. 2 [2023-2812](#)

RECOMMENDATION: Recommend to the Board of Directors to:

Approve a contingency increase of \$65,550 (23%) to the Purchase Order Contract with Vicon Enterprise, Inc. for the replacement of digester gas piping at Plant No. 2, Specification No. S-2022-1365BD, for a new total contingency amount of \$94,050 (33%).

Originator: Riaz Moinuddin

Attachments: [Agenda Report](#)
[Digester Gas Piping Photos-Supplemental Attachment](#)

4. ENGINEERING PROGRAM CONTRACT PERFORMANCE REPORT [2023-2813](#)

RECOMMENDATION: Recommend to the Board of Directors to:

Receive and file the Engineering Program Contract Performance Report for the period ending December 31, 2022.

Originator: Kathy Millea

Attachments: [Agenda Report](#)
[Contract Performance Report Period Ending 12/31/2022](#)

NON-CONSENT:**5. URBAN RUNOFF OPTIMIZATION STUDY, PROJECT NO. PS21-06 [2023-2778](#)**

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Find that the Urban Runoff Optimization Study, Project No. PS21-06 is exempt from CEQA under the statutory exemptions set forth in California Code of Regulations Section 15262 and authorize staff to file a Notice of Exemption with the OC Clerk-Recorder;
- B. Approve a Professional Services Agreement with Michael Baker International, Inc. to provide engineering services for the Urban Runoff Optimization Study, Project No. PS21-06, for an amount not to exceed \$711,230; and
- C. Approve a contingency of \$71,123 (10%).

Originator: Kathy Millea

Attachments: [Agenda Report](#)
[PS21-06 Professional Services Agreement](#)
[Presentation - PS21-06 Urban Runoff PSA](#)

6. REGIONAL ODOR AND CORROSION CONTROL SERVICES (ROCCS) PROGRAM, SPECIFICATION NO.C-2017-899BD - CONTINGENCY INCREASE [2023-2775](#)

RECOMMENDATION: Recommend to the Board of Directors to:

Approve a chemical unit price contingency increase of \$398 per dry ton (an additional 40% of the base price) to the Ferrous Chloride contract with Hill Brothers Chemical Company for the remainder of the term, July 1, 2022 through June 30, 2023. The new unit price will not exceed \$1,397 per dry ton (\$1,297 for the product, plus \$100 for freight).

Originator: Riaz Moinuddin

Attachments: [Agenda Report](#)

7. PURCHASE OF LIQUID FERRIC CHLORIDE [2023-2811](#)

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve a Chemical Supplier Agreement with Pencoco, Inc. for the purchase of liquid ferric chloride, Specification No. C-2023-1381BD, for the period beginning May 1, 2023 through October 31, 2023, for a unit price of \$1,250 per dry ton delivered, plus applicable sales tax, for a total six-month estimate of \$2,500,000;

- B. Approve a Chemical Supplier Agreement with Kemira Water Solutions, Inc. for the purchase of liquid ferric chloride, Specification No. C-2023-1381BD, for the period beginning May 1, 2023 through October 31, 2023, for a unit price of \$1,153.97 per dry ton delivered, plus applicable sales tax, for a total six-month estimate of \$1,730,955;
- C. Approve the option to renew the Chemical Supplier Agreement with Pencco, Inc. over a five-year period beginning May 1, 2023 through April 30, 2028 with renewal terms not to exceed a 12-month term, and renewal adjustments of unit pricing not to exceed a unit price of \$1,562.50 per dry ton delivered (25%); and
- D. Approve the option to renew the Chemical Supplier Agreement with Kemira Water Solutions, Inc. over a five-year period beginning May 1, 2023 through April 30, 2028 with renewal terms not to exceed a 12-month term, and renewal adjustments of unit pricing not to exceed a unit price of \$1,442.46 per dry ton delivered (25%).

Originator: Riaz Moinuddin

Attachments: [Agenda Report](#)
[C-2023-1381BD Draft Chemical Supplier Agreement](#)
[C-2023-1381BD SOW](#)

INFORMATION ITEMS:

8. **OC SAN - OPERATIONS & MAINTENANCE WASTEWATER 101 PART 1: TREATMENT AND RECYCLING** [2023-2759](#)

RECOMMENDATION:

Information Item.

Originator: Riaz Moinuddin

Attachments: [Agenda Report](#)
[Presentation - Wastewater Treatment Recycling](#)

9. **OC SAN - PROCUREMENT PROCESS, BIDS VS. RFPS, SOLE SOURCE CONTRACTS VS. COMPETITIVE CONTRACTS** [2023-2761](#)

RECOMMENDATION:

Information Item.

Originator: Lorenzo Tyner

Attachments: [Agenda Report](#)
[Presentation - Purchasing Contracts and Materials Mgmt](#)

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 Special meeting of the Operations Committee on April 1, 2023 at 3:00 p.m. at Plant No. 2.



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2819

Agenda Date: 3/1/2023

Agenda Item No: 1.

FROM: Robert Thompson, 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 Operations Committee held February 1, 2023.

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 22-37

ATTACHMENT

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

- Minutes of the Operations Committee meeting held February 1, 2023



CALL TO ORDER

A Regular meeting of the Operations Committee of the Orange County Sanitation District was called to order by Committee Chairman Marshall Goodman on Wednesday, February 1, 2023 at 5:02 p.m. Chair Goodman stated the meeting was being held telephonically and via internet accessibility. Chair Goodman led the flag salute.

ROLL CALL AND DECLARATION OF QUORUM:

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

PRESENT: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

ABSENT: None

STAFF PRESENT: Mo Abiodun was 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; Kelly Lore, Clerk of the Board, Scott Ahn, Andrew Brown; Jennifer Cabral; Mortimer Caparas; Tanya Chong; Raul Cuellar; Martin Dix; Mike Dorman; Justin Fenton; Tina Knapp; Valerie Ratto; Kevin Schuler; Thomas Vu; Todd Waltz; Eros Yong; and Ruth Zintzun were in attendance telephonically.

OTHERS PRESENT: Brad Hogin, General Counsel; Jesus Gaona Perez; and Jeff Mohr were in attendance telephonically.

PUBLIC COMMENTS:

None.

REPORTS:

Chair Goodman did not provide a report. General Manager Jim Herberg reported that Director of Engineering Kathy Millea and Director of Human Resources Celia Chandler had both recently announced their retirement.

CONSENT CALENDAR:

1. **APPROVAL OF MINUTES**

[2023-2748](#)

Originator: Kelly Lore

MOVED, SECONDED, AND DULY CARRIED TO:

Approve Minutes of the Regular Meeting of the Operations Committee held December 7, 2022.

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

**2. UNINTERRUPTIBLE POWER SUPPLY IMPROVEMENTS AT PLANT [2021-1973](#)
NO. 1, PROJECT NO. P1-132**

Originator: Kathy Millea

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

A. Approve a Professional Construction Services Agreement with Tetra Tech, Inc. to provide construction support services for Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132, for an amount not to exceed \$217,830; and

B. Approve a contingency of \$21,783 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

**3. NEWPORT BEACH PUMP STATION PRESSURIZATION [2022-2326](#)
IMPROVEMENTS, PROJECT NO. 5-68**

Originator: Kathy Millea

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

- A. Receive and file Bid Tabulation and Recommendation for Newport Beach Pump Station Pressurization Improvements, Project No. 5-68;
- B. Award a Construction Contract to Innovative Construction Solutions for Newport Beach Pump Station Pressurization Improvements, Project No. 5-68, for an amount not to exceed \$937,500; and
- C. Approve a contingency of \$93,750 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

4. NEWPORT BEACH PUMP STATION PRESSURIZATION IMPROVEMENTS, PROJECT NO. 5-68

[2022-2325](#)

Originator: Kathy Millea

MOVED, SECONDED, AND DULY CARRIED TO:

- A. Approve a Professional Construction Services Agreement with Dudek to provide construction support services for Newport Beach Pump Station Pressurization Improvements, Project No. 5-68, for an amount not to exceed \$124,979; and
- B. Approve a contingency of \$12,497 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

5. CAD DESIGN MANUAL UPDATE FOR 3D DESIGN, PROJECT NO. PS21-05

[2022-2526](#)

Originator: Kathy Millea

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

A. Approve a Professional Services Agreement with The Austin Company to provide support services for CAD Design Manual Update for 3D Design, Project No. PS21-05, for a total amount not to exceed \$416,000; and

B. Approve a contingency of \$41,600 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

7. **MAIN SEWAGE PUMP VARIABLE FREQUENCY DRIVE TRANSFER SWITCH AND UNINTERRUPTABLE POWER SUPPLY SYSTEM IMPLEMENTATION AT PLANT NO. 2** [2023-2695](#)

Originator: Riaz Moinuddin

MOVED, SECONDED, AND DULY CARRIED TO:

A. Approve a Sole Source Purchase Order Contract to One Source/Rockwell Automation for modifications to the six main sewage pump Variable Frequency Drives for a total amount not to exceed \$103,628; and,

B. Approve a contingency of \$10,363 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

8. **ROLL UP, SLIDE AND FIRE DOOR MAINTENANCE, AND DROP TESTING, SPECIFICATION NO. S-2022-1368BD** [2023-2696](#)

Originator: Riaz Moinuddin

MOVED, SECONDED, AND DULY CARRIED TO:

- A. Approve a Purchase Order Contract with Excel Door & Gate Company for Roll Up, Slide and Fire Door Maintenance, and Drop Testing, Specification No. S-2022-1368BD, in the amount of \$124,000 and an additional \$50,000 for parts associated with corrective maintenance, for a total annual amount not to exceed \$174,000, beginning March 1, 2023, through February 29, 2024, with four (4) one-year renewal options; and,
- B. Approve an annual contingency of \$17,400 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

**9. GENERAL AND SEMI-SKILLED LABOR REPAIRS, SPECIFICATION [2023-2697](#)
NO. S-2022-1370BD**

Originator: Riaz Moinuddin

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

- A. Approve a Purchase Order Contract to Tiano Construction, Inc. (as the Primary Contractor) and MPK Solutions (as the Secondary Contractor) to provide General and Semi-Skilled Labor Repairs, Specification No. S-2022-1370BD, for a total amount not to exceed \$300,000 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 \$30,000 (10%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

10. QUARTERLY ODOR COMPLAINT REPORT [2023-2744](#)

Originator: Riaz Moinuddin

MOVED, SECONDED, AND DULY CARRIED TO:

Receive and file the Fiscal Year 2022-23 Second Quarter Odor Complaint Report.

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

11. FLEET VEHICLE REPLACEMENT PURCHASE RATIFICATION [2023-2747](#)

Originator: Riaz Moinuddin

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

Ratify the authorization given to the General Manager and Purchasing Manager to allow flexibility in the vehicle type/class quantity and funding while not exceeding the approved budgeted total amount of \$1,330,300. This will ensure the available replacement vehicles needed to sustain the fleet can be procured through the issued purchase orders with the following breakdown:

- A. Replacement vehicles for OC San's fleet as originally approved in the adopted fiscal year 2022/23 budget in the amounts of:
- Two light-duty trucks - \$78,760
 - Two medium-duty utility trucks - \$200,518
- B. Replacement vehicles for OC San's fleet as originally approved in the adopted fiscal year 2021/22 budget in the remaining amounts of:
- One medium-duty truck - \$60,095
 - One heavy-duty truck - \$162,113
 - Eight Hybrid SUV's (AWD) - \$357,818
 - Two light-duty trucks - \$137,161

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

Item No. 6 was pulled from the consent calendar and heard separately.

6. HEADWORKS PHASE 3 CABLE REPLACEMENT AT PLANT NO. 2, PROJECT NO. FR2-0026 [2022-2617](#)

Originator: Kathy Millea

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

- A. Find that Headworks Phase 3 Cable Replacement at Plant No. 2, Project No. FR2-0026, is exempt from CEQA under the Class 1 categorical exemptions set forth in California Code of Regulations Section 15301 and authorize staff to file a Notice of Exemption with the OC Clerk-Recorder;
- B. Receive and file Bid Tabulation and Recommendation for Headworks Phase 3 Cable Replacement at Plant No. 2, Project No. FR2-0026;
- C. Award a Construction Contract to ACS Engineering Inc. for Headworks Phase 3 Cable Replacement at Plant No. 2, Project No. FR2-0026; for a total amount not to exceed \$575,360; and
- D. Approve a contingency of \$115,072 (20%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

NON-CONSENT:

12. OCEAN OUTFALL CONDITION ASSESSMENT AND SCOPING STUDY, PROJECT NO. PS18-09

[2022-2658](#)

Originator: Kathy Millea

Director of Engineering Kathy Millea introduced Engineering Supervisor Valerie Ratto who provided a PowerPoint presentation on the challenges of the project and need for the additional contingency.

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

Approve a contingency increase of \$1,097,600 (40%) to the Professional Services Agreement with Carollo Engineers, Inc. for Ocean Outfall Condition Assessment and Scoping Study, Project No. PS18-09, for a total contingency of \$2,195,200 (80%).

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten, Chad Wanke and Bruce Whitaker

NOES: None

ABSENT: None

ABSTENTIONS: None

Board Chair Wanke departed the meeting at approximately 5:47 p.m.

**13. LIQUID FERRIC CHLORIDE SPECIFICATION NO. C-2019-1037BD [2023-2746](#)
CONTINGENCY INCREASE**

Originator: Riaz Moinuddin

Director of Operations & Maintenance Riaz Moinudding provided a PowerPoint presentation describing the request for the contingency increase.

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

- A. Approve a unit price contingency of \$226 per dry ton (27%) to the Liquid Ferric Chloride Agreement with Pencoco, Inc., Specification No.C-2019-1037BD, for the period beginning March 1, 2023 through June 30, 2023. New unit cost not to exceed \$1,075 per dry ton delivered; and
- B. Approve a unit price contingency of \$310 per dry ton (32%) to the liquid Ferric Chloride Agreement with Kemira, Inc., Specification No.C-2019-1037BD, for the period beginning March 1, 2023 through June 30, 2023. New unit cost not to exceed \$1,274.47 per dry ton delivered.

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten and Bruce Whitaker

NOES: None

ABSENT: Chad Wanke

ABSTENTIONS: None

**14. HEADQUARTERS COMPLEX AT PLANT NO. 1, PROJECT NO. [2022-2615](#)
P1-128A - QUARTERLY UPDATE**

Originator: Kathy Millea

Ms. Millea provided a PowerPoint presentation which included a quarterly update on the construction of the new Headquarters Building.

MOVED, SECONDED, AND DULY CARRIED TO:

Information Item.

15. LONG LEAD TIME AUDIO VISUAL EQUIPMENT PURCHASE FOR HEADQUARTERS COMPLEX AT PLANT NO. 1, PROJECT NO. P1-128A [2023-2699](#)

Originator: Kathy Millea

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

Approve a Purchase Order to AVI-SPL LLC for the purchase of Audio Visual Equipment, Specification No. E-2022-1374BD, for a total amount not to exceed \$911,309 plus applicable sales tax.

AYES: Brad Avery, Doug Chaffee, Jon Dumitru, Ryan Gallagher, Marshall Goodman, Stephen Faessel, Phil Hawkins, Johnathan Ryan Hernandez, Steve Jones, Sandra Massa-Lavitt, Scott Minikus, Robert Ooten and Bruce Whitaker

NOES: None

ABSENT: Chad Wanke

ABSTENTIONS: None

INFORMATION ITEMS:

16. OC SAN RESERVES AND INVESTMENTS [2023-2749](#)

Originator: Lorenzo Tyner

Assistant General Manager Lorenzo Tyner provided a PowerPoint presentation regarding OC San Reserves and Investments which included the seven reserve criteria, investment objectives, long and short-term portfolios, and long and short-term portfolio asset allocations.

ITEM RECEIVED AS AN:

Information Item.

DEPARTMENT HEAD REPORTS:

None.

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:

Chair Goodman declared the meeting adjourned at 6:09 p.m. to the Special Operations Committee meeting to be held on Wednesday, March 1, 2023 at 3:00 p.m.

Submitted by:

Kelly A. Lore, MMC
Clerk of the Board



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2770

Agenda Date: 3/1/2023

Agenda Item No: 2.

FROM: Robert Thompson, General Manager
Originator: Kathy Millea, Director of Engineering

SUBJECT:

CHEMICAL SYSTEMS REHABILITATION AT PLANT NO. 2, PROJECT NO. P2-135

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Find that Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135 is exempt from CEQA under the Class 1 categorical exemptions set forth in California Code of Regulations Section 15301 and authorize staff to file a Notice of Exemption with the OC Clerk-Recorder;
- B. Approve a Professional Design Services Agreement with Lee & Ro, Inc. to provide engineering services for Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135, for an amount not to exceed \$862,328; and
- C. Approve a contingency of \$86,233 (10%).

BACKGROUND

Orange County Sanitation District (OC San) stores and uses many chemicals for on-going operations. At Plant No. 2, the Sodium Bisulfite Station was designed for continuous use when OC San regularly disinfected the effluent. From 2000 to 2015, OC San disinfected all effluent, which was sent to the ocean outfall, as required to meet the National Pollutant Discharge Elimination System (NPDES) Permit bacteriological standards. The disinfection process included adding sodium hypochlorite to the effluent to destroy fecal coliform and other disease-carrying microorganisms, and then added sodium bisulfite to dechlorinate the effluent to reduce the impact of sodium hypochlorite on the ocean.

In 2015, OC San received approval from the United States Environmental Protection Agency (USEPA) and Santa Ana Regional Water Quality Control Board to stop disinfection. Since 2015, disinfection is now only required for abnormal operational conditions. The NPDES permit still requires OC San to disinfect when using the 78-inch one-mile short outfall, which occurs when the 120-inch five-mile outfall is scheduled for maintenance, or OC San experiences an extreme high flow event. The Sodium Bisulfite Station has only been utilized a few times since 2015.

In addition, Plant No. 2 uses ferric chloride and anionic polymer as coagulants, as part of the chemically enhanced primary treatment in the primary clarifiers to remove settleable solids. With this

chemical treatment, effluent quality is improved and hydrogen sulfide in the digester gas is reduced. The anionic polymer system is located by the Primary Clarifiers at Plant No. 2. This system was built in 1988 and the electrical and instrumentation equipment being used to run and control this system have not been upgraded.

RELEVANT STANDARDS

- Protect OC San assets
- 24/7/365 treatment plant reliability

PROBLEM

Sodium bisulfate crystallizes when stored at a certain temperature and has a relatively short shelf life. It is difficult to maintain stored chemicals at the Sodium Bisulfite Station since OC San stopped disinfecting continuously. Not only is the equipment in poor condition, but it is also overdesigned for how it is used today. The existing electrical and instrumentation equipment at the Anionic Polymer Station is obsolete and no longer reliable.

PROPOSED SOLUTION

Approve a Professional Design Services Agreement to provide engineering services for Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135. This project will make improvements to both the Sodium Bisulfite Station and the Anionic Polymer Station at Plant No. 2. At the Sodium Bisulfite Station, the project will replace chemical tanks, chemical feed pumps, piping, electrical equipment and install a plant water and plant air supply. The project will also demolish and replace the Anionic Polymer Station's obsolete electrical and instrumentation assets, including controllers, flow meters/transmitters, motor running time meter tubs, valves, and actuators.

TIMING CONCERNS

If this project is delayed, OC San will continue to operate with a less reliable Sodium Bisulfite Station and Anionic Polymer Station.

RAMIFICATIONS OF NOT TAKING ACTION

The Sodium Bisulfite Station may not function well when called upon during an emergency when OC San is required to disinfect the effluent. The Anionic Polymer Station electrical equipment may fail which could result in poor effluent quality.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATION

Consultant Selection:

OC San requested and advertised for proposals for Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135 on September 28, 2022. The following evaluation criteria were described in the Request for Proposals (RFP) and used to determine the most qualified Consultant.

CRITERION	WEIGHT
Project Understanding and Approach	40%
Related Project Experience	25%
Project Team and Staff Qualifications	35%

One proposal was received on November 16, 2022. A post-proposal survey was immediately conducted to professional design firms listed on the Planholders list. Three firms provided responses with the following reasons that inhibited them to successfully submit a proposal on the Project: (1) not having in-house capacity to perform the entire scope of the Project, (2) having various active OC San design projects utilizing resources, and (3) focusing on other projects and priorities.

The proposal was evaluated in accordance with the evaluation process set forth in OC San's Purchasing Ordinance by a pre-selected Evaluation Team consisting of OC San staff: Senior Engineer (Project Manager), Associate Engineer (Project Engineer), Engineering Manager, Engineering Supervisor, and Environmental Supervisor. The Evaluation Team also included one non-voting representative from the Contracts Administration Division.

The Evaluation Team scored the proposal on the established criteria as summarized in the table below:

	Firm	Approach (Max 40)	Related Experience (Max 25)	Team (Max 35)	Total Score (Max 100)
1	Lee & Ro, Inc.	32	18	25	75

On December 15, 2022, the interview was conducted. During the interview, Lee & Ro, Inc. answered all the questions prepared by the Evaluation Team and provided additional clarifications about the technical approach and staff qualifications. After the interview, the Evaluation Team determined that the proposer is well-qualified based on both the written proposal and the interview. Below is the summary of the final scores.

	Firm	Approach (Max 40)	Related Experience (Max 25)	Team (Max 35)	Total Score (Max 100)
1	Lee & Ro, Inc.	33	19	28	80

Lee & Ro, Inc. demonstrated their ability to deliver this project in both the proposal and the interview. Their technical proposal went beyond a general understanding of the Scope of Work and provided specific examples of how the proposed team would efficiently approach design challenges of the Project. The following are key elements that stood out from Lee & Ro, Inc.'s proposal and interview:

- The proposal presented different options on how to phase the anionic polymer work and provided illustrations on the sequencing of tasks to accomplish the Project.
- The team presented a good approach to selecting the sodium bisulfite station pumps.
- The team demonstrated great technical communication and collaboration between the team members. They explained their different skill sets that they will bring to the Project and how they will guide and support each other to ensure a successful project.
- The team will apply lessons learned from previous OC San projects that will greatly benefit the execution of this Project.

Lee & Ro, Inc. confirmed they had a clear understanding of OC San's expectations and key challenges with performing a comprehensive rehabilitation of the Sodium Bisulfite Station and Anionic Polymer Station.

Review of Fee Proposal and Negotiations:

Lee & Ro, Inc.'s proposal was accompanied by a sealed fee proposal. In accordance with OC San's Purchasing Ordinance, the fee proposal of only the highest-ranked firm was opened after approval by the Director of Engineering of the Evaluation Committee's recommendation.

Starting on January 4, 2023, the Evaluation Team conducted negotiations with Lee & Ro, Inc. to clarify the requirements of the Scope of Work, the assumptions used for the estimated level of effort, and the proposed approach to meet the goals and objectives for the Project. Negotiations were conducted with multiple follow-up meetings, e-mails, and calls.

The negotiations resulted in revised labor hours to reflect the level of effort needed to complete the Scope of Work. The table below summarizes the revised level of effort.

	Original Fee Proposal	Negotiated Fee
Total Hours	6,006	4,922
Total Fee	\$1,120,844	\$862,328

The final fee changed due to the following reasons:

- Eliminated preliminary design drawings. Consultant will insert exhibits/sketches into the Design Memos.
- Reduced number of Design Memos from 15 to 9.

- Reduced number of Drawings from 105 to 98.
- Reduced hours for meetings and workshops.
- Reduced hours for the Lead Electrical Engineer, Lead Instrumentation & Controls Engineer, Supervising Engineer, and Senior Engineer. The Project Engineer and Engineer roles already cover work where we are reducing hours for higher level staff.

The Consultant's fringe and overhead costs, which factor into the billing rate, have been substantiated. The contract profit is 8.82%, which is based on an established formula based on OC San's standard design agreements. Staff is requesting a 10% contingency to address revisions as the project progress through preliminary and final design.

Based on the above, staff has determined that the final negotiated fee is fair and reasonable for the level of effort required for this project and recommends award of the Professional Design Services Agreement to Lee & Ro, Inc.

CEQA

The project is exempt from CEQA under the Class 1 categorical exemptions set forth in California Code of Regulations sections 15301. A Notice of Exemption will be filed with the OC Clerk-Recorder after OC San Board of Directors approval of the PDSA contract.

FINANCIAL CONSIDERATIONS

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted (Budget FY2022-2023 and 2023-2024, Section 8, Page 73) and the project budget is sufficient for the recommended action. It is anticipated that additional budget will be required during the construction phase of this project. Staff will be reviewing the budget for this project in more detail and will request additional budget through the normal budget review process.

ATTACHMENT

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

- Professional Design Services Agreement

CM:tk

PROFESSIONAL DESIGN SERVICES AGREEMENT

This PROFESSIONAL DESIGN SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 22nd day of March, 2023 by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and LEE & RO, INC., (hereinafter referred to as "CONSULTANT").

WITNESSETH:

WHEREAS, OC SAN desires to engage CONSULTANT for **Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135**; and to provide professional design services for the Chemical Systems at Plant No. 2, (Services) and

WHEREAS, CONSULTANT is qualified to provide the necessary services in connection with these requirements and has agreed to provide the necessary professional services; and

WHEREAS, OC SAN has adopted procedures for the selection of professional design services and has proceeded in accordance with said procedures to select CONSULTANT to perform the Services; and

WHEREAS, at its regular meeting on March 22, 2023 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee pursuant to OC SAN's Ordinance No. OC SAN-56 to approve this Agreement.

NOW, THEREFORE, in consideration of the promises and mutual benefits, which will result to the parties in carrying out the terms of this Agreement, it is mutually agreed as follows:

1. SCOPE OF WORK

CONSULTANT agrees to furnish necessary professional and technical services to accomplish those project elements outlined in the Scope of Work attached hereto as Attachment "A", and by this reference made a part of this Agreement.

- A. The CONSULTANT shall be responsible for the professional quality, technical accuracy, completeness, and coordination of all design, drawings, specifications, and other services furnished by the CONSULTANT under this Agreement, including the work performed by its subconsultants (Subconsultants). Where approval by OC SAN is indicated, it is understood to be conceptual approval only and does not relieve the CONSULTANT of responsibility for complying with all laws, codes, industry standards, and liability for damages caused by errors, omissions, noncompliance with industry standards, and/or negligence on the part of the CONSULTANT or its Subconsultants.
- B. CONSULTANT is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to the standards of best engineering practice for clarity, uniformity, and completeness. CONSULTANT shall respond to all of OC SAN's questions, comments, suggestions, corrections, and recommendations (i.e., DS1, DS2, DS3, and FDS). All comments shall be incorporated into the design prior to the next submittal deadline or addressed, in

writing, as to why the comment has not been incorporated. CONSULTANT shall ensure that each submittal is 100% accurate for the level of work submitted (i.e., correct references, terms, capitalization, or equal status, spelling, punctuation, etc.)

- C. In the event that work is not performed to the satisfaction of OC SAN and does not conform to the requirements of this Agreement or any applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its designs, drawings, specifications, or other services within the timeframe specified by the Project Engineer/Project Manager. OC SAN may charge to CONSULTANT all costs, expenses and damages associated with any such corrections or revisions.
- D. All CAD drawings, figures, and other work shall be produced by CONSULTANTS and Subconsultants using OC SAN CAD Manual. Conversion of CAD work from any other non-standard CAD format to OC SAN format shall not be acceptable in lieu of this requirement.

Electronic files shall conform to OC SAN specifications. Any changes to these specifications by the CONSULTANT are subject to review and approval of OC SAN.

Electronic files shall be subject to an acceptance period of thirty (30) calendar days during which OC SAN shall perform appropriate reviews and including CAD Manual compliance. CONSULTANT shall correct any discrepancies or errors detected and reported within the acceptance period at no additional cost to OC SAN.

- E. The CONSULTANT shall ensure that all plans and specifications prepared, or recommended under this Agreement allow for competitive bidding. The CONSULTANT shall design such plans or specifications so that procurement of services, labor or materials are not available from only one source, and shall not design plans and specifications around a single or specific product, piece of major equipment or machinery, a specific patented design or a proprietary process, unless required by principles of sound engineering practice and supported by a written justification that has been approved in writing by OC SAN. The CONSULTANT shall submit this written justification to OC SAN prior to beginning work on such plans and specifications. Whenever the CONSULTANT recommends a specific product or equipment for competitive procurement, such recommendation shall include at least two brand names of products that are capable of meeting the functional requirements applicable to the project.
- F. All professional services performed by the CONSULTANT, including but not limited to all drafts, data, correspondence, proposals, reports, and estimates compiled or composed by the CONSULTANT, pursuant to this Agreement, are for the sole use of OC SAN, its agents and employees. Neither the documents nor their contents shall be released to any third party without the prior written consent of OC SAN. This provision does not apply to information that (a) was publicly known, or otherwise known to the CONSULTANT, at the time that it was disclosed to the CONSULTANT by OC SAN, (b) subsequently becomes publicly known to the CONSULTANT other than through disclosure by OC SAN.

2. COMPENSATION

Total compensation shall be paid to CONSULTANT for the Services in accordance with the following provisions:

A. Total Compensation

Total compensation shall be in an amount not to exceed Eight Hundred Sixty-Two Thousand Three Hundred Twenty-Eight Dollars (\$862,328.00). Total compensation to CONSULTANT including burdened labor (salaries plus benefits), overhead, profit, direct costs, and Subconsultant(s) fees and costs shall not exceed the sum set forth in Attachment "E" - Fee Proposal.

B. Labor

As a portion of the total compensation to be paid to CONSULTANT, OC SAN shall pay to CONSULTANT a sum equal to the burdened salaries (salaries plus benefits) actually paid by CONSULTANT charged on an hourly-rate basis to this project and paid to the personnel of CONSULTANT. Upon request of OC SAN, CONSULTANT shall provide OC SAN with certified payroll records of all employees' work that is charged to this project.

C. Overhead

As a portion of the total compensation to be paid to CONSULTANT, OC SAN shall compensate CONSULTANT and Subconsultants for overhead at the rate equal to the percentage of burdened labor as specified in Attachment "E" - Fee Proposal.

D. Profit

Profit for CONSULTANT and Subconsultants shall be a percentage of consulting services fees (Burdened Labor and Overhead). When the consulting or subconsulting services amount is \$250,000 or less, the maximum Profit shall be 10%. Between \$250,000 and \$2,500,000, the maximum Profit shall be limited by a straight declining percentage between 10% and 5%. For consulting or subconsulting services fees with a value greater than \$2,500,000, the maximum Profit shall be 5%. Addenda shall be governed by the same maximum Profit percentage after adding consulting services fees.

As a portion of the total compensation to be paid to CONSULTANT and Subconsultants, OC SAN shall pay profit for all services rendered by CONSULTANT and Subconsultants for this project according to Attachment "E" - Fee Proposal.

E. Subconsultants

For any Subconsultant whose fees for services are greater than or equal to \$100,000 (excluding out-of-pocket costs), CONSULTANT shall pay to Subconsultant total compensation in accordance with the Subconsultant amount specified in Attachment "E" - Fee Proposal.

For any Subconsultant whose fees for services are less than \$100,000, CONSULTANT may pay to Subconsultant total compensation on an hourly-rate basis per the attached hourly rate Schedule and as specified in the Scope of Work. OC SAN shall pay to CONSULTANT the actual costs of Subconsultant fees and charges in an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal.

F. Direct Costs

OC SAN shall pay to CONSULTANT and Subconsultants the actual costs of permits and associated fees, travel and licenses for an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal. OC SAN shall also pay to CONSULTANT actual costs for equipment rentals, leases or purchases with prior approval of OC SAN. Upon request, CONSULTANT shall provide to OC SAN receipts and other documentary records to support CONSULTANT's request for reimbursement of these amounts, see Attachment "D" - Allowable Direct Costs. All incidental expenses shall be included in overhead pursuant to Section 2 - COMPENSATION above.

G. Other Direct Costs

Other Direct Costs incurred by CONSULTANT and its Contractor due to modifications to the Scope of Work resulting from field investigations and field work required by the Agreement. These items may include special equipment, test equipment and tooling and other materials and services not previously identified. Refer to attachment "D" Allowable Direct Costs for payment information.

H. Reimbursable Direct Costs

OC SAN will reimburse the CONSULTANT for reasonable travel and business expenses as described in this section and further described in Attachment "D" - Allowable Direct Costs to this Agreement. The reimbursement of the above-mentioned expenses will be based on an "accountable plan" as considered by Internal Revenue Service (IRS). The plan includes a combination of reimbursements based upon receipts and a "per diem" component approved by IRS. The most recent schedule of the per diem rates utilized by OC SAN can be found on the U.S. General Service Administration website at <http://www.gsa.gov/portal/category/104711#>.

The CONSULTANT shall be responsible for the most economical and practical means of management of reimbursable costs inclusive but not limited to travel, lodging and meals arrangements. OC SAN shall apply the most economic and practical method of reimbursement which may include reimbursements based upon receipts and/or "per diem" as deemed the most practical.

CONSULTANT shall be responsible for returning to OC SAN any excess reimbursements after the reimbursement has been paid by OC SAN.

Travel and travel arrangements – Any travel involving airfare, overnight stays or multiple day attendance must be approved by OC SAN in advance.

Local Travel is considered travel by the CONSULTANT within OC SAN general geographical area which includes Orange, Los Angeles, Ventura, San Bernardino, Riverside, San Diego, Imperial, and Kern Counties. Automobile mileage is reimbursable if CONSULTANT is required to utilize personal vehicle for local travel.

Lodging – Overnight stays will not be approved by OC SAN for local travel. However, under certain circumstances overnight stay may be allowed at the discretion of OC SAN based on reasonableness of meeting schedules and the amount of time required for travel by the CONSULTANT. Such determination will be made on a case-by-case basis and at the discretion of OC SAN.

Travel Meals – Per-diem rates as approved by IRS shall be utilized for travel meals reimbursements. Per diem rates shall be applied to meals that are appropriate for travel times. Receipts are not required for the approved meals.

Additional details related to the reimbursement of the allowable direct costs are provided in the Attachment “D” - Allowable Direct Costs of this Agreement.

I. Limitation of Costs

If, at any time, CONSULTANT estimates the cost of performing the services described in CONSULTANT’s Proposal will exceed seventy-five percent (75%) of the not-to-exceed amount of the Agreement, including approved additional compensation, CONSULTANT shall notify OC SAN immediately, and in writing. This written notice shall indicate the additional amount necessary to complete the services. Any cost incurred in excess of the approved not-to-exceed amount, without the express written consent of OC SAN’s authorized representative shall be at CONSULTANT’s own risk. This written notice shall be provided separately from, and in addition to any notification requirements contained in the CONSULTANT’s invoice and monthly progress report. Failure to notify OC SAN that the services cannot be completed within the authorized not-to-exceed amount is a material breach of this Agreement.

3. REALLOCATION OF TOTAL COMPENSATION

OC SAN, by its Director of Engineering, shall have the right to approve a reallocation of the incremental amounts constituting the total compensation, provided that the total compensation is not increased.

4. PAYMENT

A. Monthly Invoice: CONSULTANT shall include in its monthly invoice, a detailed breakdown of costs associated with the performance of any corrections or revisions of the work for that invoicing period. CONSULTANT shall allocate costs in the same manner as it would for payment requests as described in this Section of the Agreement. CONSULTANT shall warrant and certify the accuracy of these costs and understand that submitted costs are subject to Section 11 - AUDIT PROVISIONS.

- B. CONSULTANT may submit monthly or periodic statements requesting payment for those items included in Section 2 - COMPENSATION hereof in the format as required by OC SAN. Such requests shall be based upon the amount and value of the work and services performed by CONSULTANT under this Agreement and shall be prepared by CONSULTANT and accompanied by such supporting data, including a detailed breakdown of all costs incurred and work performed during the period covered by the statement, as may be required by OC SAN.

Upon approval of such payment request by OC SAN, payment shall be made to CONSULTANT as soon as practicable of one hundred percent (100%) of the invoiced amount on a per task basis.

If OC SAN determines that the work under this Agreement, or any specified task hereunder, is incomplete and that the amount of payment is in excess of:

- i. The amount considered by OC SAN's Director of Engineering to be adequate for the protection of OC SAN; or
- ii. The percentage of the work accomplished for each task.

OC SAN may, at the discretion of the Director of Engineering, retain an amount equal to that which ensures that the total amount paid to that date does not exceed the percentage of the completed work for each task or the project in its entirety.

- C. CONSULTANT may submit periodic payment requests for each 30-day period of this Agreement for the profit as set forth in Section 2 - COMPENSATION above. Said profit payment request shall be proportionate to the work actually accomplished to date on a per task basis. In the event OC SAN's Director of Engineering determines that no satisfactory progress has been made since the prior payment, or in the event of a delay in the work progress for any reason, OC SAN shall have the right to withhold any scheduled proportionate profit payment.
- D. Upon satisfactory completion by CONSULTANT of the work called for under the terms of this Agreement, and upon acceptance of such work by OC SAN, CONSULTANT will be paid the unpaid balance of any money due for such work, including any retained percentages relating to this portion of the work.

Upon satisfactory completion of the work performed hereunder and prior to final payment under this Agreement for such work, or prior settlement upon termination of this Agreement, and as a condition precedent thereto, CONSULTANT shall execute and deliver to OC SAN a release of all claims against OC SAN arising under or by virtue of this Agreement other than such claims, if any, as may be specifically exempted by CONSULTANT from the operation of the release in stated amounts to be set forth therein.

- E. Pursuant to the California False Claims Act (Government Code Sections 12650-12655), any CONSULTANT that knowingly submits a false claim to OC SAN for compensation under the terms of this Agreement may be held liable for treble damages and up to a ten thousand dollars (\$10,000) civil penalty for each false claim submitted. This Section shall also be binding on all Subconsultants.

A CONSULTANT or Subconsultant shall be deemed to have submitted a false claim when the CONSULTANT or Subconsultant: a) knowingly presents or causes to be presented to an officer or employee of OC SAN a false claim or request for payment or approval; b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by OC SAN; c) conspires to defraud OC SAN by getting a false claim allowed or paid by OC SAN; d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to OC SAN; or e) is a beneficiary of an inadvertent submission of a false claim to OC SAN, and fails to disclose the false claim to OC SAN within a reasonable time after discovery of the false claim.

5. CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION AND RECORD OF WAGES

- A. To the extent CONSULTANT's employees and/or Subconsultants who will perform work during the design and preconstruction phases of a construction contract for which Prevailing Wage Determinations have been issued by the DIR and as more specifically defined under Labor Code Section 1720 et seq, CONSULTANT and Subconsultants shall comply with the registration requirements of Labor Code Section 1725.5. Pursuant to Labor Code Section 1771.4, the work is subject to compliance monitoring and enforcement by the DIR.
- B. The CONSULTANT and Subconsultants shall maintain accurate payroll records and shall comply with all the provisions of Labor Code Section 1776, and shall submit payroll records to the Labor Commissioner pursuant to Labor Code Section 1771.4(a)(3). Penalties for non-compliance with the requirements of Section 1776 may be deducted from progress payments per Section 1776.
- C. Pursuant to Labor Code Section 1776, the CONSULTANT and Subconsultants shall furnish a copy of all certified payroll records to OC SAN and/or general public upon request, provided the public request is made through OC SAN, the Division of Apprenticeship Standards or the Division of Labor Enforcement of the Department of Industrial Relations.
- D. The CONSULTANT and Subconsultants shall comply with the job site notices posting requirements established by the Labor Commissioner per Title 8, California Code of Regulation Section 16461(e).

6. DOCUMENT OWNERSHIP – SUBSEQUENT CHANGES TO PLANS AND SPECIFICATIONS

- A. Ownership of Documents for the Services performed.

All documents, including but not limited to, original plans, studies, sketches, drawings, computer printouts and disk files, and specifications prepared in connection with or related to the Scope of Work or Services, shall be the property of OC SAN. OC SAN's ownership of these documents includes use of, reproduction or reuse of and all incidental rights, whether or not the work for

which they were prepared has been performed. OC SAN ownership entitlement arises upon payment or any partial payment for work performed and includes ownership of any and all work product completed prior to that payment. This Section shall apply whether the CONSULTANT's Services are terminated: a) by the completion of the Agreement, or b) in accordance with other provisions of this Agreement. Notwithstanding any other provision of this paragraph or Agreement, the CONSULTANT shall have the right to make copies of all such plans, studies, sketches, drawings, computer printouts and disk files, and specifications.

- B. CONSULTANT shall not be responsible for damage caused by subsequent changes to or uses of the plans or specifications, where the subsequent changes or uses are not authorized or approved by CONSULTANT, provided that the service rendered by CONSULTANT was not a proximate cause of the damage.

7. INSURANCE

A. General

- i. Insurance shall be issued and underwritten by insurance companies acceptable to OC SAN.
- ii. Insurers must have an "A-" Policyholder's Rating, or better, and Financial Rating of at least Class VIII, or better, in accordance with the most current A.M. Best's Guide Rating. However, OC SAN will accept State Compensation Insurance Fund, for the required policy of Workers' Compensation Insurance subject to OC SAN's option to require a change in insurer in the event the State Fund financial rating is decreased below "B". Further, OC SAN will require CONSULTANT to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within twenty (20) days of written notice to CONSULTANT, by OC SAN or its agent.
- iii. Coverage shall be in effect prior to the commencement of any work under this Agreement.

B. General Liability

The CONSULTANT shall maintain during the life of this Agreement, including the period of warranty, commercial general liability insurance written on an occurrence basis providing the following minimum limits of liability coverage: Two Million Dollars (\$2,000,000) per occurrence with Four Million Dollars (\$4,000,000) aggregate. If aggregate limits apply separately to this contract (as evidenced by submission of ISO form CG 25 03 or 25 04), then the aggregate limit may be equivalent to the per occurrence limit. Said insurance shall include coverage for the following hazards: premises-operations, blanket contractual liability (for this Agreement), products liability/completed operations (including any product manufactured or assembled), broad form property damage, blanket contractual liability, independent contractors liability, personal and advertising injury, mobile

equipment, owners and contractors protective liability, and cross liability and severability of interest clauses. A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement(s). If requested by OC SAN and applicable, XCU coverage (Explosion, Collapse and Underground) and Riggers/On Hook Liability must be included in the general liability policy and coverage must be reflected on the submitted certificate of insurance. Where permitted by law, CONSULTANT hereby waives all rights of recovery by subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against OC SAN, its or their officers, agents, or employees, and any other consultant, contractor, or subcontractor performing work or rendering services on behalf of OC SAN in connection with the planning, development, and construction of the project. In all its insurance coverages related to the work, CONSULTANT shall include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against OC SAN, its or their officers, agents, or employees, or any other consultant, contractor, or subcontractor performing work or rendering services at the project. Where permitted by law, CONSULTANT shall require similar written express waivers and insurance clauses from each of its Subconsultants of every tier. A waiver of subrogation shall be effective as to any individual or entity, even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium, directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

C. Umbrella Excess Liability

The minimum limits of general liability and automobile liability insurance required, as set forth herein, shall be provided for through either a single policy of primary insurance or a combination of policies of primary and umbrella excess coverage. Umbrella excess liability coverage shall be issued with limits of liability which, when combined with the primary insurance, will equal the minimum limits for general liability and automobile liability.

D. Automobile/Vehicle Liability Insurance

The CONSULTANT shall maintain a policy of automobile liability insurance on a comprehensive form covering all owned, non-owned, and hired automobiles, trucks, and other vehicles providing the following minimum limit of liability coverage: combined single limit of One Million Dollars (\$1,000,000). A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement.

E. Drone Liability Insurance

If a drone will be used, drone liability insurance must be maintained by CONSULTANT in the amount of one million dollars (\$1,000,000) in form acceptable to OC SAN.

F. Workers' Compensation Insurance

The CONSULTANT shall provide such workers' compensation insurance as required by the Labor Code of the State of California in the amount of the statutory limit, including employer's liability insurance with a minimum limit of One Million Dollars (\$1,000,000) per occurrence. Such workers' compensation insurance shall be endorsed to provide for a waiver of subrogation in favor of OC SAN. A statement on an insurance certificate will not be accepted in lieu of the actual endorsements unless the insurance carrier is State of California Insurance Fund and the identifier "SCIF" and endorsement numbers 2570 and 2065 are referenced on the certificate of insurance. If an exposure to Jones Act liability may exist, the insurance required herein shall include coverage for Jones Act claims.

G. Errors and Omissions/Professional Liability

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than Two Million Dollars (\$2,000,000) with limits in accordance with the provisions of this paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of five (5) years from the date of the completion of the services hereunder.

In the event of termination of said policy during this period, CONSULTANT shall obtain continuing insurance coverage for the prior acts or omissions of CONSULTANT during the course of performing services under the term of this Agreement. Said coverage shall be evidenced by either a new policy evidencing no gap in coverage or by separate extended "tail" coverage with the present or new carrier.

In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of this Agreement or until completion of the services provided for in this Agreement, whichever is later. In the event of termination of said policy during this period, new coverage shall be obtained for the required period to insure for the prior acts of CONSULTANT during the course of performing services under the term of this Agreement.

CONSULTANT shall provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating the deductible or self-retention amounts and the expiration date of said policy and shall provide renewal certificates not less than ten (10) days prior to the expiration of each policy term.

H. Proof of Coverage

The CONSULTANT shall furnish OC SAN with original certificates and amendatory endorsements effecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before work commences. OC SAN reserves

the right to require, at any time, complete, certified copies of all required insurance policies, including endorsements, effecting the coverage required. The following are approved forms that must be submitted as proof of coverage:

- Certificate of Insurance ACORD Form 25 or other equivalent certificate of insurance form
- Additional Insurance (General Liability) The combination of (ISO Forms) CG 20 10 and CG 20 37

All other additional insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.
- Additional Insured (Automobile Liability) Submit endorsement provided by carrier for OC SAN approval.
- Waiver of Subrogation Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
- Cancellation Notice No endorsement is required. However, CONSULTANT is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described in Article I. Cancellation and Policy Change Notice, below.

I. Cancellation and Policy Change Notice

The CONSULTANT is required to notify OC SAN in writing of any insurance cancellation notice it receives or other knowledge of pending or actual insurance policy cancellation within two (2) working days of receipt of such notice or acquisition of such knowledge. Additionally, the CONSULTANT is required to notify OC SAN in writing of any change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within two (2) working days of receipt of such notice or knowledge of same.

Said notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue, Fountain Valley, CA 92708
Attention: Contracts, Purchasing & Materials Management Division

J. Primary Insurance

The general and automobile liability policies shall contain a Primary and "Non Contributory" clause. Any other insurance maintained by OC SAN shall be excess and not contributing with the insurance provided by CONSULTANT.

K. Separation of Insured

The general and automobile liability policies shall contain a "Separation of Insureds" clause.

L. Non-Limiting (if applicable)

Nothing in this document shall be construed as limiting in any way, nor shall it limit the indemnification provision contained in this Agreement, or the extent to which CONSULTANT may be held responsible for payment of damages to persons or property.

M. Deductibles and Self-Insured Retentions

Any deductible and/or self-insured retention must be declared to OC SAN on the certificate of insurance. All deductibles and/or self-insured retentions require approval by OC SAN. At the option of OC SAN, either: the insurer shall reduce or eliminate such deductible or self-insured retention as respects OC SAN; or the CONSULTANT shall provide a financial guarantee satisfactory to OC SAN guaranteeing payment of losses and related investigations, claim administration and defense expenses.

N. Defense Costs

The general and automobile liability policies shall have a provision that defense costs for all insureds and additional insureds are paid in addition to and do not deplete any policy limits.

O. Subconsultants

The CONSULTANT shall be responsible to establish insurance requirements for any Subconsultant hired by the CONSULTANT. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subconsultant's operations and work.

P. Limits Are Minimums

If the CONSULTANT maintains higher limits than any minimums shown above, then OC SAN requires and shall be entitled to coverage for the higher limits maintained by CONSULTANT.

8. SCOPE CHANGES

In the event of a change in the Scope of Work or other terms in the Agreement, as requested by OC SAN, the parties hereto shall execute an Amendment to this Agreement setting forth with particularity all terms of the new Agreement, including, but not limited to, any additional CONSULTANT's fees. CONSULTANT hereby agrees to use any and all procedures, programs, and systems required by OC SAN to process and execute such Amendment(s), including, but not limited to, computer programs and systems.

9. PROJECT TEAM AND SUBCONSULTANTS

CONSULTANT shall provide to OC SAN, prior to execution of this Agreement, the names and full description of all Subconsultants and CONSULTANT's project team members anticipated to be used on this project by CONSULTANT. CONSULTANT shall include a description of the scope of work to be done by each Subconsultant and each CONSULTANT's project team member. CONSULTANT shall include the respective compensation amounts for CONSULTANT and each Subconsultant on a per task basis, broken down as indicated in Section 2 - COMPENSATION.

There shall be no substitution of the listed Subconsultants and CONSULTANT's project team members without prior written approval by OC SAN.

10. ENGINEERING REGISTRATION

The CONSULTANT's personnel are comprised of registered engineers and a staff of specialists and draftsmen in each department. The firm itself is not a registered engineer but represents and agrees that wherever in the performance of this Agreement requires the services of a registered engineer, such services hereunder will be performed under the direct supervision of registered engineers.

11. AUDIT PROVISIONS

- A. OC SAN retains the reasonable right to access, review, examine, and audit, any and all books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify that the CONSULTANT is in compliance with all requirements under this Agreement. The CONSULTANT shall include OC SAN's right as described above, in any and all of their subcontracts, and shall ensure that these rights are binding upon all Subconsultants.
- B. OC SAN retains the right to examine CONSULTANT's books, records, documents and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, or anticipated to be incurred or to ensure CONSULTANT's compliance with all requirements under this Agreement during the term of this Agreement and for a period of three (3) years after its termination.
- C. CONSULTANT shall maintain complete and accurate records in accordance with generally accepted industry standard practices and OC SAN's policy. The CONSULTANT shall make available to OC SAN for review and audit, all project related accounting records and documents, and any other financial data within 15 days after receipt of notice from OC SAN. Upon OC SAN's request, the CONSULTANT shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, CONSULTANT shall ensure that a qualified employee of the CONSULTANT will be available to assist OC SAN's auditor in obtaining all project related accounting records and documents, and any other financial data.

12. LEGAL RELATIONSHIP BETWEEN PARTIES

The legal relationship between the parties hereto is that of an independent contractor and nothing herein shall be deemed to make CONSULTANT an employee of OC SAN.

13. NOTICES

All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, return receipt requested, postage prepaid.

Notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue, Fountain Valley, CA 92708-7018
Attention: Wai Chan, Contracts Administrator
Copy: Cindy Murra, Project Manager

Notices shall be mailed to CONSULTANT at:

LEE & RO, INC.
1199 South Fullerton Road
City of Industry, CA 91748
Attention: Charles Ro, Principal in Charge

All communication regarding the Scope of Work, will be addressed to the Project Manager. Direction from other OC SAN's staff must be approved in writing by OC SAN's Project Manager prior to action from the CONSULTANT.

14. TERMINATION

OC SAN may terminate this Agreement at any time, without cause, upon giving thirty (30) days written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination.

CONSULTANT shall be permitted to terminate this Agreement upon thirty (30) days written notice only if CONSULTANT is not compensated for billed amounts in accordance with the provisions of this Agreement, when the same are due.

Notice of termination shall be mailed to OC SAN and/or CONSULTANT in accordance with Section 13 - NOTICES.

15. DOCUMENTS AND STUDY MATERIALS

The documents and study materials for this project shall become the property of OC SAN upon the termination or completion of the work. CONSULTANT agrees to furnish to OC SAN copies of all memoranda, correspondence, computation and study materials in its files pertaining to the work described in this Agreement, which is requested in writing by OC SAN.

16. COMPLIANCE

A. Labor

CONSULTANT certifies by the execution of this Agreement that it pays employees not less than the minimum wage as defined by law, and that it does not discriminate in its employment with regard to race, color, religion, sex or national origin; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal opportunity in employment.

B. Air Pollution

CONSULTANT and its subconsultants and subcontractors shall comply with all applicable federal, state and local air pollution control laws and regulations.

C. Iran Contracting Act

CONSULTANT and its subconsultants and subcontractors shall comply with the Iran Contracting Act of 2010 (Public Contract Code sections 2200-2208).

17. AGREEMENT EXECUTION AUTHORIZATION

Both OC SAN and CONSULTANT do covenant that each individual executing this document by and on behalf of each party is a person duly authorized to execute agreements for that party.

18. DISPUTE RESOLUTION

In the event of a dispute arising between the parties regarding performance or interpretation of this Agreement, the dispute shall be resolved by binding arbitration under the auspices of the Judicial Arbitration and Mediation Service ("JAMS"), or similar organization or entity conducting alternate dispute resolution services.

19. ATTORNEY'S FEES, COSTS AND NECESSARY DISBURSEMENTS

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 it may be entitled.

20. PROGRESS REPORTS

Monthly progress reports shall be submitted for review by the tenth day of the following month and must include as a minimum: 1) current activities, 2) future activities, 3) potential items that are not included in the Scope of Work, 4) concerns and possible delays, 5) percentage of completion, and 6) budget status.

21. WARRANTY

CONSULTANT shall perform its services in accordance with generally accepted industry and professional standards. If, within the 12-month period following completion of its services, OC SAN informs CONSULTANT that any part of the services fails to meet those standards, CONSULTANT shall, within the time prescribed by OC SAN, take all such actions as are necessary to correct or complete the noted deficiency(ies).

22. INDEMNIFICATION

To the fullest extent permitted by law, CONSULTANT shall indemnify, defend (at CONSULTANT's sole cost and expense and with legal counsel approved by OC SAN, which approval shall not be unreasonably withheld), protect and hold harmless OC SAN and all of OC SAN's officers, directors, employees, consultants, and agents (collectively the "Indemnified Parties"), from and against any and all claims, damages, liabilities, causes of action, suits, arbitration awards, losses, judgments, fines, penalties, costs and expenses (including, without limitation, attorneys' fees, disbursements and court costs, and all other professional, expert or CONSULTANT's fees and costs and OC SAN's general and administrative expenses; individually, a "Claim"; collectively, "Claims") which may arise from or are in any manner related, directly or indirectly, to any work performed, or any operations, activities, or services provided by CONSULTANT in carrying out its obligations under this Agreement to the extent of the negligent, recklessness and/or willful misconduct of CONSULTANT, its principals, officers, agents, employees, CONSULTANT's suppliers, CONSULTANT, Subconsultants, subcontractors, and/or anyone employed directly or indirectly by any of them, regardless of any contributing negligence or strict liability of an Indemnified Party. Notwithstanding the foregoing, nothing herein shall be construed to require CONSULTANT to indemnify the Indemnified Parties from any Claim arising solely from:

- (A) the active negligence or willful misconduct of the Indemnified Parties; or
- (B) a natural disaster or other act of God, such as an earthquake; or
- (C) the independent action of a third party who is neither one of the Indemnified Parties nor the CONSULTANT, nor its principal, officer, agent, employee, nor CONSULTANT's supplier, CONSULTANT, Subconsultant, subcontractor, nor anyone employed directly or indirectly by any of them.

Exceptions (A) through (B) above shall not apply, and CONSULTANT shall, to the fullest extent permitted by law, indemnify the Indemnified Parties, from Claims arising from more than one cause if any such cause taken alone would otherwise result in the obligation to indemnify hereunder.

CONSULTANT's liability for indemnification hereunder is in addition to any liability CONSULTANT may have to OC SAN for a breach by CONSULTANT of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit CONSULTANT's indemnification obligation or other liability hereunder. The terms of this Agreement are contractual and the result of negotiation between the parties hereto. Accordingly, any

rule of construction of contracts (including, without limitation, California Civil Code Section 1654) that ambiguities are to be construed against the drafting party, shall not be employed in the interpretation of this Agreement.

23. DUTY TO DEFEND

The duty to defend hereunder is wholly independent of and separate from the duty to indemnify and such duty to defend shall exist regardless of any ultimate liability of CONSULTANT and shall be consistent with Civil Code Section 2782.8. Such defense obligation shall arise immediately upon presentation of a Claim by any person if, without regard to the merit of the Claim, such Claim could potentially result in an obligation to indemnify one or more Indemnified Parties, and upon written notice of such Claim being provided to CONSULTANT. Payment to CONSULTANT by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party shall not be a condition precedent to enforcing such Indemnified Party's rights to indemnification hereunder. In the event a final judgment, arbitration, award, order, settlement, or other final resolution expressly determines that the claim did not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, to any extent, then OC SAN will reimburse CONSULTANT for the reasonable costs of defending the Indemnified Parties against such claims.

CONSULTANT's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until such time as action against the Indemnified Parties for such matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

24. CONSULTANT PERFORMANCE

The CONSULTANT's performance shall be evaluated by OC SAN. A copy of the evaluation shall be sent to the CONSULTANT for comment. The evaluation, together with the comments, shall be retained by OC SAN and may be considered in future CONSULTANT selection processes.

25. COMPLIANCE WITH OC SAN POLICIES AND PROCEDURES

CONSULTANT shall comply with all OC SAN policies and procedures including the Contractor Safety Standards, as applicable, all of which may be amended from time to time.

26. CLOSEOUT

When OC SAN determines that all work authorized under the Agreement is fully complete and that OC SAN requires no further work from CONSULTANT, or the Agreement is otherwise terminated or expires in accordance with the terms of the Agreement, OC SAN shall give the Consultant written notice that the Agreement will be closed out. CONSULTANT shall submit all outstanding billings, work submittals, deliverables, reports or similarly related documents as required under the Agreement within thirty (30) days of receipt of notice of Agreement closeout.

Upon receipt of CONSULTANT's submittals, OC SAN shall commence a closeout audit of the Agreement and will either:

- i. Give the CONSULTANT a final Agreement Acceptance: or
- ii. Advise the CONSULTANT in writing of any outstanding item or items which must be furnished, completed, or corrected at the CONSULTANT's cost.

CONSULTANT shall be required to provide adequate resources to fully support any administrative closeout efforts identified in this Agreement. Such support must be provided within the timeframe requested by OC SAN.

Notwithstanding the final Agreement Acceptance the CONSULTANT will not be relieved of its obligations hereunder, nor will the CONSULTANT be relieved of its obligations to complete any portions of the work, the non-completion of which were not disclosed to OC SAN (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise); and the CONSULTANT shall remain obligated under all those provisions of the Agreement which expressly or by their nature extend beyond and survive final Agreement Acceptance.

Any failure by OC SAN to reject the work or to reject the CONSULTANT's request for final Agreement Acceptance as set forth above shall not be deemed to be acceptance of the work by OC SAN for any purpose nor imply acceptance of, or agreement with, the CONSULTANT's request for final Agreement Acceptance.

27. ENTIRE AGREEMENT

This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between them pertaining to the subject matter thereof.

[THIS SECTION INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, this Agreement has been executed in the name of OC SAN and CONSULTANT by their respective duly authorized officers as of the day and year first written above.

CONSULTANT: LEE & RO, INC.

By _____ Date _____

Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ Date _____
Chad P. Wanke
Board Chairman

By _____ Date _____
Kelly A. Lore
Clerk of the Board

By _____ Date _____
Ruth Zintzun
Purchasing & Contracts Manager

- Attachments: Attachment "A" – Scope of Work
Attachment "B" – Labor Hour Matrix
Attachment "C" – Not Attached
Attachment "D" – Allowable Direct Costs
Attachment "E" – Fee Proposal
Attachment "F" – Not Used
Attachment "G" – Not Attached
Attachment "H" – Not Used
Attachment "I" – Cost Matrix and Summary
Attachment "J" – Not Attached
Attachment "K" – Minor Subconsultant Hourly Rate Schedule
Attachment "L" – Contractor Safety Standards
Attachment "M" – Iran Contracting Act Verification

WC:ms

ATTACHMENT "A"

SCOPE OF WORK

Chemical Systems Rehabilitation at Plant No. 2
Project No. P2-135

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1. PROJECT REQUIREMENTS

1.0 SUMMARY

1.0.1 PROFESSIONAL DESIGN ENGINEERING SERVICES

A. Provide professional design engineering services for the project described herein including the following:

1. Preliminary Design Report
2. Permitting assistance
3. Preparation of bid documents

1.0.2 PROFESSIONAL LICENSING REQUIREMENTS

A. All plans and specifications shall be prepared by a professional engineer licensed in the State of California of the associated discipline.

1.1 BACKGROUND

The Sodium Bisulfite Station and Anionic Polymer Station at Plant No. 2 are in need of upgrades.

The existing Plant No. 2 Sodium Bisulfite Station was designed for continuous use when OC SAN regularly disinfected the effluent. From 2000 to 2015, OC SAN disinfected all wastewater which was sent to the ocean outfall, as required to meet the NPDES Permit bacteriological standards. The disinfection process included adding sodium hypochlorite to the wastewater to destroy fecal coliform and other disease carrying microorganisms, and then added sodium bisulfite to dechlorinate the wastewater to reduce the impact of sodium hypochlorite on the ocean.

In 2015, OC SAN received approval from the USEPA and Santa Ana Regional Water Quality Control Board to stop disinfection. Since 2015, disinfection is now only required for abnormal operational conditions. The NPDES permit still requires OC SAN to disinfect when using the 78-inch one-mile short outfall, which occurs when the 120-inch outfall is scheduled for maintenance, or OC SAN experiences an extreme high flow event. The Sodium Bisulfite Station has only been utilized a few times since 2015.

Due to sodium bisulfate crystalizing when stored, it is difficult to maintain stored chemicals at the Sodium Bisulfite Station since OC SAN stopped disinfecting continuously. The equipment is in poor condition and it is oversized for how it is used today.

Plant No. 2 uses ferric chloride and anionic polymer as coagulants as part of the chemically enhanced primary treatment (CEPT) in the primary basins to remove settleable solids. With CEPT, effluent quality is improved and H₂S in the digester gas is reduced. The process is generally controlled at the Headworks by feeding each of the three sets of clarifiers. Ferric chloride is added to the primary influent stream at the primary influent metering structure downstream of the primary influent flowmeters for each side of the primary plant. Anionic polymer is added to the three distribution structures that feed the 14 primary clarifiers. The dose of polymer varies depending on the type of polymer used. Regular jar testing by Operations staff determines the specific dose rates for ferric chloride and for polymer.

OC SAN has experienced difficulties to maintain the existing electrical and instrumentation (E&I) equipment at the Anionic Polymer Station as most of the equipment is obsolete or is no longer reliable. No work is proposed to the Ferric Chloride facilities at this time.

1.2 GENERAL PROJECT DESCRIPTION

This project will make improvements to two existing chemical areas within Plant No. 2: a) the Sodium Bisulfite Station, and b) the Anionic Polymer Station. The project will demolish the existing Plant No. 2

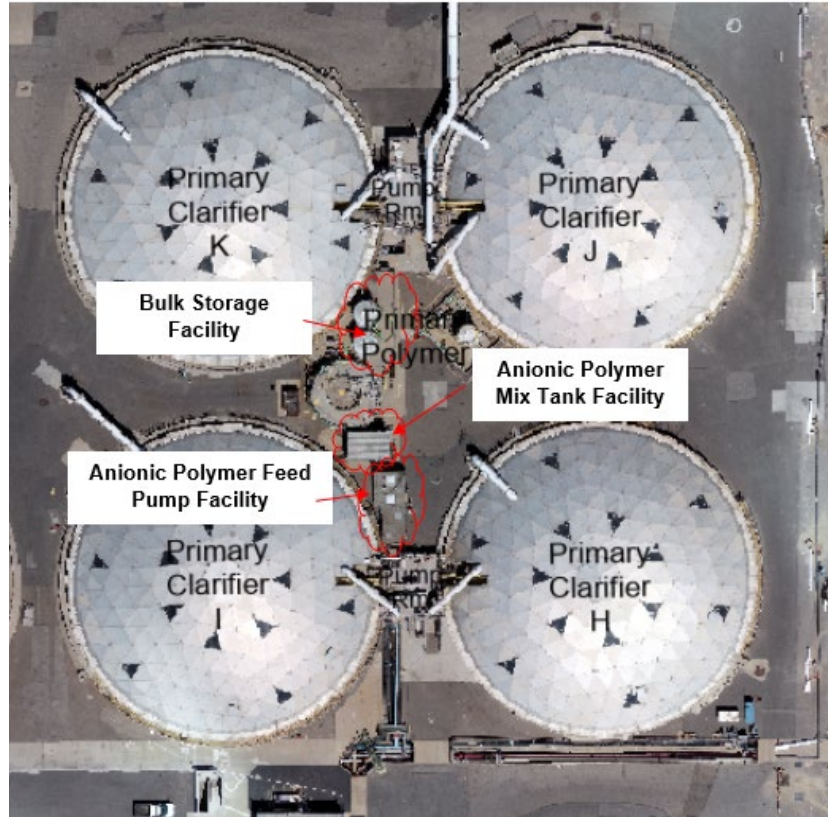
Sodium Bisulfite Station, built under project J-87 in 2003, inside the containment and pump areas. There are 3 x 13,000-gallon fiber-reinforced plastic (FRP) tanks, 6 various sized chemical feed pumps, including motors and drives, and associated piping and valves. There are aged chemicals inside 2 of the 3 tanks with heavy crystallization buildup. The project will install one or more FRP tanks with 3 high turndown ratio pumps per tank. Also, the station does not have a plant water supply. See Figure 1 Project Site.

This project will also replace equipment at the Anionic Polymer Station to ensure that this critical facility remains reliable until OC SAN is able to rehabilitate the entire facility with future project P2-133 B/C-Side Primary Sedimentation Basins Rehabilitation at Plant No. 2, which is scheduled to start in 2029. The project will demolish and replace the Anionic Polymer Station's obsolete electrical and instrumentation assets, built under project P2-36 in 1986. The electrical and instrumentation assets include controllers, flow meters/transmitters, motor running time meter tubs, valves, and actuators. See Figure 2 Project Site.

Figure 1 Project Site



Figure 2 Project Site



1.3 PROJECT EXECUTION PHASES

All OC SAN projects are divided into six phases. CONSULTANT shall provide engineering services for all Project Elements listed in this Scope of Work for the following Phases:

- Phase 1 – Project Development (Not in this Scope of Work)
- Phase 2 – Preliminary Design
- Phase 3 – Design
- Phase 4 – Construction (Not in this Scope of Work)
- Phase 5 – Commissioning (Not in this Scope of Work)
- Phase 6 – Close Out (Not in this Scope of Work)

1.4 DESCRIPTION OF PROJECT ELEMENTS

Detailed descriptions of the Project Elements are presented below.

1.4.1 PROJECT ELEMENT 1 – DEMOLITION

A. The construction of the Sodium Bisulfite Station requires the demolition of certain existing equipment that include, but may not be limited to the following:

1. Storage tanks (1 x 4,000 gal. temporary tank (use as a temporary tank during construction and demo after new system is operational) and 3 x 13,000 gal. existing tanks)
2. Chemical feed pumps (6), including motors and drives
3. Chemical piping in the containment area
4. Power panels

5. Flow meters and tank level sensors
 6. Emergency shower/eyewash stations (5 stations)
- B. The construction of the Anionic Polymer Station requires the demolition of certain existing equipment that include, but may not be limited to the following:
1. Polymer mix tank inlet valves and actuators (2 valves and 2 actuators)
 2. Mix tank drain valve and actuator
 3. Pump control panels (4)
 4. Magnetic flowmeters (2)
 5. Physical chem 480V starter rack
 6. Mix tank drain valve and actuator
 7. PLC processor and RIO panels 21HFCP001 and 21HFCP002.

1.4.2 PROJECT ELEMENT 2 – SODIUM BISULFITE STATION

- A. The Sodium Bisulfite Station equipment for intermittent operation shall include:
1. FRP tank(s)
 2. Chemical feed pumps
 3. Chemical piping in the containment area, including valves and actuators
 4. Chemical feed pump control panel with VFDs
 5. Chemical truck loading panel
 6. Tank insulation with heat tracing system
 7. Recirculation system
 8. Flushing system
 9. 480V and 120/208V panel boards and transformer
 10. Area Lighting
 11. Reuse existing RIO panel with new UPS feed from our regional UPS system from EPSA Standby Power building to replace/demo the existing portable UPS unit.
 12. Flow meters
 13. Tank level transmitters and sensors
 14. Emergency shower/eyewash station(s)
 15. Concrete repair in containment area
 16. Handrails and FRP gratings repair
 17. Replace canopy
- B. Assumptions for Level of Effort
1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:
 - a. The size, capacity, and quantity of the new FRP tank(s) shall be determined.
 - b. The new pumps shall meet the minimum/maximum flow requirements: 0.1 to 2.5 gallons per minute (gpm). Chemical dosage calculation shall be verified.

- c. The new Sodium Bisulfite Station equipment shall be able to maintain the chemical in a liquid state.
- d. No emergency generator plug will be required for the Sodium Bisulfide Station.

1.4.3 PROJECT ELEMENT 3 – ANIONIC POLYMER STATION

- A. The Anionic Polymer Station equipment replacement of the following:
 - 1. Polymer mix tank inlet valves and actuators (21HNV454 and 21HNV464); provide remote control station in accessible locations next to the valves/MOVs.
 - 2. Mix tank drain valve and actuator (21HLV455).
 - 3. Emulsion Control Panel 21HFCP001. Replace this panel with new ABB PLC per OC SAN Standards. The existing FCP001 is out of service, not currently functioning, and can be demolished at any time.
 - 4. Polymer Control Panel 21HFCP002. This existing panel includes Modicon Quantum PLC with 800 series input/output modules, polymer mixing and batching controls, and annunciators. The new control panel shall utilize ABB RIO input/output modules per OC SAN Standards, and this new panel will go outside. The existing panel has control devices and displays for the polymer system. HAND-OFF-REMOTE controls switches and indicating lights will be located on the motor starter panels and JOG and E-STOP devices will be located in the field for each motor per OC SAN latest standards. The new FCP001 and FCP002 will have no pushbuttons, selectors switches, indicating lights, digital displays, HMIs, etc. mounted on the front panels, they will be completely blank. No new HMIs will be provided, operators will utilize HMIs in nearby buildings.
 - 5. Magnetic flowmeters and transmitter (21HFE412/21HFT412 and 21HFE422/21HFT422)
 - 6. 480 V motor wall-mounted motor starters:
 - a. Tank Mixer 21HTUB340
 - b. Tank Mixer 21HTUB360
 - c. Polymer Transfer Pump 21HTUB390
 - d. Polymer Transfer Pump 21HTUB400
 - 7. 480V motor starters (wall mounted) and Polymer Feed Control Panels 21HFCP003 and 21HFCP004 (located adjacent to the polymer pumps and includes two 480V pump VFDs per panel) with individual VFD control panels per pump with local controls:
 - a. Polymer Pump A 21HTUB410
 - b. Polymer Pump B 21HTUB420
 - c. Polymer Pump C 21HTUB430
 - d. Polymer Pump S 21HTUB440
 - 8. 480V-120/240V transformer and associated primary breaker and panelboard (Panel LP-RB) located adjacent to the 480V motor starters in the Polymer Pump Room. Panel LP-RB may be demolished with the loads refeed from the existing 120/240V Panel LP-H, located adjacent electrical room, if there is capacity.
- B. Convert the polymer batching system from level to flow control. Install additional flow meter and MOVs to existing Baseline P&ID 21H-NP-120:
 - 1. Provide new FIT after 21HBV395 for flow control to the mix tanks.

2. Replace 21HBV370B and 21HBV380B and provide with MOVs for Solution Polymer tanks 1 and 2 for automatic switching between the tanks.

C. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. The replacement of the existing electrical and instrumentation equipment shall be phased to maintain operation of the existing polymer system.

b. One phasing option to consider is to temporarily refeed the existing Polymer Feed Control Panels 21HFCP003 and 21HFCP004 from MCC-H2 from circuit breakers H453 and H454 (located in the adjacent electrical room). Determine if the existing 30A circuit breakers need to be replaced with 20A circuit breakers. Replace the existing two tank mixer starters and two transfer pump starters with new NEMA 4X starters located outdoors. Demolish the existing polymer feed pump starters. Replace LP-RB and the associated transformer or refeed the existing 120/240V loads. Provide a new ABB controller control panel in the electrical room in place of Emulsion Polymer Control Panel CP-EP in the electrical room. Provide a new ABB RIO panels and new polymer feed pump VFD control panels in the polymer pump room. Phase the work and commissioning to maintain operations.

c. No annunciator drawings or exhibits will be developed.

d. Select and provide appropriate PLC/RIO panel layout drawings from OC SAN Standard templates based on OC SAN feedback. Remove all other O SAN Standard templates that are not needed for the Project.

e. No new UPS will be required.

1.4.4 PROJECT ELEMENT 4 – UTILITIES

A. Utility system connections required for the Sodium Bisulfite Station include:

1. Plant water piping
2. Plant air piping

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. New plant water piping and plant air piping will connect from Hunt Tunnel to the Sodium Bisulfite Station.

1.4.5 PROJECT ELEMENT 5 – SEISMIC RETROFIT FOR THE ANIONIC POLYMER FEED PUMP FACILITY

A. Seismic retrofits to the Polymer Feed Pump Facility building described in this project element may be required. However, since this facility was not evaluated as part of the PS15-06, Seismic Evaluation of Structures at Plant Nos. 1 and 2, the extent of deficiencies and subsequent remedial repairs is not currently identified.

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. Remedial repairs will be limited to modifications of the above-grade structure and/or structure-to-foundation connection only. No ground improvements will be performed.

b. This project will not include measures to mitigate lateral spread or liquefaction.

c. Level of effort shall be determined based on the scope described in Section 2.1.4.

1.4.6 TEMPORARY FACILITIES DURING CONSTRUCTION

A. In certain cases, construction sequencing constraints may require the contractor to construct a temporary facility to be used during a certain portion of the construction period. CONSULTANT shall identify in what instances such facilities are required or reasonably warranted and present those instances with implementation plans and construction sequencing constraints to OC SAN for consideration. When such facilities are found to be either required or reasonably warranted, CONSULTANT shall provide sufficiently detailed drawings and specifications to be included in the Bid Documents that bidders understand what is required to provide and potentially operate the temporary facilities and that the reliability and performance of the facilities will meet OC SAN’s needs and reasonably mitigate construction risks. Examples of potential facilities include:

1. Temporary piping to phase the replacement of the utilities in the tunnels.
2. Temporary anionic polymer facilities.
3. Temporary standby power to accommodate the transfer of electrical loads from existing electrical equipment to new electrical equipment.

1.5 PROJECT SCHEDULE

1.5.1 GENERAL

A. The table below lists the time frames associated with each major project deliverable and with OC SAN’s review and approval of those deliverables. CONSULTANT shall comply with the deadlines indicated in that table.

B. OC SAN’s Project Manager will issue a Preliminary Design NTP. OC SAN’s Project Manager will also issue a Final Design NTP upon OC SAN’s acceptance of the final Preliminary Design Report.

C. The time frames specified below are used to estimate the actual milestone dates based on the assumed NTP date, as shown in **Exhibit 8 - Project Schedule Calculation**.

D. OC SAN will consider an alternative CONSULTANT-proposed schedule provided it is consistent with OC SAN resources and schedule constraints and adds value to OC SAN.

PROJECT MILESTONE AND DEADLINES	
MILESTONE	DEADLINE
Kickoff Meeting	The kickoff meeting will be scheduled to coincide with the Preliminary Design NTP.
Preliminary Design NTP	
Submit draft Preliminary Design Report (PDR)	80 workdays from the Preliminary Design NTP. CONSULTANT shall establish a schedule with the OC SAN PM for separately submitting working drafts of each Design Memo for OC SAN review prior to completing the draft PDR. This schedule shall factor in the logical sequence for completing the memos as well as both CONSULTANT and OC SAN resources.

PROJECT MILESTONE AND DEADLINES	
MILESTONE	DEADLINE
OC SAN Review of draft PDR	20 workdays from receipt of Draft PDR.
Submit final Preliminary Design Report	20 workdays from receipt of OC SAN comments on Draft PDR.
Final Design NTP	CONSULTANT's schedule shall allow 10 working days from submittal of the final PDR to receipt of the Design Phase NTP.
Submit Design Submittal 1 (DS1)	50 workdays from Design Phase NTP.
OC SAN Review of DS1	20 workdays from receipt of DS1.
Submit Design Submittal 2 (DS2)	65 workdays from receipt of OC SAN comments on DS1.
OC SAN Review of DS2	20 workdays from receipt of DS2.
Submit Design Submittal 3 (DS3)	80 workdays from receipt of OC SAN comments on DS2.
OC SAN Review of DS3	20 workdays from receipt of DS3.
Submit Final Design Submittal (FDS)	30 workdays from receipt of OC SAN comments on DS3. CONSULTANT shall stop work upon submission of DS3, except as required to participate in OC SAN meetings, until receipt of OC SAN comments on DS3.
OC SAN Review of FDS	15 workdays from receipt of FDS.
Final Technical Specifications and Plans	20 workdays from receipt of OC SAN comments on FDS.

2. PHASE 2 – PRELIMINARY DESIGN

The preliminary design phase will define the project. The final deliverable of this phase will be a Preliminary Design Report (PDR) with the basis of design for all elements of the project.

2.0 PRELIMINARY DESIGN PRODUCTION

2.0.1 GENERAL

A. Preliminary Design Report (PDR) production involves the preparation of design memos, drawings, calculations, and other supporting material resulting in the PDR.

2.0.2 DESIGN MEMOS

A. The CONSULTANT shall produce Design Memos as indicated below in accordance with **Exhibit 1 - Preliminary Design Report Requirements**. The CONSULTANT shall discuss the combining of design memos with OC SAN and develop a design memo submittal list.

Process Design Configuration

- Design Configuration
- Redundancy
- Monitoring and Sampling
- Process Flow Diagrams
- Operating Philosophies
- Site and Facility Layouts
- Preliminary Load Criticality Ranking Table

Hydraulic Analysis

[Limits of Modeling: ...]

- Hydraulic Analysis
- Hydraulic Profile
- Demolition**
 - Describe Demolition Requirements
 - Demolition List
 - Demolition Plans
 - Demo EID
- Rehabilitation Requirements**
- Geotechnical Data Report**
 - Review of Existing Data - Preliminary Geotechnical Report
 - Geotechnical Data Report and Recommendations
- Civil Design Parameters**
 - General Civil
 - Drainage Requirements
 - Corrosion Protection Requirements
- Utility Requirements**
- Structural Design Parameters**
- Architectural Design Parameters**
- Process Mechanical Design Parameters**
- Building Mechanical Design Parameters**
- Fire Protection**
 - Fire Protection Requirements
 - Fire Water Flow Analysis
 - Fire Protection Requirements for Existing Facilities
- Electrical**
 - Codes/standards. Brief description of electrical system. Electrical drawings.
 - Identify Electrical System Impacts
 - Report – Data Collection and Verification
 - Preliminary Load List
 - Preliminary Standby Power Requirements
 - ETAP – Preliminary Short Circuit Analysis and Load Flow/Voltage Drop Studies
 - ETAP – Provide Data. OC SAN will perform ETAP studies.
 - Preliminary Analysis for cable pull calcs, ductbank cable derating, cable tray fill calcs.
 - Hazardous Area Classification Requirements
- Instrumentation and Control**
 - Instrumentation and Control System
 - Specialty Safety Systems
 - Preliminary SAT
 - PLC and RIO Panel Location Map
 - CCTV Coverage Map
- Landscaping**
 - Landscaping Requirements
 - Develop alternative concepts for review and acceptance
- Plant Utility Investigation Findings**
- Design Safety Requirements**
 - Design Safety Requirements
 - Identify all potential project specific safety issues
 - Identify all potential Cal OSHA and OC SAN safety issues
 - Identify construction safety hazards

- Use Sample Full Project Safety Review Plan to verify safety elements
- Risk Management Check List to verify safety elements
- HAZOP
- Public Impacts**
- Environmental and Regulatory Requirements**
 - CEQA Part of Programmatic EIR
 - CEQA work consists of a Notice of Exemption (NOE). The NOE will be filled by OC SAN.
 - Determine project environmental and regulatory requirements
 - Matrix of CEQA and Permit Requirements
 - Mitigation, Monitoring and Reporting List
- Permit Requirements**
 - List of Permits Required
 - Oil Well Abandonment
- Stormwater Requirements**
- Hazardous Material Survey, Mitigation and Control**
- Maintainability**
 - Define Maintainability Requirements
 - Maintainability Requirements Plan Drawings
 - Define Maintainability Rules
 - Define Maintainability Information for Project Specific Equipment
- Facility Operation and Maintenance**
 - Facility O&M Requirements
 - Operating Philosophies
 - Preliminary Assessment of O&M Staffing Requirements
- Implementation Plan**
 - Identification of Adjacent Projects
 - Preliminary Commissioning Checklist
 - Preliminary Construction Sequencing Plan
 - Review of Constructability Issues
 - Temporary Handling of Flow
 - Temporary Facilities During Construction
- Construction Odor Monitoring and Mitigation**
- Preliminary Technical Specification List**

2.0.3 PROJECT SPECIFIC DESIGN MEMOS

Preparation of the following project specific Design Memo is required as part of the preliminary design activities. The content of this Design Memo is further described under the corresponding Preliminary Design Activities task.

1. Condition Assessment

2.0.4 PRELIMINARY DESIGN DRAWINGS

A. The CONSULTANT shall produce the following Preliminary Design Report drawings in accordance with **Exhibit 1 - Preliminary Design Report Requirements**.

- General
- Demolition
- Civil
- Landscape
- Structural
- Architectural
- Mechanical

- ☒Electrical
- ☒Instrumentation and Control

2.0.5 PRELIMINARY DESIGN REPORT (PDR) PRODUCTION, CONTENTS AND ORGANIZATION

- A. Preliminary Design Report (PDR) Production involves the preparation of design memos, drawings, calculations, and other supporting material resulting in the PDR.
- B. The CONSULTANT shall combine the materials described below into a draft PDR. The PDR shall be structured as outlined below, with the contents corresponding to the tasks listed in this Scope of Work.

Volume 1 – Preliminary Design Report Technical Memos

Executive Summary

Design Memos

- Design Memo 1, 2, 3, etc.
- List of Proposed Specification Sections

Volume 2 – Drawings (see Preliminary Design Drawings list below)

Volume 3 – Submittal Documentation

- Calculations
- Equipment Data & Catalog Cuts
- Decision Log
- Meeting Minutes

- C. The Executive Summary shall summarize the conclusions of the Memos included in the report, and specifically include a summary construction schedule and construction cost estimate.
- D. The draft PDR and final PDR shall be submitted in searchable PDF format legible on-screen and as a hard copy. The number of hard copies is indicated in **Exhibit 9 - Deliverables Quantities**. The labeling and organization of the PDF submittal shall be in accordance with **Exhibit 14 - Bluebeam Designer Training for Submission**.
- E. Each evaluation memo and design memo shall be a separate file.
- F. The OC SAN Project Manager may request that the CONSULTANT submit an electronic proof set of the Draft PDR and Final PDR prior to hard copy production in order to initially confirm that the submittal is ready for printing.

2.0.6 PRELIMINARY DESIGN COST ESTIMATE

- A. The CONSULTANT shall provide a cost estimate for the associated PDR submittal indicated below in accordance with **Exhibit 1 - Preliminary Design Report Requirements**.

2.1 PRELIMINARY DESIGN ACTIVITIES

The following services shall be provided by the CONSULTANT or an appropriately qualified subconsultant. In any case, the CONSULTANT shall be responsible for managing all subconsultants, including reviewing their work products prior to submission to OC SAN.

2.1.1 CONDITION ASSESSMENT

- A. CONSULTANT shall conduct a field inspection and prepare a Condition Assessment Report including remedial recommendations for the facilities listed below.
 - 1. Sodium Bisulfite Station containment area concrete
 - 2. Sodium Bisulfite Station canopy structure
- B. This task shall be documented under the corresponding Project Specific Design Memo.

2.1.2 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

- A. Not in this SOW.

2.1.3 TOPOGRAPHIC SURVEY

A. Not in this SOW.

2.1.4 SEISMIC VULNERABILITY ASSESSMENT

A. Review existing structural and geotechnical data (Exhibit 19- P2-98 Geotechnical Data Report) to understand the existing conditions of the Anionic Polymer Feed Pump Facilities and identify data gaps in the existing information.

B. Conduct performance-based seismic evaluation of the structure using ASCE41-17 Guidelines and other applicable codes and standards. At a minimum, a Tier 1 structural analysis should be performed for the structure. A Tier 2 or 3 evaluation (as required) should also be budgeted for as part of this evaluation.

C. Identify structural deficiencies and respective mitigation measures to achieve the target performance level of life safety (BSE-1E) and collapse prevention (BSE-2E). These mitigation measures shall be incorporated as part of the work performed under Project Element 5.

2.1.5 GEOTECHNICAL INVESTIGATION

A. Not in this SOW.

2.1.6 UTILITY INVESTIGATION

A. To better manage the risks associated with construction excavation, CONSULTANT shall perform a thorough search of all utilities impacted by the work for all applicable Project Elements of this Scope of Work, regardless of size and all other facilities above or below ground. Utilities include all in-plant and other interferences. The search shall include the records and plans of OC SAN.

B. Review of OC SAN Records

1. OC SAN's "As-built/Record" plans may be incomplete or inaccurate with respect to the routing of individual utilities, pipelines, etc. in the vicinity of the project. CONSULTANT shall check OC SAN records against those of the other agencies, companies, and utilities. These may include, but not be limited to, oil, gas, fuel, water, and sewer pipelines, traffic control facilities, telephone and electrical conduit and duct banks, storm drains, manholes, and other structures.

2. CONSULTANT shall contact USA and request a Substructure listing for the project area.

C. On-Site Inspection

1. An on-site inspection shall be made in the project area. During the on-site inspection, a senior-level CONSULTANT representative shall walk the site accompanied by OC SAN's Project Engineer and Supervising Inspector. The CONSULTANT representative shall be experienced in the location and identification of utilities in the field. During the on-site inspection the CONSULTANT shall document all visible features that indicate utilities within the project area and compare them with the available utility plans.

D. Subsurface Utility Investigations

1. Investigation of existing utilities shall be in accordance with the respective ASCE guidelines, except as amended by this Scope of Work. A brief description of the ASCE guidelines defines the Quality Level of detail for researching subsurface utilities as follows:

a. **Quality Level D:** Information derived from existing records or oral recollections.

b. **Quality Level C:** Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level D information.

c. **Quality Level B:** Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate position of

subsurface utilities. Quality Level B data shall be reproducible by surface geophysics, such as ground penetrating radar, at any point of their depiction. This information is surveyed to applicable tolerances and reduced onto plan documents.

d. **Quality Level A:** Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed subsurface and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on the plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy.

2. Refer to CI/ASCE 38-02, Standard Guidelines for Collection and Depiction of Existing Subsurface Utility Data for details.

3. CONSULTANT shall determine all utilities impacted by the work for all applicable Project Elements of this Scope of Work. Utilities include all in-plant utilities. All utilities encountered during the preliminary design shall be shown on the plans.

4. Subsurface investigation for all utilities in and around the work area shall be performed to Quality Level D and Quality Level C. All utilities shall be plotted both in plan and profile on a scaled drawing that can later be incorporated into scaled (1" = 40') plan drawings.

5. CONSULTANT shall submit, for acceptance by OC SAN, recommendations on which utilities should be investigated to Quality Level A and where Quality Level B investigations should be performed. As part of the submittal, a Potholing Plan and a Geophysical Investigation Plan shall be developed including proposed pothole locations and type of geophysical investigation.

6. Prior to OC SAN's acceptance of the Potholing Plan/Geophysical Investigation Plan, a project field walk by the CONSULTANT Project Manager, OC SAN Project Engineer, Supervising Inspector, and other designated OC SAN personnel shall be performed.

E. Potholes and Geophysical Investigation

1. CONSULTANT shall secure the services of a subcontractor to perform the pothole work and geophysical investigation (including ground-penetrating radar).

2. CONSULTANT shall "pothole" and perform geophysical investigation on all utilities described and shown in the accepted Potholing Plan/Geophysical Investigation Plan. CONSULTANT's staff shall be on-site during potholing to provide direction to potholing crew. OC SAN staff shall also be present during potholing. Field investigations include visiting the project work site and each utility to verify the location of all interferences.

3. CONSULTANT shall provide all the related work necessary, including, but not limited to:

- a. Documentation of information
- b. Notification of USA's "Dig Alert"
- c. Providing field survey
- d. Obtaining required permits
- e. Submission of traffic control plans
- f. Setting up traffic control
- g. Soft dig potholing
- h. Ground-penetrating radar
- i. Excavating
- j. Backfilling

k. Repairing pavement to local jurisdiction requirements

4. "Soft" excavation potholing methods such as vacuum extraction is preferred; however, excavation methods shall be chosen to adequately define the utility. Crosscut trenches may be preferred for defining some utility locations. Hydro-jetting soft dig should be avoided in sandy, wet, and contaminated soil conditions.
5. Potholing subcontractor shall measure and document the depth of pavement and of base material at each pothole, and every five feet along crosscut trenches.
6. Work conducted within OC SAN's treatment plants shall comply with the requirements of the OC SAN Stormwater Management Plan. Work conducted outside OC SAN's treatment plant shall comply with the requirements of the local jurisdiction.
7. CONSULTANT shall provide a licensed land surveyor or hire a licensed survey subcontractor(s) to field-locate the actual horizontal and vertical location of the constructed potholes. Survey controls shall be set and coordinated with the survey controls used on previous construction drawings. OC SAN control points shall be checked; northing, easting and elevation data for each pothole shall be shown on the Contract Drawings; and physical tie-ins provided in order to easily re-establish pothole locations after construction. CONSULTANT shall supply and supervise survey work and subcontractors needed to perform the pothole work. Survey datum differences shall also be reconciled.
8. The results of potholing and geophysical efforts shall be summarized in a field findings report.
9. CONSULTANT shall backfill and repair potholes consistent with the requirements of the local jurisdiction. If CONSULTANT is unable to determine local jurisdiction requirements prior to the proposal, CONSULTANT shall assume the following requirements:
 - a. The materials removed from the excavation may not be used for backfill, unless approved by the local jurisdiction. If approved, excavated material used to fill potholes shall be placed with a maximum lift thickness of four inches and mechanically compacted.
 - b. If not approved, the CONSULTANT shall be responsible for hauling off and disposing of excavated pothole material. In this case, excavation holes shall be filled with a cement slurry mix from the bottom up. The excavated materials shall be tested for hazardous materials and disposed of offsite accordingly. Testing shall be the minimum required for classifying the materials. The potholing samples shall be tested by a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory to identify characteristics of hazardous waste. A substance shall be considered hazardous if it possesses properties of toxicity, ignitability, corrosivity and/or reactivity per California Code of Regulations Title 22, Section 66261. In addition, Minimum the laboratory testing shall include an on-site Organic Vapor Analyzer (OVA) test for potential hydrocarbon contaminants. Should the OVA reading be equal to or greater than 45 ppm, further laboratory Minimum testing shall be performed to include Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) test per EPA guideline 8020 and Total Hydrocarbons (TPH) tests per EPA guideline. should the OVA reading be equal to or greater than 45 ppm.
 - c. AC pavement shall be replaced to full depth or the structural section (AC & Base) plus two inches with hot mix asphalt unless otherwise required by the City of Huntington Beach. Cold mix shall only be allowed when the patch will be replaced by the project and where approved by the City of Huntington Beach.
 - d. Concrete pavement shall be replaced to full depth plus two inches with Portland cement unless otherwise required by the City of Huntington Beach.

F. Quantitative Assumptions

1. CONSULTANT's fee proposal shall include a cost for potholes and unit cost for additional potholes. The cost shall provide for a minimum of 2 potholes during preliminary design and 2 potholes during final design.
2. CONSULTANT's fee proposal shall include a cost for geophysical investigation. The cost shall provide for a minimum of 3,000 square feet during preliminary design.

G. Depiction of Utilities and Potholes on Plans

1. All utilities encountered during the preliminary design shall be shown on the Plans. Project work that requires other agencies to relocate existing utilities shall be coordinated during the design by CONSULTANT. Each subsurface utility shown on the drawings shall include the Quality Level to which it was investigated as required by CI/ASCE 38-02. Pothole locations shall be shown on drawings with survey information.

H. Relocation of Existing Utilities

1. Project work that requires other agencies to relocate existing utilities shall be coordinated during design by CONSULTANT.

2.1.7 PERMITTING ASSISTANCE

- A. Not in this SOW.

2.1.8 PROJECT MANAGEMENT

- A. CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, subconsultants, and coordination with other projects. The CONSULTANT shall perform the project management requirements in accordance with **Exhibit 3 - Project Management Requirements** with the project specific options identified below.

B. Project Management Plan (PMP):

- Not required
- Required
- PMP approval prior to beginning technical work on the project.

C. Project Logs

- Major Decision Log
- Project Decision Log
- Action Item Log
- Decision Issues Log
- Meeting Log
- Risk Management Log

D. Progress Report

- Not required
- Required

E. Project Invoices

1. Estimating earned value, tasks shall be further broken down to subtasks of no more than \$100,000.
2. Costs for invoicing shall be grouped into the following work packages:

Work Package	Description	Tasks
3146	Preliminary Design	All Phase 2 tasks, except those listed above.
3251	Design Submittal 1	Tasks 3.1 through 3.3, divided into effort by design submittal. FDS is charged against DS3.
3252	Design Submittal 2	
3253	Design Submittal 3	
3254	Bid Support Services	Task 3.4

2.1.9 RISK MANAGEMENT

A. When required below, CONSULTANT shall provide risk management in accordance with **Exhibit 4 - Risk Management Requirements** with the project specific options identified below.

B. Risk Management:

Not required

Required

Initial Risk Workshop

a. PDR Risk Management Workshop: 1 hour (held 4 weeks prior to draft PDR at OC SAN).

C. Moderator

1. CONSULTANT will moderate the risk management meetings defined in **Exhibit 4 – Risk Management Requirements**.

2.1.10 QUALITY CONTROL

A. The CONSULTANT shall provide quality control requirements in accordance with **Exhibit 6 - Quality Control Requirements**.

2.2 PDR WORKSHOPS AND MEETINGS

2.2.1 GENERAL

A. Workshop and meeting planning, requirements, agendas, and meeting minutes shall be in accordance with **Exhibit 5 - Workshop and Meeting Requirements**.

2.2.2 PDR PRODUCTION WORKSHOPS

A. Predesign Kickoff Workshop

1. A two-hour project kick-off meeting shall be held with OC SAN staff to introduce principal members of OC SAN and CONSULTANT's teams. The discussion topics shall include OC SAN responsibilities, CONSULTANT's responsibilities, invoice procedures, personnel badges, parking, site access, CONSULTANT's Scope of Work, detailed project schedule with milestones, Work Breakdown Structure requirements, and OC SAN confined space and other safety policy trainings.

B. PDR Production Workshops shall be held during Preliminary Design to discuss the topics listed below. PDR Production Workshops shall be held to discuss topics to facilitate preparation of design memos and are separate from PDR Design Memo Workshops and PDR Review Workshops which are described further in the following sections. The list below indicates the number of PDR Production Workshop topics anticipated to be held to cover the specific topic. Unless otherwise noted, each workshop shall be 2 hours in length.

Workshops may be combined as needed and additional workshops may be held as needed to facilitate PDR production. Some workshops may be held as technical progress meetings.

PDR PRODUCTION WORKSHOPS	
TOPIC	NUMBER OF WORKSHOPS
PDR Production Kickoff	1
PDR Production Workshops	
Design Parameters	1
Facility Operation and Maintenance (Project-wide issues)	2
Electrical	3
Instrumentation and Control	3
Utility Investigations	1
Implementation Plan and Sequencing Constraints	2

2.2.3 DESIGN MEMO WORKSHOPS

A. CONSULTANT shall hold workshops to present and review the Design Memos as required in **Exhibit 5 - Workshop and Meeting Requirements**.

Task No.	Topic	Description
2.1.3	Condition Assessment (1 workshop – can be combined with another PDR Production Workshop)	Condition Assessment. CONSULTANT shall present the findings of the condition assessments for the concrete and canopy and summarize the recommendations for addressing deficiencies. The workshop shall occur prior to submitting the related evaluation memo.

2.2.4 PDR REVIEW WORKSHOPS

A. CONSULTANT shall hold the following workshops to review the draft Preliminary Design Report as required in **Exhibit 5 - Workshop and Meeting Requirements**:

1. Draft PDR Presentation Workshop
2. Draft PDR Review Workshop
3. PDR Validation Workshop

2.2.5 MAINTAINABILITY WORKSHOPS

A. A maintainability workshop shall be held after draft floor plans have been developed to:

1. Review the working space around equipment, accessibility requirements, specific activities required to be performed by maintenance staff, ease of servicing for equipment and devices, means to removing equipment from the point of installation to a location outside the facility.

2. The workshop shall be used to develop a set of project maintainability design rules based on the requirements in Chapter 7 of the Engineering Design Guidelines, coordination with OC SAN staff, lessons learned from prior projects, CONSULTANT staff expertise, and manufacturer data.
 3. The CONSULTANT shall research and provide the following maintainability information for the workshop:
 - a. Sodium Bisulfite Station
 - b. Anionic Polymer Station
 4. Operations and Maintenance (O&M) staff including staff from Maintenance Reliability and Planning must be involved in the establishment of the maintainability design rules.
- B. The maintainability workshop shall be held at OC SAN's facilities and shall generally be 2 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.
- C. A follow up maintainability workshop shall be held at OC SAN's facilities to review the draft project maintainability design rules.
- D. The project maintainability design rules shall be followed during detailed design.
- E. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:
1. Prepare package for the maintainability workshop participants. The package shall consist of plans, process flow diagrams, P&IDs and other information selected by CONSULTANT.
 2. Prepare presentation on the project.
 3. Summarize the maintainability review workshop comments and action taken on each comment in a memorandum.
 4. All comments and recommendations of the workshop and the project maintainability design rules shall be incorporated into the Maintainability Design Memo and the bid documents.

2.2.6 PDR CONSTRUCTABILITY WORKSHOP

- A. A constructability workshop shall be held after the draft PDR submittal review to identify any fatal flaws in the design relative to constructability. Some of the subjects that shall be covered in this workshop include the following: conflicts between design disciplines, geotechnical considerations, construction sequencing, power outages, equipment shutdowns, viability of equipment relocation, safety, operational requirements, access for maintenance, size-critical equipment requirements and constraints, permitting, public nuisance issues, other local conditions and constraints.
- B. This workshop shall be held at OC SAN facilities and shall generally be 2 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.
- C. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:
1. Prepare package for constructability review workshop participants. The package shall consist of detailed plans and specifications and other information selected by CONSULTANT.
 2. Prepare presentation on the project.
 3. Summarize the constructability review workshop comments and action taken on each comment in a memorandum.

4. All comments and recommendations of the workshop shall be incorporated into Implementation Plan Design Memo and the Bid Documents.

2.2.7 TECHNICAL PROGRESS MEETINGS

A. Technical Progress Meetings shall be held once a month to review various issues with OC SAN's project team. The CONSULTANT shall coordinate with the OC SAN Project Manager to determine what topics will be covered in what meetings, and what OC SAN and CONSULTANT team members are required for each.

2.2.8 FOCUSED MEETINGS

A. Focused meetings shall be held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:

1. Site utility coordination
2. Process Flow diagram/Operating Philosophy (several meetings as needed)
3. Permits
4. OC SAN Safety Standards, confined space and other safety requirements
5. Utilities and utility tie-ins
6. Technical Definitions/equipment data sheets
7. Control concepts
8. Instrumentation and control upgrades
9. Sample P&ID; basis for equipment tag numbering
10. Sample control descriptions
11. Sample EID database
12. Sample SAT database
13. Data network block diagram/network connection diagram
14. I/O relocation plan
15. Electrical distribution system, system controls and the related upgrades
16. Single-line diagrams and electrical demolition
17. Construction sequencing
18. Temporary Chemical Systems
19. Coordination with other projects
20. Additional meetings as necessary

B. Meeting lengths shall be as required to cover the topic in question. Depending on subject matter and attendees, one meeting may cover multiple subjects. CONSULTANT shall determine how many meetings will be needed to cover these topics. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary to allow coordination between CONSULTANT and OC SAN staff.

3. PHASE 3 – DESIGN

3.0 BID DOCUMENTS

3.0.1 GENERAL

A. CONSULTANT shall provide engineering services to prepare biddable plans, technical specifications, and other Bid Documents as required based on the design concepts and criteria developed during Phase 2 - Preliminary Design. In this Scope of Work, construction documents include specifications; drawings; cable, conduit and cable tray schedules; commissioning plan materials; equipment and instrumentation database (EID); SCADA Administration Tool (SAT); and bypassing plans.

3.0.2 ENGINEERING DESIGN GUIDELINE UPDATES

A. All changes in OC SAN's Engineering Standards, OC SAN's Design Guidelines, and/or changes in design concepts and facility layouts as a result of OC SAN comments that may occur up to transmittal of OC SAN comments on Design Submittal 2, shall be incorporated into the Design by CONSULTANT with no increase in CONSULTANT's Not-to-Exceed upper limit on fees.

3.0.3 GENERAL REQUIREMENTS AND ADDITIONAL GENERAL REQUIREMENTS

A. The following are the minimum Additional GRs topics required for this project:

- Summary of Work
- Work Sequence
- Work Restrictions
- Permits
- Environmental Restrictions and Controls
- Measurement and Payment (includes Mobilization/Demobilization)
- Seismic Design Criteria (for those restraints, supports, etc. to be design by the Contractor)
- Shipping, Storage and Handling
- Project Control Management System (PMWeb construction management software)
- Equipment Service Manuals
- Equipment and Instrument Database (EID)
- Commissioning
- Training of OC SAN Personnel
- Hazardous Materials Mitigation and Controls
- Mold Remediation and Controls

3.0.4 DESIGN SUBMITTALS

A. The CONSULTANT shall produce the following design submittals as indicated below in accordance with **Exhibit 2 - Design Requirements**. If a design submittal is eliminated, then the design submittal shall include the requirements associated with the required design submittal along with the requirements associated with the previous unchecked design submittals.

- Design Submittal 1
- Design Submittal 2
- Design Submittal 3
- Final Design Submittal

B. Continuing Work After Design Submittal Submission

- CONSULTANT is expected to continue design work on the project while OC SAN staff reviews Design Submittal 1 and Design Submittal 2. For Design Submittal 3, CONSULTANT shall stop all design work until receipt of OC SAN comments on that submittal.
- CONSULTANT is expected to stop design work on the project until OC SAN staff completes the review of each Design Submittal.

3.0.5 CABLE AND CONDUIT SCHEDULE

- CONSULTANT shall put the cable and raceway schedule on the drawings. CONSULTANT may utilize an Excel spreadsheet and copy the spreadsheet onto the drawings.
- CONSULTANT shall utilize OC SAN's Microsoft Access Cable and Raceway Schedule database electronic format. See exhibit titled "Cable Conduit and Tray Schedule Database".

3.0.6 COMMISSIONING PLAN MATERIALS

- A. The CONSULTANT shall provide commissioning plan materials in accordance **Exhibit 2 - Design Requirements.**
- B. Specification Section 01810, Commissioning and Specification Section 01810, Attachment A Commissioning Procedures
 - OC SAN will prepare Section 01810
 - CONSULTANT shall prepare Section 01810 Attachment A
 - CONSULTANT shall edit Section 01810
- C. The CONSULTANT shall provide a commissioning plan FAT Narrative in accordance **Exhibit 2 - Design Requirements.**
 - CONSULTANT shall prepare FAT Narrative/Commissioning Plan (for all Systems)
- D. ORT Procedures
 - OC SAN will prepare ORT procedures for standard templates
 - CONSULTANT shall prepare ORT procedures using OC SAN's ORT procedure generator
 - CONSULTANT shall prepare new ORT procedures (not in standard templates)
- E. Pre-FAT Procedures
 - Pre-FAT procedures not required
 - OC SAN will prepare Pre-FAT procedures
 - CONSULTANT shall prepare Pre-FAT procedures
- F. FAT Procedures
 - OC SAN will prepare FAT procedures
 - CONSULTANT shall prepare FAT procedures
 - CONSULTANT shall prepare FAT Narratives
- G. RAT Procedures
 - RAT tables not required
 - OC SAN will prepare RAT tables
 - CONSULTANT shall prepare RAT tables
- H. PAT Procedures
 - PAT procedures not required
 - OC SAN will prepare PAT procedures
 - CONSULTANT shall prepare PAT procedures

3.0.7 EQUIPMENT AND INSTRUMENTATION DATABASE (EID)

- EID is not required.
- OC SAN will develop the EID in accordance **Exhibit 2 - Design Requirements.**
- CONSULTANT shall develop EID in accordance **Exhibit 2 - Design Requirements.**

3.0.8 SCADA ADMINISTRATION TOOL (SAT)

- SAT is not required.
- OC SAN will develop the SAT in accordance **Exhibit 2 - Design Requirements.**

CONSULTANT shall develop the SAT in accordance **Exhibit 2 - Design Requirements.**

3.0.9 CONSTRUCTION SUBMITTAL ITEMS LIST

OC SAN will develop the Construction Submittal Items List in accordance with **Exhibit 2 - Design Requirements.**

CONSULTANT shall develop the Construction Submittal Items List in accordance with **Exhibit 2 - Design Requirements.**

3.0.10 TEMPORARY FACILITIES DURING CONSTRUCTION

Temporary facilities and bypass pumping are required.

3.1 DESIGN SUPPORT DOCUMENTATION

3.1.1 DESIGN SUBMITTAL SUPPORT DOCUMENTATION

A. The CONSULTANT shall provide a Design Submittal Support Documentation in accordance **Exhibit 2 - Design Requirements.**

B. Design Information

1. CONSULTANT shall include the following material with each Design Submittal:

a. CONSULTANT shall maintain the Project Logs specified under Phase 2 Project Management through Phase 3. Current copies of all logs shall be included with each Design Submittal.

b. Written response log to OC SAN comments on the previous submittal.

c. Calculations

d. Proposed list of suppliers to be named in the specifications for major equipment

e. Draft or final Field Findings Reports not submitted in the previous submittal and those revised since the previous submittal.

f. Equipment data sheets

g. Equipment catalog cuts and vendor quotations.

h. Commissioning Package List: The Preliminary Commissioning Package List first developed in the PDR Production Phase shall be updated in each Design Submittal and used as a starting point to develop the list of commissioning procedures.

i. All memos that may be prepared since the previous submittal was delivered.

C. Facility Operation and Maintenance

Not required.

Update operating philosophies

Update estimates of Operation and Maintenance staffing requirements

D. Electrical Design Documentation

Electrical design documentation not required.

Updated Electrical Load Criticality Table

Electrical Analysis Report

Load list for all equipment

Equipment sizing from three manufacturers for motor control centers, switchgear, transformers, and power panels

Lighting calculations

Standby generator sizing calculations

Ductbank cable pulling tension, derating, and cable tray fill calculations

E. Power System Studies

ETAP not required.

Plant ETAP model for the project performed by OC SAN.

Plant ETAP model for the project performed by CONSULTANT.

Electrical Systems Analysis Report performed by CONSULTANT.

3.1.2 CONSTRUCTION COST ESTIMATE

A. The CONSULTANT shall provide a cost estimate for the associated design submittal indicated below in accordance with **Exhibit 2 - Design Requirements**.

Design Submittal 1

Design Submittal 2

Design Submittal 3

Final Design Submittal

3.1.3 CONSTRUCTION SCHEDULE

A. The CONSULTANT shall provide a Preliminary Construction Schedule for the associated design submittal indicated below in accordance with **Exhibit 2 - Design Requirements**.

Construction Schedule is not Required

Design Submittal 1

Design Submittal 2

Design Submittal 3

Final Design Submittal

3.1.4 PROCUREMENT ALTERNATIVES

A. The CONSULTANT shall recommend the appropriate procurement alternatives as described in **Exhibit 2 - Design Requirements**.

Procurement alternatives not required

Procurement alternatives required

B. Equipment that may be needed to be obtained from a sole source supplier for this project includes:

1. Modicon Quantum input and output modules.

3.2 DESIGN ACTIVITIES

The following services shall be provided by the CONSULTANT or an appropriately qualified subconsultant. In any case, the CONSULTANT shall be responsible for managing all subconsultants, including reviewing their work products prior to submission to OC SAN.

3.2.1 UTILITY INVESTIGATION

A. CONSULTANT services related to Utility Investigation on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.2 PROJECT MANAGEMENT

A. CONSULTANT shall be responsible for managing CONSULTANT’s project execution, schedule, budget, subconsultants, and coordination with other projects. CONSULTANT services related to Project Management on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.3 RISK MANAGEMENT

A. CONSULTANT shall provide risk management in accordance with **Exhibit 4 - Risk Management Requirements**. Moderator shall be as specified for Phase 2 – Preliminary Design.

B. Risk Management:

- Not required
- Required
 - DS1 Risk Workshops: 1 hour (held during OC SAN’s review of DS1 at OC SAN)
 - DS2 Risk Workshops: 1 hour (held during OC SAN’s review of DS2 at OC SAN)
 - DS3 Risk Workshop: 1 hour (held during OC SAN’s review of DS3 at OC SAN)

3.2.4 QUALITY CONTROL

A. The CONSULTANT shall provide Quality Control requirements in accordance with **Exhibit 6 - Quality Control Requirements**.

- Independent Multi-Discipline Design Workshop is not required.
- Independent Multi-Discipline Design Workshop is required.

3.3 DESIGN WORKSHOPS AND MEETINGS

3.3.1 GENERAL

A. Workshop and meeting planning, requirements, agendas, and meeting minutes shall be in accordance with **Exhibit 5 - Workshop and Meeting Requirements**.

3.3.2 DESIGN PHASE WORKSHOPS

A. The focus of workshops is to review project progress to date and the technical decisions that have been made in focused meetings. CONSULTANT shall conduct the workshops listed below in Phase 3 – Design for each design submittal, except FDS. The CONSULTANT shall allow the following time for each workshop:

DESIGN PHASE WORKSHOPS	
WORKSHOP TYPE	DURATION
Design Kickoff Workshop	1 hour
Design Review Meetings	2 hours per discipline
Design Validation Meeting	1 hour

B. The following Design Review Meetings shall include the following topics, as applicable to the project:

1. Electrical and I&C
2. Civil/Yard
3. Construction Sequencing
4. Maintainability

3.3.3 DESIGN PHASE MEETINGS

- A. Technical Progress Meetings (not in SOW)
- B. Focused Meetings

1. Focused meetings shall be held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:

- a. Site utility coordination
- b. Process Flow diagram/Operating Philosophy
- c. Safety and hazardous area requirements
- d. Survey
- e. Utilities and utility tie-ins
- f. Technical Definitions/equipment data sheets
- g. Control concepts
- h. Instrumentation and control upgrades
- i. Sample P&ID; basis for equipment tag numbering
- j. Sample control descriptions
- k. Sample EID database
- l. Sample SAT database
- m. Data network block diagram/network connection diagram
- n. I/O relocation plan
- o. Electrical distribution system, system controls and the related upgrades
- p. Single-line diagrams and electrical demolition
- q. Modes and analyses cases for electrical studies
- r. Construction sequencing, constraints, and outage requirements

2. Each meeting shall generally be one to two hours in length. CONSULTANT shall determine how many meetings will be needed to cover these topics. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary to allow coordination between the CONSULTANT and OC SAN staff.

3.3.4 COMMISSIONING TEAM MEETINGS

A. Design phase commissioning team meetings shall be held on a monthly basis after completion of OC SAN's review DS1.

B. Meetings will generally be 2 hours in length. CONSULTANT shall determine how many meetings shall be needed to cover these topics and organize the topics accordingly. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary, to allow coordination between CONSULTANT and OC SAN staff.

C. The Commissioning Team meetings shall cover the following subjects:

1. Provide a detailed review of the proposed construction sequencing plan and make recommendations for improvements. These recommendations shall be incorporated into the plans and specifications as appropriate. Possible incentives for the Contractor to finish the project early shall be explored.
2. Identify procedures, testing requirements and sequencing for commissioning.
3. Develop a detailed outline of a commissioning plan based on the results of the recommended construction sequencing plan.

4. Prepare testing requirements and plan to prove process performance relative to design criteria developed in the PDR. Testing shall be performed after the RAT and supervised by the CONSULTANT.
5. Identify timing within the construction contract schedule when commissioning activities are required, including hold points for testing and inspection.
6. Identify roles and responsibilities of the Project Manager, Resident Engineer, Inspector, Project Engineer, PCI, Engineering support, Design CONSULTANT and Contractor.
7. Develop a timeline of commissioning
8. Develop a commissioning specification
9. Develop standard forms for testing and commissioning documentation
10. Electrical, mechanical and process tie-ins
11. Startup requirements and testing
12. O&M training

3.3.5 CONSTRUCTION SUBMITTAL ITEMS LIST MEETING

- A. Meet with OC SAN between DS2 and DS3 to review the CONSULTANT's approach to developing the project Construction Submittal Items List using **Exhibit 18 - Not Used** and the CONSULTANT-provided specifications and discuss the grouping of submittals in commissioning packages and phases.

3.4 BID PHASE SUPPORT SERVICES

3.4.1 BID PHASE SUPPORT SERVICES

- A. CONSULTANT shall provide the following bid period services:
 1. Participate in the pre-bid meeting.
 2. Prepare project drawing set and project specification addenda to provide clarification and resolve errors and omissions identified prior to bid opening.

3.4.2 BID EVALUATION ASSISTANCE

- A. Participate in reviewing alternate equipment proposals from the Contractor, if applicable.
- B. Participate in the evaluation of the submitted bids, furnish consultation and advice to OC SAN staff, and assist with all the related equipment, cost, and other analyses as required to finalize the award decision.

3.4.3 CONFORMED DOCUMENT PREPARATION

- A. Within two weeks of the bid date, prepare conformed documents set (drawings, databases, specifications, and other required materials) that incorporates the addenda. See Engineering Design Guidelines, Chapter 01, Design Guidelines – General Requirements, Section 01.4 “Preparation of Project Deliverables” for requirements as modified in Section V of this Scope of Work, “Project-Specific Deviations from OC SAN Design Guidelines” and the requirements of the CAD Manual).

4. PHASE 4 – CONSTRUCTION AND INSTALLATION SERVICES

Not in this Scope of Work.

5. PHASE 5 – COMMISSIONING SERVICES

Not in this Scope of Work.

6. PHASE 6 – CLOSE OUT

Not in this Scope of Work.

7. GENERAL REQUIREMENTS

7.0 GENERAL

7.0.1 OC SAN ENGINEERING DESIGN GUIDELINES AND STRATEGIC PLAN

A. CONSULTANT shall refer to and adhere to the requirements of OC SAN Safety Standards, OC SAN Engineering Design Guidelines, any deviations to the Engineering Design Guidelines listed below, and other OC SAN's Design Standards referenced therein. OC SAN Engineering Design Guidelines and Standards is a complete set of the OC SAN Safety Standards and OC SAN Design Standards, the latest edition at the time of the design proposal stage.

B. The Engineering Guidelines define what plant design concepts/tools/methods and project management requirements shall be adhered to and in what manner they shall be used/provided by the CONSULTANT e.g., requirements regarding design concepts, submittals, documentation details, use of OC SAN Master Specifications, and other related OC SAN Standards, etc.

C. Refer also to Section "CONSULTANT's Responsibilities" in OC SAN Engineering Design Guidelines Chapter 01. Refer to "Master Specifications Instructions for Use" that mandates rules and conventions to be used in all OC SAN project specifications.

D. The project Scope of Work defines whether or not each specific deliverable described in the Guidelines shall be part of the project and when each task shall take place.

E. The project Scope of Work also includes requirements that supplement and/or modify the Guidelines requirements for this project.

F. The project Scope of Work and OC SAN Engineering Design Guidelines impact CONSULTANT's project cost.

G. Except as specified in this Scope of Work, design of all facilities shall conform to the recommendations of the currently approved Master Plan for OC SAN facilities. The project shall also incorporate all applicable mitigation measures included in associated environmental documents and site-specific local requirements.

H. In addition, OC SAN will require the CONSULTANT to follow subsequent revisions of OC SAN Safety Standards, OC SAN Engineering Design Guidelines, and other OC SAN Design Standards up to transmittal by OC SAN of comments on Design Submittal 2, shall be incorporated into the Design by CONSULTANT with no increase in CONSULTANT's Not-to-Exceed upper limit on fees.

I. OC SAN may update OC SAN's Master Specifications and/or add new OC SAN Master Specifications up to transmittal by OC SAN of comments on Design Submittal 2. The CONSULTANT shall utilize the new and/or modified Master Specifications for the DS3 submittal.

J. The CONSULTANT shall not begin editing the project specifications until the project team meets with OC SAN's Design Standards Custodian to discuss and receive comments regarding the CONSULTANT's proposed list of project specifications. This meeting will be used to determine which specifications are to use OC SAN's master specifications, and where other sources will be utilized.

7.0.2 PROJECT PHASES AND TASKS

A. Project tasks and deliverables shall include the requirements described in this Scope of Work. CONSULTANT shall also refer to Appendix A of OC SAN Engineering Design Guidelines for the level of detail requirements for individual deliverables in each Phase of the project not covered in the Scope of Work.

7.0.3 CONSTRUCTION SEQUENCING AND CONSTRAINTS

A. CONSULTANT shall develop with OC SAN staff and include in the Bid Documents detailed requirements for construction sequencing and constraints. These shall ensure safe and reliable operation and maintenance of OC SAN facilities. The facilities must be kept on-line and fully operational with minimal interruptions throughout construction.

7.0.4 WORKING HOURS

A. Meetings with OC SAN staff shall be scheduled from Monday through Thursday between the hours of 8:00 AM and 4:00 PM. Any CONSULTANT staff working on-site shall conform to OC SAN work schedules. CONSULTANT shall refer to the Engineering Design Guidelines, Chapter 01, Section 01.3.5 "CONSULTANT Inspection of Treatment Facilities" for further requirements.

7.0.5 STANDARD DRAWINGS AND TYPICAL DETAILS

A. All the details used in the project (OC SAN's Standard Drawings and CONSULTANT-developed typical details) shall be shown on the Plans.

7.0.6 SOFTWARE

A. The CONSULTANT is expected to develop and provide the deliverables using the standard software currently approved for use by OC SAN. The standard OC SAN software includes, but is not limited to, the following:

B. Any software that the CONSULTANT needs to comply with these standards shall be purchased and maintained by the CONSULTANT at no additional cost to OC SAN. In the event OC SAN provides the CONSULTANT with access to OC SAN software and hardware at an OC SAN facility in order to facilitate performance of their work, all software shall remain the property of OC SAN. Only software licensed to OC SAN shall be installed on OC SAN equipment. In addition, only OC SAN IT Department staff will perform the installation of this software.

C. Refer to Chapters 10 and 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements on preparation of Criticality Tables and ETAP, SAT, and EID databases. Refer to OC SAN CAD Manual and to Chapter 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements regarding P&ID drawings.

7.0.7 SUBMITTAL REVIEW USING BLUEBEAM

A. OC SAN has standardized on the use of Bluebeam Revu for reviewing and providing comments to PDF files. PDF files will be hosted in a Bluebeam cloud-based studio session for review. See **Exhibit 15 - Bluebeam Designer User Training** for a detailed explanation on how Bluebeam will be used to provide, validate, and close submittal review comments.

B. Prior to submitting electronic PDF files, format them as indicated in **Exhibit 14 - Bluebeam Designer Training for Submission** and "OC SAN CAD Standards Manual" prior to submission.

C. A one-hour training session on the use of Bluebeam and custom status menu will be provided by OC SAN. All Consultant team members responsible for quality control and reconciliation of submittal comments shall attend.

7.0.8 WORD TRACK CHANGES

A. Specifications documents and other MS-Word based deliverables will be hosted in OC SAN Teams environment for review. The guidelines for reviewing and commenting on MS-Word files, including Specifications reviews, can be found in **Exhibit 16 - Spec Review using Microsoft Word and Teams**.

7.0.9 GIS SUBMITTALS

A. CONSULTANT shall provide the following GIS deliverables propagated from approved design submittals after the design submittal is accepted. These GIS submittals will not be reviewed or presented by CONSULTANT. The purpose is to provide project specific GIS layers that could be used to visualize interproject dependencies and conflicts.

1. Electronic Submittal
 - a. Kmz files for use with Google Earth
2. Final PDR
 - a. Single project boundary (Polygon)
 - (1) Boundary to encompass all new facilities and existing to be modified including:
 - Buildings\Structures
 - Tunnels
 - Utilities
 - Pavement
 - Street boundary (ROW to ROW) of possible alignment
 - b. Structures (Polygon)
 - New structure outline
 - Additions to existing structures
 - Structure label
3. DS1
 - a. Project boundary - *updated from PDR*
 - b. Structures - *updated from PDR*
 - c. Utilities (Polyline)
 - (1) Utility alignment
 - d. Manholes (Point)
 - e. Excavation of pits (Polygon)
 - (1) Pits that will stay open for extended duration
 - (2) CIPP
 - (3) Tunnel - jacking and receiving
 - (4) All pits should be labeled
4. DS2, DS3, and FDS
 - a. Project boundary - updated from previous DS
 - b. Structures - updated from previous DS
 - c. Utilities - updated from previous DS
 - d. Manholes - updated from previous DS
 - e. Excavation of pits - updated from previous DS
 - f. Critical (as defined by Dig Alert) utility crossings (Point)
 - (1) Crossing of Dig Alert critical utilities
 - (2) Critical utility label
 - Natural gas

- Fuel pipeline
 - 12 kV Electrical
- g. Asphalt (Polygon)
- (1) Asphalt to be replaced

7.0.10 PCSA, PDSA, AND TASK ORDERS – PMWEB PROCEDURES

A. This Agreement shall utilize PMWeb as the Project Control Management System (PCMS) for overall management of the Agreement. All PCMS related documents requiring formal signatures shall be digital, and all copies digitally distributed. The PCMS conforms to the requirements set forth in California Government Code section 16.5 regarding digital signatures; therefore, digital signatures are in full force and effect and are legally the same as a hand-written signature. At least one PCMS account shall have the authority to approve Amendments.

B. OC SAN shall maintain the PCMS and serve as the administrator for the duration of this Agreement. OC SAN will provide the CONSULTANT with user access for approved personnel as needed for the duration of the Agreement. OC SAN shall control access to the PCMS by assigning user profiles and login credentials. Notify OC SAN of any changes to personnel. Access modifications shall be coordinated as needed throughout the Agreement. Do not to share PCMS account passwords with anyone inside or outside of the company.

C. Routine maintenance of the PCMS system may be required during the Agreement. Access to the PCMS system may be restricted or unavailable at these times and will be scheduled outside of typical working hours whenever possible.

D. The PCMS is a web-based environment and is therefore subject to the inherent speed and connectivity problems of the Internet. The CONSULTANT is responsible for its own connectivity to the Internet. PCMS response time is dependent on the CONSULTANT's equipment, including processor speed, Internet access speed, Internet traffic, etc.

E. OC SAN will not be liable for any delays associated with the utilization of the PCMS including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information.

F. The OC SAN will provide a one-time free training session of up to two (2) hours to train CONSULTANT's designated staff on general system requirements, procedures, and methods.

G. Automated system notifications generated via PCMS (e.g., in-system notices, system generated email, or email with attachment) shall constitute a formal written notification in compliance with the Professional Design Service Agreement (PDSA), Professional Construction Service Agreement (PCSA), or Task Order (TO) Agreement.

7.0.11 CONSULTANT TRAINING

- A. The CONSULTANT shall attend the following OC SAN training before starting any design:
- a. P&ID Development: 1 hour
 - b. EID Development and/or Demolition: 1 hour
 - c. CAD Training: 2 hours

- d. OC SAN Tagging Procedures Training: 2 hours
- e. Commissioning Package List Training: 1 hour
- f. Bluebeam Training/Refresher for Design Submittal Comments: 2 hours
- g. PCI SAT Training: 2 hours

8. PROJECT-SPECIFIC DEVIATIONS FROM OC SAN DESIGN GUIDELINES

- A. None in this SOW.

9. STAFF ASSISTANCE

OC SAN staff members or designees assigned to work with CONSULTANT on the design of this project is Cindy Murra at (714) 593-7327, e-mail to: CMURRA@OCSAN.GOV and/or Christie Shiang at (714) 593-7499, e-mail to: CSHIANG@OCSAN.GOV.

10. EXHIBITS

Exhibit 1 - Preliminary Design Report Requirements

Exhibit 2 - Design Requirements

Exhibit 3 - Project Management Requirements

Exhibit 4 - Risk Management Requirements

Exhibit 5 - Workshop and Meeting Requirements

Exhibit 6 - Quality Control Requirements

Exhibit 7 - Design Submittal Requirements Matrix

Exhibit 8 - Project Schedule Calculation

Exhibit 9 - Deliverables Quantities

Exhibit 10 - Sample Construction Cost Estimate Format

Exhibit 11 - Sample Full Project Safety Review Plan

Exhibit 12 - Sample Risk Management Check List

Exhibit 13 - Sample MMRP Log

Exhibit 14 - Bluebeam Designer Training for Submission

Exhibit 15 - Bluebeam Designer User Training

Exhibit 16 - Spec Review using Microsoft Word and Teams

Exhibit 17 - OC SAN Engineering Design Guidelines and Standards

Exhibit 18 - Not Used

Exhibit 19 - Project Reference Material

- **OC SAN Plant 2 Wastewater Process Map– October 2021**
- **OC SAN Plant 2 Plant and Reclaimed Water Map- February 2022**
- **J-87 Short Term Ocean Outfall Bacteria Reduction Drawings– November 2002**
- **P2-36 Advanced Primary Treatment Chemical Addition Facilities Drawings– August 1986**

- **P2-98 A-Side Primary Clarifiers Replacement at Plant 2- Geotechnical Data Report- July 2018**

Exhibit 20 - Sample Criticality Data Table

Exhibit 21 - Commissioning Procedure Training

Exhibit 22 - ORT Procedure Examples

Exhibit 23 - Pre-FAT Procedure Examples

Exhibit 24 - Sample FAT Procedure

Exhibit 25 - Sample RAT Procedure

CM:CS:tk



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2812

Agenda Date: 3/1/2023

Agenda Item No: 3.

FROM: Robert Thompson, General Manager
Originator: Riaz Moinuddin, Director of Operations & Maintenance

SUBJECT:

REPLACEMENT OF GAS FLARE PIPING AT PLANT NO. 2

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

Approve a contingency increase of \$65,550 (23%) to the Purchase Order Contract with Vicon Enterprise, Inc. for the replacement of digester gas piping at Plant No. 2, Specification No. S-2022-1365BD, for a new total contingency amount of \$94,050 (33%).

BACKGROUND

Digester gas is produced during the solids treatment process at the Orange County Sanitation District (OC San). The digester gas must be handled in accordance with South Coast Air Quality Management District (SCAQMD) and National Pollutant Discharge Elimination System (NPDES) permit requirements. The digester gas produced at OC San is cleaned, compressed, and used as fuel for the Central Generation engines at both treatment plants. In the event the Central Generation engines are unable to consume all the digester gas, the compressed gas is safely incinerated in the emergency gas flares located at each treatment plant.

OC San's asset management engineers and maintenance staff found some deterioration in the piping system associated with the gas flare system at Plant No. 2. The pipe is nearing thirty years old in a difficult marine environment. A scope of work was created to address the corrosion, the work was bid, and the Board of Directors approved a contract award to Vicon Enterprise, Inc. in November of 2022 to complete the work.

RELEVANT STANDARDS

- 24/7/365 treatment plant reliability
- Maintain a proactive asset management program
- Comply with environmental permit requirements

PROBLEM

The onsite assessment performed by the Contractor, Vicon Enterprises, Inc., recommends additional work to be performed on the Plant No. 2 gas flare piping system that is not part of the original scope of work. Staff agrees with this assessment.

PROPOSED SOLUTION

Increase contingency to cover costs associated with the additional scope of work required to complete repairs of the Plant No. 2 gas flare piping system.

TIMING CONCERNS

Digester gas leakage will occur due to piping corrosion associated with the flare piping at Plant No. 2 unless the additional piping is replaced.

RAMIFICATIONS OF NOT TAKING ACTION

Failure to replace flare piping could result in health and safety hazards. Incidents of leaking digester gas into the atmosphere is an environmental and safety concern and will potentially result in violations of OC San's permit obligations.

PRIOR COMMITTEE/BOARD ACTIONS

November 2022 - Board of Directors approved a Purchase Order Contract with Vicon Enterprise, Inc. for a total amount not to exceed \$285,000 and approved a contingency of \$28,500 (10%).

ADDITIONAL INFORMATION

Initial assessment performed by staff of the gas flare piping system, which was operational at the time, did not include components that were later found needing to be replaced. The additional pipe, fittings, and supports are adjacent to originally scoped work and will most likely be compromised as the work is completed. The recommended increase in contingency will cover the costs of the needed additional work. The project remains in the submittal stage and the physical work has not yet begun.

The original bids received and considered in November 2022 are included below:

Bidder	Amount	Status
Vicon Enterprise, Inc.	\$285,000	Responsive
J.R. Filanc Co. Inc.	\$418,000	Responsive
Metha Mechanical Company, Inc.	\$454,000	Responsive

Vicon Enterprise, Inc. would remain the low bidder even with the additional contingency request. Staff recommend the increased contingency as the most cost-effective and timely solution.

CEQA

N/A

FINANCIAL CONSIDERATIONS

This request complies with authority levels of OC San's Purchasing Ordinance. This recommendation will be funded under the Repairs and Maintenance line item for Division 880, Plant No. 2 Maintenance (Adopted Budget, FY 2022-23 & 2023-24, Section 6, Page 96), and the available funding is sufficient for this action.

<u>Date of Approval</u>	<u>Contract Amount</u>	<u>Contingency</u>
11/16/2022	\$285,000	\$28,500 (10%)
03/01/2023		\$65,550 (23%)

ATTACHMENT

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

- Digester Gas Piping Photos - Supplemental Attachment

**LEGISTAR NO. 2023-2812
SUPPLEMENTAL ATTACHMENT
REPLACEMENT OF GAS FLARE PIPING AT PLANT NO. 2**

Figure 1:

The digester gas handling pipes are showing signs of deterioration.



Figure 2:

The digester gas piping system that connects to the three digester gas flares is showing signs of heavy corrosion and is in need of replacement.





OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2813

Agenda Date: 3/1/2023

Agenda Item No: 4.

FROM: Robert Thompson, General Manager
Originator: Kathy Millea, Director of Engineering

SUBJECT:

ENGINEERING PROGRAM CONTRACT PERFORMANCE REPORT

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

Receive and file the Engineering Program Contract Performance Report for the period ending December 31, 2022.

BACKGROUND

The Engineering Program involves awarding and managing multiple construction and consulting contracts. In 2008, the Orange County Sanitation District (OC San) Board of Directors began authorizing contingencies along with construction and consulting contracts, allowing the General Manager to approve construction change orders and amendments to consulting contracts up to the amount of the authorized contingency. This practice reduces administrative costs, expedites resolution of project issues that arise, helps avoid contractor delay claims, and facilitates efficient management of many contracts.

The Engineering Program Contract Performance Report summarizes construction and consulting contract performance and activities for the quarter ending December 31, 2022. This report is updated quarterly and includes a summary of General Manager approved contract contingencies among other key performance indicators.

ATTACHMENT

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

- Engineering Program Contract Performance Report for the period ending December 31, 2022

EY: jw

DATE: March 1, 2023

TO: Orange County Sanitation District
Board of Directors

FROM: Rob Thompson, General Manager
Through: Kathy Millea, Director of Engineering

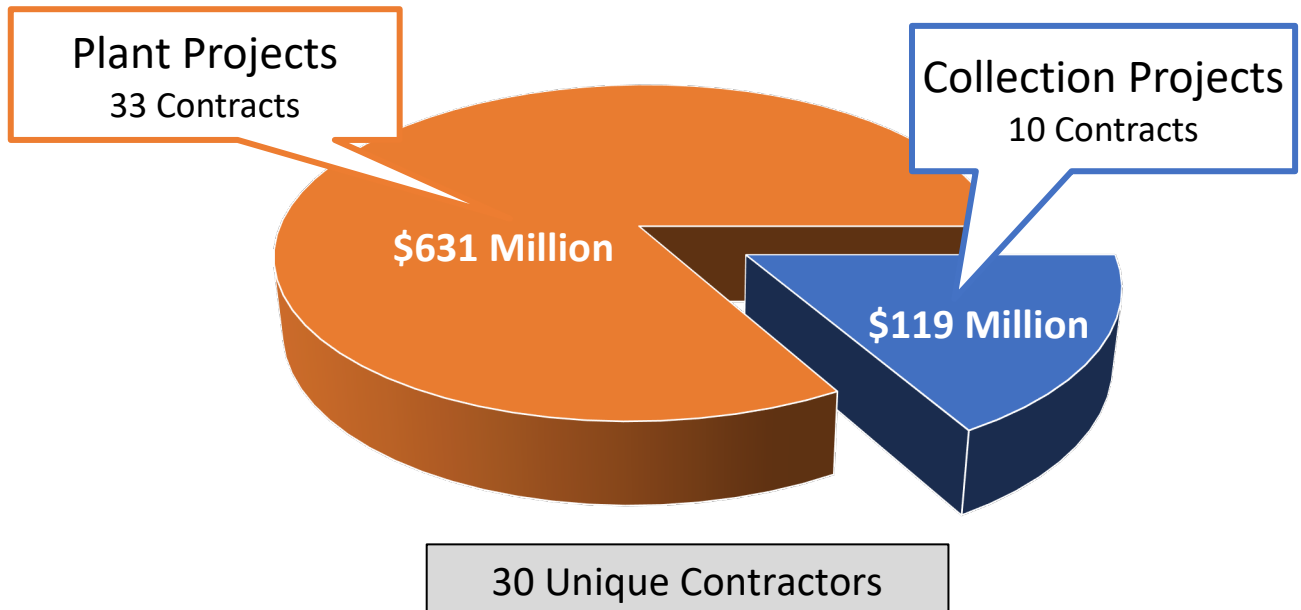
This report summarizes the status, activities, and performance of construction contracts and consultant agreements. This report also identifies the names and status of projects being performed under master budgets for planning studies, research, small construction projects, Operations & Maintenance capital projects, and information technology projects.

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Research Program Status Report	
Small Construction Projects Program Status Report	
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PART 1 - CONSTRUCTION CONTRACTS

Table 1 lists the Board-awarded construction contracts active as of December 31, 2022, while Tables 2 and 3 list the General Manager-awarded and Operations Committee-awarded construction contracts. The General Manager may award contracts up to \$100,000 and task orders up to \$300,000. The graph below shows the number and total value of projects broken down by plant and collections.



One Board-awarded construction contract was closed in this quarter, as listed in Table 4. No construction contracts awarded by the General Manager, or the Operations Committee were closed in this quarter, as shown in Tables 5 and 6.

Table 1 - Active Board-Awarded Construction Contracts

Project/Contract	Contractor	Award Date	Contract Amount				Contingency				
			Award	Change Orders	Current	% Spent	Original	Current	Used	Remaining	
2-72B	Newhope-Placentia Trunk Replacement, Segment B	OHL USA	05/23/2018	\$58,242,000	\$5,604,884	\$63,846,884	100.0%	6.5%	12.0%	9.6%	2.4%
3-62	Westminster Blvd Force Main Replacement	Teichert Energy - Utilities Group, Inc.	12/18/2019	\$27,743,000	\$1,246,292	\$28,989,292	93.2%	10.0%	10.0%	4.5%	5.5%
3-64B	Los Alamitos Trunk Sewer Rehabilitation	Steve P. Rados, Inc.	05/26/2021	\$17,775,000	\$0	\$17,775,000	52.4%	10.0%	10.0%	0.0%	10.0%
7-66	Sunflower and Red Hill Interceptor Repairs	Charles King Company	07/28/2021	\$4,777,000	\$123,669	\$4,900,669	75.4%	10.0%	10.0%	2.6%	7.4%
FE18-13	Redhill Relief Sewer Relocation at State Route 55	SRK Engineering, Inc.	06/22/2022	\$2,213,000	\$0	\$2,213,000	0.0%	15.0%	15.0%	0.0%	15.0%
FE18-14	Plant Water Pipeline Replacement in Kinnison, Lindstrom, and Scott Tunnels at Plant No. 2	MMC, Inc.	12/16/2020	\$1,134,000	\$0	\$1,134,000	0.0%	15.0%	15.0%	0.0%	15.0%
FE18-15	Plant Boiler System Relief at Plant No. 2	MMC, Inc.	04/28/2021	\$230,000	\$24,528	\$254,528	94.1%	15.0%	15.0%	10.7%	4.3%
FE19-01	Pump Station Portable Generator Connectors	Pacific Industrial Electric	09/29/2021	\$1,207,479	\$0	\$1,207,479	21.7%	10.0%	10.0%	0.0%	10.0%
FE19-03	Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1	Garney Pacific, Inc.	02/23/2022	\$778,000	\$18,317	\$796,317	48.0%	10.0%	10.0%	2.4%	7.6%
FE19-04	Sunflower Pump Replacement at Plant No. 1	GSE Construction Company, Inc.	10/27/2021	\$2,123,200	\$0	\$2,123,200	2.9%	10.0%	10.0%	0.0%	10.0%
FE19-06	EPSA Motor Cooling Improvements at Plant No. 2	MMC, Inc.	09/29/2021	\$854,000	\$21,474	\$875,474	33.1%	10.0%	10.0%	2.5%	7.5%

Table 1 - Active Board-Awarded Construction Contracts

Project/Contract	Contractor	Award Date	Contract Amount				Contingency				
			Award	Change Orders	Current	% Spent	Original	Current	Used	Remaining	
FE19-08	Secondary Treatment VFD Replacements at Plant No. 2	ACS Engineering	03/23/2022	\$1,433,000	\$0	\$1,433,000	0.0%	10.0%	10.0%	0.0%	10.0%
FE19-12	Rebuild Shop Fume Extractor Installation at Plant No 1	RAN Enterprises, Inc	10/18/2022	\$217,000	\$0	\$217,000	1.4%	10.0%	10.0%	0.0%	10.0%
FE20-01	Wastehauler Station Safety and Security Improvements	Leed Electric	09/28/2022	\$1,689,788	\$0	\$1,689,788	0.0%	10.0%	10.0%	0.0%	10.0%
FE20-04	Cengen Cooling Water Pipe Replacement at Plant No. 2	Innovative Construction Solutions	12/22/2022	\$3,487,600	\$0	\$3,487,600	0.0%	10.0%	10.0%	0.0%	10.0%
FE20-06	Thickening and Dewatering Building Pipe Support Improvements at Plant No. 1	Garney Pacific, Inc.	02/23/2022	\$793,000	\$0	\$793,000	70.6%	10.0%	10.0%	0.0%	10.0%
FE20-07	Santa Ana Trunk Rehabilitation at Plant No. 1	Sancon Technologies Inc.	04/27/2022	\$395,082	\$0	\$395,082	100.0%	20.0%	20.0%	0.0%	20.0%
FR1-0012	Building B Floor Replacement, Jib Crane, and Forklift Pad	Vicon Enterprise	06/22/2022	\$220,000	\$0	\$220,000	54.3%	10.0%	10.0%	0.0%	10.0%
FR1-0016	Waste Sidestream Pump Station VFD replacements at Plant No.1	Leed Electric	03/23/2022	\$344,889	\$0	\$344,889	4.8%	15.0%	15.0%	0.0%	15.0%
FR2-0018	Activated Sludge Clarifier Repairs at Plant No. 2	Garney Pacific, Inc.	10/11/2022	\$5,091,686	\$0	\$5,091,686	2.5%	10.0%	10.0%	0.0%	10.0%
FRC-0002	Bay Bridge Pump Station Valve Replacement	Innovative Construction Solutions	11/18/2020	\$598,000	\$288,865	\$886,865	100.0%	55.0%	55.0%	48.3%	6.7%
J-117B	Outfall Low Flow Pump Station	Shimmick Construction	12/19/2018	\$90,200,000	\$2,520,775	\$92,720,775	76.5%	8.0%	8.0%	2.8%	5.2%

Table 1 - Active Board-Awarded Construction Contracts

Project/Contract	Contractor	Award Date	Contract Amount				Contingency				
			Award	Change Orders	Current	% Spent	Original	Current	Used	Remaining	
J-120	Process Control Systems Upgrades	ABB, Inc.	09/15/2021	\$11,818,480	\$0	\$11,818,480	9.2%	10.0%	10.0%	0.0%	10.0%
J-127	Natural Gas Pipelines Replacement at Plant Nos. 1 and 2	Innovative Construction Solutions	07/22/2020	\$745,500	\$68,668	\$814,168	100.0%	10.0%	10.0%	9.2%	0.8%
J-135B	Engine and Generator Overhauls at Plant No. 1 and 2	Cooper Machinery Services	07/27/2022	\$29,361,029	\$917,783	\$30,278,812	11.0%	10.0%	10.0%	3.1%	6.9%
MP-307	Bushard Diversion Structure Repair	Abhe - Svoboda, Inc.	06/22/2022	\$1,762,545	\$0	\$1,762,545	0.0%	10.0%	10.0%	0.0%	10.0%
P1-105	Headworks Rehabilitation at Plant 1	Kiewit Infrastructure West Co.	03/24/2021	\$222,330,000	\$712,493	\$223,042,493	19.7%	4.0%	4.0%	0.3%	3.7%
P1-128A	Headquarters Complex at Plant No. 1	Swinerton Builders	05/26/2021	\$102,544,973	\$840,310	\$103,385,283	49.5%	5.0%	5.0%	0.8%	4.2%
P1-133	Primary Sedimentation Basins No. 6-31 Reliability Improvements at Plant No. 1	Shimmick Construction	02/23/2022	\$6,275,000	\$0	\$6,275,000	13.3%	10.0%	10.0%	0.0%	10.0%
P1-134	South Perimeter Security and Utility Improvements at Plant No.1	Tovey-Shultz Construction, Inc.	07/28/2021	\$4,396,779	\$163,086	\$4,559,865	88.4%	10.0%	10.0%	3.7%	6.3%
P2-122	Headworks Modifications at Plant No. 2 for GWRS Final Expansion	Shimmick Construction	01/22/2020	\$14,487,735	\$679,240	\$15,166,975	97.6%	10.0%	10.0%	4.7%	5.3%
P2-123	Return Activated Sludge Piping Replacement at Plant 2	Shimmick Construction	09/25/2019	\$6,042,110	\$304,477	\$6,346,587	100.0%	10.0%	10.0%	5.0%	5.0%
P2-98A	A-Side Primary Clarifiers Replacement at Plant 2	PCL CONSTRUCTION INC.	05/26/2021	\$111,405,880	\$321,135	\$111,727,015	21.4%	6.0%	6.0%	0.3%	5.7%

Table 1 - Active Board-Awarded Construction Contracts

Project/Contract		Contractor	Award Date	Contract Amount				Contingency			
				Award	Change Orders	Current	% Spent	Original	Current	Used	Remaining
SC19-03	Return Activated Sludge Pump Station Elevator Rehabilitation at Plant No. 2	OTIS	12/16/2020	\$432,400	\$0	\$432,400	0.0%	20.0%	20.0%	0.0%	20.0%
			Total	\$733,149,156	\$13,855,996	\$747,005,151					

Table 2 - Active GM Awarded Construction Contracts

Project/Contract		Contractor	Award Date	Contract Amount			
				Award	Change Orders	Current	% Spent
FE21-02	Lighting Improvements Boiler and Sludge Dewatering Areas at Plant No. 1	Leed Electric	05/03/2022	\$81,897	\$0	\$81,897	100.0%
FR2-0022	Digester O Structural Repairs at Plant No. 2	Jamison Engineering	03/14/2022	\$89,500	\$0	\$89,500	0.0%
FR2-0025	Digester O-T and Q-R Bridge Repair at Plant No. 2	O'Connell Engineering & Construction, Inc.	03/14/2022	\$115,450	\$0	\$115,450	0.0%
FRC-0009	Bitter Point Trunk Sewer Repair at Bitter Point Pump Station	Charles King Company	10/13/2022	\$275,000	\$0	\$275,000	0.0%
FRC-0012	Springdale-Relief Concrete Encasement Extension at Wintersburg-Channel	J.F. Shea Construction, Inc.	07/07/2021	\$167,694	\$0	\$167,694	0.0%
MP2-002	Ella Tunnel Walkway Replacement at Plant 2	O'Connell Engineering & Construction, Inc.	10/20/2022	\$49,450	\$0	\$49,450	0.0%
P1-132	Uninterruptable Power Supply Improvements at Plant 1	Leed Electric	12/15/2022	\$5,765,789	\$0	\$5,765,789	0.0%
			Total	\$6,544,780	\$0	\$6,544,780	

Table 3 - Active Operations Committee Awarded Construction Contracts

Project/Contract		Contractor	Award Date	Contract Amount			
				Award	Change Orders	Current	% Spent
FE18-16	Truck Loading Basement Drain Modifications at Plant No. 1	MMC, Inc.	10/06/2021	\$162,500	\$13,814	\$176,314	100.0%
FE19-13	VFD Replacements at Seal Beach Pump Station	Energy Management Corporation	03/23/2022	\$138,650	\$0	\$138,650	0.0%
FR1-0014	Laboratory Building HVAC Controls Replacement at Plant No. 1	Retrofit Service Company, Inc.	02/02/2022	\$176,847	\$14,246	\$191,093	95.4%
			Total	\$477,997	\$28,060	\$506,057	

Table 4 - Closed Board-Awarded Construction Contracts

Project/Contract		Contractor	Award Date	Closed Date	Contract Amount			Contingency		
					Award	Change Orders	Final	Original	Final	Unused
FR1-0008	Trickling Filter 480 Volt Cable Replacement at Plant No. 1	Baker Electric	12/15/2021	10/03/2022	\$251,586	\$27,140	\$278,726	20.0%	20.0%	9.2%
				Total	\$251,586	\$27,140	\$278,726			

Table 5 - Closed GM-Awarded Construction Contracts

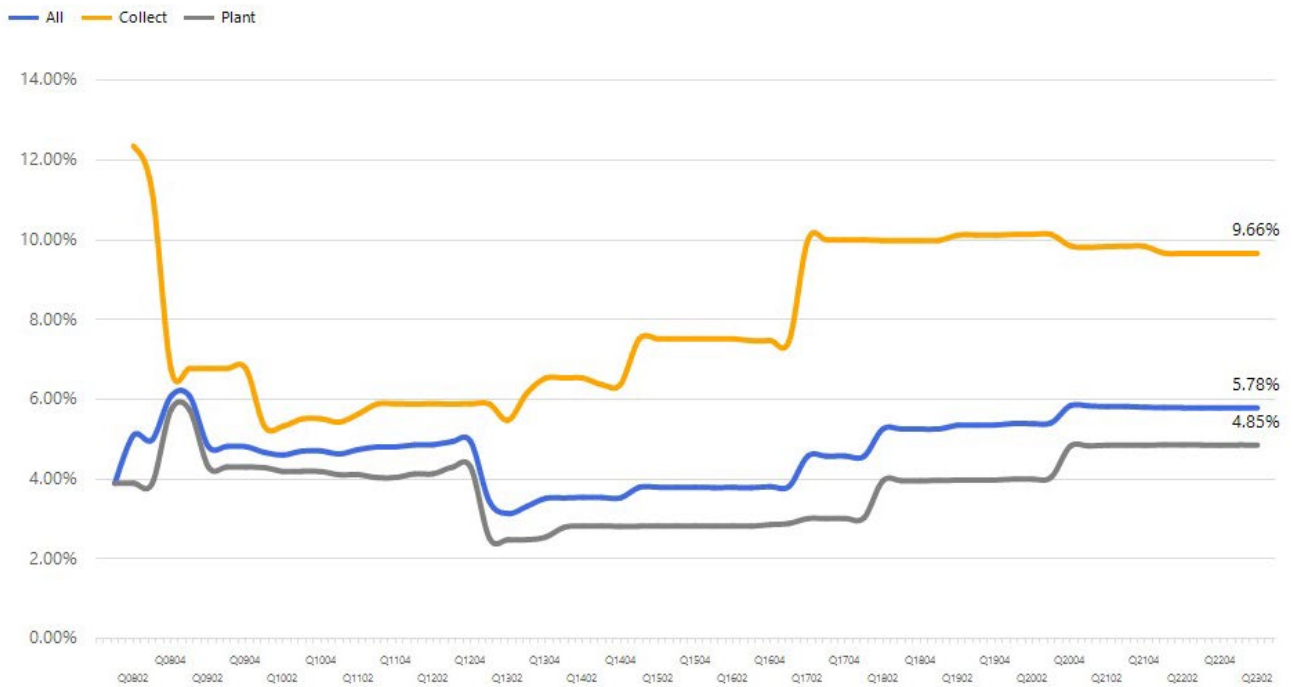
Project/Contract	Contractor	Award Date	Closed Date	Original Award Amount	Change Orders	Final Contract Amount	Final Change Order Rate
No GM-awarded construction contract closed this quarter							

Table 6 - Closed Committee -Awarded Construction Contracts

Project/Contract	Contractor	Award Date	Closed Date	Original Award Amount	Change Orders	Final Contract Amount	Final Change Order Rate
No Committee-awarded construction contract closed this quarter							

When the Orange County Sanitation District (OC San) Board awards a construction contract, they also approve a contingency which allows the General Manager to approve contract change orders up to the amount of the contingency. One purpose of this report is to document how much of the contingency is utilized. A contract's change order rate is only meaningful when the work is completed. As such, the change order performance charts in this report are based only on contracts closed since the Board began approving contingencies in 2008. The following chart shows how cumulative change order rates have changed for plant, collections, and all contracts since the contingency system was implemented.

Cumulative Change Order Rates
Closed Construction Contracts



PART 2 – ENGINEERING SERVICES AGREEMENTS

OC San engages engineering consultants through Professional Service Agreements (PSAs), Professional Design Services Agreements (PDSAs), Professional Construction Services Agreements (PCSAs), and Master Professional Services Agreements (Master Agreements). PDSAs are used to obtain design engineering services, and PCSAs are a subsequent agreement with the design consultant to provide support services during construction. PSAs are used for planning studies and other consultant assignments. There are currently 19 firms with active engineering services agreements, not including firms with Master Agreements.

Master Agreements are issued to a pool of pre-qualified consultants for smaller projects. On those smaller projects, OC San solicits task order proposals from interested firms and awards a task order to the most qualified consultant. There are currently five sets of Master Agreements.

- 2017 Master Agreements for On-Call Planning Studies (expired)
- 2018 Master Professional Design Services Agreements (expired)
- 2020 Master Agreements for On-Call Planning Studies
- 2021 Master Professional Design Services Agreements
- Agreement for Design Installation, Implementation and Maintenance of a Process Control System

The 2017 Master Agreements for On-Call Planning Studies and the 2018 Master Professional Design Services Agreements have expired, meaning no new task orders can be issued under them, but previously issued task orders remain active until completed. Task Orders are limited by OC San Ordinance No. OCSD-56 to \$300,000 per task order.

A status table for all Active Engineering Services Agreements (PDSAs, PCSAs and PSAs) is attached under Table 7 and a status table for all Active Task Orders by Master Agreement is attached under Table 8 (Master Agreements).

Table 7 - Active Engineering Services Agreements

Project/Contract		Consultant	Type	Award Date	Contract Amount				Contingency			
					Award	Amendments	Current	% Spent	Original	Current	Used	Remaining
1-23	Santa Ana Trunk Sewer Rehabilitation	Stantec Consulting Services, Inc.	PDSA	04/27/2022	\$3,880,000	\$0	\$3,880,000	16%	10.0%	10.0%	0.0%	10.0%
1-24	Greenville Trunk Improvements	Brown and Caldwell	PDSA	10/31/2022	\$4,730,000	\$0	\$4,730,000	0%	10.0%	10.0%	0.0%	10.0%
2-49	Taft Branch Improvements	Woodard & Curran, Inc.	PDSA	02/24/2021	\$2,200,000	\$55,000	\$2,255,000	58%	10.0%	10.0%	2.5%	7.5%
2-72B	Newhope-Placentia Trunk Replacement, Segment B	Lee & Ro, Inc.	PCSA	03/23/2016	\$3,253,946	\$0	\$3,253,946	72%	10.0%	10.0%	0.0%	10.0%
3-62	Westminster Blvd Force Main Replacement	Stantec Consulting Services, Inc.	PCSA	12/18/2019	\$1,183,000	\$0	\$1,183,000	41%	10.0%	10.0%	0.0%	10.0%
3-64	Rehabilitation of Western Regional Sewers	AECOM Technical Services, Inc.	PDSA	01/27/2016	\$17,639,250	\$195,850	\$17,835,100	63%	10.0%	10.0%	1.1%	8.9%
3-64B	Los Alamitos Trunk Sewer Rehabilitation	AECOM Technical Services, Inc.	PCSA	05/26/2021	\$610,000	\$0	\$610,000	35%	10.0%	10.0%	0.0%	10.0%
3-67	Seal Beach Pump Station Replacement	Lee & Ro, Inc.	PDSA	12/18/2019	\$5,947,850	\$378,610	\$6,326,460	97%	10.0%	12.6%	6.4%	6.2%
5-67	Bay Bridge Pump Station Replacement	Arcadis U.S., Inc.	PDSA	10/25/2017	\$7,137,000	\$1,779,825	\$8,916,825	57%	10.0%	35.0%	24.9%	10.1%
5-68	Newport Beach Pump Station Pressurization Improvements	Dudek	PDSA	05/27/2020	\$542,988	\$0	\$542,988	84%	10.0%	10.0%	0.0%	10.0%
6-20	Fairview Trunk Rehabilitation	Dudek	PDSA	07/27/2022	\$1,200,000	\$0	\$1,200,000	5%	10.0%	10.0%	0.0%	10.0%
7-65	Gisler-Red Hill Interceptor and Baker Force Main Rehabilitation	CDM Smith Inc.	PDSA	09/23/2020	\$1,754,000	\$175,400	\$1,929,400	98%	10.0%	10.0%	10.0%	0.0%
7-66	Sunflower and Red Hill Interceptor Repairs	GHD, Inc.	PCSA	07/28/2021	\$166,000	\$0	\$166,000	39%	10.0%	10.0%	0.0%	10.0%

Table 7 - Active Engineering Services Agreements

Project/Contract		Consultant	Type	Award Date	Contract Amount				Contingency			
					Award	Amendments	Current	% Spent	Original	Current	Used	Remaining
7-68	MacArthur Force Main Improvements	Michael Baker International, Inc.	PDSA	05/26/2021	\$500,000	\$0	\$500,000	86%	10.0%	10.0%	0.0%	10.0%
FR1-0007	Control Center Offices and Day Training Room Remodeling at Plant No. 1	AECOM Technical Services, Inc.	PSA	07/24/2017	\$48,000	\$33,351	\$81,351	11%	N/A	N/A	69.5%	N/A
J-117B	Outfall Low Flow Pump Station	SEL Engineering Services Inc.	PSA	11/23/2022	\$1,096,074	\$0	\$1,096,074	61%	10.0%	10.0%	0.0%	10.0%
J-117B	Outfall Low Flow Pump Station	Brown and Caldwell	PCSA	12/19/2018	\$8,563,913	\$692,120	\$9,256,033	58%	10.0%	10.0%	8.1%	1.9%
J-124	Digester Gas Facilities Replacement	Brown and Caldwell	PDSA	11/15/2017	\$11,770,000	\$1,101,466	\$12,871,466	98%	10.0%	10.0%	9.4%	0.6%
J-98	Electrical Power Distribution System Improvements	Schweitzer Engineering Laboratories, Inc	PSA	03/25/2020	\$1,296,878	\$0	\$1,296,878	13%	10.0%	10.0%	0.0%	10.0%
J-98	Electrical Power Distribution System Improvements	Brown and Caldwell	PDSA	02/26/2020	\$2,240,000	\$92,078	\$2,332,078	91%	10.0%	10.0%	4.1%	5.9%
P1-105	Headworks Rehabilitation at Plant 1	Carollo Engineers, Inc	PCSA	03/02/2021	\$16,500,000	\$0	\$16,500,000	23%	10.0%	10.0%	0.0%	10.0%
P1-126	Primary Sedimentation Basins No. 3-5 Replacement at Plant No. 1	Black & Veatch	PDSA	04/27/2022	\$14,163,000	\$0	\$14,163,000	2%	10.0%	10.0%	0.0%	10.0%
P1-128A	Headquarters Complex at Plant No. 1	HDR Engineering, Inc.	PCSA	05/26/2021	\$4,900,000	\$356,181	\$5,256,181	51%	10.0%	10.0%	7.3%	2.7%
P1-128A	Headquarters Complex at Plant No. 1	AECOM Technical Services, Inc.	PSA	04/28/2021	\$6,750,000	\$0	\$6,750,000	49%	10.0%	10.0%	0.0%	10.0%

Table 7 - Active Engineering Services Agreements

Project/Contract		Consultant	Type	Award Date	Contract Amount				Contingency			
					Award	Amendments	Current	% Spent	Original	Current	Used	Remaining
P1-132	Uninterruptable Power Supply Improvements at Plant 1	Tetra Tech, Inc.	PDSA	10/23/2019	\$784,630	\$62,755	\$847,385	96%	10.0%	10.0%	8.0%	2.0%
P1-133	Primary Sedimentation Basins No. 6-31 Reliability Improvements at Plant No. 1	Carollo Engineers, Inc	PCSA	03/23/2022	\$530,000	\$0	\$530,000	7%	10.0%	10.0%	0.0%	10.0%
P1-134	South Perimeter Security and Utility Improvements at Plant No.1	HDR Engineering, Inc.	PCSA	07/28/2021	\$235,000	\$0	\$235,000	40%	10.0%	10.0%	0.0%	10.0%
P1-137	Supports Buildings Seismic Improvements at Plant No. 1	Simpson, Gumpertz, and Heger	PDSA	07/27/2022	\$1,900,000	\$0	\$1,900,000	0%	0.0%	10.0%	0.0%	10.0%
P2-122	Headworks Modifications at Plant No. 2 for GWRS Final Expansion	CDM Smith Inc.	PCSA	01/15/2020	\$2,200,000	\$0	\$2,200,000	71%	10.0%	10.0%	0.0%	10.0%
P2-123	Return Activated Sludge Piping Replacement at Plant 2	Spec Services, Inc.	PCSA	09/25/2019	\$252,329	\$25,233	\$277,562	100%	10.0%	10.0%	10.0%	0.0%
P2-124	Interim Food Waste Receiving Facility	Kennedy/Jenks Consultants, Inc.	PDSA	09/05/2018	\$695,000	\$31,168	\$726,168	100%	10.0%	10.0%	4.5%	5.5%
P2-128	TPAD Digester Facility at Plant No.2	Brown and Caldwell	PDSA	07/22/2020	\$39,300,000	\$1,202,803	\$40,502,803	37%	10.0%	10.0%	3.1%	6.9%
P2-137	Digesters Rehabilitation at Plant No. 2	CDM Smith Inc.	PDSA	03/23/2022	\$2,650,000	\$0	\$2,650,000	21%	10.0%	10.0%	0.0%	10.0%
P2-98A	A-Side Primary Clarifiers Replacement at Plant 2	Black & Veatch	PCSA	05/26/2021	\$8,400,000	\$0	\$8,400,000	22%	10.0%	10.0%	0.0%	10.0%

Table 7 - Active Engineering Services Agreements

Project/Contract		Consultant	Type	Award Date	Contract Amount				Contingency			
					Award	Amendments	Current	% Spent	Original	Current	Used	Remaining
PS18-09	Ocean Outfall Condition Assessment and Scoping Study	Carollo Engineers, Inc	PSA	03/25/2020	\$2,744,000	\$885,661	\$3,629,661	85%	10.0%	40.0%	32.3%	7.7%
PS20-02	Collection System Flow Level Monitoring Study	Woodard & Curran, Inc.	PSA	07/28/2021	\$616,562	\$0	\$616,562	23%	0.0%	10.0%	0.0%	10.0%
PS20-05	Cen Gen Pressure Vessel Integrity Assessment at Plant Nos. 1 and 2	Pond & Company	PSA	02/23/2022	\$235,133	\$0	\$235,133	25%	10.0%	10.0%	0.0%	10.0%
PS21-01	Exterior Lighting Study at Plant Nos. 1 and 2	IDS Group, Inc.	PSA	10/17/2022	\$151,660	\$0	\$151,660	0%	10.0%	10.0%	0.0%	10.0%
PS21-04	Energy and Digester Gas Master Plan	Brown and Caldwell	PSA	06/22/2022	\$1,438,036	\$0	\$1,438,036	6%	10.0%	10.0%	0.0%	10.0%
Total					\$180,204,249	\$7,067,501	\$187,271,750					

Table 8 - Active Task Orders by Master Agreement

Agreement/Project		Consultant	Award Date	Original Task Order Value	Amendments	Current Task Order Value	% Spent
2017 Master Agreements for On-Call Planning Studies							
PS19-03	Laboratory Rehabilitation Feasibility Study	HDR Engineering, Inc.	10/20/2020	\$274,888	\$0	\$274,888	76%
2018 Master Professional Design Service Agreements							
FE18-06	CenGen Instrument Air Compressors Replacement at Plant No. 1	IDS Group, Inc.	04/27/2020	\$89,876	\$0	\$89,876	69%
FE18-13	Redhill Relief Sewer Relocation at State Route 55	GHD, Inc.	03/27/2020	\$168,612	\$105,331	\$273,943	82%
FE18-14	Plant Water Pipeline Replacement in Kinnison, Lindstrom, and Scott Tunnels at Plant No. 2	Dudek	11/06/2019	\$108,308	\$0	\$108,308	96%
FE18-15	Plant Boiler System Relief at Plant No. 2	IDS Group, Inc.	10/22/2019	\$23,299	\$0	\$23,299	35%
FE18-16	Truck Loading Basement Drain Modifications at Plant No. 1	GHD, Inc.	12/04/2019	\$70,130	\$18,365	\$88,495	92%
FE18-19	12KV Distribution B and East RAS Pump Station Roofing Replacement	HDR Engineering, Inc.	09/16/2019	\$74,771	\$8,672	\$83,443	87%
FE18-20	DAFT Air Compressors Replacement at Plant No. 1	HDR Engineering, Inc.	09/02/2020	\$243,954	\$11,982	\$255,936	82%
FE19-02	Cengen Plant Water Pipe Replacement at Plant No. 1	AECOM Technical Services, Inc.	07/08/2020	\$156,498	\$143,378	\$299,876	40%
FE19-03	Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1	Black & Veatch	09/02/2020	\$244,728	\$55,272	\$300,000	97%
FE19-06	EPSA Motor Cooling Improvements at Plant No. 2	IDS Group, Inc.	05/06/2020	\$88,206	\$0	\$88,206	96%
FE19-10	Digesters C, D, F, G and I Gas Balance Lines Replacement at Plant No. 2	GHD, Inc.	02/03/2021	\$25,000	\$58,000	\$83,000	71%
FE19-11	Primary Clarifiers Nos. 6-31 Lighting and Alarm Improvements at Plant No. 1	AECOM Technical Services, Inc.	09/21/2020	\$226,685	\$6,137	\$232,822	73%
FE19-13	VFD Replacements at Seal Beach Pump Station	AECOM Technical Services, Inc.	03/24/2021	\$78,033	\$0	\$78,033	60%
FE20-01	Wastehauler Station Safety and Security Improvements	AECOM Technical Services, Inc.	03/16/2021	\$161,012	\$16,247	\$177,259	77%
FE20-02	Digester C, D, F, and G Mechanical Rehabilitation at Plant No. 2	HDR Engineering, Inc.	03/16/2021	\$188,212	\$22,396	\$210,608	89%
FE20-03	Return Activated Sludge Discharge Piping Replacement at Activated Sludge Plant No. 1	GHD, Inc.	06/30/2021	\$249,000	\$0	\$249,000	78%

Table 8 - Active Task Orders by Master Agreement

Agreement/Project		Consultant	Award Date	Original Task Order Value	Amendments	Current Task Order Value	% Spent
FE20-04	Cengen Cooling Water Pipe Replacement at Plant No. 2	Dudek	06/01/2021	\$240,000	\$60,000	\$300,000	91%
FE20-05	Plant Water Piping Replacement at Secondary Clarifiers 1-26 at Plant No. 1	IDS Group, Inc.	06/22/2021	\$186,626	\$0	\$186,626	75%
FE20-07	Santa Ana Trunk Rehabilitation at Plant No. 1	GHD, Inc.	05/04/2021	\$100,625	\$0	\$100,625	88%
FE20-08	Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River	Dudek	06/21/2021	\$240,000	\$0	\$240,000	84%
FE20-09	CenGen Smoke Detection Improvements at Plant No. 1 and No. 2	IDS Group, Inc.	06/30/2021	\$63,275	\$0	\$63,275	80%
FR1-0011	VFD Replacements at Plant No. 1	Black & Veatch	04/08/2021	\$283,000	\$17,000	\$300,000	83%
FR2-0013	P2 Trickling Filter Sludge Pump Room Exhaust Fan Relocation at Plant No.2	AECOM Technical Services, Inc.	11/06/2019	\$75,120	\$0	\$75,120	100%
FR2-0022	Digester O Structural Repairs at Plant No. 2	AECOM Technical Services, Inc.	04/12/2021	\$46,115	\$0	\$46,115	98%
FRC-0009	Bitter Point Trunk Sewer Repair at Bitter Point Pump Station	GHD, Inc.	06/17/2021	\$159,451	\$0	\$159,451	74%
J-127	Natural Gas Pipelines Replacement at Plant Nos. 1 and 2	Black & Veatch	01/21/2019	\$271,964	\$28,036	\$300,000	100%
P1-135	Digester Ferric Chloride Piping Replacement at Plant No. 1	Dudek	02/19/2020	\$127,174	\$0	\$127,174	100%
2020 Master Agreements for On-Call Planning Studies							
PS20-01	Collections Yard Relocation Feasibility Study	AECOM Technical Services, Inc.	09/09/2021	\$147,181	\$0	\$147,181	100%
PS20-03	Truck Loading Bay Odor Control Improvements Study at Plant No. 2	Hazen and Sawyer	08/03/2021	\$226,021	\$0	\$226,021	100%
PS20-04	Power Generation Overhaul Feasibility Study	Brown and Caldwell	04/26/2021	\$122,748	\$101,518	\$224,266	90%
PS20-07	College Pump Station Wet Well Condition Assessment Study	HDR Engineering, Inc.	01/18/2022	\$182,297	\$0	\$182,297	63%
PS20-09	Thickening & Dewatering Plant Water Study at Plant No. 1	HDR Engineering, Inc.	04/21/2022	\$219,670	\$0	\$219,670	30%
PS21-03	Process Model for Denitrification Alternatives at Activated Sludge 1	HDR Engineering, Inc.	01/18/2022	\$25,000	\$0	\$25,000	100%
PS21-08	Pure Oxygen Activated Sludge Operations Study at Plant No. 2	Hazen and Sawyer	09/22/2022	\$241,791	\$0	\$241,791	0%

Table 8 - Active Task Orders by Master Agreement

Agreement/Project		Consultant	Award Date	Original Task Order Value	Amendments	Current Task Order Value	% Spent
PS22-03	CEQA/MMRP Measures Review	HDR Engineering, Inc.	11/28/2022	\$24,963	\$0	\$24,963	0%
RE20-02	Chemical Resilience Study at Plant No.1 and 2	Hazen and Sawyer	06/02/2021	\$278,784	\$0	\$278,784	105%
2021 Master Professional Design Service Agreements							
FE21-05	Warehouse Stations and Demolition at Plant No. 2	ProjectLine Technical Services. Inc.	04/28/2022	\$228,328	\$28,508	\$256,836	65%
FR1-0017	Trickling Filter Valve Replacement at Plant No. 1	Dudek	08/16/2022	\$101,108	\$0	\$101,108	38%
FR1-0018	Dewatering Centrifuge Diverter Gate Improvements at Plant No. 1	Dudek	08/16/2022	\$140,000	\$0	\$140,000	3%
FR2-0023	Activated Sludge Clarifier Entry Improvements at Plant No. 2	AECOM Technical Services, Inc.	01/13/2022	\$120,030	\$79,828	\$199,858	48%
FR2-0027	Heavy Mechanics Group Office Space Upgrade at Plant No. 2	ProjectLine Technical Services. Inc.	09/13/2022	\$126,153	\$0	\$126,153	16%
FRC-0010	Warner Avenue Vault Cover Improvements	Kleinfelder, Inc.	07/01/2021	\$205,000	\$0	\$205,000	78%
FRJ-0003	Interplant Gas Line Blow Off Vault Repairs	Dudek	09/08/2022	\$165,000	\$0	\$165,000	7%
P2-127	Collections Yard Relocation	ProjectLine Technical Services. Inc.	08/02/2022	\$188,898	\$0	\$188,898	50%
SC19-06	EPSA Standby Power Generator Control Upgrades at Plant No. 2	Spec Services, Inc.	11/03/2021	\$241,153	\$58,847	\$300,000	38%
			Total	\$7,248,687	\$819,517	\$8,068,204	

PART 3 – MASTER BUDGET PROJECTS

The Board-adopted budget for Fiscal Years 2022-23 and 2023-24 includes master program budgets that allow staff to initiate, execute, and manage smaller projects that fit within the scope of a particular program more quickly. The projects chartered under these program budgets are referred to as sub-projects and are managed to the same standards as projects specifically listed in the adopted budget. A status table for each of these programs listing the sub-projects is attached.

Master Program Title	Status Table
Planning Studies Program	Table 9
Research Program	Table 10
Small Construction Projects Program	Table 11
Information Technology Capital Program	Table 12
Operations & Maintenance Capital Program	Table 13

Table 9 – Planning Studies Status Report

Project Number	Project Name	Allocated Budget
PS18-06	Go/No-Go Lights and Signage	\$495,000
PS18-09	Ocean Outfall Condition Assessment and Scoping Study	\$4,205,117
PS19-03	Laboratory Rehabilitation Feasibility Study	\$450,000
PS20-01	Collections Yard Relocation Feasibility Study	\$375,000
PS20-02	Collection System Flow Level Monitoring Study	\$743,218
PS20-03	Truck Loading Bay Odor Control Improvements Study at Plant No. 2	\$383,682
PS20-04	Power Generation Overhaul Feasibility Study	\$320,000
PS20-05	Cen Gen Pressure Vessel Integrity Assessment at Plant Nos. 1 and 2	\$400,000
PS20-07	College Pump Station Wet Well Condition Assessment Study	\$365,000
PS20-08	Euclid Trunk Sewer Hydraulic Modeling and Odor Control Analyses	\$500,000
PS20-09	Thickening & Dewatering Plant Water Study at Plant No. 1	\$400,000
PS21-01	Exterior Lighting Study at Plant Nos. 1 and 2	\$345,533
PS21-02	Public Announcement and Fire System at Plant Nos. 1 and 2	\$500,000
PS21-04	Energy and Digester Gas Master Plan	\$1,785,000
PS21-05	CAD Design Manual Update for 3D Design	\$758,000
PS21-06	Urban Runoff Optimization Study	\$1,000,000
PS21-07	Process Simulation Model Development for Cen Gen Facilities	\$121,000
PS21-08	Pure Oxygen Activated Sludge Operations Study at Plant No. 2	\$360,000
PS21-10	Sidestream Nitrogen Management	\$211,000
PS22-02	Onsite Oxygen Generation Feasibility Study at Plant No. 2	\$220,000
PS22-03	CEQA/MMRP Measures Review	\$40,000
Grand Total		\$13,977,550

21 Chartered Projects

\$13,977,550 Allocated Budget

\$14,674,450 Remaining Budget

\$28,652,000
Board Approved Program Budget

Table 10 - Research Program Status Report

Project Number	Project Name	Allocated Budget
RE19-01	Primary Scum Equipment Evaluation at Plant No. 1	\$40,825
RE20-02	Chemical Resilience Study at Plant No.1 and 2	\$329,996
RE20-04	Holding Digester 6 Solids Shredder Study at Plant No. 1	\$95,000
RE20-06	Co-Thickened Sludge Pump Trial at Plant No. 1	\$160,000
RE21-01	Supercritical Water Oxidation Demonstration at Plant No. 1	\$8,692,329
Grand Total		\$9,318,150

5 Chartered Projects

\$9,318,150 Allocated Budget

(\$818,150) Remaining Budget

\$8,500,000
Board Approved Program Budget

Table 11 - Small Construction Projects Program Status Report

Project Number	Project Name	Allocated Budget
FE10-21	Area 02 Craig Regional Park Manhole Improvements	\$1,359,000
FE17-03	Battery Storage System at Plant No. 1	\$650,000
FE17-05	Plant 1 ICS Network Extension	\$1,050,000
FE18-06	CenGen Instrument Air Compressors Replacement at Plant No. 1	\$1,150,000
FE18-11	Headworks Explosive Gas Monitoring Systems at Plant No. 1 and No. 2	\$605,000
FE18-13	Redhill Relief Sewer Relocation at State Route 55	\$3,550,000
FE18-14	Plant Water Pipeline Replacement in Kinnison, Lindstrom, and Scott Tunnels at Plant No. 2	\$1,895,000
FE18-15	Plant Boiler System Relief at Plant No. 2	\$560,000
FE18-16	Truck Loading Basement Drain Modifications at Plant No. 1	\$592,000
FE18-20	DAFT Air Compressors Replacement at Plant No. 1	\$1,360,000
FE19-01	Pump Station Portable Generator Connectors	\$2,570,000
FE19-02	Cengen Plant Water Pipe Replacement at Plant No. 1	\$4,165,000
FE19-03	Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1	\$3,200,000
FE19-04	Sunflower Pump Replacement at Plant No. 1	\$4,300,000
FE19-06	EPSA Motor Cooling Improvements at Plant No. 2	\$1,475,000
FE19-08	Secondary Treatment VFD Replacements at Plant No. 2	\$2,900,000
FE19-09	Newhope - Placentia Trunk Grade Separation Replacement Repairs	\$500,000
FE19-10	Digesters C, D, F, G and I Gas Balance Lines Replacement at Plant No. 2	\$1,200,000
FE19-11	Primary Clarifiers Nos. 6-31 Lighting and Alarm Improvements at Plant No. 1	\$1,250,000
FE19-12	Rebuild Shop Fume Extractor Installation at Plant No 1	\$560,000
FE19-13	VFD Replacements at Seal Beach Pump Station	\$520,000
FE20-01	Wastehauler Station Safety and Security Improvements	\$2,671,500
FE20-02	Digester C, D, F, and G Mechanical Rehabilitation at Plant No. 2	\$3,950,000
FE20-03	Return Activated Sludge Discharge Piping Replacement at Activated Sludge Plant No. 1	\$6,840,000
FE20-04	Cengen Cooling Water Pipe Replacement at Plant No. 2	\$5,380,000
FE20-05	Plant Water Piping Replacement at Secondary Clarifiers 1-26 at Plant No. 1	\$1,545,000
FE20-06	Thickening and Dewatering Building Pipe Support Improvements at Plant No. 1	\$1,500,000
FE20-07	Santa Ana Trunk Rehabilitation at Plant No. 1	\$765,000
FE20-08	Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River	\$2,800,000
FE20-09	CenGen Smoke Detection Improvements at Plant No. 1 and No. 2	\$950,000
FE21-01	Plasma Cutting Fume Extractor installation at Plant No. 1 Rebuild Shop	\$277,000
FE21-02	Lighting Improvements Boiler and Sludge Dewatering Areas at Plant No. 1	\$320,000
FE21-04	Thickening and Dewatering Facility Handrail Installation at Plant No. 1	\$230,000

Table 11 - Small Construction Projects Program Status Report

Project Number	Project Name	Allocated Budget
FE21-05	Warehouse Stations and Demolition at Plant No. 2	\$2,200,000
FE21-06	Chemical Dosing Station Installation at Westside Pump Station	\$560,000
FE21-07	Liquid Oxygen Tank A Replacement at Plant No. 2	\$5,200,000
FE21-08	Newhope-Placentia Sewer Manhole Replacements	\$1,225,000
FE22-01	Platform Modifications for Process Areas at Plant No. 1 and No. 2	\$1,300,000
Grand Total		\$73,124,500

38 Chartered Projects

\$73,124,500 Allocated Budget

\$16,875,500 Remaining Budget

\$90,000,000
Board Approved Program Budget

Table 12 – Information Technology Capital Program Status Report

Project Number	Project Name	Allocated Budget
IT18-09	Records Management Information System	\$290,530
IT19-01	IT Safety VPP Systems (IT19-01)	\$210,000
IT19-05	IT P1 & P2 Data Refresh (IT19-05)	\$1,200,000
IT20-05	Client Management Modernization (ICE-69_IT20-05) 6520005	\$99,000
IT20-06	Nintex Workflow Cloud Implementation (ICE-75_IT20-06) 6520006	\$350,000
IT20-07	Professional Services for Valo/SharePoint (ICE-74_IT20-07) 6520007	\$100,000
IT20-08	Field Computer for Nerissa and Interface with LIMS(ICE-68_IT20-07) 6520008	\$121,000
IT20-09	ITSM Migration (ICE-70_IT20-09) 6520009	\$797,000
IT20-10	Digitize Quality Assurance Tracking Processes/TNI/ELAP Standards (ICE-76_IT20-10) 6520010	\$145,700
IT20-12	Web-based Cloud Proxy Security with an Isolation Platform (ICE-78_6520012)	\$50,000
IT21-01	Access Network Equipment Obsolescence Replacement (ICE-79_IT21-01) 6521001	\$1,249,500
IT21-02	Hyper Converged Infrastructure for Plant 1 ICS network (ICE-80 IT21-02) 6521002	\$610,000
IT21-03	Door Access Control System for P2 Construction Management Trailers (ICE-83_IT21-036521003	\$79,706
IT21-04	Databridge Scale Management Software (ICE - 84_IT21-04)	\$39,263
IT21-05	JD Edwards Server Migration and Upgrade (ICE - 86_IT21-05)	\$88,000
IT21-06	Dig-Smart Fusion (ICE - 89_I6521006_T21-06)	\$27,000
IT21-07	Advanced Email Security (ICE - 90_I6521007_T21-07)	\$50,000
IT22-01	Fortigate Firewall Replacement (ICE - 92_IT22-01)	\$275,000
IT22-02	Two Routers and Two Switches for Dual ISPs (ICE - 94_IT22-02)	\$80,000
Grand Total		\$5,861,699

19 Chartered Projects

\$5,861,699 Allocated Budget

\$4,138,301 Remaining Budget

\$10,000,000
Board Approved Program Budget

Table 13 - Operations & Maintenance Capital Program Status Report

Project Number	Project Name	Allocated Budget
SC19-03	Return Activated Sludge Pump Station Elevator Rehabilitation at Plant No. 2	\$890,000
SC19-06	EPSA Standby Power Generator Control Upgrades at Plant No. 2	\$3,450,000
SC20-02	Ocean Outfall Booster Station Elevator Rehabilitation	\$410,000
Grand Total		\$4,750,000

3 Chartered Projects

\$4,750,000 Allocated Budget

\$10,872,000 Remaining Budget

\$15,622,000
Board Approved Program Budget

PART 4 – SUPPLEMENTAL ENGINEERING SERVICES CONTRACT

OC San has been utilizing Jacobs Project Management Co. to provide supplemental engineering and support staff services since an initial contract was approved by the Board in 2016. This existing contract will end in June 2023.

In April of 2022, the OC San Board of Directors approved two Professional Service Agreements - one with AECOM Technical Services, Inc. and one with Jacobs Project Management Co. - to provide Supplemental Engineering Services for a three-year period commencing May 1, 2022, through April 30, 2025, with two one-year renewal options. The Board approved the agreements for an amount not to exceed \$29,700,000 per individual agreement.

The benefits of using a supplemental engineering services contract, as opposed to hiring full-time staff or limited-term employees, include rapid mobilization of highly skilled/technical staff, flexibility to change the mix of staff positions on an immediate and as-needed basis, the ability to reduce staff as workloads decrease, access to technical experts to support special tasks, and access to staff with wastewater project experience.

A status table for the supplemental engineering services contract summary for the 2016 Supplemental Engineering Services Contract with Jacobs Project Management Co. is included below as Table 14a, and the Supplemental Engineering Services labor summary for the same contract can be found under Table 14b.

Table 14a – 2016 Supplemental Engineering Services Contract Status (Jacobs)

	Total Fees	Time
Contract	\$41,000,000	86 months
Actuals to Date	\$36,755,726 89.7%	80 Months 93%
Remaining	\$4,244,275 10.3%	6 months 7%

Table 14b – 2016 Supplemental Engineering Services Labor Summary (Jacobs)

	This Quarter	Inception to Date
Labor Hours	10,958	259,262
Full Time Equivalents	23	20
Labor Costs (no expenses)	\$1,763,574	\$36,043,752
Average Hourly Rate	\$161	\$139

Status tables for the supplemental engineering services contract summary for the 2022 Supplemental Engineering Services Contract with AECOM and Jacobs Project Management Co. and AECOM are included below as Tables 15a and 16a, respectively and the Supplemental Engineering Services labor summary for the same contracts can be found under Table 15b and 16b, respectively.

Table 15a – 2022 Supplemental Engineering Services Contract Status (AECOM)

	Total Fees		Time	
Contract	\$29,700,000		60 months ⁽¹⁾	
Actuals to Date	\$379,251	1.3%	8 Months	13%
Remaining	\$29,320,749	99.7%	52 months	87%

⁽¹⁾ Assuming two additional 1-year extensions

Table 15b – 2022 Supplemental Engineering Services Labor Summary (AECOM)

	This Quarter	Inception to Date
Labor Hours	1,424	2,237
Full Time Equivalents	3	2
Labor Costs (no expenses)	\$228,429	\$379,251
Average Hourly Rate	\$160.41	\$169.54

Table 16a – 2022 Supplemental Engineering Services Contract Status (Jacobs)

	Total Fees		Time	
Contract	\$29,700,000		60 months ⁽¹⁾	
Actuals to Date	\$636,226	2.14%	8 Months	13%
Remaining	\$29,063,774	97.86%	52 months	87%

⁽¹⁾ Assuming two additional 1-year extensions

Table 16b – 2022 Supplemental Engineering Services Labor Summary (Jacobs)

	This Quarter	Inception to Date
Labor Hours	2518	4003
Full Time Equivalents	5	4
Labor Costs (no expenses)	\$382,948	\$636,226
Average Hourly Rate	\$152	\$159

PART 5 – PROGRAMMING PROFESSIONAL SERVICES CONTRACT

In April of 2022, the OC San Board of Directors approved two Professional Service Agreements - one with Enterprise Automation and one with Maverick Technologies - to provide Programming Professional Services for a three-year period commencing May 11, 2022, through May 10, 2025, with two one-year renewal options. The Board approved the agreements for an amount not to exceed \$4,900,000 per individual agreement.

The programming professional services will program, test, commission, maintain, upgrade, and configure programmable logic controllers, HMI graphics, databases, servers, and networks for select projects. The benefits of using a programming professional services contract, as opposed to hiring full-time staff or limited-term employees, include the ability to provide the needed short-term resources during the execution of Project No. J-120, Process Control Systems Upgrades, rapid mobilization of highly skilled technical resources, flexibility to change the mix of needed resources to match project requirements, and the ability to increase or reduce project resources as workloads change.

Status tables for the programming professional services contract summary for the 2022 Programming Professional Services Contract with Enterprise Automation and Maverick Technologies are included below under Tables 17a and 18a, respectively and the Programming Professional Services labor summary for the same contracts can be found under Table 17b and 18b, respectively.

**Table 17a – 2022 Programming Professional Services Contract Status
(Enterprise Automation)**

	Total Fees	Time
Contract	\$4,900,000	60 months ⁽¹⁾
Actuals to Date	\$344,028 7%	8 Months 13%
Remaining	\$4,555,972 93%	52 months 87%

⁽¹⁾ Assuming two additional 1-year extensions

**Table 17b – 2022 Programming Professional Services Labor Summary
(Enterprise Automation)**

	This Quarter	Inception to Date
Labor Hours	1099	1694
Full Time Equivalent	2.1	1.4
Labor Costs (no expenses)	\$205,684	\$343,629
Average Hourly Rate	\$187	\$203

**Table 18a – 2022 Programming Professional Services Contract Status
(Maverick Technologies)**

	Total Fees		Time	
Contract	\$4,900,000		60 months	(1)
Actuals to Date	\$27,820	1%	8 Months	13%
Remaining	\$4,872,180	99%	52 months	87%

(1) Assuming two additional 1-year extensions

**Table 18b – 2022 Programming Professional Services Labor Summary
(Maverick Technologies)**

	This Quarter	Inception to Date
Labor Hours	153	153
Full Time Equivalents	0.3	0.1
Labor Costs (no expenses)	\$27,820	\$27,820
Average Hourly Rate	\$182	\$182

PART 6 – ON-CALL SERVICES AGREEMENTS

OC San uses three sets of on-call services agreements for coating inspection and corrosion testing; materials testing, inspection, and other geotechnical testing; and surveying. Services are typically requested by inspection supervisors as needs arise, and the work is generally spread among the available firms.

Table 17 lists the contract limits and funds expended to date for each of the agreements which became effective in March 23, 2022 and will expire on April 30, 2025. For each of these services, OC San typically uses a single firm for a particular construction contract.

Table 17 - On Call Service Agreements Status Report

Consultant	Contract Limit	Total Costs Incurred	Remaining
Coating Inspection Services (PSA2022-001)			
CSI Services, Inc.	\$300,000	\$0	\$300,000
Diversified Project Services Int'l (DPSI)	\$300,000	\$27,385	\$272,615
Geotechnical Testing Services (PSA2022-003)			
AESCO	\$400,000	\$41,379	\$358,621
Atlas Technical Consultants	\$400,000	\$61,328	\$338,672
Koury Engineering and Testng, Inc.	\$400,000	\$52,902	\$347,098
MTGL, Inc	\$400,000	\$0	\$400,000
Surveying Services (PSA2022-002)			
D.Woolley & Associates	\$200,000	\$0	\$200,000
Michael Baker International, Inc.	\$200,000	\$1,726	\$198,275
Psomas	\$200,000	\$0	\$200,000
Stantec Consulting Services, Inc.	\$200,000	\$18,440	\$181,560



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2778

Agenda Date: 3/1/2023

Agenda Item No: 5.

FROM: Robert Thompson, General Manager
Originator: Kathy Millea, Director of Engineering

SUBJECT:

URBAN RUNOFF OPTIMIZATION STUDY, PROJECT NO. PS21-06

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Find that the Urban Runoff Optimization Study, Project No. PS21-06 is exempt from CEQA under the statutory exemptions set forth in California Code of Regulations Section 15262 and authorize staff to file a Notice of Exemption with the OC Clerk-Recorder;
- B. Approve a Professional Services Agreement with Michael Baker International, Inc. to provide engineering services for the Urban Runoff Optimization Study, Project No. PS21-06, for an amount not to exceed \$711,230; and
- C. Approve a contingency of \$71,123 (10%).

BACKGROUND

Treated effluent from Orange County Sanitation District's (OC San) Plant Nos. 1 and 2 is delivered to the Orange County Water District (OCWD) Groundwater Replenishment System (GWRS) for advanced treatment and purification, followed by storage in the Orange County groundwater basin. With the GWRS Final Expansion Project complete, OC San will be delivering up to 175 million gallons per day (MGD) of high-quality treated wastewater so that the OCWD GWRS facility can produce 130 MGD of highly purified water, which is an important element of the local water supply.

Since 2000, OC San has accepted the diversion of dry weather urban runoff to the sewer to assist Municipal Separate Stormwater Sewer System permittees in addressing various public health or environmental issues that are difficult to control through traditional stormwater best management practices. In June 2013, the OC San Board of Directors adopted Urban Runoff Resolution No. OCSD 13-09, which expanded the waiver of fees or charges on the treatment of dry weather urban runoff from 4 to 10 MGD. This latest policy allows for additional flows to help remediate other environmental problems. OC San continues to work closely with the County of Orange Public Works (OCPW) Watersheds Division, the lead permittee that coordinates the cities' efforts in implementing the requirements of Santa Ana Regional Water Quality Control Board.

In November 2021, the OC San Board of Directors approved a new Strategic Plan that identifies this study as an initiative which supports the Environmental Water Quality, Stormwater Management, and Urban Runoff policy goal.

RELEVANT STANDARDS

- Maintain collaborative and cooperative relationships with regulators, stakeholders, and neighboring communities
- Meet volume and water quality needs for the GRWS
- Use all practical and effective means for resource recovery

PROBLEM

Urban runoff within OC San's service area is both a water quality risk and a lost resource for our customers. It is not feasible to maximize public health, resource recovery, and partnering benefits without a coordinated, planned effort to identify the most feasible locations and methods to receive additional urban runoff.

PROPOSED SOLUTION

Approve a Professional Services Agreement for the Urban Runoff Optimization Study, Project No. PS21-06. This project will identify and develop feasible opportunities to help improve water quality and sustain water recycling in Orange County by capturing, containing, characterizing, and treating dry and wet weather urban runoff diversions into the OC San collection and treatment system for eventual reclamation via the recharging of local groundwater resources. OC San, along with its partners OCWD and OCPW, will assess the potential to establish cooperative projects to capture, contain, characterize, and treat urban runoff with a controlled discharge to the sewer for eventual reclamation and recharge to bolster local groundwater resources.

TIMING CONCERNS

If this project is delayed, OC San, along with its partners OCWD and OCPW, will not be able to improve water quality and increase water recycling in our service area.

RAMIFICATIONS OF NOT TAKING ACTION

Improved water quality and increased water recycling in our service area will be delayed.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATIONConsultant Selection:

OC San requested and advertised for proposals for the Urban Runoff Optimization Study, Project No. PS21-06 on September 15, 2022. The following evaluation criteria were described in the Request for Proposals (RFP) and used to determine the most qualified Consultant.

CRITERION	WEIGHT
Project Understanding and Approach	40%
Related Project Experience	25%
Project Team and Staff Qualifications	35%

Four proposals were received on October 25, 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 OC San staff: Senior Engineer (Project Manager), Senior Engineer (Project Engineer), Engineering Manager, OCPW Representative, and OCWD Representative. The Evaluation Team also included one non-voting representative from the Contracts Administration Division and one non-voting technical advisor from OC San staff.

The Evaluation Team scored the proposal on the established criteria as summarized in the table below:

	Firm	Approach (Max 40)	Related Experience (Max 25)	Team (Max 35)	Total Score (Max 100)
1	Michael Baker International, Inc.	32	20	27	79
2	Burns & McDonnell Engineering Company, Inc.	26	21	27	74
3	Hazen and Sawyer	30	17	22	69
4	Stantec Consulting Services, Inc.	23	14	19	56

Based on this scoring, the top three Consultants were shortlisted for interviews on December 13, 2022. Following the interview, each member of the Evaluation Team scored the Consultants based on both the proposals and interviews using the evaluation criteria and weighting described above. Based on the scoring shown below, Michael Baker International, Inc. was selected as the most qualified Consultant.

	Firm	Approach (Max 40)	Related Experience (Max 25)	Team (Max 35)	Total Score (Max 100)
1	Michael Baker International, Inc.	35	21	28	84
2	Hazen and Sawyer	31	19	27	77
3	Burns & McDonnell Engineering Company, Inc.	26	17	25	68

Michael Baker International, Inc. differentiated themselves by demonstrating the following:

- Highly qualified staff with directly related project experience and modeling expertise.
- Team has extensive experience with local Orange County issues, storm drain and flood control systems, and a deep understanding of OC San’s Dry Weather Urban Runoff Program.
- Subject matter experts for water quality challenges and environmental impacts.

Review of Fee Proposal and Negotiations:

Proposals were accompanied by sealed fee proposals. In accordance with OC San’s Purchasing Ordinance, the fee proposal of only the highest-ranked firm was opened after approval by the Director of Engineering of the Evaluation Committee’s recommendation.

Staff conducted negotiations with Michael Baker International, Inc. to clarify the requirements of the Scope of Work, the assumptions used for the estimated level of effort, and the proposed approach to meet the goals and objectives for the project.

	Original Fee Proposal	Negotiated Fee
Total Hours	3,517	3,635
Total Fee	\$710,475	\$711,230

The negotiated fee changed due to the following reasons:

- Increased hours for the development of conceptual designs for the Existing Diversions Optimization Task. Conceptual designs will be prepared for the five existing diversions that will yield the greatest dry weather urban runoff capture benefits. The original scope of work included language for the consultant to evaluate the existing diversions to see if they can be optimized, it did not specify developing conceptual designs. By adding the conceptual designs to this task, OC San and its partner agencies will be able to act after the Study is complete to improve the existing diversions.
- Reduced hours for the evaluation of OC San and OCWD flow need and treatment capacity. OC San clarified the information available and the intent of this effort which was significantly less than what Michael Baker anticipated.
- Reduced hours for meetings and workshops.

The Consultant’s fringe and overhead costs, which factor into the billing rate, have been substantiated. The contract profit is 9.73%, which is based on an established formula based on OC San’s standard design agreements. Staff is requesting a 10% contingency to address revisions as the project progresses through preliminary and final design.

Based on the above, staff has determined that the final negotiated fee is fair and reasonable for the level of effort required for this project and recommends award of the Professional Services Agreement to Michael Baker International, Inc.

CEQA

The project is exempt from CEQA under the statutory exemptions set forth in California Code of Regulations Section 15262. A Notice of Exemption will be filed with the OC Clerk-Recorder after OC San Board of Directors approval of the Urban Runoff Optimization Study, PS21-06 contract.

FINANCIAL CONSIDERATIONS

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted (Adopted Budget, Fiscal Years 2022-2023 and 2023-24, Section 8, Page 51, Planning Studies Program, Project No. M-STUDIES) and the budget is sufficient for the recommended action.

ATTACHMENT

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

- Professional Services Agreement
- Presentation

CM:tk

PROFESSIONAL SERVICES AGREEMENT

This PROFESSIONAL SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 22nd day of March, 2023 by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and MICHAEL BAKER INTERNATIONAL, INC.(hereinafter referred to as "CONSULTANT"). OC SAN and CONSULTANT are referred to herein collectively as the "Parties" or individually as a "Party."

WITNESSETH:

WHEREAS, OC SAN desires to engage CONSULTANT for a Urban Runoff Optimization Study, Project No. PS21-06, to provide professional services to perform a study to identify and develop feasible opportunities to divert dry and wet weather urban runoff diversions into the OC San collections and treatment systems that will improve water quality and sustain water recycling in Orange County; and

WHEREAS, CONSULTANT is qualified to provide the necessary services in connection with these requirements and has agreed to provide the necessary professional services; and

WHEREAS, OC SAN has adopted procedures for the selection of professional services and has proceeded in accordance with said procedures to select CONSULTANT to perform this work; and

WHEREAS, at its regular meeting on March 22, 2023 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee to approve this Agreement.

NOW, THEREFORE, in consideration of the promises and mutual benefits, which will result to the parties in carrying out the terms of this Agreement, it is mutually agreed as follows:

1. SCOPE OF WORK

CONSULTANT agrees to furnish necessary professional services to accomplish those project elements outlined in the Scope of Work attached hereto as Attachment "A", and by this reference made a part of this Agreement.

- A. The CONSULTANT shall be responsible for the professional quality, technical accuracy, and completeness and coordination of the work and services furnished by the CONSULTANT under this Agreement, including the work performed by its subconsultants (Subconsultants). Where approval by OC SAN is indicated, it is understood to be conceptual approval only and does not relieve the CONSULTANT of responsibility for complying with all applicable laws, regulations, codes, industry standards, and liability for damages caused by errors, omissions, noncompliance with industry standards, and/or negligence on the part of the CONSULTANT or its Subconsultants.
- B. CONSULTANT is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to the ordinary industry standards for clarity, uniformity, and completeness. CONSULTANT shall timely respond to all of OC SAN's questions, comments, suggestions, corrections, and

recommendations. All comments from OC SAN, or its agent, shall be incorporated into the work prior to the next review deadline or addressed, in writing, as to why the comment(s) has/have not been incorporated. CONSULTANT shall ensure that each submittal is within industry standards for the level of work submitted (i.e., correct references, terms, capitalization, or equal status, spelling, punctuation, etc.)

- C. In the event that CONSULTANT's services and/or work product(s) is not to the satisfaction of OC SAN and/or does not conform to the requirements of this Agreement or the applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its work product(s) within the timeframe specified by the Project Manager. OC SAN may charge to CONSULTANT all costs, expenses and damages associated with any such corrections or revisions.
- D. Any CADD drawings, figures, and other work produced by CONSULTANT and Subconsultants using OC SAN CAD Manual. Conversion of CADD work from any other non-standard CADD format to OC SAN format shall not be acceptable in lieu of this requirement.

Electronic files shall conform to OC SAN specifications. Any changes to these specifications by the CONSULTANT are subject to review and require advance written approval of OC SAN.

Electronic files shall be subject to an acceptance period of 30 calendar days during which OC SAN shall perform appropriate reviews and including CAD Manual compliance. CONSULTANT shall correct any discrepancies or errors detected and reported within the acceptance period at no additional cost to OC SAN.

- E. All professional services performed by the CONSULTANT, including, but not limited to, all drafts, data, correspondence, proposals, and reports compiled or composed by the CONSULTANT, pursuant to this Agreement, are for the sole use of OC SAN, its agents and employees. Neither the documents nor their contents shall be released to any third party without the prior written consent of OC SAN. This provision does not apply to information that (a) was publicly known, or otherwise known to the CONSULTANT, at the time that it was disclosed to the CONSULTANT by OC SAN, or (b) subsequently becomes publicly known to the CONSULTANT other than through disclosure by OC SAN, or (c) is required by law to be disclosed. CONSULTANT shall first promptly notify OC SAN before responding to such legal demand.

2. COMPENSATION

Total compensation shall be paid to CONSULTANT for the services in accordance with the following provisions:

A. Total Compensation

Total compensation shall be in an amount not to exceed Seven Hundred Eleven Thousand, Two Hundred Thirty Dollars (\$711,230). Total compensation to CONSULTANT including burdened labor (salaries plus benefits), overhead, profit, direct costs, and Subconsultant(s) fees and costs shall not exceed the sum set forth in Attachment "E" - Fee Proposal.

B. Labor

As a portion of the total compensation to be paid to CONSULTANT, OC SAN shall pay to CONSULTANT a sum equal to the burdened salaries (salaries plus benefits) actually paid by CONSULTANT charged on an hourly-rate basis to this project and paid to the personnel of CONSULTANT. Upon request of OC SAN, CONSULTANT shall provide OC SAN with certified payroll records of all employees' work that is charged to this project.

C. Overhead

As a portion of the total compensation to be paid to CONSULTANT, OC SAN shall compensate CONSULTANT and Subconsultants for overhead at the rate equal to the percentage of burdened labor as specified in Attachment "E" - Fee Proposal.

D. Profit

Profit for CONSULTANT and Subconsultants shall be a percentage of consulting services fees (Burdened Labor and Overhead). When the consulting or subconsulting services amount is \$250,000 or less, the maximum Profit shall be 10%. Between \$250,000 and \$2,500,000, the maximum Profit shall be limited by a straight declining percentage between 10% and 5%. For consulting or subconsulting services fees with a value greater than \$2,500,000, the maximum Profit shall be 5%. Addenda shall be governed by the same maximum Profit percentage after adding consulting services fees.

As a portion of the total compensation to be paid to CONSULTANT and Subconsultants, OC SAN shall pay profit for all services rendered by CONSULTANT and Subconsultants for this project according to Attachment "E" - Fee Proposal.

E. Subconsultants

For any Subconsultant whose fees for services are greater than or equal to \$100,000 (excluding out-of-pocket costs), CONSULTANT shall pay to Subconsultant total compensation in accordance with the Subconsultant amount specified in Attachment "E" - Fee Proposal.

For any Subconsultant whose fees for services are less than \$100,000, CONSULTANT may pay to Subconsultant total compensation on an hourly-rate basis per Attachment "K" – Minor Subconsultant Hourly Rate Schedule and as

specified in the Scope of Work. OC SAN shall pay to CONSULTANT the actual costs of Subconsultant fees and charges in an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal.

F. Direct Costs

OC SAN shall pay to CONSULTANT and Subconsultants the actual costs of permits and associated fees, travel and licenses for an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal. OC SAN shall also pay to CONSULTANT actual costs for equipment rentals, leases or purchases with prior approval of OC SAN. Upon request, CONSULTANT shall provide to OC SAN receipts and other documentary records to support CONSULTANT's request for reimbursement of these amounts, see Attachment "D" - Allowable Direct Costs. All incidental expenses shall be included in overhead pursuant to Section 2 - COMPENSATION above.

G. Other Direct Costs

Other Direct Costs incurred by CONSULTANT and its Contractor due to modifications to the Scope of Work resulting from field investigations and field work required by the Agreement. These items may include special equipment, test equipment and tooling and other materials and services not previously identified. Refer to attachment "D" Allowable Direct Costs for payment information.

H. Reimbursable Direct Costs

OC SAN will reimburse the CONSULTANT for reasonable travel and business expenses as described in this section and further described in Attachment "D" - Allowable Direct Costs to this Agreement. The reimbursement of the above-mentioned expenses will be based on an "accountable plan" as considered by Internal Revenue Service (IRS). The plan includes a combination of reimbursements based upon receipts and a "per diem" component approved by IRS. The most recent schedule of the per diem rates utilized by OC SAN can be found on the U.S. General Service Administration website at <http://www.gsa.gov/portal/category/104711#>.

The CONSULTANT shall be responsible for the most economical and practical means or management of reimbursable costs inclusive but not limited to travel, lodging and meals arrangements. OC SAN shall apply the most economic and practical method of reimbursement which may include reimbursements based upon receipts and/or "per diem" as deemed the most practical.

CONSULTANT shall be responsible for returning to OC SAN any excess reimbursements after the reimbursement has been paid by OC SAN.

Travel and travel arrangements – Any travel involving airfare, overnight stays or multiple day attendance must be approved by OC SAN in advance.

Local Travel is considered travel by the CONSULTANT within OC SAN geographical area which includes Orange, Los Angeles, Ventura, San Bernardino, Riverside, San Diego, Imperial, and Kern Counties. Automobile mileage is reimbursable if CONSULTANT is required to utilize personal vehicle for local travel.

Lodging – Overnight stays will not be approved by OC SAN for local travel. However, under certain circumstances overnight stay may be allowed at the discretion of OC SAN based on reasonableness of meeting schedules and the amount of time required for travel by the CONSULTANT. Such determination will be made on a case-by-case basis and at the discretion of OC SAN.

Travel Meals – Per-diem rates as approved by IRS shall be utilized for travel meals reimbursements. Per diem rates shall be applied to meals that are appropriate for travel times. Receipts are not required for the approved meals.

Additional details related to the reimbursement of the allowable direct costs are provided in the Attachment “D” - Allowable Direct Costs of this Agreement.

I. Limitation of Costs

If, at any time, CONSULTANT estimates the cost of performing the services described in CONSULTANT’s Proposal will exceed seventy-five percent (75%) of the not-to-exceed amount of the Agreement, including approved additional compensation, CONSULTANT shall notify OC SAN immediately, and in writing. This written notice shall indicate the additional amount necessary to complete the services. Any cost incurred in excess of the approved not-to-exceed amount, without the express written consent of OC SAN’s authorized representative shall be at CONSULTANT’s own risk. This written notice shall be provided separately from, and in addition to any notification requirements contained in the CONSULTANT’s invoice and monthly progress report. Failure to notify OC SAN that the services cannot be completed within the authorized not-to-exceed amount is a material breach of this Agreement.

3. REALLOCATION OF TOTAL COMPENSATION

OC SAN, by its Director of Engineering, shall have the right to approve a reallocation of the incremental amounts constituting the Total Compensation, provided that the Total Compensation is not increased.

4. PAYMENT

A. Monthly Invoice: CONSULTANT shall include in its monthly invoice, a detailed breakdown of costs associated with the performance of any corrections or revisions of the work for that invoicing period, in a format acceptable to OC SAN. CONSULTANT shall warrant and certify the accuracy of these costs and provide all support documentation required by OC SAN. CONSULTANT understands that submitted costs are subject to Section 12 Audit Provisions.

- B. CONSULTANT will submit monthly statements covering services and/or work performed for payment for those items included in Section 2 hereof no later than the second Wednesday of the following month and in the format required by OC SAN. The format must include, as a minimum: 1) current billing period invoicing, 2) current billing period "total percent invoiced to date", 3) future activities, 4) previous billing period "total invoiced to date", 5) potential items that are not included in the Scope of Work, 6) concerns and possible delays, 7) percentage of completion to date, and 8) budget status and amount remaining. Such requests shall be accompanied by such supporting data as may be required by OC SAN.

Upon approval of such payment request by OC SAN, payment shall be made to CONSULTANT as soon as practicable of one hundred percent (100%) of the invoiced amount on a per task basis.

If OC SAN determines that the work under this AGREEMENT, or any specified task hereunder, is incomplete and that the amount of payment is in excess of:

- i. The amount considered by OC SAN's Director of Engineering to be adequate for the protection of OC SAN; or
- ii. The percentage of the work accomplished for each task.

OC SAN may, at the discretion of the Director of Engineering, retain an amount equal to that which ensures that the total amount paid to that date does not exceed the percentage of the completed work for each task or the Project in its entirety.

- C. CONSULTANT may submit periodic payment requests for each 30-day period of this Agreement for the profit as set forth in Section 2 - COMPENSATION above. Said profit payment request shall be proportionate to the work actually accomplished to date on a per task basis. In the event OC SAN's Director of Engineering determines that no satisfactory progress has been made since the prior payment, or in the event of a delay in the work progress for any reason, OC SAN shall have the right to withhold any scheduled proportionate profit payment.
- D. Upon satisfactory completion by CONSULTANT of the work called for under the terms of this Agreement, and upon acceptance of such work by OC SAN, CONSULTANT will be paid the unpaid balance of any money due for such work based on the monthly statements, including any retained percentages relating to this portion of the work.
- E. Upon satisfactory completion of the work performed hereunder and prior to final payment under this Agreement for such work, or prior settlement upon termination of this Agreement, and as a condition precedent thereto, CONSULTANT shall execute and deliver to OC SAN a release of all claims against OC SAN arising under or by virtue of this Agreement other than such claims, if any, as may be specifically exempted by CONSULTANT from the operation of the release in stated amounts to be set forth therein.

- F. Pursuant to the California False Claims Act (Government Code sections 12650-12655), any CONSULTANT that knowingly submits a false claim to OC SAN for compensation under the terms of this Agreement may be held liable for treble damages and up to a \$10,000 civil penalty for each false claim submitted. This section shall also be binding on all Subconsultants.

A CONSULTANT or Subconsultant shall be deemed to have submitted a false claim when the CONSULTANT or Subconsultant: (a) knowingly presents or causes to be presented to an officer or employee of OC SAN a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by OC SAN; (c) conspires to defraud OC SAN by getting a false claim allowed or paid by OC SAN; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to OC SAN; or (e) is a beneficiary of an inadvertent submission of a false claim to OC SAN, and fails to disclose the false claim to OC SAN within a reasonable time after discovery of the false claim.

5. PREVAILING WAGES

- A. To the extent CONSULTANT intends to utilize employees who will perform work during the contract, as more specifically defined under Labor Code Section 1720, CONSULTANT shall be subject to prevailing wage requirements with respect to such employees.

6. CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION AND RECORD OF WAGES

- A. To the extent CONSULTANT's employees and/or Subconsultants who will perform work during the design and preconstruction phases of a construction contract for which Prevailing Wage Determinations have been issued by the DIR and as more specifically defined under Labor Code Section 1720 et seq, CONSULTANT and Subconsultants shall comply with the registration requirements of Labor Code Section 1725.5. Pursuant to Labor Code Section 1771.4, the work is subject to compliance monitoring and enforcement by the DIR.
- B. The CONSULTANT and Subconsultants shall maintain accurate payroll records and shall comply with all the provisions of Labor Code Section 1776, and shall submit payroll records to the Labor Commissioner pursuant to Labor Code Section 1771.4(a)(3). Penalties for non-compliance with the requirements of Section 1776 may be deducted from progress payments per Section 1776.
- C. Pursuant to Labor Code Section 1776, the CONSULTANT and Subconsultants shall furnish a copy of all certified payroll records to OC SAN and/or general public upon request, provided the public request is made through OC SAN, the Division of Apprenticeship Standards or the Division of Labor Enforcement of the Department of Industrial Relations.

- D. The CONSULTANT and 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).

7. DOCUMENT OWNERSHIP – CONSULTANT PERFORMANCE

- A. Ownership of Documents for the professional services performed.

All documents in all forms (electronic, paper, etc.), including, but not limited to, studies, sketches, drawings, computer printouts, disk files, and electronic copies prepared in connection with or related to the Scope of Work or professional services, shall be the property of OC SAN. OC SAN's ownership of these documents includes use of, reproduction or reuse of and all incidental rights, whether or not the work for which they were prepared has been performed. OC SAN ownership entitlement arises upon payment or any partial payment for work performed and includes ownership of any and all work product completed prior to that payment. This Section shall apply whether the CONSULTANT's professional services are terminated: a) by the completion of the Agreement, or b) in accordance with other provisions of this Agreement. Notwithstanding any other provision of this paragraph or Agreement, the CONSULTANT shall have the right to make copies of all such plans, studies, sketches, drawings, computer printouts and disk files, and specifications.

- B. CONSULTANT shall not be responsible for damage caused by subsequent changes to or uses of the study or deliverable where the subsequent changes or uses are not authorized or approved by CONSULTANT, provided that the service rendered by CONSULTANT was not a proximate cause of the damage.

8. INSURANCE

- A. General

- i. Insurance shall be issued and underwritten by insurance companies acceptable to OC SAN.
- ii. Insurers must have an "A-" Policyholder's Rating, or better, and Financial Rating of at least Class VIII, or better, in accordance with the most current A.M. Best's Guide Rating. However, OC SAN will accept State Compensation Insurance Fund, for the required policy of Workers' Compensation Insurance subject to OC SAN's option to require a change in insurer in the event the State Fund financial rating is decreased below "B". Further, OC SAN will require CONSULTANT to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within twenty (20) days of written notice to CONSULTANT, by OC SAN or its agent.
- iii. Coverage shall be in effect prior to the commencement of any work under this Agreement.

B. General Liability

The CONSULTANT shall maintain during the life of this Agreement, including the period of warranty, commercial general liability insurance written on an occurrence basis providing the following minimum limits of liability coverage: One Million Dollars (\$1,000,000) per occurrence with Two Million Dollars (\$2,000,000) aggregate. If aggregate limits apply separately to this contract (as evidenced by submission of ISO form CG 25 03 or 25 04), then the aggregate limit may be equivalent to the per occurrence limit. Said insurance shall include coverage for the following hazards: premises-operations, blanket contractual liability (for this Agreement), products liability/completed operations (including any product manufactured or assembled), broad form property damage, blanket contractual liability, independent contractors liability, personal and advertising injury, mobile equipment, owners and contractors protective liability, and cross liability and severability of interest clauses. A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement(s). If requested by OC SAN and applicable, XCU coverage (Explosion, Collapse and Underground) and Riggers/On Hook Liability must be included in the general liability policy and coverage must be reflected on the submitted certificate of insurance. Where permitted by law, CONSULTANT hereby waives all rights of recovery by subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against OC SAN, its or their officers, agents, or employees, and any other consultant, contractor, or subcontractor performing work or rendering services on behalf of OC SAN in connection with the planning, development, and construction of the project. In all its insurance coverages related to the work, CONSULTANT shall include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against OC SAN, its or their officers, agents, or employees, or any other consultant, contractor, or subcontractor performing work or rendering services at the project. Where permitted by law, CONSULTANT shall require similar written express waivers and insurance clauses from each of its Subconsultants of every tier. A waiver of subrogation shall be effective as to any individual or entity, even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium, directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

C. Umbrella Excess Liability

The minimum limits of general liability and automobile liability insurance required, as set forth herein, shall be provided for through either a single policy of primary insurance or a combination of policies of primary and umbrella excess coverage. Umbrella excess liability coverage shall be issued with limits of liability which, when combined with the primary insurance, will equal the minimum limits for general liability and automobile liability.

D. Automobile/Vehicle Liability Insurance

The CONSULTANT shall maintain a policy of automobile liability insurance on a comprehensive form covering all owned, non-owned, and hired automobiles, trucks, and other vehicles providing the following minimum limit of liability

coverage: combined single limit of One Million Dollars (\$1,000,000). A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement.

E. Drone Liability Insurance

If a drone will be used, drone liability insurance must be maintained by CONSULTANT in the amount of One Million Dollars (\$1,000,000) in a form acceptable by OC SAN.

F. Workers' Compensation Insurance

The CONSULTANT shall provide such workers' compensation insurance as required by the Labor Code of the State of California in the amount of the statutory limit, including employer's liability insurance with a minimum limit of One Million Dollars (\$1,000,000) per occurrence. Such workers' compensation insurance shall be endorsed to provide for a waiver of subrogation in favor of OC SAN. A statement on an insurance certificate will not be accepted in lieu of the actual endorsements unless the insurance carrier is State of California Insurance Fund and the identifier "SCIF" and endorsement numbers 2570 and 2065 are referenced on the certificate of insurance. If an exposure to Jones Act liability may exist, the insurance required herein shall include coverage for Jones Act claims.

G. Errors and Omissions/Professional Liability

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than Two Million Dollars (\$2,000,000) with limits in accordance with the provisions of this paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of five (5) years from the date of the completion of the services hereunder.

In the event of termination of said policy during this period, CONSULTANT shall obtain continuing insurance coverage for the prior acts or omissions of CONSULTANT during the course of performing services under the term of this Agreement. Said coverage shall be evidenced by either a new policy evidencing no gap in coverage or by separate extended "tail" coverage with the present or new carrier.

In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of this Agreement or until completion of the services provided for in this Agreement, whichever is later. In the event of termination of said policy during this period, new coverage shall be obtained for the required period to insure for the prior acts of CONSULTANT during the course of performing services under the term of this Agreement.

CONSULTANT shall provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating the deductible or self-retention amounts and the expiration date of said policy, and shall provide renewal certificates not less than ten (10) days prior to the expiration of each policy term.

H. Proof of Coverage

The CONSULTANT shall furnish OC SAN with original certificates and amendatory endorsements effecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before work commences. OC SAN reserves the right to require, at any time, complete, certified copies of all required insurance policies, including endorsements, effecting the coverage required. The following are approved forms that must be submitted as proof of coverage:

- Certificate of Insurance ACORD Form 25 or other equivalent certificate of insurance form
- Additional Insurance (General Liability) The combination of (ISO Forms) CG 20 10 and CG 20 37

All other additional insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.
- Additional Insured (Automobile Liability) Submit endorsement provided by carrier for OC SAN approval.
- Waiver of Subrogation Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
- Cancellation Notice No endorsement is required. However, CONSULTANT is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described in Article I. Cancellation and Policy Change Notice, below.

I. Cancellation and Policy Change Notice

The CONSULTANT is required to notify OC SAN in writing of any insurance cancellation notice it receives or other knowledge of pending or actual insurance policy cancellation within two (2) working days of receipt of such notice or acquisition of such knowledge. Additionally, the CONSULTANT is required to notify OC SAN in writing of any change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within two (2) working days of receipt of such notice or knowledge of same.

Said notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue
Fountain Valley, CA 92708
Attention: Contracts, Purchasing & Materials Management Division

J. Primary Insurance

The general and automobile liability policies shall contain a “Primary and Non Contributory” clause. Any other insurance maintained by OC SAN shall be excess and not contributing with the insurance provided by CONSULTANT.

K. Separation of Insured

The general and automobile liability policies shall contain a “Separation of Insureds” clause.

L. Non-Limiting (if applicable)

Nothing in this document shall be construed as limiting in any way, nor shall it limit the indemnification provision contained in this Agreement, or the extent to which CONSULTANT may be held responsible for payment of damages to persons or property.

M. Deductibles and Self-Insured Retentions

Any deductible and/or self-insured retention must be declared to OC SAN on the certificate of insurance. All deductibles and/or self-insured retentions require approval by OC SAN. At the option of OC SAN, either: the insurer shall reduce or eliminate such deductible or self-insured retention as respects OC SAN; or the CONSULTANT shall provide a financial guarantee satisfactory to OC SAN guaranteeing payment of losses and related investigations, claim administration and defense expenses.

N. Defense Costs

The general and automobile liability policies shall have a provision that defense costs for all insureds and additional insureds are paid in addition to and do not deplete any policy limits.

O. Subconsultants

The CONSULTANT shall be responsible to establish insurance requirements for any Subconsultant hired by the CONSULTANT. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subconsultant’s operations and work.

P. Limits Are Minimums

If the CONSULTANT maintains higher limits than any minimums shown above, then OC SAN requires and shall be entitled to coverage for the higher limits maintained by CONSULTANT.

9. SCOPE CHANGES

In the event of a change in the Scope of Work or other terms in the AGREEMENT, as requested by OC SAN, the Parties hereto shall execute an Amendment to this AGREEMENT setting forth with particularity all terms of the new AGREEMENT, including, but not limited to, any additional CONSULTANT's fees. CONSULTANT hereby agrees to use any and all procedures, programs, and systems required by OC SAN to process and execute such Amendment(s), including, but not limited to, computer programs and systems.

10. PROJECT TEAM AND SUBCONSULTANTS

CONSULTANT shall provide to OC SAN, prior to execution of this Agreement, the names and full description of all Subconsultants and CONSULTANT's project team members anticipated to be used on this Project under this Agreement by CONSULTANT. CONSULTANT shall include a description of the work and services to be done by each Subconsultant and each of CONSULTANT's Project team member. CONSULTANT shall include the respective compensation amounts for CONSULTANT and each Subconsultant, broken down as indicated in Section 2- COMPENSATION.

There shall be no substitution of the listed Subconsultants and CONSULTANT's project team members without prior written approval by OC SAN.

11. ENGINEERING REGISTRATION

The CONSULTANT's personnel and Subconsultants are comprised of registered engineers and a staff of specialists and draftsmen in each department. The firm itself is not a registered engineer but represents and agrees that wherever, in the performance of this Agreement, the services of a registered engineer is required, such services hereunder will be performed under the direct supervision of registered engineers who are registered in California.

12. AUDIT PROVISIONS.

- A. OC SAN retains the reasonable right to access, review, examine, and audit, any and all books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify that the CONSULTANT is in compliance with all requirements under this Agreement. The CONSULTANT shall include OC SAN's right as described above, in any and all of their subcontracts, and shall ensure that these rights are binding upon all Subconsultants.
- B. OC SAN retains the right to examine CONSULTANT's books, records, documents and any other evidence of procedures and practices that OC SAN

determines are necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, or anticipated to be incurred or to ensure CONSULTANT's compliance with all requirements under this Agreement during the term of this Agreement and for a period of three (3) years after its termination.

- C. CONSULTANT shall maintain complete and accurate records in accordance with generally accepted industry standard practices and OC SAN's policy. The CONSULTANT shall make available to OC SAN for review and audit, all project related accounting records and documents, and any other financial data within 15 days after receipt of notice from OC SAN. Upon OC SAN's request, the CONSULTANT shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, CONSULTANT shall ensure that a qualified employee of the CONSULTANT will be available to assist OC SAN's auditor in obtaining all Project related accounting records and documents, and any other financial data.

13. LEGAL RELATIONSHIP BETWEEN PARTIES

The legal relationship between the parties hereto is that of an independent contractor and nothing herein shall be deemed to transform CONSULTANT, its staff, independent contractors, or Subconsultants into employees of OC SAN. CONSULTANT'S staff performing services under the Agreement shall at all times be employees and/or independent contractors of CONSULTANT. CONSULTANT shall monitor and control its staff and pay wages, salaries, and other amounts due directly to its staff in connection with the Agreement. CONSULTANT shall be responsible for hiring, review, and termination of its staff and shall be accountable for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

14. NOTICES

All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
Attention: Clarice Marcin, Senior Contracts Administrator
Copy to: Cindy Murra, Project Manager

CONSULTANT:

Michael Baker International, Inc.
Dave Mercier, Vice President
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

All communication regarding the Scope of Work, will be addressed to the Project Manager. Direction from other OC SAN staff must be approved in writing by OC SAN's Project Manager prior to action from the CONSULTANT.

15. TERMINATION

OC SAN may terminate this Agreement at any time, without cause, upon giving thirty (30) days written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination.

CONSULTANT shall be permitted to terminate this Agreement upon thirty (30) days written notice only if CONSULTANT is not compensated for billed amounts in accordance with the provisions of this Agreement, when the same are due.

Notice of termination shall be mailed to OC SAN at the address listed in Section 14 - NOTICES.

16. DOCUMENTS AND STUDY MATERIALS

The documents and study materials for this Project shall become the property of OC SAN upon the termination or completion of the work. CONSULTANT agrees to furnish to OC SAN copies of all memoranda, correspondence, electronic materials, computation and study materials in its files pertaining to the work described in this Agreement, which is requested in writing by OC SAN.

17. COMPLIANCE

A. Labor

CONSULTANT certifies by the execution of this Agreement that it pays employees not less than the minimum wage as defined by law, and that it does not discriminate in its employment with regard to race, color, religion, sex or national origin; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal opportunity in employment.

B. Air Pollution

CONSULTANT and its subconsultants and subcontractors shall comply with all applicable federal, state and local air pollution control laws and regulations.

C. Iran Contracting Act

CONSULTANT and its subconsultants and subcontractors shall comply with the Iran Contracting Act of 2010 (Public Contract Code sections 2200-2208).

18. AGREEMENT EXECUTION AUTHORIZATION

Both OC SAN and CONSULTANT do covenant that each individual executing this document by and on behalf of each Party is a person duly authorized to execute this Agreement for that Party.

19. DISPUTE RESOLUTION

In the event of a dispute arising between the parties regarding performance or interpretation of this Agreement, the dispute shall be resolved by binding arbitration under the auspices of the Judicial Arbitration and Mediation Service (“JAMS”), or similar organization or entity conducting alternate dispute resolution services.

20. ATTORNEY'S FEES, COSTS AND NECESSARY DISBURSEMENTS

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 he may be entitled.

21. WARRANTY

CONSULTANT shall perform its services in accordance with generally accepted industry and professional standards. If, within the 12-month period following completion of its services, OC SAN informs CONSULTANT that any part of the services fails to meet those standards, CONSULTANT shall, within the time prescribed by OC SAN, take all such actions as are necessary to correct or complete the noted deficiency(ies).

22. INDEMNIFICATION

To the fullest extent permitted by law, and consistent with Civil Code § 2782.8, CONSULTANT shall indemnify, defend (at CONSULTANT's sole cost and expense and with legal counsel approved by OC SAN, which approval shall not be unreasonably withheld), protect and hold harmless OC SAN and all of OC SAN's officers, directors, employees, consultants, and agents (collectively the “Indemnified Parties”), from and against any and all claims, damages, liabilities, causes of action, suits, arbitration awards, losses, judgments, fines, penalties, costs and expenses (including, without limitation, reasonable attorneys' fees, disbursements and court costs, and all other professional, expert or CONSULTANT's fees and costs and OC SAN's general and administrative expenses; individually, a “Claim”; collectively, “Claims”) which may arise from or are in any manner related, directly or indirectly, to any work performed, or any operations, activities, or services provided by CONSULTANT in carrying out its obligations under this Agreement to the extent of the negligent, recklessness and/or willful misconduct of CONSULTANT, its principals, officers, agents, employees, CONSULTANT's suppliers, CONSULTANT, Subconsultants, subcontractors, and/or anyone employed directly or indirectly by any of them, regardless of any contributing negligence or strict liability of an Indemnified Party. Notwithstanding the foregoing, nothing herein shall be construed to require CONSULTANT to indemnify the Indemnified Parties from any Claim arising solely from:

(A) the active negligence or willful misconduct of the Indemnified Parties; or

- (B) a natural disaster or other act of God, such as an earthquake; or
- (C) the independent action of a third party who is neither one of the Indemnified Parties nor the CONSULTANT, nor its principal, officer, agent, employee, nor CONSULTANT's supplier, CONSULTANT, Subconsultant, subcontractor, nor anyone employed directly or indirectly by any of them.

Exceptions (A) through (B) above shall not apply, and CONSULTANT shall, to the fullest extent permitted by law, indemnify the Indemnified Parties, from Claims arising from more than one cause if any such cause taken alone would otherwise result in the obligation to indemnify hereunder.

CONSULTANT's liability for indemnification hereunder is in addition to any liability CONSULTANT may have to OC SAN for a breach by CONSULTANT of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit CONSULTANT's indemnification obligation or other liability hereunder. The terms of this Agreement are contractual and the result of negotiation between the parties hereto. Accordingly, any rule of construction of contracts (including, without limitation, California Civil Code Section 1654) that ambiguities are to be construed against the drafting party, shall not be employed in the interpretation of this Agreement.

23. DUTY TO DEFEND

The duty to defend hereunder is wholly independent of and separate from the duty to indemnify and such duty to defend shall exist regardless of any ultimate liability of CONSULTANT and shall be consistent with Civil Code section 2782.8. Such defense obligation shall arise immediately upon presentation of a Claim by any person if, without regard to the merit of the Claim, such Claim could potentially result in an obligation to indemnify one or more Indemnified Parties, and upon written notice of such Claim being provided to CONSULTANT. Payment to CONSULTANT by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party shall not be a condition precedent to enforcing such Indemnified Party's rights to indemnification hereunder. In the event a final judgment, arbitration, award, order, settlement, or other final resolution expressly determines that the claim did not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, to any extent, then OC SAN will reimburse CONSULTANT for the reasonable costs of defending the Indemnified Parties against such claims.

CONSULTANT's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until such time as action against the Indemnified Parties for such matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

24. COMPLIANCE WITH OC SAN POLICIES AND PROCEDURES

CONSULTANT shall comply with all OC SAN policies and procedures including the Contractor Safety Standards, as applicable, all of which may be amended from time to time.

25. CLOSEOUT

When OC SAN determines that all work authorized under the Agreement is fully complete and that OC SAN requires no further work from CONSULTANT, or the Agreement is otherwise terminated or expires in accordance with the terms of the Agreement, OC SAN shall give the CONSULTANT written notice that the Agreement will be closed out. CONSULTANT shall submit all outstanding billings, work submittals, deliverables, reports or similarly related documents as required under the Agreement within thirty (30) days of receipt of notice of Agreement closeout.

Upon receipt of CONSULTANT's submittals, OC SAN shall commence a closeout audit of the Agreement and will either:

- i. Give the CONSULTANT a final Agreement Acceptance: or
- ii. Advise the CONSULTANT in writing of any outstanding item or items which must be furnished, completed, or corrected at the CONSULTANT's cost.

CONSULTANT shall be required to provide adequate resources to fully support any administrative closeout efforts identified in the Agreement. Such support must be provided within the timeframe requested by OC SAN.

Notwithstanding the final Agreement acceptance, the CONSULTANT will not be relieved of its obligations hereunder, nor will the CONSULTANT be relieved of its obligations to complete any portions of the work, the non-completion of which were not disclosed to OC SAN (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise), and the CONSULTANT shall remain obligated under all those provisions of the Agreement which expressly or by their nature extend beyond and survive final Agreement Acceptance.

Any failure by OC SAN to reject the work or to reject the CONSULTANT's request for final Agreement Acceptance as set forth above shall not be deemed to be acceptance of the work by OC SAN for any purpose nor imply acceptance of, or Agreement with, the CONSULTANT's request for final Agreement Acceptance.

26. ENTIRE AGREEMENT

This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between them pertaining to the subject matter thereof.

IN WITNESS WHEREOF, this Agreement has been executed in the name of OC SAN and CONSULTANT by their respective duly authorized officers as of the day and year first written above.

CONSULTANT: MICHAEL BAKER INTERNATIONAL, INC.

By _____ Date _____

Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ Date _____
Chad P. Wanke
Board Chairman

By _____ Date _____
Kelly A. Lore
Clerk of the Board

By _____ Date _____
Ruth Zintzun
Purchasing & Contracts Manager

- Attachments: Attachment "A" – Scope of Work
Attachment "B" – Labor Hour Matrix
Attachment "C" – Not Attached
Attachment "D" – Allowable Direct Costs
Attachment "E" – Fee Proposal
Attachment "F" – Not Used
Attachment "G" – Not Attached
Attachment "H" – Not Used
Attachment "I" – Cost Matrix and Summary
Attachment "J" – Not Attached
Attachment "K" – Minor Subconsultant Hourly Rate Schedule
Attachment "L" - Contractor Safety Standards
Attachment "M" – Iran Contracting Act Verification

CMM

ATTACHMENT “A”

SCOPE OF WORK

ATTACHMENT "A"

SCOPE OF WORK

Urban Runoff Optimization Study
Project No. 21-06

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I. SUMMARY

This Scope of Work requests engineering services for the project as described herein to perform an engineering study.

II. BACKGROUND, GENERAL PROJECT DESCRIPTION, AND OBJECTIVES

BACKGROUND

The Orange County Sanitation District (OC SAN) is responsible for collection, treatment, and disposal of wastewater for central and northwest Orange County, California. The wastewater from OC SAN's service area travels through 388 miles of regional sewers to one of the two treatment plants, Plant No. 1 in Fountain Valley and Plant No. 2 in Huntington Beach. Together, both plants currently treat 183 million gallons per day (MGD) of wastewater for approximately 2.6 million people. Both treatment plants provide full primary and secondary treatment.

Currently, treated effluent from Plant No. 1 is delivered to the Orange County Water District (OCWD) Groundwater Replenishment System (GWRS) for advance treatment and purification followed by storage in the Orange County groundwater basin. Plant No. 2 effluent is discharged to the Pacific Ocean. In 2023 treated effluent from Plant No.2 will also be delivered to OCWD GWRS via the new GWRS Final Expansion facilities. With the GWRS Final Expansion project OC SAN will be delivering up to 175 MGD of high-quality treated wastewater so that OCWD GWRS facility can produce 130 MGD of highly purified water which is an essential element of the local water supply.

Although OC SAN is currently able to supply OCWD GWRS with up to 175 mgd of treated wastewater, that could change in the future if California implements further restrictions to indoor residential water use. Therefore, OC SAN is interested if there are other sources of suitable flows that could be reclaimed without compromising OC SAN's reuse initiatives.

Since 2000, OC SAN has accepted the diversion of dry weather urban runoff (DWUR) to the sewer to assist Municipal Separate Stormwater Sewer System (MS4) permittees in addressing various public health or environmental issues that are difficult to control through traditional stormwater Best Management Practices (BMPs). On June 12, 2013, the OC SAN Board of Directors adopted Urban Runoff Resolution No. 13-09, which expanded the waiver of fees or charges on the treatment of dry weather urban runoff from 4 to 10 MGD. This latest policy opened the door to additional flows to help remediate other environmental problems. OC SAN continues to work closely with the County of Orange OC Public Works (OCPW/OC Watersheds) Division, the lead permittee that coordinates the cities' efforts in implementing the requirements of Santa Ana Regional Water Quality Control Board [Order No. R8-2009-0030](#), [NPDES Permit No. CAS618030](#). OCPW/OC Watersheds will be the primary point of contact to coordinate as necessary with the MS4 Permittees, including the County of Orange, Orange County Flood Control District, and the 26 Orange County cities within the OC SAN service area.

Currently, OC SAN has 21 diversion permits issued but only 20 active diversions. These 21 diversions could account for up to 6-7 MGD of dry weather flows, although on average OC SAN receives less than 2 MGD of flows.

OC SAN Board of Directors approved a new Strategic Plan in November 2021 that identifies the following initiative which supports the Environmental Water Quality, Stormwater Management, and Urban Runoff policy goal.

- Conduct a comprehensive study of the feasible opportunities for cooperative projects for urban runoff diversions to OC SAN to improve water quality and increase water recycling by maximizing the useful capacity of local collection systems, OC SAN treatment systems, and OCWD recycling and recharge systems.

Through this study, OC SAN along with its partners OCWD and OCPW would like to assess the potential for our agencies to work together to establish cooperative projects to capture, contain, characterize, and treat urban runoff with a controlled discharge to the sewer for eventual reclamation and recharge to bolster local groundwater resources.

GENERAL PROJECT DESCRIPTION

This Project will identify and develop feasible opportunities to help improve water quality and sustain water recycling in Orange County by capturing, containing, characterizing, and treating dry and wet weather urban runoff diversions into the OC SAN collections and treatment system for eventual reclamation and then recharging our local groundwater resources.

PROJECT OBJECTIVES

The objectives of this study are to identify feasible urban runoff opportunities and to develop cooperative projects for dry and wet weather urban runoff diversions to OC SAN to improve water quality and increase water recycling, maximizing the useful capacity of OC SAN local collection systems and treatment systems, and OCWD recycling and recharge systems.

III. PROJECT SCHEDULE

Table 1 lists the time frames associated with each major project deliverable and with OC SAN's review and approval of those deliverables. CONSULTANT shall comply with the deadlines indicated in that table.

Table 1 – Project Milestones and Deadlines

MILESTONE	DEADLINE
Kickoff Meeting	The kickoff meeting will be scheduled to coincide with the Project Notice to Proceed (NTP).
Submit draft Technical Memorandum 1 (TM 1)	55 workdays from the Project NTP.
OC SAN, OCPW, OCWD Review of draft TM 1	15 workdays from receipt of Draft TM 1

Table 1 – Project Milestones and Deadlines

MILESTONE	DEADLINE
Submit draft Technical Memorandum 2 (TM 2)	50 workdays from receipt of OC SAN, OCPW, and OCWD comments on draft TM 1.
OC SAN, OCPW, OCWD Review of draft TM 2	15 workdays from receipt of Draft TM 2
Submit draft Technical Memorandum 3 (TM 3)	50 workdays from receipt of OC SAN, OCPW, and OCWD comments on draft TM 2.
OC SAN, OCPW, OCWD Review of draft TM 3	15 workdays from receipt of Draft TM 3
Submit draft Technical Memorandum 4 (TM 4)	40 workdays from receipt of OC SAN, OCPW, and OCWD comments on draft TM 2.
OC SAN, OCPW, OCWD Review of draft TM 4	15 workdays from receipt of Draft TM 4
5) Submit draft Technical Memorandum 5 (TM 5)	50 workdays from receipt of OC SAN, OCPW, and OCWD comments on draft TM 3.
OC SAN, OCPW, OCWD Review of draft TM 5	15 workdays from receipt of Draft TM 5
6) Submit draft Technical Memorandum 6 (TM 6)	75 workdays from the Project NTP.
OC SAN, OCPW, OCWD Review of draft TM 6	15 workdays from receipt of Draft TM 6
Submit draft Urban Runoff Optimization Plan Report	40 workdays from receipt of OC SAN, OCPW, and OCWD comments on draft TM 5 or 6, whichever is later.
OC SAN, OCPW, OCWD Review of Draft Urban Runoff Optimization Plan Report	20 workdays from receipt of draft Urban Runoff Optimization Report
Submit Final Urban Runoff Optimization Plan Report	20 workdays from receipt of OC SAN, OCPW, and OCWD comments on draft Project Report.

OC SAN will consider an alternative CONSULTANT-proposed schedule provided it is consistent with OC SAN resources and schedule constraints and adds value to OC SAN.

IV. PROJECT EXECUTION

TASK 1 – REVIEW EXISTING INFORMATION AND SUMMARIZE STATUS AND REQUIREMENTS

This task is for the CONSULTANT to review information provided by OC SAN, OCPW, and OCWD to understand the current system, planned improvements, current policies, water quality goals, and recycling goals. This information will be used as the basis for this study. The task is also for the CONSULTANT to examine the challenges and gaps of the current policies and standards which will be encountered when receiving the additional urban runoff diversions and identify the new standards (e.g., water quality) that will need to be established.

TASK 1.1 – REVIEW EXISTING FACILITIES INFORMATION

Under this task, the CONSULTANT shall review, at a minimum, the following reports and information included in **Exhibit 1 Project Reference Materials** or to be provided after Notice to Proceed:

- A. Resolution No. OCSD 13-09 Dry Weather Urban Runoff Policy
- B. OCSD-53 Wastewater Discharge Regulations
- C. OC SAN Urban Runoff Diversion Map
- D. OC SAN Collection System GIS (to be provided after Notice to Proceed)
- E. OC SAN PS15-08 Collections Capacity Evaluation Study
- F. OC SAN Collection System InfoWorks Model (to be provided after Notice to Proceed)
- G. OC SAN Flow Projections (to be provided after Notice to Proceed)
- H. OC SAN 2017 Facilities Master Plan
- I. OCPW Municipal Separate Storm Drain GIS system (to be provided after Notice to Proceed)
- J. Compiled BMP Fact Sheets for potential project opportunity locations based on MS4 Permittees' GIS screening of the four principal watersheds (to be provided after Notice to Proceed)
- K. OCPW Storm Water Management Model (SWMM) data and information for each of the four principal watersheds to assist in evaluation of diversion project opportunities as needed (to be provided after Notice to Proceed. OCPW will provide in kind support for their modelling consultant to share information/reference materials for the County's SWMM.)
- L. OCWD Population/Water Demand (to be provided after Notice to Proceed)
- M. OCPW/OCWD 2019 WEFTEC Paper "A Collaborative Integrated Water Resources Approach for Watershed and Water Supply Improvements in North Orange County, California"
- N. OCPW 2020 WEFTEC Paper "Every Drop Counts – Water Balance in Orange County, California and its Implications on Integrated Water Management"

CONSULTANT shall review this information and other related project information to understand OC SAN's Urban Runoff Policy, Collection System/Treatment Plants capacity, North Orange County's municipal separate storm drain system and water quality challenges, and OCWD's facilities capacity and water recycling goals.

TASK 1.2 – SUMMARIZE CURRENT STATUS AND REQUIREMENTS FOR URBAN RUNOFF DIVERSION

Under this Task, the CONSULTANT shall summarize the existing the DWUR Program, the OCPW storm water system, OCWD recycling system, and identify challenges for OC SAN to accept new diversions. The CONSULTANT shall also evaluate options to optimize and improve existing and future diversions.

1.2.1 OC SAN Dry Weather Urban Runoff Program

Under this Task, the CONSULTANT shall prepare a summary of the current DWUR program, including the current diversion connection and discharge requirements. CONSULTANT shall identify the challenges (e.g., existing and future environmental and water quality regulations), for OC SAN to develop an urban runoff program to allow for new dry and wet weather diversions. This task will start the initial discussion on the program modifications for new diversions which will be evaluated at later tasks, such as Task 5.

1.2.2 Municipal NPDES Issues

Under this Task, the CONSULTANT shall prepare a summary describing the North Orange County watersheds, water quality concerns, MS4 challenges, regulatory mandates, the developed and proposed structural BMPs, and watershed management planning efforts.

1.2.3 OCFCD Flood Control System

Under this Task, the CONSULTANT shall prepare a summary describing the Orange County Flood Control District flood control system infrastructure and seven-year Capital Improvement Program, current and future capacity, and flows (dry and wet weather).

1.2.4 OCWD Recycling System

Under this Task, the CONSULTANT shall prepare a summary describing OCWD recycling system infrastructure and its operational history during dry and wet weather.

TASK 1.3 – PREPARE TECHNICAL MEMORANDUM 1

The CONSULTANT shall prepare a Technical Memorandum to summarize the surface water systems, current status and requirements for urban runoff diversions as described above.

Task 1 Deliverables:

Technical Memorandum 1 – Summarize the surface water systems, Current Status and Requirements for Urban Runoff Diversion

TASK 2 – EVALUATE OC SAN & OCWD SYSTEMS NEED AND CAPACITY FOR ADDITIONAL FLOW

This task is for CONSULTANT to review OC SAN's treatment influent flow projections, treatment capacities, estimated available secondary effluent to OCWD GWRS to evaluate additional urban runoff flow that OC SAN system can handle, and additional flow need to meet GWRS demand.

CONSULTANT shall also review OC SAN Collection System Collections Capacity Evaluation Study results to summarize the capacity shortage area to avoid introducing additional urban runoff flow to those areas.

The purpose of this task is to set up the flow capacity basis for additional urban runoff opportunities.

TASK 2.1 – EVALUATE OC SAN AND OCWD FLOW NEED AND TREATMENT CAPACITY

The OC SAN service area is divided into 11 sewersheds flowing to OC SAN's two treatment plants. Through interagency agreements, OC SAN also receives influent from Santa Ana Watershed Project Authority (SAWPA), Irvine Ranch Water District (IRWD), OCWD's microfiltration backwash and urban runoff flows. OC SAN Engineering Planning Division has been closely tracking and projecting the influent flow by calculating and projecting gallon per day per capita water usage coefficient, applying population projection data from Orange County Center for Demographic Research (CDR), and applying flow projection from the sources other than service area population. From 2005 to 2022, OC SAN's yearly average flow has reduced from 240 mgd to the 179 mgd due to the water conservation and drought. Reduced wastewater flows could free up system capacity both in the OC SAN collection system and treatment plants to accept additional urban runoff diversions.

OC SAN provides secondary effluent to the OCWD's GWRS and Green Acres Project (GAP) facilities for reclamation. OCWD's GWRS Final Expansion project is under construction, which includes GWRS facility expansion for 130 mgd production water capacity, storage, and pumping facility at OC SAN Plant No.2 to convey reclaimable secondary effluent from Plant No. 2 to GWRS, and joint project with OC SAN P2-122 Headworks Modifications at Plant No. 2 project to separate Plant No. 2 to reclaimable and non-reclaimable treatment trains. When GWRS Final Expansion is in operation in 2023, OCWD can take up to 175 mgd of secondary effluent including 172 mgd to GWRS in order to produce 130 mgd of production water and 3 mgd to GAP facility for producing irrigation water. OC SAN's total influent flow in the past year was 183 mgd. The future projected flow does not indicate a trend toward increasing. With the additional microfiltration backwash flow from OCWD and the estimated 30 mgd non-reclaimable flow loss, OC SAN is at the edge to provide adequate secondary effluent to meet the GWRS system full capacity. A driver of accepting more urban runoff is to maintain a sustainable flow to GWRS for recycling.

Under this task, CONSULTANT shall review and validate the OC SAN wastewater influent flow projections which are produced in a Microsoft Excel spreadsheet. CONSULTANT shall review and validate the unit flow coefficients used in OC SAN's flow projection spreadsheet, make recommendations for updates based on the current and upcoming indoor water usage regulations, and other factors, and provide flow projections to be used as the basis for this study.

Flow projection recommendations shall consider the Indoor Residential Water Use Standard from current and upcoming California legislative bills summarized below from California Water Efficiency Partnership website.

Starting Year	Current Statute SB 606/AB 1668	AB 1434 (Friedman) Legislation	Joint DWR/SWRCB Proposed Recommendation
2020	55	48	55
2025	52.5	45	47
2030	50	40	42

CONSULTANT shall also review “Orange County Water Demand Forecast for MWDOC and OCWD” paper provide by OCWD, consider the factor used in OCWD’s projection, and validate and update the overall OC SAN influent projection.

After OC SAN influent projection is updated, CONSULTANT shall review and validate OC SAN’s projection for available secondary effluent flow to the GWRS system, project the potential shortage of OC SAN secondary effluent as compared to the GWRS Final Expansion capacity and OCWD GWRS production water goal, and make recommendation on additional flow needed to meet the GWRS flow demand.

CONSULTANT shall also review the OC SAN treatment capacities summarized in 2017 Facility Master Plan of the hydraulic processing units and planned projects that would impact the treatment capacities, compare with the recommended additional flow need, and make a combined recommendations on additional urban runoff flow diversion to OC SAN treatment Plants with consideration of both of the additional flow needed and the treatment capacity.

TASK 2.2 – EVALUATE OC SAN COLLECTION SYSTEM CAPACITY

OC SAN conducted a planning study from 2015 to 2020, PS15-08 Collections Capacity Evaluation Study. The study conducted comprehensive flow monitoring data collection and updated the collection hydraulic model in InfoWorks. A 10-year storm event was used in the study for peak flow condition. The study incorporated the scenarios to include planned capacity improvements projects.

CONSULTANT shall review the PS15-08 study findings and summarize the existing collection system capacity shortage areas before and after the capacity improvement projects. The areas with capacity shortages shall be avoided and evaluated carefully when new urban runoff opportunities evaluated at later tasks.

TASK 2.3 – PREPARE TECHNICAL MEMORANDUM 2

The CONSULTANT shall prepare a Technical Memorandum for the evaluation of OC SAN’s and OCWD’s system capacities for additional flows as described above.

Task 2 Deliverables:

Technical Memorandum 2 – Evaluate OC SAN’s and OCWD’s system capacities for additional flow

TASK 3 – IDENTIFY FEASIBLE URBAN RUNOFF DIVERSION OPPORTUNITIES

The goal of this task is to identify all available urban runoff diversion opportunities and to generate a short list of feasible opportunities that merit further development and evaluation based on applying the screening criteria developed for the opportunities identified.

The task will include:

- Develop and define screening criteria to address the needs/constraints of OC SAN, OCWD, and MS4 permittees
- Initial identification of all available urban runoff diversion and storage opportunities
- Initial screening and ranking of available opportunities based on the screening criteria
- Evaluation and selection of short-listed feasible opportunities that have merit for further development and evaluation

TASK 3.1 – DEVELOP SCREENING CRITERIA

Under this task, CONSULTANT shall develop and define screening criteria, and establish a screening process to screen all available additional urban runoff opportunities identified under Task 3 and make recommendation of a short list of feasible opportunities that have merit for further development and evaluation. The CONSULTANT shall confirm and validate with OC SAN, OCPW, and OCWD, a screening procedure using a weighting criteria method for the opportunities. In developing the screening criteria, the CONSULTANT shall consider, but not be limited to, the following factors:

- Compatible with OC SAN collection and treatment capacities
- Compatible with OCWD recycling capacity
- Compatible with OCWD water quality requirements
- Compatible with OC SAN's connection requirements and wastewater discharge ordinance, other regulatory requirements and obligations, and reuse initiatives
- Location, distance, and feasibility for conveyance to the nearest intake utility
- Land use and ownership
- Compatible with Santa Ana Regional Water Quality Control Board and/or subsequently adopted permits.

TASK 3.2 – IDENTIFY DIVERSION OPPORTUNITIES AND GENERATE SHORT LIST THAT MERIT FURTHER DEVELOPMENT

This task will identify dry and wet weather diversion opportunities within the OC SAN service area that can be discharged into the OC SAN collections system. Opportunities shall be short listed based on the screening criteria developed in Task 3.1 and include recommendations /considerations for coordinated management identified in Task 1.3.

Task 3.2.1 – Overlay OCPW/OCFCD/MS4 Permittees’ Municipal Storm Drain System with OC SAN’s Collections System GIS map and Hydraulic Model

Under this task, CONSULTANT shall overlay the OCPW/OCFCD/MS4 Permittees’ municipal storm drain system with OC SAN’s collection system GIS map and hydraulic model to prepare a base map for identifying existing and additional opportunities of urban runoff diversion. The CONSULTANT shall coordinate with OCPW on its existing watershed planning and modeling efforts as part of this task.

Task 3.2.2 – Identify Dry Weather Diversion Opportunities

Under this task, CONSULTANT shall identify and summarize all available additional dry weather urban runoff diversion opportunities, and use the criteria developed under Task 3.1 to make recommendations for short-listed dry weather urban runoff diversion opportunities for further development and evaluation.

Task 3.2.3 – Identify Wet Weather Diversion Opportunities with Controlled Discharge

Under this task, CONSULTANT shall identify and summarize all available wet weather urban runoff diversion opportunities with controlled discharges, which include using the storm water storage basins that hold and release the water through a controlled outlet over specified time period based on the design criteria. The storm water storage basin could be from utilizing existing basins or converting from existing storm water channels or open spaces. CONSULTANT shall use the criteria developed under Task 3.1 to make recommendations for short-listed wet weather urban runoff diversion opportunities for further development and evaluation.

Task 3.3 – Prepare Technical Memorandum 3

The CONSULTANT shall prepare a Technical Memorandum that will identify feasible urban runoff diversion opportunities as described above.

The CONSULTANT shall develop separate fact sheets for each short-listed opportunity. The fact sheets shall include information such as BMP type, land use, ownership, distance to channel, distance to sewer, volume, capacity, and any other critical information.

Task 3 Deliverables:

Technical Memorandum 3 – Identify Feasible Urban Runoff Diversion Opportunities

TASK 4 – DEVELOP AND EVALUATE DRY WEATHER URBAN RUNOFF DIVERSION OPPORTUNITIES

The goal of this task is to further develop each of the short-listed feasible dry weather urban runoff opportunities from Task 3 to a conceptual design level of facilities to define the capital and operating costs, and then using the evaluation criteria developed to perform final selection of the opportunities and to generate final recommended urban runoff diversion opportunities for implementation.

TASK 4.1 – DEVELOP EVALUATION CRITERIA AND EVALUATION METHODOLOGY

The CONSULTANT shall develop an evaluation method, define evaluation criteria, and establish a decision-making process to develop and rank the short-listed feasible dry weather urban runoff diversion opportunities identified under Task 3. The CONSULTANT shall confirm and validate with the project team and the Steering Committee members including OC SAN, OCPW/OCFCD/MS4 Permittees and OCWD a ranking procedure using a weighting criteria method for the opportunities. In developing the evaluation criteria, the CONSULTANT shall consider, but not be limited to the following factors:

- Capital cost
- Life cycle costs
- Water quality factors
- Amount of increased water supply
- Operational and Maintenance factors
- Water sampling and flow monitoring factors
- Environmental and community impact factors
- Impacts to the natural river flow and habitat
- Water rights considerations
- Ease of access
- Ability to install pretreatment if required to address future constituents of emerging concern for sanitary sewer diversions
- Redundancy and resiliency measures in place

TASK 4.2 – DEVELOP CONCEPTUAL LAYOUTS AND COST ESTIMATES

Under this Task, the CONSULTANT shall develop adequate conceptual design details for the short-listed feasible dry weather urban runoff diversion opportunities with the potential facilities and infrastructures laid out for a cost benefit analysis. At a minimum, the CONSULTANT shall prepare a summary of the opportunities (for estimating purposes assume 10 opportunities) that includes the following:

- Generate conceptual layout drawings and discuss the footprints and the site considerations
- Water quality/constituent sampling, flow monitoring and pump calibration requirements as defined in Dry Weather Urban Runoff Diversion permits and agreements
- Estimated increased water supply

- Generate unit cost (such as dollars per acre-foot) for new water supply created
- Estimate the operation and maintenance needs
- Framework of ownership and responsibilities between agencies for operations and maintenance
- Estimate electric power or other energy need
- Discuss the impacts to OC SAN, OCFCD/MS4 Permittee and OCWD facilities
- Discuss air quality impacts and mitigation costs, and other environmental operational impacts
- Federal and state regulatory permitting requirements, as applicable
- Describe the advantages and disadvantages
- Generate capital cost estimate – American Association of Cost Engineers (AACE) Class 4
- Generate life cycle cost estimate – refer to **Exhibit 2 OCSD Engineering Design Guidelines and Standards** Section 1.3.5 Life Cycle Cost Analysis

TASK 4.3 – EVALUATE AND MAKE FINAL SELECTION OF OPPORTUNITIES

Under this Task, the CONSULTANT shall use the evaluation methodology established in Task 4.1 and analysis in Tasks 4.2 to perform a comprehensive evaluation and make a final recommendation of dry weather urban runoff diversion opportunities. The CONSULTANT shall summarize and combine the design parameters, the site layout, and any other critical features of the potential facilities from each of the finalized opportunities.

TASK 4.4 – PREPARE TECHNICAL MEMORANDUM 4

The CONSULTANT shall prepare a Technical Memorandum for the dry weather urban runoff diversion opportunities as described above.

Task 4 Deliverables:

Technical Memorandum 4 – Develop and Evaluate Dry Weather Urban Runoff Diversion Opportunities

TASK 5 – COOPERATIVE PROJECT DEVELOPMENT

Under this task, the CONSULTANT shall develop cooperative project(s) based the recommendations in Task 4. The CONSULTANT shall evaluate cost allocation between OC SAN, OCPW, and OCWD, assist with developing user fees, and identify funding opportunities for the project(s). The CONSULTANT shall also develop new ordinances that will support the project(s) as necessary.

TASK – 5.1 COOPERATIVE PROJECT DEVELOPMENT

Based on the study results of Task 4, under this task, the CONSULTANT shall describe the projects and phases to construct and operate the proposed urban runoff diversion facilities, including a conceptual design and an implementation plan. At a minimum, the CONSULTANT shall:

- Summarize projects for OC SAN, OCPW/OCFCD/MS4 Permittees and OCWD to implement
- Summarize project description, justifications, and project elements
- Prepare implementation schedule and describe each critical milestone
- Identify construction impacts to existing facilities and recommend appropriate mitigation measures.

TASK – 5.2 COST ALLOCATION BETWEEN AGENCIES EVALUATION

The CONSULTANT shall develop the proposed cost allocation between OC SAN, OCPW, OCWD, and other possible stakeholders/parties with interest/receiving benefit for the design and construction of the finalized urban runoff diversion projects, and for the operations of the facilities.

TASK – 5.3 USER FEE DEVELOPMENT

The CONSULTANT shall assist OC SAN, OCPW, and OCWD in developing user fees or other funding mechanisms for the new dry weather urban runoff diversion projects.

TASK – 5.4 FUNDING OPPORTUNITIES

The CONSULTANT shall review external funding opportunities at the State and Federal levels to determine applicability for the PS21-06 project and cooperative projects identified during the project. The CONSULTANT shall include in their proposal an amount not to exceed 120 hours to review and document funding opportunities as well as provide support to OC SAN when applying for funding.

TASK – 5.5 DEVELOP PROPOSED OC SAN ORDINANCES/POLICY REVISION

The CONSULTANT shall provide a recommendation with explanation whether OC SAN needs a new ordinance or ordinances or should revise existing Ordinances or its Urban Runoff Resolution to include new language required for the worked covered under this Scope of Work. If the recommendation is Yes, the CONSULTANT shall prepare sample language/Ordinance for review and acceptance.

TASK – 5.6 PREPARE TECHNICAL MEMORANDUM 5

The CONSULTANT shall prepare a Technical Memorandum for the Cooperative Project Development as described above.

Task 5 Deliverables:

Technical Memorandum 5 – Cooperative Project Development

TASK 6 – OPTIMIZE EXISTING DIVERSIONS TO ALLOW ACTIVE, COORDINATED MANAGEMENT

Under this task, the CONSULTANT shall evaluate options to optimize the operation and maintenance of existing diversions and inform future diversion project development in Task 5.1.

TASK 6.1 - EXISTING DIVERSION OPTIMIZATIONS

Under this task, the CONSULTANT, utilizing existing information from Task 1.2.1, shall identify potential individual physical changes needed at each existing diversion (and common changes to be incorporated into future diversions in Task 5.1) to attain standardization and increased efficiency of systemwide operations and a maximization of urban runoff capture (e.g., year-round, non-storm operations). Conceptual designs will be developed on the five diversions identified as yielding the greatest additional dry weather urban runoff capture benefit to allow planning level estimates of costs.

TASK 6.2 – SYSTEMWIDE DIVERSION OPTIMIZATIONS

Under this task, the CONSULTANT shall consider systems that will allow for automated, active, coordinated, standardized optimization and control of diversion facilities, including monitoring and reporting of flow and water quality information and other necessary parameters and develop planning level estimates of costs. OCPW and other permittees have expressed interest in efficiently managing existing and future diversions as an integrated system, rather than the current system of unconnected individual facilities.

TASK 6.3 - DIVERSION OPTIMIZATION PROJECTS

Based on the study results of Tasks 1.2.1, 6.1 and 6.2, the CONSULTANT, similar to Task 5, shall develop proposed cost allocations between OC SAN, OCPW, OCWD, and the current diversion operators for the five diversions identified in Task 6.1 and the systemwide optimizations in Task 6.2, review external funding opportunities, support potential project development, and assess any policy and ordinance issues.

TASK – 6.4 PREPARE TECHNICAL MEMORANDUM 6

The CONSULTANT shall prepare a Technical Memorandum for the optimization of existing diversions as described above.

TASK 7 – EXTERNAL STAKEHOLDER OUTREACH

CONSULTANT shall identify the critical stakeholders that need to be outreached for input. California Department of Fish and Wildlife and other non-governmental organizations for habitat conservation are recommended to be part of the stakeholder group. Urban runoff flow changes could impact the water bodies that depend on urban runoff to sustain their habitat value.

The CONSULTANT shall work with OC SAN, OCPW, and OCWD to develop the stakeholder list and strategies for how best to inform the external stakeholders and receive the input on the

Project. The communication with the external stakeholders could be at some of the regular meetings that the three core agencies are having with the potential stakeholders, or through individual meetings or workshops that need to be set up. It is anticipated that the external stakeholder outreach will occur after the initial screening of the diversion opportunities is complete. The CONSULTANT shall prepare presentation materials, agenda, conduct presentations, and prepare minutes. The CONSULTANT shall include in their proposal 60 hours to support this task.

TASK 8 – URBAN RUNOFF OPTIMIZATION PLAN

Under this task, the CONSULTANT shall revise each Technical Memorandum per OC SAN's, OCPW, and OCWD comments and compile all final Technical Memoranda into a draft Urban Runoff Optimization Plan. The Urban Runoff Optimization Plan shall include cover material, table of contents, and an executive summary. Following receipt of OC SAN's comments on the draft, the CONSULTANT shall make the appropriate revisions and submit the final version of the Urban Runoff Optimization Plan.

Task 8 Deliverables:

- Draft and Final Urban Runoff Optimization Plan

TASK 9 - PROJECT MANAGEMENT

CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, subconsultants, and coordination with other projects. The CONSULTANT shall be responsible for managing all subconsultants, including the assignment of scope, management of deliverables and schedules, reporting of progress, invoicing, and quality control.

TASK 9.1 PROJECT MANAGEMENT PROGRESS MEETINGS

CONSULTANT shall prepare an agenda and conduct biweekly project management meetings with OC SAN's Project Manager and the CONSULTANT's Project Manager. The purpose of the meetings will be to review CONSULTANT's overall project progress and monthly Progress Report. Other meetings shall be scheduled on an as-needed basis.

TASK 9.2 PROJECT SCHEDULE

CONSULTANT shall create a detailed project schedule. The schedule shall include milestones for all dates listed in Section III – Project Schedule. The schedule shall be based on the same work breakdown structure used for estimating earned value as described in "Progress Reports" above. Schedule updates shall be submitted with the monthly Progress Report.

At a minimum, the schedule shall indicate the following:

- Projected start date and finish date for each activity
- Each project task and subtask in the WBS with predecessors and successors
- Major meetings and workshops
- Physical percent complete for each activity in the WBS and percent complete by Phase

CONSULTANT shall prepare planned, actual and earned value curves for the Baseline Schedule and for monthly updates. Monthly updates shall also include Cost Performance Index (CPI) and Schedule Performance Index (SPI) calculations.

TASK 9.3 PROJECT LOGS

CONSULTANT shall produce and maintain on at least a monthly basis the following logs through the course of the project:

Project Decision Log. The project decision log shall track decisions made during workshops and meetings, and as a result of OC SAN, OCPW, and OCWD review of deliverables. The log shall include the date of the decision, the title of the meeting where it was made (if applicable), a description of the decision, and a brief summary of the impacts.

Action Item Log. The action item log is used to track action items generated during meetings. Action items may only be assigned to members of the OC SAN or CONSULTANT teams. If action is required by a different party, the action item shall be assigned to the person on the team to track who will track the action item with that person. The action item log is not intended to include normal CONSULTANT tasks, nor to include comments on deliverables. The Action Item log shall include a tracking number (typically coded to the date), a date it was created, a description of the action required, the lead person, and the date it was resolved. If action is required by more than one person, the person who will be asked to coordinate that action shall be listed.

Meeting Log. See Task 10 Workshops and Meetings and Workshops.

TASK 9.4 PROGRESS REPORTS

CONSULTANT shall submit monthly progress reports at the same time as monthly invoices that include the following contents:

- Work activities completed to date, in the current reporting period, and projected for the coming month.
- A brief description of outstanding issues and their potential for impact on scope, schedule (design and construction), budget (design and construction) and quality.
- Potential changes in the project scope or design scope.
- Budget status including estimates of actual costs to date, earned value, costs to complete, and costs at completion.
- Schedule status with a description of any variances between scheduled and forecasted milestone dates.
- A discussion of corrective actions to be taken to avoid or mitigate cases where the project schedule is expected to be delayed.

TASK 9.5 PROJECT INVOICES

The invoices shall document the man-hours and billing rate for each person that works on the project. Overhead, profit and any direct costs shall also be shown for each task. As part of the summary section of the invoice, CONSULTANT shall also include the following information:

- Budget
- Current billing period invoicing
- Previous billing period “total invoiced to date”
- Budget Amount Remaining
- Current billing period “total percent invoiced to date”
- ETC for each Task & Subtask

Approval of an invoice by OC SAN requires a Progress Report for the period covered by the invoice. Payment of an invoice will be delayed until the Progress Report is submitted.

OC SAN will provide a sample invoice structure to CONSULTANT at the beginning of the project.

TASK 10 – MEETINGS AND WORKSHOPS

CONSULTANT shall hold meetings and workshops throughout the project to keep OC SAN, OCPW, and OCWD apprised of the job, review work-in-progress, share information, discuss project submittals, present findings of technical analyses, receive and resolve comments, and obtain decisions and direction by OC SAN, OCPW, and OCWD staff. This task defines the major meetings and workshops to be held by the CONSULTANT.

CONSULTANT shall assume the following meetings will be required during PDR Production.

Task	Number of Meetings/ Workshops	Proposed Topics
N/A	<ul style="list-style-type: none"> One 2-hr Project Kickoff 	--
1	<ul style="list-style-type: none"> One 2-hr Meeting 	<ul style="list-style-type: none"> One 1-hr meeting for task 1.1 , 1.2, and 6 topics
1	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review TM 1
2	<ul style="list-style-type: none"> Two 1-hr Meetings 	<ul style="list-style-type: none"> One 1-hr meeting for task 2.1 topics One 1-hr meeting for task 2.2 topics
2	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review TM 2
3	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Establish Screening Criteria
3	<ul style="list-style-type: none"> Two 1-hr Meetings 	<ul style="list-style-type: none"> Two 1-hr meetings for task 3.2 topics
3	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Discuss future urban runoff opportunities short list
3	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review TM 3
4	<ul style="list-style-type: none"> Three 1-hr Meetings 	<ul style="list-style-type: none"> Two 1-hr meetings for task 4.2 topics One 1-hr meeting for task 4.3 topics
4	<ul style="list-style-type: none"> Two 2-hr Workshops 	<ul style="list-style-type: none"> One 2-hr workshop for Task 4.1 One 2-hr workshop for Task 4.2
4	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review TM 4
5	<ul style="list-style-type: none"> One 2-hr Meeting 	<ul style="list-style-type: none"> One 2-hr meeting for task 5.1 and 5.4 topics
5	<ul style="list-style-type: none"> Two 2-hr Workshops 	<ul style="list-style-type: none"> One workshop for task 5.2 One workshop for task 5.3 and 5.5
5	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review TM 5
6	<ul style="list-style-type: none"> One 1-hr Meeting 	<ul style="list-style-type: none"> Discuss selection of 5 diversions for optimization
6	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review TM 6
7	<ul style="list-style-type: none"> Two 2-hr Workshops 	<ul style="list-style-type: none"> External Stakeholder Outreach
8	<ul style="list-style-type: none"> One 1-hr Workshop 	<ul style="list-style-type: none"> Present the draft Urban Runoff Optimization Plan

8	<ul style="list-style-type: none"> One 2-hr Workshop 	<ul style="list-style-type: none"> Review OC SAN, OCPW, and OCWD comments on draft report
8	<ul style="list-style-type: none"> Three 1-hr Meetings 	<ul style="list-style-type: none"> Present Urban Runoff Optimization Plan to OC SAN Executive Management team, OCPW, and OCWD.

CONSULTANT shall transmit the minutes to the OC SAN Project Manager within three business days of the meeting in MS Word format using OC SAN's template, or an approved substitution.

A copy of all comments on project issues obtained by CONSULTANT from OC SAN staff without direct OC SAN Engineering Project Manager's involvement shall be submitted for the Project Manager's approval within three business days of receipt.

TASK 11 - QUALITY CONTROL

CONSULTANT shall be responsible for the technical adequacy and quality control of his work. Prior to the submittal to OC SAN, each portion of a submittal shall be thoroughly reviewed and corrected by a member of the CONSULTANT's QC Team. The reviewer shall attest to their review in the form of a written affidavit outlining the submittal subject and identifying the corrected deficiencies.

V. GENERAL REQUIREMENTS

GENERAL

Working Hours

Meetings with OC SAN staff shall be scheduled from Monday through Friday between the hours of 8:00 AM and 4:00 PM. CONSULTANT's on-site staff shall conform to OC SAN work schedules, unless otherwise approved by OC SAN. CONSULTANT shall refer to the Engineering Design Guidelines, Chapter 01, Section 01.3.5 "CONSULTANT Inspection of Treatment Facilities" for further requirements.

Software

The CONSULTANT is expected to develop and provide the deliverables using the standard software currently approved for use by OC SAN. The standard OC SAN software includes, but is not limited to, the following:

- Windows 10 Professional
- Esri software 10.8.1 (ArcGIS Desktop, fGDB,pGDB or shapefile formats)
- Microsoft Internet Explorer 11
- AutoCAD Plant 3D version 2021 (for P&ID drawings only)

- Autodesk software version 2021 (AutoCAD, AutoCAD Map3D or compatible dwg file format)
- Microsoft Office 365
- Primavera P6 for scheduling
- Innovyze ICM Hydraulic Model version 9.0

Any software that the CONSULTANT needs to comply with these standards shall be purchased and maintained by the CONSULTANT at no additional cost to OC SAN. In the event OC SAN provides the CONSULTANT with access to OC SAN software and hardware at an OC SAN facility in order to facilitate performance of their work, all software shall remain the property of OC SAN. Only software licensed to OC SAN shall be installed on OC SAN equipment. In addition, only OC SAN IT Department staff will perform the installation of this software.

VI. STAFF ASSISTANCE

OC SAN staff member or designee assigned to work with CONSULTANT on the design of this project is Cindy Murra at (714) 593-7327, e-mail to: cmurra@ocsan.gov.

EXHIBITS:

Exhibit 1 Project Reference Materials

- A. Resolution No. OCSD 13-09 Dry Weather Urban Runoff Policy
- B. OCSD-53 Wastewater Discharge Regulations
- C. OC SAN Urban Runoff Diversion Map
- D. PS15-08 Collections Capacity Evaluation Study
- E. OC SAN Facilities Master Plan – **Available online at [Document Central | Orange County Sanitation District \(ocsan.gov\)](#)**
- F. OCPW/OCWD 2019 WEFTEC Paper “A Collaborative Integrated Water Resources Approach for Watershed and Water Supply Improvements in North Orange County, California
- G. OCPW 2020 WEFTEC Paper “Every Drop Counts – Water Balance in Orange County, California and its Implications on Integrated Water Management”

Exhibit 2 OC SAN Engineering Design Guidelines and Standards – Available online at [Document Central | Orange County Sanitation District \(ocsan.gov\)](#)


CM:SY:sa

Urban Runoff Optimization Study

Project No. PS21-06

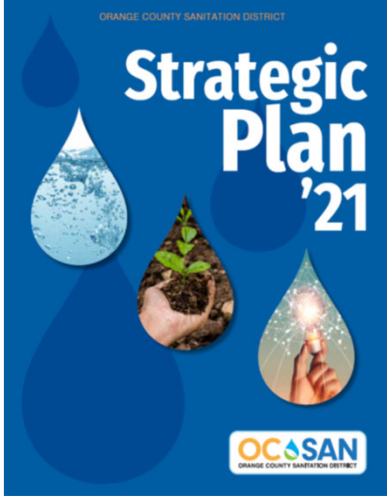
Presented by:
Cindy Murra,
Project Manager
Operations
Committee
March 1, 2023

Consultant Professional Services Award



1

Environmental Water Quality, Stormwater Management, and Urban Runoff Policy



Initiatives to support Policy Goal:

- Urban Runoff
- GWRS

2

Why Divert Urban Runoff?

Huntington Beach

Newport Beach

- Bacteria
- Selenium

Google Earth

Google Data ©SUNMI/SFMI, CA OPC, Data USGS, Landsat / Comenius

3

Urban Runoff Program at a Glance

ANAHEIM BAY - HUNTINGTON HARBOUR WATERSHED

GARDEN GROVE

WESTMINSTER

FOUNTAIN VALLEY

SANTA ANA RIVER WATERSHED

HUNTINGTON BEACH

SANTA ANA

TUSTIN

IRVINE

NEWPORT BAY WATERSHED

COSTA MESA

NEWPORT BEACH

NEWPORT COASTAL WATERSHED

10
MGD Cap

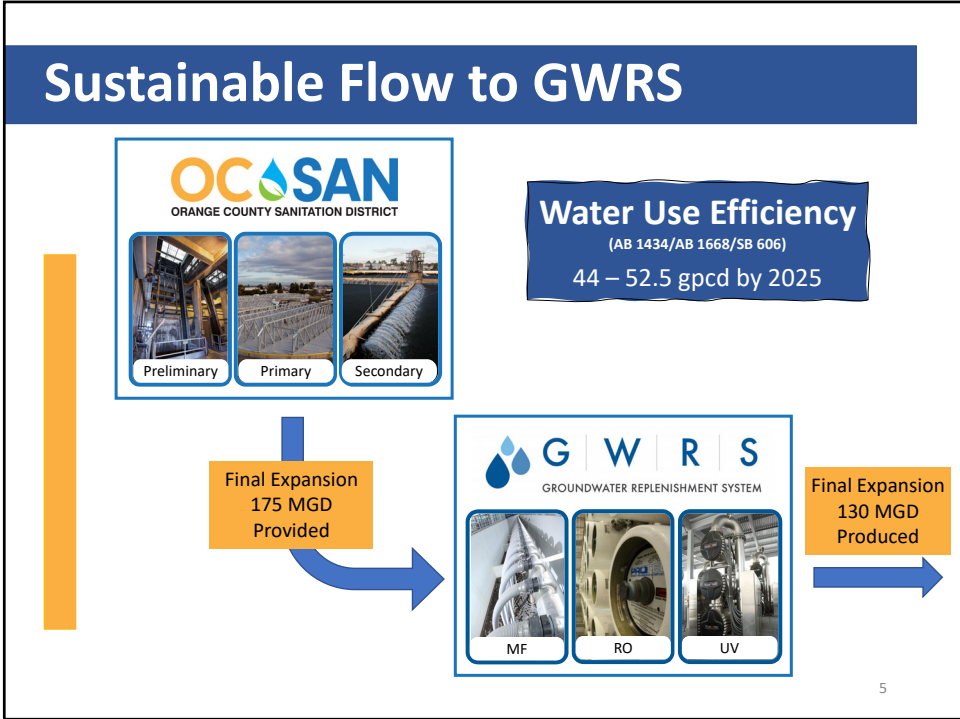
6
MGD Subscribed

<2
MGD Average Flow

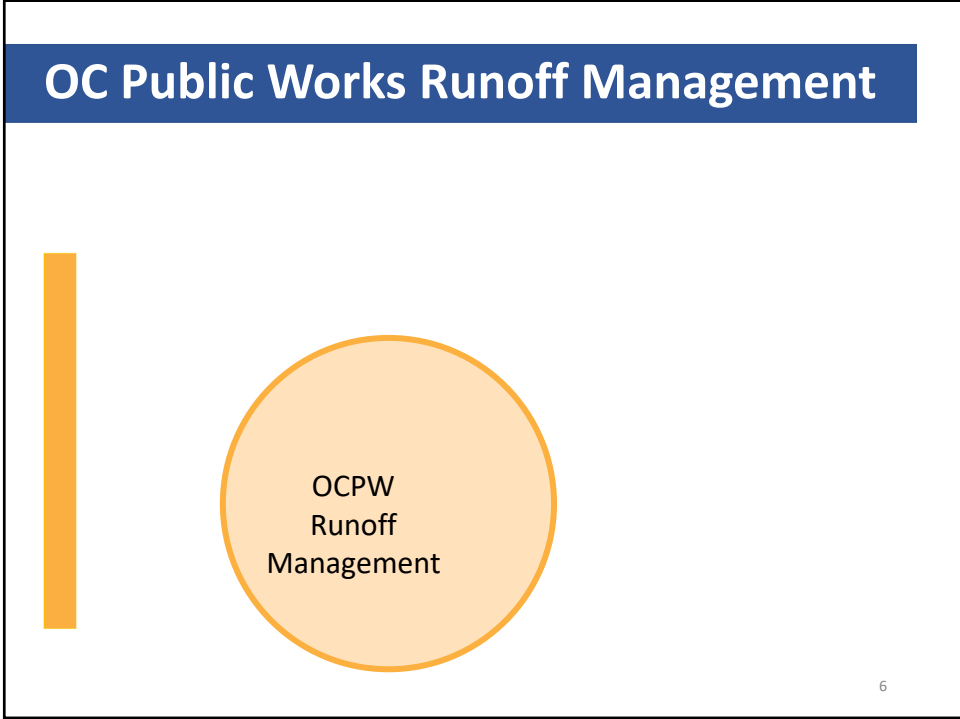
Urban Runoff Diversions

- no longer permitted
- pending - not yet permitted
- permitted

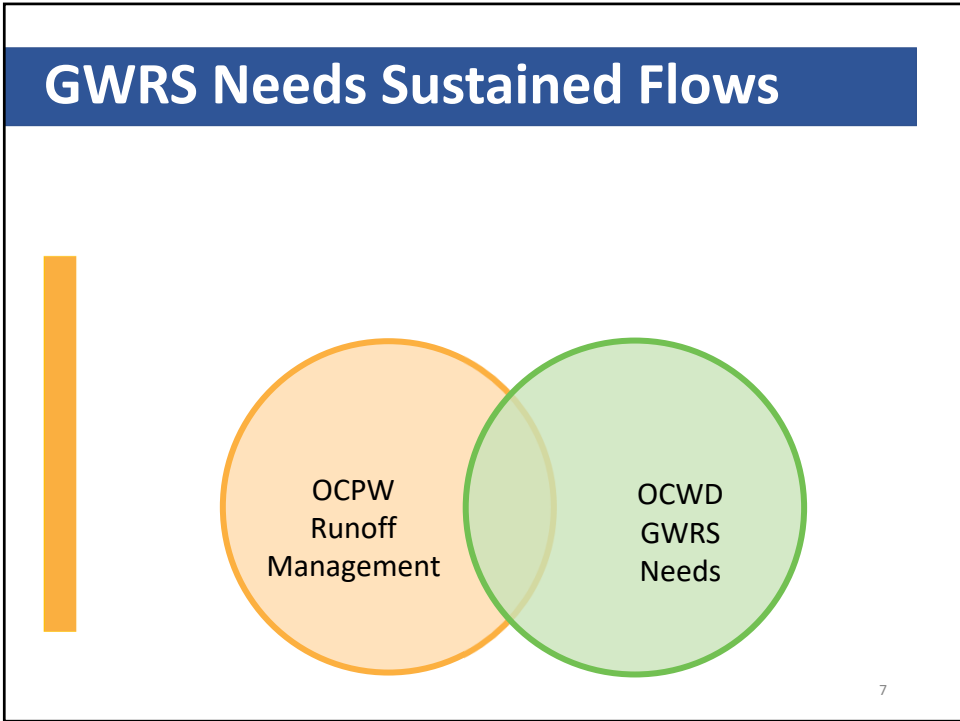
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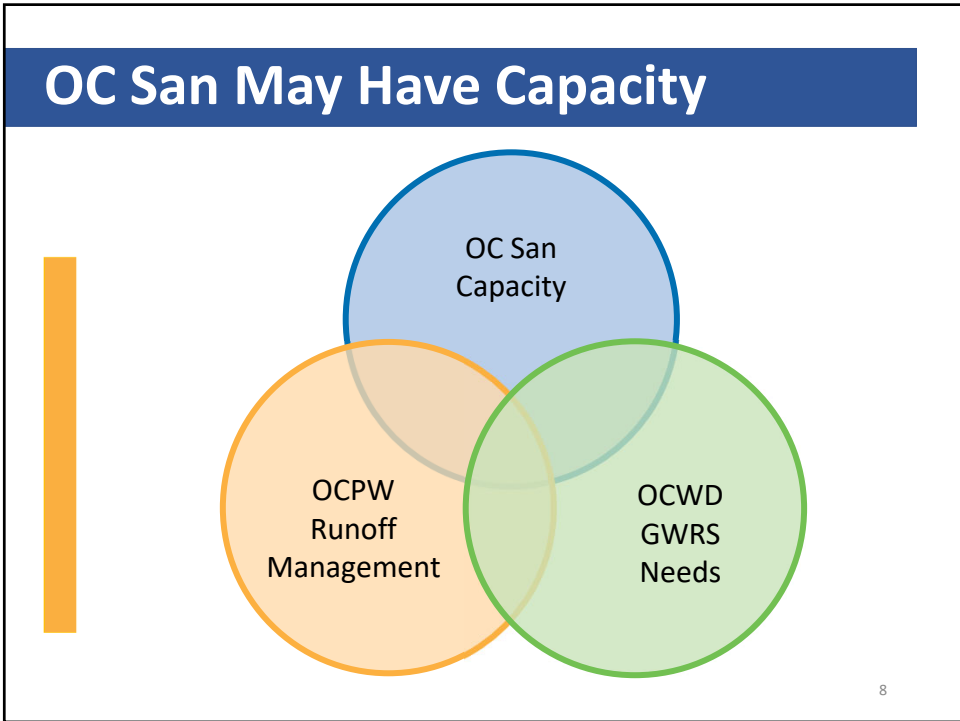
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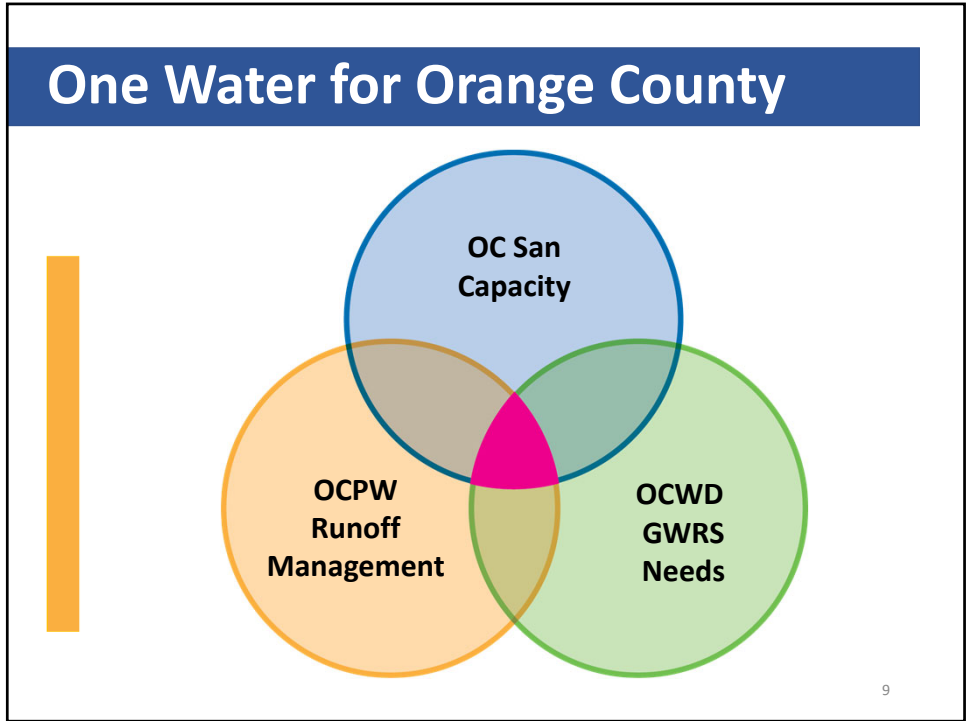
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7



8



9

Urban Runoff Optimization Study

OC SAN
ORANGE COUNTY SANITATION DISTRICT

+

+

OC Public Works

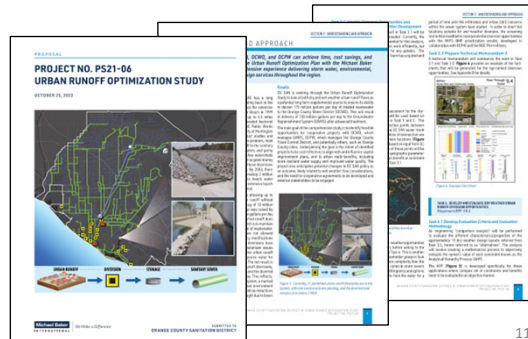
OBJECTIVES

- Identify feasible opportunities for dry and wet weather urban runoff diversions to OC San and OCWD
- Improve Water Quality
- Optimize Water Recycling
- Optimize existing capacity of OC San and OCWD infrastructure

10

Selection Process

- Four proposals received
- Interviews conducted with three firms
- Michael Baker International, Inc. selected
 - ✓ Experience with Orange County storm drain and flood control systems
 - ✓ Deep understanding of OC San’s current Dry Weather Urban Runoff Program.



11

11

Negotiations

	Original Proposal	Negotiated
Total Hours	3,517	3,635
Total Fee	\$710,475	\$711,230

- Increased existing diversions optimization effort.
- Reduced hours for the evaluation of OC San and OCWD flow need and treatment capacity.
- Reduced hours for meetings and workshops.

12

12

Recommendation

Recommend to the Board of Directors to:

- A. Find that the Urban Runoff Optimization Study, Project No. PS21-06 is exempt from CEQA under the statutory exemptions set forth in California Code of Regulations Section 15262 and authorize staff to file a Notice of Exemption with the OC Clerk-Recorder;
- B. Approve a Professional Services Agreement with Michael Baker International, Inc. to provide engineering services for the Urban Runoff Optimization Study, Project No. PS21-06, for an amount not to exceed \$711,230; and
- C. Approve a contingency of \$71,123 (10%).

13

13

Questions



14



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2775

Agenda Date: 3/1/2023

Agenda Item No: 6.

FROM: Rob Thompson, General Manager
Originator: Riaz Moinuddin, Director of Operations & Maintenance

SUBJECT:

**REGIONAL ODOR AND CORROSION CONTROL SERVICES (ROCCS) PROGRAM,
SPECIFICATION NO.C-2017-899BD - CONTINGENCY INCREASE**

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

Approve a chemical unit price contingency increase of \$398 per dry ton (an additional 40% of the base price) to the Ferrous Chloride contract with Hill Brothers Chemical Company for the remainder of the term, July 1, 2022 through June 30, 2023. The new unit price will not exceed \$1,397 per dry ton (\$1,297 for the product, plus \$100 for freight).

BACKGROUND

The Orange County Sanitation District (OC San) uses chemical injection systems in its collection system to reduce the formation of Hydrogen Sulfide (H₂S) gas in the vapor space. H₂S is a nuisance and corrosive gas. When left untreated, it will corrode concrete and steel. The ROCCS program operates 10 continuous chemical dosing sites in nine member agency cities to control H₂S formation for asset preservation and nuisance odor reduction. Staff maintains oversight and daily interaction with the outsourced service providers.

In May 2018, OC San awarded Hill Brothers Chemical Company (HBCC) and USP Technologies contracts for supplying, delivering, and dosing services of ferrous chloride, magnesium hydroxide, and calcium nitrate. These agreements provide continuous chemical dosing within the regional trunk system and major tributary sewers using a combination of three chemicals synergistically. In addition to supplying the chemicals, the suppliers provide all necessary equipment, including tanks, containment, pumps, piping, secure fencing, equipment monitoring, and pump rates. OC San is rebidding the Ferrous Chloride contract, which is expected to become effective June 30, 2023.

RELEVANT STANDARDS

- 12 or fewer odor complaints per year under normal operating conditions in the collection system
- Operate and maintain facilities to minimize impacts on surrounding communities, including odor, noise, and lighting

- Commitment to safety & reducing risk in all operations

PROBLEM

HBCC is requesting price relief from OC San for ferrous chloride because manufacturers (Penco Inc. and Kemira Water Solutions, Inc.) are raising their product price beginning March 1, 2023, due to supply chain constraints, transportation cost increases, and escalating raw materials costs. Chemical supplies may cease without the price increase. The 40 percent increase in price exceeds the previous Board authorized contingencies.

PROPOSED SOLUTION

Staff recommends the approval of the negotiated unit price increase for the duration of the contract term, which expires on June 30, 2023.

TIMING CONCERNS

If action is not immediately taken, a lapse in ferrous chloride chemical delivery will occur.

RAMIFICATIONS OF NOT TAKING ACTION

Without action, deliveries of ferrous chloride for the collection system will cease. Regular biological activity in the sewer system will produce hydrogen sulfide in an uncontrolled manner, which causes odor and corrosion problems in the collection system.

PRIOR COMMITTEE/BOARD ACTIONS

May 2022 - Approved a chemical unit price contingency increase of \$146 per dry ton (an additional 20% of the base price) to the Ferrous Chloride Contract with Hill Brothers Chemical Company for the term July 1, 2022 through June 30, 2023, for a new total unit price contingency of \$257.30 per dry ton (35%) for total estimated usage of \$3,028,675; approved a unit price contingency increase of 15% for application and field services fees for Ferrous Chloride with Hill Brothers Chemical Company for a new total unit price contingency of \$7.50 (30%); approved a fuel surcharge of 4% on Ferrous Chloride deliveries with Hill Brothers Chemical Company, with quarterly Consumer Price Index (CPI) adjustments; approved a chemical unit price contingency increase of \$65 per dry ton (an additional 12% of the base price) to the Magnesium Hydroxide Contract with Hill Brothers Chemical Company for the term July 1, 2022 through June 30, 2023, for a new total unit price contingency of \$146.26 per dry ton (27%) for total estimated usage of \$2,637,031; and approved a chemical unit price contingency increase of \$0.58/gal (an additional 17% of the base price) to the Calcium Nitrate Contract with USP Technologies for the term July 1, 2022 through June 30, 2023, for a new total unit price contingency of \$1.06/gal (32%) a total estimated usage of \$847,427.

May 2021 - Approved a unit price contingency increase of \$0.74/gallon to the calcium nitrate contract with US Peroxide, LLC dba USP Technologies for the Regional Odor and Corrosion Control Services, Specification No. C-2017-899BD (PO 106291-OB), for July 1, 2021 through June 30, 2022, for a new total amount of \$3.21/gal; for a total estimated usage of \$1,071,339; and approved Amendment No. 2 to the contract with Hill Brothers Chemical Company for Regional Odor and Corrosion Control

Services, Specification No. C-2017-899BD (PO 106264-OB), for the period beginning July 1, 2021 through June 30, 2022, to approve an additional application service rate of \$80/site per day, a field service rate of \$80/site per day, and a flat surcharge delivery fee of \$400 for small truck deliveries (under 2,500 gallons) for low dosage sites of ferrous chloride only, including but not limited to Crystal Cove Pump Station and Tiffany Lift Station.

April 2018 - Awarded a Chemical Supplier Agreement to Hill Brothers Chemical Co, for the ROCCS Program, Specification No. C-2017-899BD, for the following chemical supply and dosing services for the period July 1, 2018 through June 30, 2019, with four (4) one-year renewal options, for the: 1. Supply and delivery of Ferrous Chloride at the unit price of \$508.82/dry ton delivered (plus applicable sales tax); with Application Services at a unit price of \$25/per site per day and Field Services at a unit price of \$25/per site per day for an estimated total annual amount of \$2,001,263; 2. Supply and delivery of Magnesium Hydroxide at a unit price of \$498.62/dry ton delivered (plus applicable sales tax) with Application Services of \$80/per site per day; Field Services of \$80/per site per day and demurrage (Special Circumstances) of \$635/dry ton (plus applicable sales tax) with a dosing fee of \$190/hour for an estimated total annual amount of \$2,505, 152; 3. An annual not to exceed agreement allowance of \$50,000 for mobilization and demobilization services; and awarded a Chemical Supplier Agreement to US Peroxide, LLC dba USP Technologies, for the ROCCS Program, Specification No. C-2017-899BD, for the period July 1, 2018 through June 30, 2019, with four (4) one-year renewal options for the supply and delivery of Calcium Nitrate at the unit price of \$1. 975/gallon delivered (plus applicable sales tax) with Application Services at a unit price of \$25/per site per day; Field Services at a unit price of \$25/per site per day; a Crystal Cove delivery fee of \$175 per delivery for an estimated annual amount of \$498,794: With an annual not to exceed agreement allowance of \$50,000 for mobilization and demobilization services; and approved an annual unit price and program price contingency of 15%, per agreement.

ADDITIONAL INFORMATION

Staff was notified of the additional unit price increase of ferrous chloride in December 2022 and negotiated a reduction in price for ferrous chloride from a 52 percent increase to a 40 percent increase. Due to the extreme volatility in chlorine manufacturing, staff could not negotiate a lower price for ferrous chloride.

Some reasons for the unit price increases are trucking and rail freight fee increases, limited supply of critical raw materials, and market conditions. Additionally, escalating energy costs are significantly impacting the cost of operations for the chemical manufacturers, imposing a temporary four percent fuel surcharge until the average price of diesel fuel falls below \$3.50 a gallon.

Staff is continuously monitoring the use of the chemicals in the collection systems and adjusting dosing rates, monitoring the effects of chemical ratio changes, and investigating ways to optimize chemical usage to increase chemical odor treatment efficiency in the collection systems. Staff is also looking at alternative chemicals and combinations of alternative chemicals for potential use for odor control and has initiated a Chemical Resilience Study. Based on the study, staff will commence trials to change chemical dosages. The ROCCS contracts for FY 2023-24 are being bid. The estimated usage for the FY 2022-23 is 2,913 dry tons of ferrous chloride; 3,509 dry tons of magnesium hydroxide; and 181,314 gallons of calcium nitrate.

CEQA

N/A

FINANCIAL CONSIDERATIONS

This request complies with authority levels of the OC San's Purchasing Ordinance. This item has been budgeted in the FY 2022-2023 & FY 2023-2024 Operating Budget, Division 820, Supplies line item (Section 6, Page 76). The available funding is sufficient for this action.

ATTACHMENT

The following attachment(s) may be viewed online at the OC San website (www.ocsan.gov) with the complete agenda package:

N/A



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2811

Agenda Date: 3/1/2023

Agenda Item No: 7.

FROM: Robert Thompson, General Manager
Originator: Riaz Moinuddin, Director of Operations & Maintenance

SUBJECT:

PURCHASE OF LIQUID FERRIC CHLORIDE

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve a Chemical Supplier Agreement with Pencco, Inc. for the purchase of liquid ferric chloride, Specification No. C-2023-1381BD, for the period beginning May 1, 2023 through October 31, 2023, for a unit price of \$1,250 per dry ton delivered, plus applicable sales tax, for a total six-month estimate of \$2,500,000;
- B. Approve a Chemical Supplier Agreement with Kemira Water Solutions, Inc. for the purchase of liquid ferric chloride, Specification No. C-2023-1381BD, for the period beginning May 1, 2023 through October 31, 2023, for a unit price of \$1,153.97 per dry ton delivered, plus applicable sales tax, for a total six-month estimate of \$1,730,955;
- C. Approve the option to renew the Chemical Supplier Agreement with Pencco, Inc. over a five-year period beginning May 1, 2023 through April 30, 2028 with renewal terms not to exceed a 12-month term, and renewal adjustments of unit pricing not to exceed a unit price of \$1,562.50 per dry ton delivered (25%); and
- D. Approve the option to renew the Chemical Supplier Agreement with Kemira Water Solutions, Inc. over a five-year period beginning May 1, 2023 through April 30, 2028 with renewal terms not to exceed a 12-month term, and renewal adjustments of unit pricing not to exceed a unit price of \$1,442.46 per dry ton delivered (25%).

BACKGROUND

Ferric chloride is used at both Orange County Sanitation District (OC San) treatment plants to enhance primary solids coagulation and maintain hydrogen sulfide levels below Air Quality Management District (AQMD) permit levels. Ferric chloride also reduces plant odors and corrosion. Staff estimates 580 dry tons of ferric chloride usage per month (approximately 7,000 dry tons annually) at the treatment plants.

Ferric chloride has been subject to volatile pricing due to supply scarcity, escalating raw material pricing, shipping, and supply chain issues, and increases in transportation costs. Within the past FY

2022-23, both ferric chloride vendors have issued two unit price increases. In May 2022, the Board approved a unit price contingency increase to both suppliers due to a 39% unit price increase (Kemira) and a 26% unit price increase (Pencco) that started in July 2022. In December 2022, OC San was notified of another unit price increase of 32% (Kemira) and 27% (Pencco) pending Board approval to start on March 1, 2023.

Staff determined a new contract structure is needed to provide more flexible renewal periods to account for adjustments. Staff rebid the ferric chloride contract in January 2023.

RELEVANT STANDARDS

- 24/7/365 treatment plant reliability
- Zero odor incidents/events under normal operating conditions for Plant Nos. 1 and 2
- Meet volume and water quality needs for the GWRS

PROBLEM

Until the market stabilizes to relieve raw material and supply chain issues, ferric chloride unit prices may continue to be subject to volatile unit pricing. Without an updated renewal structure, unforeseen price adjustments may continue and can exceed Board approved contingencies within a 12-month period.

PROPOSED SOLUTION

Staff recommends approving the new chemical supplier agreements with a revised renewal structure. A six-month term will allow for more flexible renewal periods to account for price adjustments. If suppliers propose a price adjustment under the not to exceed unit price, OC San may exercise the option to renew the Agreement for up to a 12-month period not to exceed a combined total agreement term of five years.

TIMING CONCERNS

A bridge agreement is pending Board approval on February 22, 2023, with the price adjustment to be in place from March 1, 2023 to June 30, 2023 (subject to cancellation upon approval of recommended action). Establishing a new agreement to be in place will prevent disruption in ferric chloride supply.

RAMIFICATIONS OF NOT TAKING ACTION

Without action, problems with primary treatment settleability, air and water permit compliance, and odor complaints in the treatment plant are possible at both Plant Nos. 1 and 2.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATION

A Request for Proposal was issued on January 5, 2023 via PlanetBids and closed on February 1, 2023. OC San received two (2) responsive and responsible proposals and one (1) no Bid Letter from Univar Solutions USA Inc. Pricing by tonnage allocation is as follows:

Pencco, Inc.			
Quantity Dry Tons Per Year	Product Unit Price (\$/Dry Ton)	Freight Cost (\$/Dry Ton)	Total Cost (\$/Dry Ton)
1000	\$1,250.00	\$200.00	\$1,450.00
2000	\$1,250.00	\$200.00	\$1,450.00
3000	\$1,150.00	\$200.00	\$1,350.00
4000	\$1,050.00	\$200.00	\$1,250.00
5000	\$950.00	\$200.00	\$1,150.00
6000	\$950.00	\$200.00	\$1,150.00
7000	\$950.00	\$200.00	\$1,150.00

Kemira Water Solutions, Inc.			
Quantity Dry Tons Per Year	Product Unit Price (\$/Dry Ton)	Freight Cost (\$/Dry Ton)	Total Cost (\$/Dry Ton)
1000	\$1,069.00	\$130.00	\$1,199.00
2000	\$1,023.97	\$130.00	\$1,153.97
3000	\$1,023.97	\$130.00	\$1,153.97
4000	\$1,023.97	\$130.00	\$1,153.97
5000	No Bid	No Bid	No Bid
6000	No Bid	No Bid	No Bid
7000	No Bid	No Bid	No Bid

For resiliency, OC San utilizes two ferric chloride vendors. In the past, OC San staff has seen instances where a sole supplier was unable to meet the demand, and also instances where additional supply was needed, and vendors had limited product available.

As a sole supplier, Pencco has the lowest price of \$1,150 per dry ton for 7,000 estimated net dry tons. However, this would not provide resiliency for OC San. To ensure ferric chloride resiliency to both plants, OC San recommends selecting Kemira Water Solutions, Inc. (3,000 net dry tons) and Pencco Inc. (4,000 net dry tons).

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 2022-2023 and 2023-2024 Operating Budget, Division 830, Supplies line item

(Section 6, Page 84) and Division 840, Supplies line item (Section 6, Page 88). The available funding is sufficient for this action.

ATTACHMENT

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

- Draft Chemical Supplier Agreement
- Scope of Work

JL:JS:cf

CHEMICAL SUPPLIER AGREEMENT
Purchase of Liquid Ferric Chloride (FeCl₃)
Specification No. C2023-1381BD

This CHEMICAL SUPPLIER 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 _____ (hereinafter referred to as "Supplier"), and collectively referred to herein as the "Parties."

RECITALS

WHEREAS, OC San desires to temporarily engage Supplier to provide Ferric Chloride (FeCl₃) as described in Exhibit "A"; and

WHEREAS, Supplier submitted its Proposal dated [_____]; and

WHEREAS, on _____, OC San's Board of Directors, by minute order, authorized execution of this Agreement between OC San and Supplier; and

WHEREAS, OC San has chosen Supplier to provide Ferric Chloride (FeCl₃) in accordance with Ordinance No. OC San-56; and

NOW, THEREFORE, in consideration of the mutual promises and mutual benefits exchanged between the Parties, the Parties mutually agreed as follows:

1. Introduction

1.1 This Agreement and all exhibits hereto is made by OC San and the Supplier. The terms and conditions herein exclusively govern the purchase of Ferric Chloride (FeCl₃) as described in Exhibit "A".

1.2 Exhibits to this Agreement are incorporated by reference and made a part of this Agreement as though fully set forth at length herein.

- Exhibit "A" Scope of Work
- Exhibit "B" Proposal
- Exhibit "C" Determined Insurance Requirement Form
- Exhibit "D" OC San 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 of this Agreement shall in all respects govern and control.

1.4 This Agreement may not be modified, changed, or supplemented, nor may any obligations hereunder be waived or extensions of time for performance granted, except by written instrument signed by both Parties.

1.5 The various headings in this Agreement are inserted for convenience only and shall not affect the meaning or interpretation of this Agreement or any section or provision hereof.

1.6 The term "days", when used in the Agreement, shall mean calendar days, unless otherwise

noted as workdays.

- 1.7 The term "workday". Workdays are defined as all days that are not Saturday, Sunday, or OC San observed holidays. Meetings with OC San staff shall be scheduled from Monday through Thursday between the hours of 8 a.m. and 4 p.m. (exception is Operations staff who maintain plant operations 24 hours per day 7 days per week and work a rotated 12-hour shift) and shall conform to OC San work schedules.
- 1.8 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.
- 1.9 Work Hours: The work required under this Agreement may include normal business hours, evenings, and weekends.
- 1.10 Supplier shall provide OC San with all required premiums and/or overtime work at no charge beyond the total amount of the Agreement.
- 1.11 Except as expressly provided otherwise, OC San accepts no liability for any expenses, losses, or action incurred or undertaken by Supplier as a result of work performed in anticipation of purchases of said services by OC San.

2. Delivery

- 2.1 LOCATIONS: Deliveries shall be made in accordance with the Scope of Work, Exhibit "A".
 - 2.2 OC San will pay only for the actual quantity of Ferric Chloride (FeCl₃) delivered, based upon certified tare weight and net weight. The quantity invoiced by Supplier and payable by OC San will be for the total net weight of Ferric Chloride (FeCl₃) delivered (loaded gross weight minus the tare weight). Tare weight shall be determined immediately after each delivery and prior to cleaning, emptying, or clearing the delivery tank.
 - 2.3 In accordance with Exhibit "A", a bill of lading shall accompany all shipments.
- 3. Possession** Ownership and control of all Ferric Chloride (FeCl₃) delivered pursuant to this Agreement shall remain solely and exclusively with Supplier, until complete transfer of possession by delivery to OC San at the designated locations is made by Supplier.

4. Quantity

- 4.1 OC San makes no guarantee to actual use or quantity of Ferric Chloride (FeCl₃) purchased. Use may be sporadic based on the wastewater treatment requirements unique to each treatment plant.
- 4.2 OC San will, through the term of this Agreement, purchase Ferric Chloride (FeCl₃) from Supplier exclusively, except when OC San determines Supplier cannot make delivery within the time specified, with the quality and quantity specified, at the Agreement price, the level of Service is inadequate, OC San unapproved increase in rate or for any other default or breach of this Agreement. In such event, OC San may purchase Ferric Chloride (FeCl₃) elsewhere and charge Supplier any difference in the delivered price to OC San from that provided in this Agreement, or alternatively, OC San may terminate the Agreement based on said breach or failure to deliver the specified product. Quality control tests will be performed by OC San on the delivered Ferric Chloride (FeCl₃) to ensure it is consistent with the requirements specified in Exhibit "A".

5. California Department of Industrial Relations Registration and Record of Wages

- 5.1 Pursuant to Labor Code sections 1720 et seq., and as specified in Title 8, California Code of Regulations section 16000, prevailing wages are required for all Work under this Agreement. It is Supplier's responsibility to interpret and implement any prevailing wage requirements and Supplier agrees to pay any penalty or civil damages resulting from a violation of the prevailing wage laws.
- 5.2 Supplier 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).
- 5.3 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>.
- 5.4 Supplier 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), Supplier shall post a copy of the prevailing rate of per diem wages at the job site.
- 5.5 Supplier and its subcontractors shall maintain accurate payroll records and shall comply with all the provisions of Labor Code section 1776. Supplier 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 Supplier 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.
- 5.5.1 As a condition to receiving payments, Supplier agrees to present to OC San, along with any request for payment, all applicable and necessary certified payrolls and other required documents for the time 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.
- 5.6 The Supplier and any of its subcontractors shall comply with Labor Code section 1774 and section 1775. Pursuant to Labor Code section 1775, the Supplier 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.
- 5.6.1 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 Supplier or its subcontractor.

- 5.7 Supplier and its subcontractors shall comply with Labor Code sections 1810 through 1815. Supplier 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 Supplier 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.
- 5.8 Supplier and its subcontractors shall comply with Labor Code sections 1777.5, 1777.6, and 1777.7 concerning the employment of apprentices by Supplier or any subcontractor.
- 5.9 Supplier 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.
- 5.10 Pursuant to Labor Code sections 1860 and 3700, the Supplier and its subcontractors will be required to secure the payment of compensation to employees. Pursuant to Labor Code section 1861, Supplier and its subcontractors, by accepting this Agreement, certify 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 Agreement.”

6. Pricing and Invoicing

- 6.1 Supplier will invoice for Ferric Chloride (FeCl₃) delivered in accordance with Exhibit “A”, and in accordance with the unit price(s) listed in Exhibit “B”. Prices shall include all cartage and taxes except California State Sales Tax. The sales tax will be paid by OC San.
- 6.2 OC San shall pay, net thirty (30) days, upon receipt and approval by OC San of itemized invoices, submitted in a form acceptable to OC San to enable audit of the charges thereon. Supplier shall email invoices to OC San Accounts Payable at APStaff@ocsan.gov and “INVOICE” with the Purchase Order Number and Ferric Chloride (FeCl₃) shall be referenced in the subject line. All invoices shall include a description of the delivery location, the delivery date, and the unit price(s).

7. Modifications

- 7.1 This Agreement may be modified or changed only by written instrument in the form of an amendment to this Agreement signed by both Parties.
- 7.2 Pricing modifications: The prices established in this Agreement shall remain firm for the Agreement term. Any adjustments made will allow for increases or decreases in the manufactured cost of Ferric Chloride (FeCl₃) and will be based upon OC San validated information furnished by Supplier and OC San sources. Adjustments will only be reviewed on an annual basis. OC San reserves the right to agree with or reject the proposed unit price increase or decrease.
- 7.3 Price changes may be made through the OC San Purchase Order Process.

8. **Agreement Term** The Services provided under this Agreement shall be for the period of six (6) months commencing on the effective date of the Notice to Proceed.

9. **Renewals**

9.1 OC San may exercise the option to renew the Agreement for up to a twelve (12) month period at a time not to exceed a combined total Agreement term of five (5) years based upon the criteria set forth in Exhibit "A", if mutually acceptable terms can be negotiated. OC San shall make no obligation to renew nor give reason if it elects not to renew. The prices established in the original Agreement may be adjusted. The adjustment will allow for any increase or decrease in the manufactured cost of the Ferric Chloride (FeCl₃).

9.2 Adjustments to price of Ferric Chloride (FeCl₃) will be based upon OC San validated information furnished by Supplier and OC San sources. Adjustments will only be reviewed once every six (6) months. OC San reserves the right to agree with or reject the proposed unit price increase or decrease.

9.3 Renewals may be made through the OC San Purchase Order Process.

10. **Termination**

10.1 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, Supplier shall immediately discontinue all work under this Agreement (unless the notice directs otherwise). OC San shall thereafter, within thirty (30) days, pay Supplier for work performed (cost and fee) to the date of termination. Supplier 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 Supplier other than for work performed to the date of termination.

10.2 OC San reserves the right to terminate this Agreement immediately upon OC San's determination that Supplier is not meeting specification requirements for delivery of quantities needed, the level of service is inadequate, for poor quality of product, for OC San unapproved increase in unit price(s), or any other default or breach of this Agreement.

10.3 OC San may also immediately terminate for default of this Agreement in whole or in part by written notice to Supplier:

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

10.4 All OC San property in the possession or control of Supplier shall be returned by Supplier to OC San upon demand, or at the termination of this Agreement, whichever occurs first.

11. **Indemnification and Hold Harmless Provision** Supplier shall assume all responsibility for damages to property and/or injuries to persons, including accidental death, which may arise out of or be caused by Supplier's services under this Agreement, or by its subcontractor or by anyone directly or indirectly employed by Supplier, and whether such damage or injury shall accrue or be discovered before or after the termination of the

Agreement. Except as to the sole active negligence of or willful misconduct of OC San, Supplier 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 Supplier's performance under this Agreement, and/or (b) on account of any goods and services provided under this Agreement. This indemnification provision shall apply to any acts or omissions, willful misconduct, or negligent misconduct, whether active or passive, on the part of Supplier or anyone employed by or working under Supplier. To the maximum extent permitted by law, Supplier'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. Supplier 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.

12. **Insurance** Supplier shall purchase and maintain, throughout the life of this Agreement and any periods of warranty or extensions, insurance in amounts equal to the requirements set forth in the signed Acknowledgement of Insurance Requirements, Exhibit "C". Supplier shall not commence work under this Agreement until all required insurance is obtained in a form acceptable to OC San, nor shall Supplier allow any subcontractor to commence service pursuant to a subcontract until all insurance required of the subcontractor has been obtained. Failure to maintain required insurance coverage shall result in termination of this Agreement.
13. **Equipment Loss** OC San will be responsible for any loss or damage to Supplier-owned equipment, when OC San determines OC San is at fault, only to the extent of OC San's fault, and will reimburse Supplier for such loss or damage upon receipt of invoices, minus a deduction for any amount determined to be the fault of Supplier or its subcontractor or a third party.
14. **Conflict of Interest and Reporting** Supplier shall at all times avoid conflict of interest or appearance of conflict of interest in performance of this Agreement.
15. **Supplier's Relationship to OC San** Supplier's relationship to OC San in the performance of this Agreement is that of an independent contractor. The personnel performing Services under this Agreement shall, at all times, be under Supplier's exclusive direction and control, and shall be employees of Supplier and not employees of OC San. Supplier shall pay all wages, salaries and other amounts due its employees in connection with this Agreement, and shall be responsible for all legal reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, worker's compensation and similar matters.
16. **OC San Safety Standards**
 - 16.1 In addition to the requirements set forth in Exhibit "A", Supplier shall meet with personnel from OC San's Risk Management Division prior to providing Services to OC San to review safety and accident prevention policies and procedures. All subcontractors should be present at this meeting. Supplier is responsible to inform all subcontractors of the items discussed at this meeting. Supplier shall not be permitted to provide Services to OC San prior to this meeting.

- 16.2 OC San requires Supplier and its subcontractor(s) to follow and ensure their employees follow all Federal, State, and local regulations as well as OC San Safety Standards while working at OC San locations. If during the Agreement it is discovered that OC San Safety Standards do not comply with Federal, State, or local regulations, then the Supplier is required to follow the most stringent regulatory requirement at no additional cost to OC San. Supplier and all of its employees and subcontractors shall adhere to all applicable OC San Safety Standards attached hereto in Exhibit "D".
17. **Drug-Free Workplace** All employees of Supplier who will perform work under this Agreement must adhere to the California Drug-Free Workplace Act, Government Code Sections 8350 through 8357.
18. **Assignments** Neither this Agreement nor any interest herein or any claim hereunder may be assigned by Supplier either voluntarily or by operation of law, nor may all or substantially all of this Agreement be further subcontracted by Supplier without the prior written consent of OC San.
19. **Attorney's Fees** If any action at law or in equity 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 it may be entitled.
20. **Permits, Ordinances and Regulations** Any and all fees required by Federal, State, County, City and/or municipal laws, codes and/or tariffs that pertain to work performed under the terms of this Agreement shall be paid by Supplier. Fees demanded for obtaining certificates, including associated inspection fees and expenses of regulatory inspectors shall be paid by Supplier.
21. **Training Certification** When required by regulation, certificates of training shall be maintained on-site for the duration of the activity that requires an employee of Supplier to be certified. Certificates shall be current. Lack of certificates when required will be cause for removal of offending personnel from the site, termination of the Agreement, or both.
22. **Compliance with Law** Supplier warrants that under the performance of this Agreement, it shall comply with all applicable Federal, State and local laws, and all lawful orders rules and regulations thereunder. In connection with the execution of this Agreement, Supplier shall not discriminate against employees or an applicant for employment because of race, religion, color, sex or national origin. Supplier shall take affirmative action to ensure that applicants are employed and employees are treated during their employment without regard to their race, religion, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; lay-off or termination; rate of pay, or other forms of compensation; and selection for training, including apprenticeship.
23. **Disputes**
- 23.1 This Agreement shall be governed by and interpreted under the laws of the State of California and the Parties submit to jurisdiction in Orange County, in the event any action is brought in connection with this Agreement or the performance thereof. Pending final resolution of a dispute hereunder, Supplier shall proceed diligently with the performance of this Agreement and in accordance with OC San's decision.
- 23.2 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.

23.3 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 California 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 California 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.

24. Right to Review Services, Facilities, and Records

24.1 OC San reserves the right to review any portion of the Services performed by Supplier under this Agreement, and Supplier agrees to cooperate to the fullest extent possible. Supplier shall furnish to OC San such reports, statistical data, and other information pertaining to Supplier'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 in connection with the issuance of its official statements and other prospectuses with respect to the offering, sale, and issuance of its bond and other obligations.

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

25. Severability Any provision of this Agreement which is found to be invalid or unenforceable shall be ineffective to the extent of such invalidity or unenforceability, and the invalidity or unenforceability of such provision shall not affect the validity or enforceability of the remaining provisions hereof.

26. Waiver The waiver of 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.

27. Breach Any breach by Supplier to which OC San does not object shall not operate as a waiver of OC San to seek remedies available to it for any subsequent breach.

28. South Coast Air Quality Management District's (SCAQMD) Requirements It is Supplier's responsibility 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 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 the SCAQMD.

- 29. **Performance** Time is of the essence in the performance of the provisions hereof.
- 30. **Familiarity with Work** By executing this Agreement, Supplier warrants that: 1) it has investigated the work to be performed and (b) it understands the facilities, difficulties, and restrictions of the work under this Agreement. Should Supplier discover any latent or unknown conditions 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 Supplier's risk, until written instructions are received from OC San.
- 31. **Damage to OC San's Property** Any OC San property damaged by Supplier, its subcontractor(s), or by the personnel of either will be subject to repair or replacement by Supplier at no cost to OC San.
- 32. **Third Party Rights** Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than OC San and Supplier.
- 33. **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.
- 34. **Read and Understood** By signing this Agreement, Supplier represents that it has read and understood the terms and conditions of the Agreement.
- 35. **Entire Agreement** This Agreement constitutes the entire agreement of the Parties and supersedes all prior written or oral and all contemporaneous oral agreements, understandings, and negotiations between the Parties with respect to the subject matter hereof.
- 36. **Notices** All notices under this Agreement must be in writing. Written notice shall be 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. Any facsimile notice must be followed within three (3) days by written notice. All notices shall be effective when first received at the following addresses:

OC San: Jackie Lagade
Principal Buyer
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
JLagade@OCSan.gov

Supplier: _____

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

**DRAFT -
DO NOT SUBMIT**

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
Chair, Board of Directors

Dated: _____

By: _____
Kelly A. Lore
Clerk of the Board

Dated: _____

By: _____
Ruth Zintzun
Purchasing & Contracts Manager

[SUPPLIER]

Dated: _____

By: _____

Print Name and Title of Officer

WC

EXHIBIT A
SCOPE OF WORK
PURCHASE OF LIQUID FERRIC CHLORIDE (FeCl₃)
SPECIFICATION NO. C-2023-1381BD

A. General - Ferric Chloride is used to enhance primary solids coagulation and maintain hydrogen sulfide levels below Air Quality Management District (AQMD) permit levels. Ferric Chloride also reduces plant odors and corrosion. It is estimated that Orange County Sanitation District (“OC San”) may use up to 7,000 net dry tons of Ferric Chloride annually. The quantity stated is an estimate only. OC San does not guarantee Ferric Chloride usage. The actual quantity used may be sporadic and is based on treatment requirements unique to each plant.

B. Technical –The Ferric Chloride supplied under these specifications shall be clean and free from all dirt, wood, plastic particulate matter or substances that precipitate out as a water-soluble gelatinous mass, which could cause pumping failure. It shall contain no foreign substances, organic or inorganic and will not adversely impact treatment plant process, receiving water, sludge quality or cause OC San to exceed its National Pollutant Discharge Elimination System Permit (NPDES) requirements. The liquid Ferric Chloride delivered shall meet the following criteria and purity requirements:

1. FeCl₃: 25%-45% by weight, (+/- 2% based on manufacturer's certification)
2. FeCl₂: less than 0.5% by weight
3. Free Acid (as HCl): less than 1% by weight
4. Specific Gravity 1.237 – 1.488 @ 20 degrees Centigrade
5. Total Insoluble Matter: less than 0.03% by weight
6. Sulfate: less than 1% by weight
7. Following heavy metals not to exceed the following concentrations, based on the FeCl₃ dry weight. The maximum metal concentrations shall not exceed 1000 mg/Kg.

Element	Name	Maximum Concentration	
		mg/kg Dry FeCl ₃	mg/kg (typical 40% FeCl ₃ solution)
Ag	Silver	3	1
Al	Aluminum	875	350
As	Arsenic	15	6
Ba	Barium	350	140
Be	Beryllium	17	7
B	Boron	350	140
Cd	Cadmium	10	4
Co	Cobalt	52	21
Cr	Chromium	201	80
Cu	Copper	350	140
Hg	Mercury	0.087	0.035
Mn	Manganese	2000	800
Mo	Molybdenum	39	15
Ni	Nickel	63	25
Pb	Lead	63	25
Sb	Antimony	8.7	3.5
Se	Selenium	38	15
Ti	Titanium	2000	800
Tl	Thallium	350	140
V	Vanadium	350	140
Zn	Zinc	524	210

- C. **Product Certification** – A Certificate of Analysis must accompany each shipment and be provided to OC San Operations staff upon arrival. A certified analysis is defined as a statement signed by the manufacturer or supplier’s representative declaring the product delivered meets the listed product specifications. Repeated deviations from the specifications of more than twice per calendar month may be used as grounds for terminating the Agreement. The Certificate of Analysis shall contain the analysis date, Bill of Lading number, percent ferric chloride, percent ferrous chloride, percent free acid as HCL, percent ferric iron, percent ferrous iron, Specific gravity at 20 degrees centigrade, pounds dry FeCl₃ per gallon, and the percent total insoluble matter. The analyses shall be run in accordance with the American Water Works Association (AWWA) Standard for Liquid Ferric Chloride Method ANSI/AWWA B407-18.
- D. **Product Sample Delivery** – OC San reserves the right to randomly test any product load or request a sample separate from product delivery. The sample container shall be a clean 500 mL plastic container with leak free lid. The bottle shall be labeled with the delivery location, shipper number, delivery date, percent ferric chloride, percent ferrous chloride, and specific gravity. A delivery statement shall accompany all shipments and state the delivered weight, delivered gallons, delivered dry tons, specific gravity of the product, and percent ferric chloride of the delivered solution.
- E. **Product Quality** – OC San may terminate the Agreement if more than two (2) deliveries of Ferric Chloride do not meet the specifications per calendar month.

Analysis of product samples and product troubleshooting analysis are the responsibility of the Supplier. OC San reserves the right to verify product quality using the methods below, on a periodic basis, or more frequently, as needed, at the Supplier’s expense.

Criteria	Analysis Methods
Specific Gravity @ 20 deg C	ANSI/AWWA B407-18 -Sec. 5.3
Total insoluble matter (% w/w)	ANSI/AWWA B407-18 -Sec. 5.4
Total Iron, Fe, (% w/w)	ANSI/AWWA B407-18 -Sec. 5.5
Ferrous Chloride Iron, Fe, (% w/w)	ANSI/AWWA B407-18 -Sec. 5.6
Ferric Chloride Iron, Fe, (% w/w)	ANSI/AWWA B407-18 -Sec. 5.7
Free acid expressed as HCl (% w/w)	ANSI/AWWA B407-18 -Sec. 5.8
Sulfate %/w)	SM4500-SO ₄ ²⁻ D
Metals	Plasma Emission Spectroscopy (ICPES) SM 3120 B
Mercury	Cold Vapor Atomic Absorption (CVA) SM 3112 A

- F. **Measurement and Payment** – OC San will pay only for the actual dry tons of Ferric Chloride delivered into OC San’s storage, based upon certified tare weight and net weight. Dry tons invoiced by Supplier and payable by OC San will be for the total net dry tons of Ferric Chloride delivered (loaded gross weight minus the tare weight). Tare weight shall be determined immediately after each delivery and prior to cleaning, emptying, or clearing the delivery tank.

- G. Delivery Requirements** - Refer to the "Bulk Chemical Delivery Procedure for Contract Drivers" for additional requirements (reference Appendix "A-1").
1. Supplier shall be notified by OC San staff when to provide the delivery. A method of communication for subsequent deliveries shall be clarified between the Supplier and OC San.
 2. Supplier shall deliver the Ferric Chloride to either Plant No. 1 or Plant No. 2 as ordered. Supplier shall be required to deliver on any day of the week, on an as needed basis.
 - Plant No. 1 is located at 10844 Ellis Avenue, Fountain Valley, CA 92708
 - Plant No. 2 is located at 22212 Brookhurst Street, Huntington Beach, CA 92646
 3. At time of all deliveries, Supplier shall provide all the necessary, fully trained, and qualified personnel to be in continuous attendance during the transfer of Ferric Chloride.
 4. Supplier shall allow a two-hour unloading time for each delivery. The Supplier's personnel shall provide one (1) copy of the delivery package to OC San's operator(s) prior to connection. The delivery package includes the weight ticket, the analysis report and the Bill of Lading.
 5. Supplier shall provide all necessary safety equipment required by the Supplier or its contract hauler.
 6. Supplier shall provide a twenty-four (24) hour phone number where qualified personnel can be contacted in the event of an emergency. It will be the Supplier's responsibility to update any changes or phone numbers.
 7. **Bills of Lading** must be labeled with the information listed below in order to be accepted:
 - a) Approved name/number of product.
 - b) Specify "Ferric Chloride" (FeCl₃).
 - c) Deliver and place into Ferric Chloride (FeCl₃) Tank.

If the above information is not on the Bill of Lading, off-loading will not take place without confirmation from OC San's Operations and Maintenance Supervisor and/or Supplier that the shipment is the product ordered.
 8. OC San's plant gates are equipped with intercoms for the purpose of announcing arrivals. Please follow instructions - **DO NOT BLOW HORNS.**
 9. Chemical delivery driver must sign in at the Control Center at Plant No. 1 or the Operations Center at Plant No. 2.
 10. Ferric Chloride drivers, under no circumstances, are to remove or clean basket strainers at storage vessel. If there is an issue, please notify OC San Operations.
 11. Chemical deliveries will be refused for any of the following:
 - a) Incorrect chemical sample color or appearance.
 - b) Ferric Chloride basket strainers plug up more than two (2) times during off-loading.
 - c) Unsafe delivery vehicle off-loading equipment.
 12. The driver is responsible for clean-up of spilled material. Clean-up must be conducted in conformance with OC San's safety procedures, Environmental Protection Agency (EPA), regional and local regulations and ordinances and product manufacturers recommended clean-up procedures. OC San only has

plant water available for use by the driver. Neutralizing agents, special equipment or chemicals required for clean-up must be furnished by the Supplier.

13. The driver shall not over-pressurize the off-loading system, piping or appurtenances. Chemical shall not be off-loaded at a rate greater than can be off-loaded in one (1) or two (2) hours nor at pressures greater than thirty (30) psi. The driver shall not surge or create hammer pressures in the system when clearing or purging the tank, hose or piping.
14. OC San reserves the right to request Ferric Chloride deliveries to be on schedule convenient to the needs of the treatment plants. Deliveries will be made, seven (7) days a week and received between the hours of 7:00 am and 4:00 pm Pacific Standard Time, or as required. Plant No. 2 is located in close proximity to residential homes off of Brookhurst Street. The drivers shall not arrive early to the Plant unless required by OC San. The drivers are discouraged from arriving early and parking along Brookhurst Street before entering the Plant site.
15. In the event of an emergency, immediately call the Control Center or Operations Center for assistance:

Plant 1: 714-593-7133 or

Plant 2: 714-593-7677

- H. **Rejection of Shipment** -OC San may reject any delivery of Ferric Chloride which does not meet the product specifications. Supplier shall be responsible for removing the rejected material within 48 hours at no cost to OC San. OC San may request a report of incidents. OC San may terminate the Agreement if more than two (2) deliveries of Ferric Chloride are rejected in a calendar month or deemed to not meet the specifications.



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2759

Agenda Date: 3/1/2023

Agenda Item No: 8.

FROM: Robert Thompson, General Manager
Originator: Riaz Moinuddin, Director of Operations & Maintenance

SUBJECT:

OC SAN - OPERATIONS & MAINTENANCE WASTEWATER 101 PART 1: TREATMENT AND RECYCLING

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION:

Information Item.

BACKGROUND

Each month, staff provides an informational presentation on topics of interest to the Board of Directors. This month's topic: Orange County Sanitation District Wastewater Treatment Operations.

RELEVANT STANDARDS

- 24/7/365 treatment plant reliability
- Operate and maintain facilities to minimize impacts on surrounding communities, including odor, noise, and lighting
- Listen to and seriously consider community input on environmental concerns
- Build brand, trust, and support with policy makers and community leaders

ATTACHMENT

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

- Presentation

Wastewater Treatment & Recycling

Presented by: Riaz Moinuddin,

Director of Operations and Maintenance

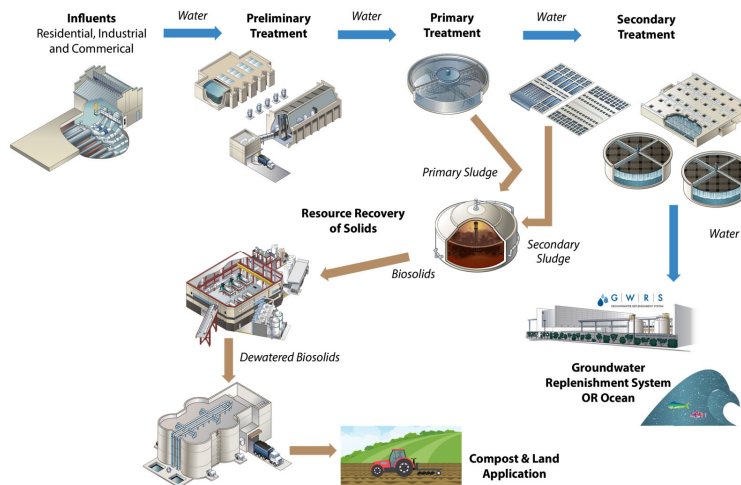
Operations Committee Meeting

March 1, 2023



1

Plant Process Overview



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Metering and Diversion Structure



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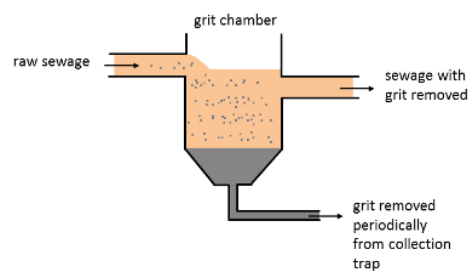
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Preliminary Treatment

Barscreen



Grit Chamber



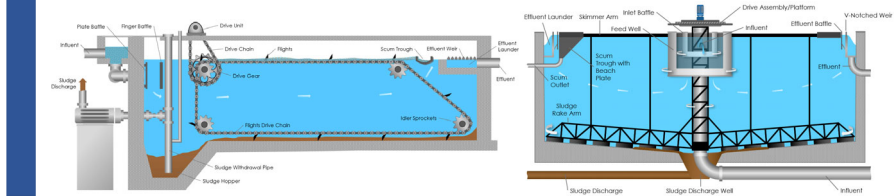
Grit is mostly inorganic material like sand, gravel, and eggshells.

Grit is very abrasive and heavy. It clogs flow channels and digesters and wears out pumps.

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Primary Treatment

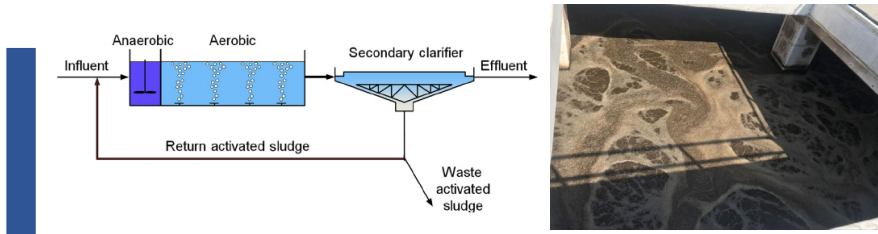


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Secondary Treatment

Activated Sludge Process



Trickling Filter at Plant No. 1



6

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Effectiveness of Water Treatment

Raw Sewage



Primary Treated Effluent



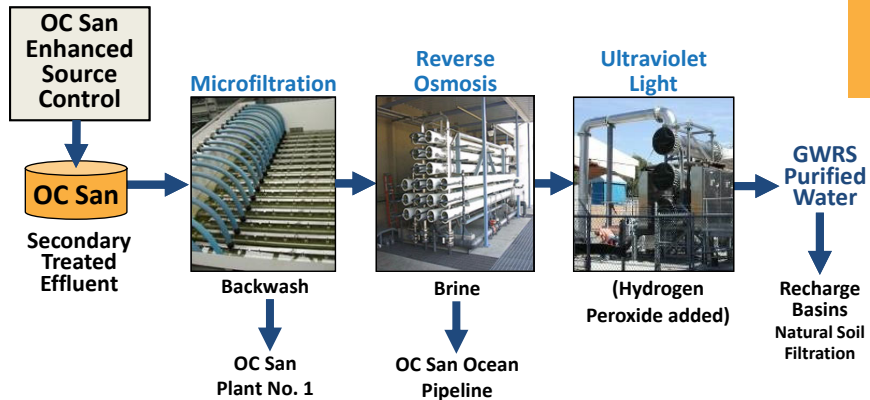
Secondary Treated Effluent



7

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GWR System Flow Diagram



- Plant 1 and 2 recyclable flow provided to GWRs creates 130 million gallons daily of drinkable water.
- Accounts for approximately 40% of local drinking water supply.

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Non-Reclaimable Flow



Plant No. 2 Aerial View

9

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Solids Recovery Process

Anaerobic Digester



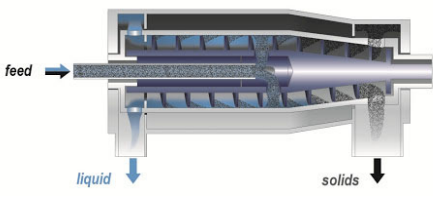
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Dewatering Operation



Centrifuge System at Plant No. 1



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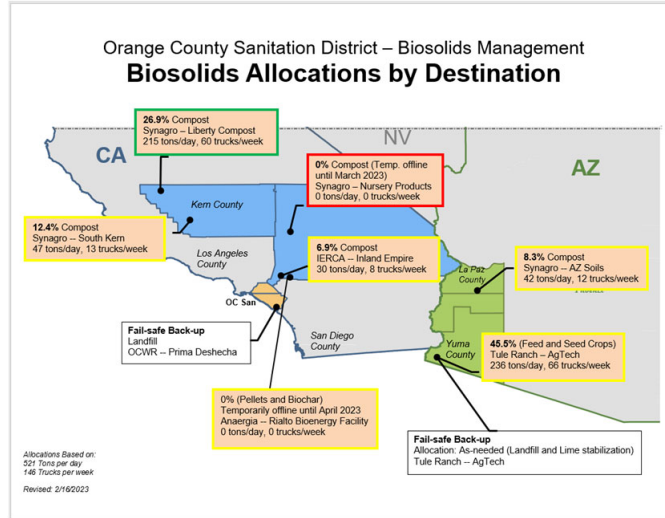
Truckloading



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Biosolids Reuse



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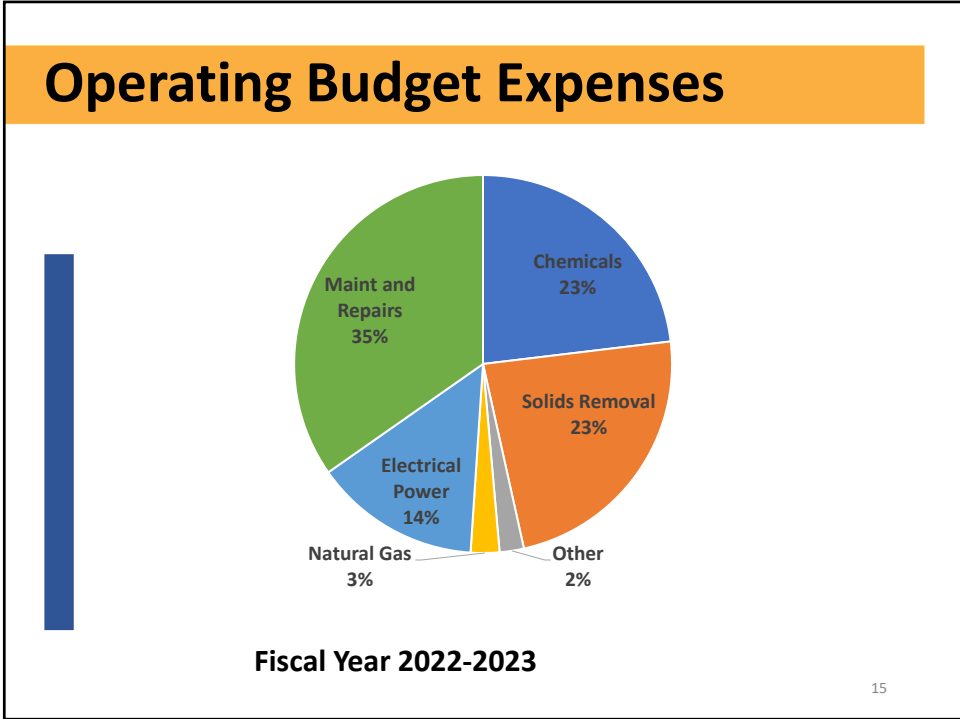
Central Generation Engines



Plant No. 2 Central Generation Engines


14

14



15

Questions



16

16



OPERATIONS COMMITTEE

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

Agenda Report

File #: 2023-2761

Agenda Date: 3/1/2023

Agenda Item No: 9.

FROM: Robert Thompson, General Manager
Originator: Lorenzo Tyner, Assistant General Manager

SUBJECT:

OC SAN - PROCUREMENT PROCESS, BIDS VS. RFPS, SOLE SOURCE CONTRACTS VS. COMPETITIVE CONTRACTS

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION:

Information Item.

BACKGROUND

Each month, staff provides an informational presentation on topics of interest to the Board of Directors. This month's topic: Procurement.

RELEVANT STANDARDS

- Build brand, trust, and support with policy makers and community leaders
- Make it easy for people to understand OC San's roles and value to the community

ATTACHMENT

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

- Presentation



Presented By:
Ruth Zintzun,
Purchasing and
Contracts Manager

Operations
Committee

March 1, 2023

Purchasing, Contracts, and Materials Management

Department Overview



1

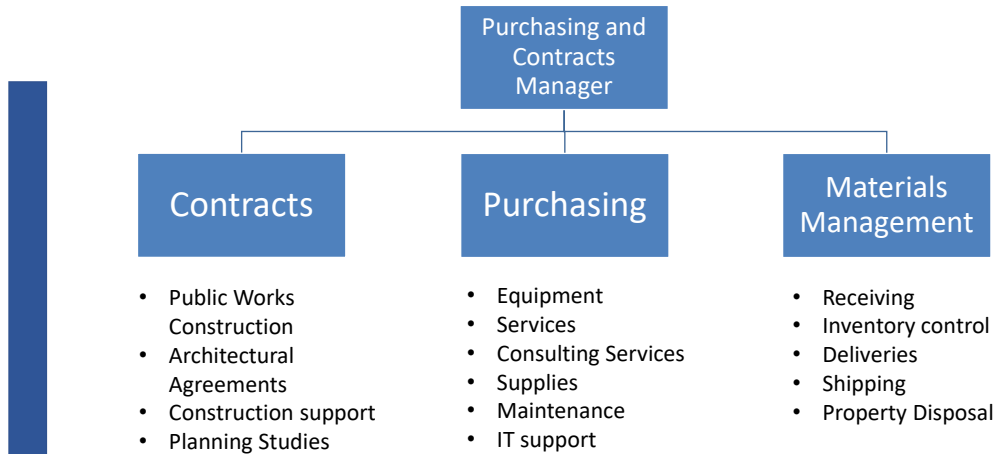
Mission Statement

“Provide goods, services, and information with the commitment to achieving the highest ethical, economic, and progressive standards possible.”



2

Team



3

3

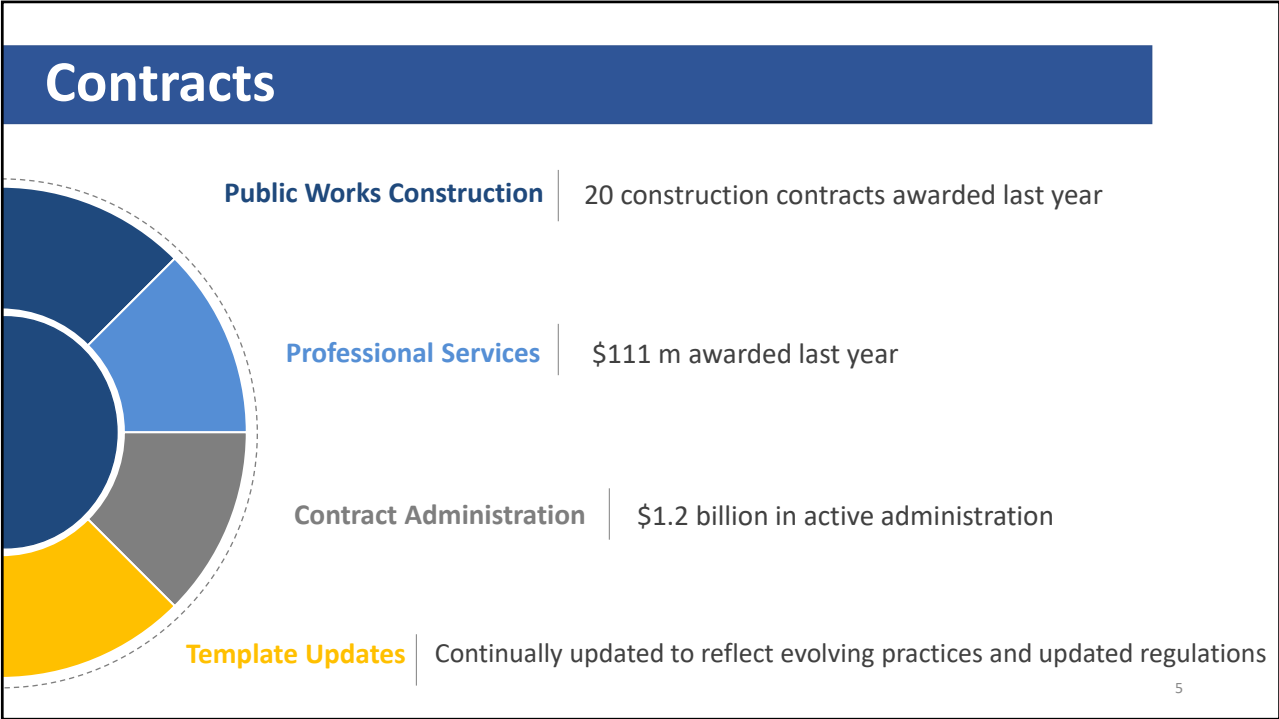
Materials Management



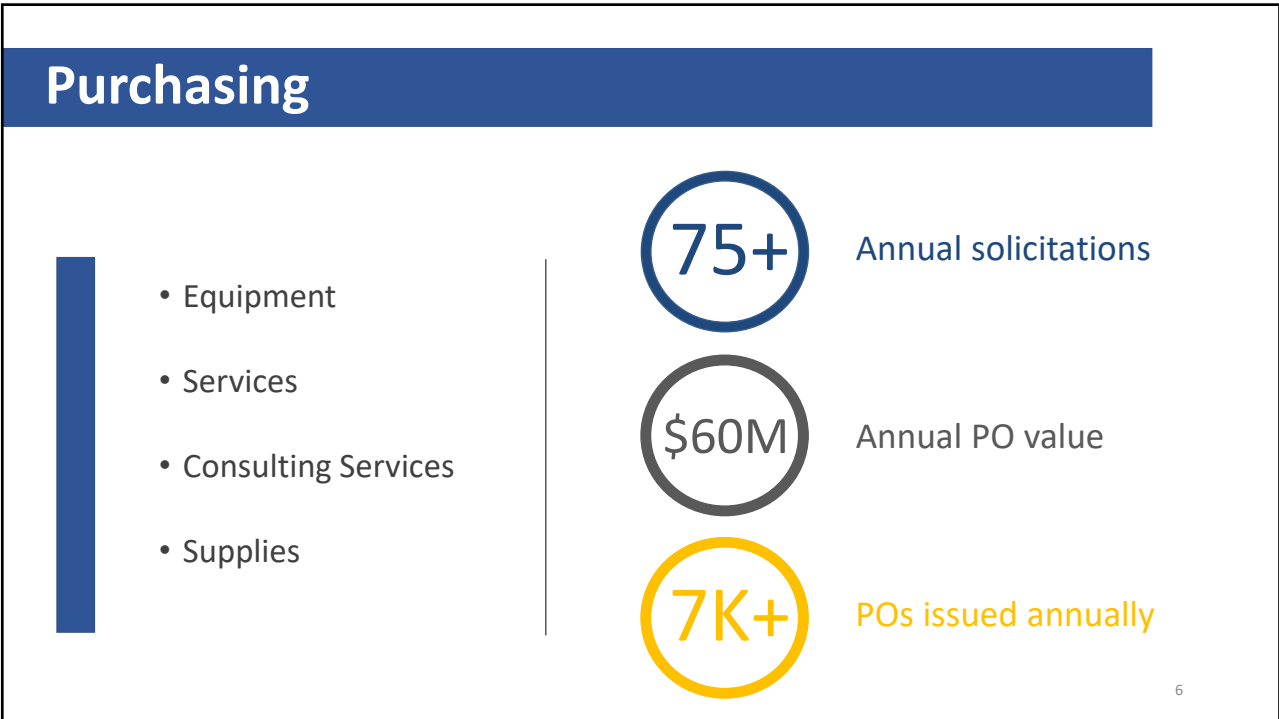
- 6,500 inventory items
- \$8.2 m of inventory

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4



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Rules and Regulations

- State Law
- Public Contract Code
- Mini-Brooks Act
- CA Government Code
- Federal and State Grant Requirements
- OC San Policies
- Ordinance No. OC SAN-56

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Purchasing Approval Thresholds

- Ordinance No. OC SAN-56
 - Sufficient Budget Available and Authorized
 - General Manager up to \$100K
 - Standing Committees up to \$200K
 - Board Approval if over \$200K

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Procurement Methods

Public Works Construction

Construction, erection, or alteration of any type of structure, building, or improvement.

- Publicly advertised competitive solicitation if work is over \$35,000
- Awarded to lowest Responsive & Responsible Bidder
- No contract negotiations

Request for Proposals/Qualifications

Services provided by professionals that involve specialized judgement, skill, and expertise.

- Competitive solicitation if service is over \$10,000
- Award is based on Best Value
- Contract negotiations may occur

Goods and Services Bids

Fixed, movable, disposable, and/or reusable products, equipment, materials, or supplies; or furnishing of materials, labor, time, or effort by a Contractor.

- Competitive solicitation if goods or services are over \$10,000
- Awarded to lowest Responsive & Responsible bidder
- No contract negotiations

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Exemptions

Emergency

Purchases that are required to prevent immediate interruption or cessation of necessary services or to safeguard life, property, or the public health and welfare

Sole Source

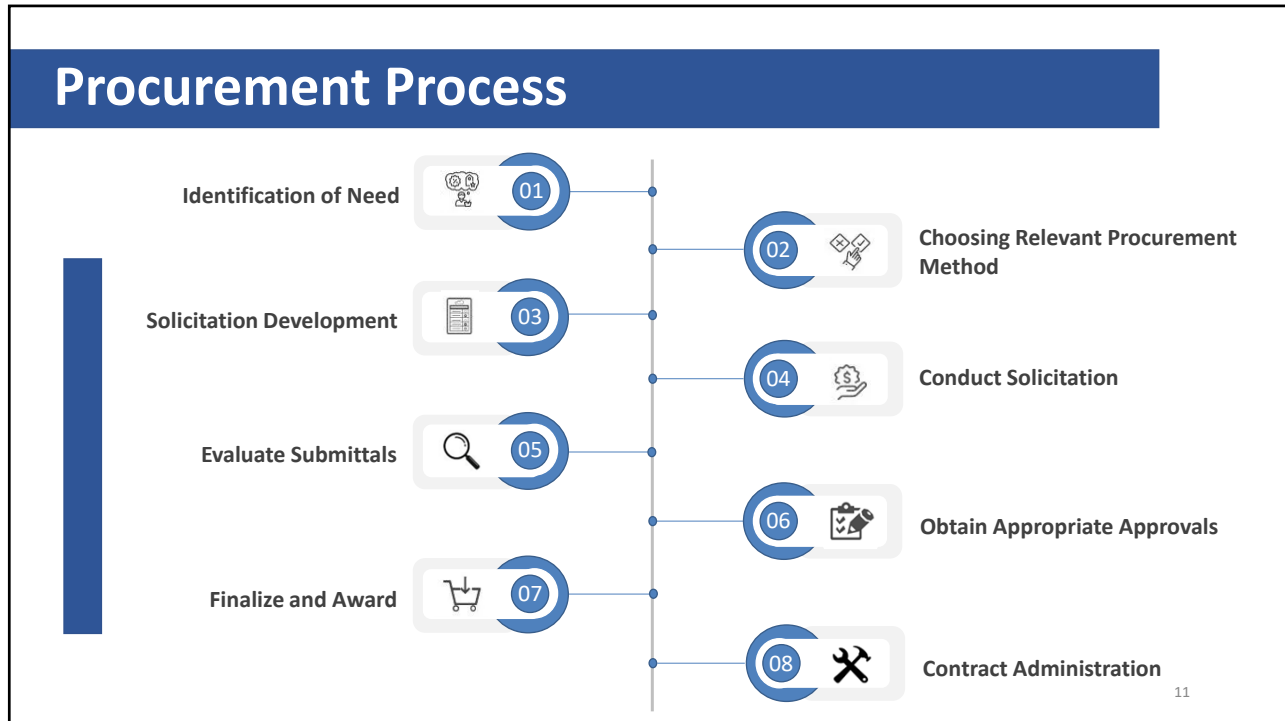
Goods and/or services are:

- 1) *Of a unique nature based on the quality, durability, availability, fitness or qualifications for a particular use; or*
- 2) *Only available from one source*

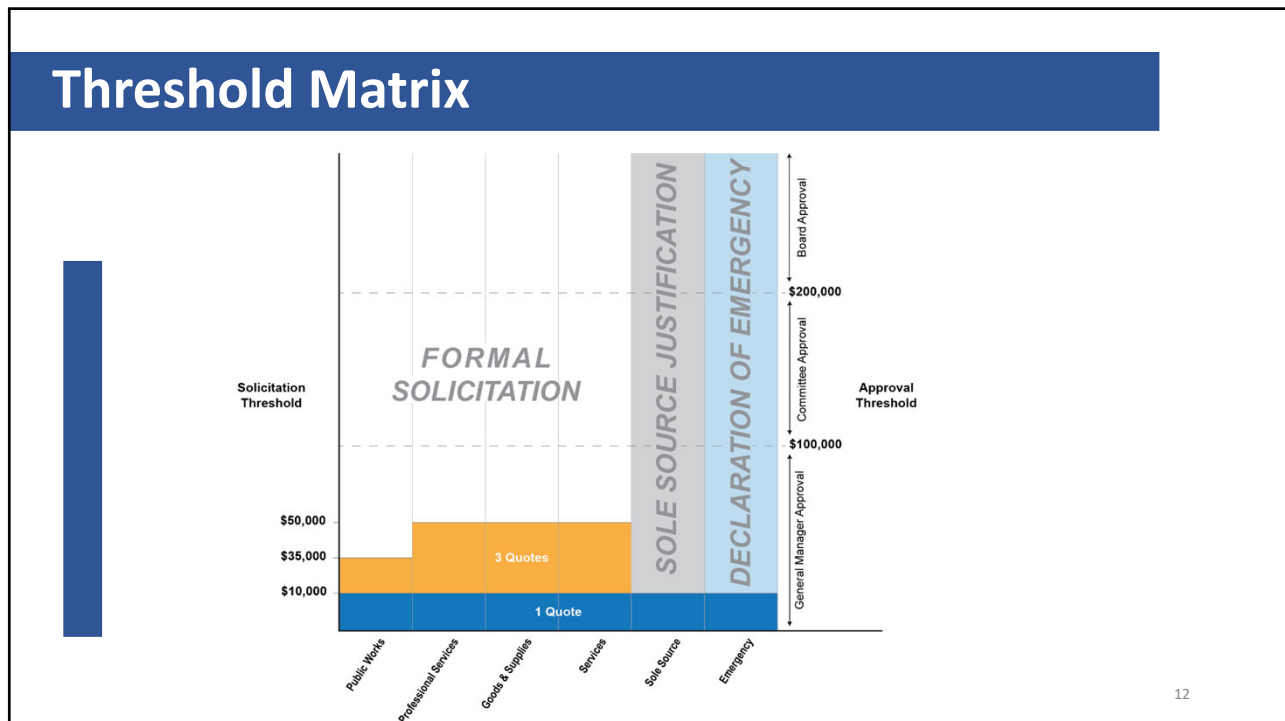
- General Manager or designee determines the urgent need or sole source
- Awarded through negotiated procurement
- Board Chairman concurrence if emergency over \$100,000
 - Board ratified at next regular meeting

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Master Contracts

- Request for Qualifications
 - Experience
 - Capacity
 - Specialized expertise
- Current Master Contracts

Type	Maximum Duration	Current Number of Contracts	Individual Task Order Limit
Maintenance and Repairs	3 years	7	\$300,000
Planning	5 years	6	\$100,000
Professional Design	5 years	17	\$300,000

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Developments

Remote Warehousing



- Inventory vending machines
- Delivery lockers
- Transfer of inventory

Vendor Outreach



- 5 virtual presentations
- 362 new registered vendors
- Multi-agency outreach event

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Questions



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ORANGE COUNTY SANITATION DISTRICT COMMON ACRONYMS

ACWA	Association of California Water Agencies	LOS	Level Of Service	RFP	Request For Proposal
APWA	American Public Works Association	MGD	Million Gallons Per Day	RWQCB	Regional Water Quality Control Board
AQMD	Air Quality Management District	MOU	Memorandum of Understanding	SARFPA	Santa Ana River Flood Protection Agency
ASCE	American Society of Civil Engineers	NACWA	National Association of Clean Water Agencies	SARI	Santa Ana River Interceptor
BOD	Biochemical Oxygen Demand	NEPA	National Environmental Policy Act	SARWQCB	Santa Ana Regional Water Quality Control Board
CARB	California Air Resources Board	NGOs	Non-Governmental Organizations	SAWPA	Santa Ana Watershed Project Authority
CASA	California Association of Sanitation Agencies	NPDES	National Pollutant Discharge Elimination System	SCADA	Supervisory Control And Data Acquisition
CCTV	Closed Circuit Television	NWRI	National Water Research Institute	SCAP	Southern California Alliance of Publicly Owned Treatment Works
CEQA	California Environmental Quality Act	O & M	Operations & Maintenance	SCAQMD	South Coast Air Quality Management District
CIP	Capital Improvement Program	OCCOG	Orange County Council of Governments	SOCWA	South Orange County Wastewater Authority
CRWQCB	California Regional Water Quality Control Board	OCHCA	Orange County Health Care Agency	SRF	Clean Water State Revolving Fund
CWA	Clean Water Act	OCSD	Orange County Sanitation District	SSMP	Sewer System Management Plan
CWEA	California Water Environment Association	OCWD	Orange County Water District	SSO	Sanitary Sewer Overflow
EIR	Environmental Impact Report	OOBS	Ocean Outfall Booster Station	SWRCB	State Water Resources Control Board
EMT	Executive Management Team	OSHA	Occupational Safety and Health Administration	TDS	Total Dissolved Solids
EPA	US Environmental Protection Agency	PCSA	Professional Consultant/Construction Services Agreement	TMDL	Total Maximum Daily Load
FOG	Fats, Oils, and Grease	PDSA	Professional Design Services Agreement	TSS	Total Suspended Solids
gpd	gallons per day	PFAS	Per- and Polyfluoroalkyl Substances	WDR	Waste Discharge Requirements
GWRS	Groundwater Replenishment System	PFOA	Perfluorooctanoic Acid	WEF	Water Environment Federation
ICS	Incident Command System	PFOS	Perfluorooctanesulfonic Acid	WERF	Water Environment & Reuse Foundation
IERP	Integrated Emergency Response Plan	POTW	Publicly Owned Treatment Works	WIFIA	Water Infrastructure Finance and Innovation Act
JPA	Joint Powers Authority	ppm	parts per million	WIIN	Water Infrastructure Improvements for the Nation Act
LAFCO	Local Agency Formation Commission	PSA	Professional Services Agreement	WRDA	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.

PERFLUOROCTANOIC ACID (PFOA) – An ingredient for several industrial applications including carpeting, upholstery, apparel, floor wax, textiles, sealants, food packaging, and cookware (Teflon).

PERFLUOROCTANESULFONIC 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.