I hereby certify that the following Agenda was posted at least 72 hours prior to the time of the Board Meeting so noticed below, at the usual agenda posting location of the South Orange County Wastewater Authority [SOCWA] and at www.socwa.com.

Betty Burnett, General Manager
SOCWA and the Board of Directors thereof

AGENDA

Special Meeting of The
South Orange County Wastewater Authority
Board of Directors

August 8, 2019
8:30 a.m.

THE BOARD OF DIRECTORS MEETING ROOM IS LOCATED AT 34156 DEL OBISPO STREET, DANA POINT, CA. THE ROOM IS WHEELCHAIR ACCESSIBLE. IF YOU REQUIRE ANY SPECIAL DISABILITY-RELATED ACCOMMODATIONS (I.E., ACCESS TO AN AMPLIFIED SOUND SYSTEM, ETC.), PLEASE CONTACT THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY'S SECRETARY'S OFFICE AT 949-234-5421 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE SCHEDULED MEETING. THIS AGENDA CAN BE OBTAINED IN AN ALTERNATE FORMAT UPON WRITTEN REQUEST TO THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY SECRETARY AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE SCHEDULED MEETING.

AGENDA ATTACHMENTS AND OTHER WRITINGS THAT ARE DISCLOSABLE PUBLIC RECORDS DISTRIBUTED TO ALL, OR A MAJORITY OF, THE MEMBERS OF THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY BOARD OF DIRECTORS IN CONNECTION WITH A MATTER SUBJECT TO DISCUSSION OR CONSIDERATION AT AN OPEN MEETING OF THE BOARD OF DIRECTORS ARE AVAILABLE FOR PUBLIC INSPECTION IN THE AUTHORITY OFFICE, 34156 DEL OBISPO STREET, DANA POINT, CA ("AUTHORITY OFFICE"). IF SUCH WRITINGS ARE DISTRIBUTED TO MEMBERS OF THE BOARD OF DIRECTORS LESS THAN SEVENTY-TWO (72) HOURS PRIOR TO THE MEETING, THEY WILL BE AVAILABLE IN THE RECEPTION AREA OF THE AUTHORITY OFFICE AT THE SAME TIME AS THEY ARE DISTRIBUTED TO THE BOARD OF DIRECTORS, EXCEPT THAT, IF SUCH WRITINGS ARE DISTRIBUTED IMMEDIATELY PRIOR TO, OR DURING, THE MEETING, THEY WILL BE AVAILABLE IN THE BOARD OF DIRECTORS MEETING ROOM.

1. CALL MEETING TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ORAL COMMUNICATIONS

   A. Members of the public may address the board regarding an item on the agenda or may reserve this opportunity during the meeting at the time the item is discussed by the board. There will be a three-minute limit for public comments.

4. CONSENT CALENDAR

   A. Minutes of Board of Directors Meeting(s)

      1) Board of Directors Meeting June 6, 2019..... 1

      2) Board of Directors Meeting June 20, 2019..... 10

      ACTION The Board will be requested to approve subject Minutes.

B. Financial Matters

ACTION Finance Committee recommends to the Board of Directors to ratify the June 2019 disbursements for the period from June 1, 2019, through June 30, 2019, totaling $6,065,041 and to receive and file the June 2019 Financial Reports as submitted.

C. Operational Reports – May 2019

ACTION The Board will be requested to receive and file the *May 2019 Operations Report*.

D. Operational Reports – June 2019

ACTION The Board will be requested to receive and file the *June 2019 Operations Report*.

E. Capital Improvement Program

ACTION The Board will be requested to receive and file subject reports.

F. Project Committee No. 2

ACTION The Engineering Committee recommends that the Project Committee No. 2 Board of Directors approve Change

Orders 1, 2 and 3 to the construction contract with SS Mechanical Construction for the J. B. Latham Treatment Plant, Plant 1 Grit Basin Rehabilitation Project.

G. Project Committee No. 15

1) Change Order – Hazen and Sawyer Engineers [PC15] 127

ACTION The Engineering Committee recommends that the Project Committee No. 15 Board of Directors approve Change Orders 12, 13, 14 and 19, 20, 22, to the design services contract with Hazen and Sawyer for the Coastal Treatment Plant Facility Improvements Project.

H. Minutes of the Engineering Committee

1) Engineering Committee Meeting June 13, 2019 130

ACTION The Board will be requested to approve subject Minutes.

5. ENGINEERING MATTERS

A. Project Committee No. 17

1) RTP Miscellaneous Improvements 2018 – Engineering Services During Construction [PC 17]..... 134

ACTION The Project Committee No. 17 Board will be requested to approve the award of engineering services during construction contract to Lee and Ro at a fee not to exceed $123,310.

B. Project Committee No. 15 and 21 (Reach E)

1) Award of Engineering Services for the Aliso Creek Buried Utility and Roadway Protection Project [PC 15 & 21]..... 146

ACTION The Project Committee No. 15 and 21 Reach, E Board of Directors, will be requested to approve the award of the engineering services contract to Tetra Tech at a fee not to exceed $123,525.

2) Award of Engineering Services for the Aliso Creek Buried Utility and Roadway Protection Project [PC 15 & 21] 178

ACTION The Project Committee No. 15 and 21 Reach, E Board of Directors, will be requested to approve the award of the environmental services contract to Dudek at a fee not to exceed $195,750.

C. SOCWA 2020 Ten Year Capital Improvement Plan 250

ACTION Receive and file SOCWA 2020 Ten Year Capital Improvement Plan.

6. GENERAL MANAGER'S REPORTS

A. Resolution No. 2019-03, Commendation for Mike Harper 257

ACTION Staff recommends the Board approve Resolution No. 2019-03 and authorize Chairman Ferons to sign the Commendation for Mr. Harper on behalf of the Board of Directors of the South Orange County Wastewater Authority.

B. Annual Financial Statements Audit FY 2018-19 Progress Update 259

ACTION Information item.

C. Request to Extend the PUN Group, Financial Audit Firm, Contract 279

ACTION Staff recommends to the Board of Directors to approve an extension of The PUN Group contract adding two (2) additional years.

D. Resolution No. 2019-04, A Resolution of SOCWA Approving and Adopting of the Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan for 2018 280

ACTION Staff recommends the Board of Directors adopt by Resolution (attached) the 2018 Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan.

E. Revised SOCWA Policy Establishing Guidelines for Travel and Expense Reimbursement; Request to Approve Director Reimbursement of Travel to Fairfield Suisun District 288

ACTION Staff recommends, 1) Discussion and Comment; 2) Approval of the August 2019 revision to the SOCWA Policy Establishing Guidelines for Travel and Expense Reimbursement; 3) Rescind prior Policy, SOCWA Resolution No. 2011-04, SOCWA Policy Establishing Guidelines for Travel and Expense Reimbursement; 4) Ratify the reimbursement for Director Erdman in the amount of $790.

F. General Manager's Status Report 296

ACTION Information item.

G. Monthly Progress Report on State Audit Recommendations 300

ACTION Information item.

OTHER MATTERS

A. Open discussion or items received too late to be agendized.

Note: Determine the need to take action on the following item(s) introduced by the General Manager which arose subsequent to the agenda being posted.

[Adoption of this action requires a two-thirds vote of the Board, or if less than two-this are present a unanimous vote.]

ADJOURNMENT

THE NEXT SOCWA BOARD MEETING
SEPTEMBER 5, 2019

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Board of Directors

June 6, 2019

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Board of Directors was held on June 6, 2019, at 8:30 a.m. at the Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Board of Directors were present:

MIKE DUNBAR, Emerald Bay Service District	Director
DENNIS CAFFERTY, El Toro Water District	Alternate Director
STEPHAN DOPUDJA, Trabuco Canyon Water District	Vice Chairman
MATT COLLINGS, Moulton Niguel Water District	Alternate Director
DOUG REINHART, Irvine Ranch Water District	Director
TONI ISEMAN, City of Laguna Beach	Director
DAN FERONS, Santa Margarita Water District	Chairman
DENNIS ERDMAN, South Coast Water District	Director
RAY MILLER, City of San Juan Capistrano	Alternate Director
DAVE REBENSDORF, City of San Clemente	Director

Staff present:

BETTY BURNETT	General Manager/Secretary
GREG MOSER	Procopio Law Firm
BRIAN PECK	Director of Engineering
AMBER BAYLOR	Director of Environmental Compliance
JIM BURROR	Director of Operations
MARY CAREY	Finance Controller
KONSTANTIN SHILKOV	Senior Accountant
DANITA HIRSH	Assistant to the General Manager
JASON MANNING	Senior Engineer
ANNA SUTHERLAND	Payroll
RONI YOUNG	Associate Engineer
TERI NOSON	Clerk of the Board/Assistant Secretary

Also present:

MIKE GASKINS	El Toro Water District
JUSTIN MCCUSKER	Santa Margarita Water District
RICK SHINTAKU	South Coast Water District

1. <u>Call Meeting to Order</u>

Chairman Ferons called the meeting to order at 8:30 a.m. and welcomed everyone present.

2. <u>Pledge of Allegiance</u>

Director Miller led the Pledge of Allegiance to the Flag of the United States of America.

3. Oral Comments

Chairman Ferons asked if members of the public desired to address the Board, or desired to reserve addressing the Board during the meeting regarding any item on the Agenda. No comments were received.

Ms. Burnett presented a video of a Regional Treatment Plant tour provided by the SOCWA staff for approximately 100 Aliso Niguel High School AP Science students.

ACTION TAKEN
No action required.

4. Consent Calendar

Chairman Ferons referenced the items under the Consent Calendar and asked if there were any questions or comments. Director Collings requested to pull item 4.F. Project Committee No. 15 from the Consent Calendar.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dopudja to approve the remaining items under the consent calendar.

Motion carried:	Aye 10; Nay 0; Abstain 0; Absent 0	
	Director Dunbar	Aye
	Director Cafferty	Aye
	Vice Chairman Dopudja	Aye
	Director Collings	Aye
	Director Reinhart	Aye
	Director Iseman	Aye
	Chairman Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Rebensdorf	Aye

4.F. Project Committee No. 15

1) Change Order – Hazen & Sawyer Design Services Contract [PC15]

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Iseman of Project Committee No. 15 to approve the Engineering Committee recommendation of Change Orders 8 through 11 and 15 through 18 to the design services contract with Hazen and Sawyer for the Coastal Treatment Plant Facility Improvements Project.

2) Change Order – SS Mechanical Construction Contract [PC15]

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Iseman of Project Committee No. 15 to approve the Engineering Committee recommendation of Change Orders 3 and 4 to the construction contract with SS Mechanical Construction for the Coastal Treatment Plant Tertiary System Upgrades Project.

Motion carried:	Aye 3; Nay 0; Abstain 1; Absent 0	
	Director Dunbar	Aye
	Director Collings	Abstain
	Director Iseman	Aye
	Director Erdman	Aye

5. Engineering Matters

A. Project Committee No. 5

1) Contract Amendment for Engineering Services [PC 5]

ACTION TAKEN
Motion was made by Director Rebensdorf and seconded by Director Erdman of Project Committee No. 5 to approve contract amendment for engineering services for Black & Veatch at a fee of not to exceed $98,400.

2) Award of Environmental Services Contract [PC 5]

ACTION TAKEN
Motion was made by Director Rebensdorf and seconded by Director Erdman of Project Committee No. 5 to approve the contract amendment for engineering services for Dudek at a fee not to exceed $135,870.

Motion carried:	Aye 5; Nay 0; Abstain 0; Absent 0	
	Director Collings	Aye
	Chairman Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Rebensdorf	Aye

B. Project Committee No. 15

1) Award of a Construction Contract to PCL Construction [PC 15]

ACTION TAKEN
Motion was made by Director Dunbar and seconded by Director Erdman of Project Committee No. 15 to approve the Facilities Improvement Project as described herein and approve the award of a construction contract to PCL Construction at a price not to exceed $9,209,000.

2) Award of Engineering Services During Construction [PC 15]

ACTION TAKEN
Motion was made by Director Dunbar and seconded by Director Erdman of Project Committee No. 15 to approve the award of the engineering services during construction contract to Hazen and Sawyer at a fee not to exceed $490,484.

Motion carried:	Aye 3; Nay 1; Abstain 0; Absent 0	
	Director Dunbar	Aye
	Director Collings	Nay
	Director Iseman	Aye
	Director Erdman	Aye

C. Project Committee(s) No. 2 and 15

1) Award of Construction Management Services Contract [PC 2 & 15]

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dunbar of Project Committee(s) No. 2 and 15 to approve the award of the construction management contract to Butier Engineering for the J. B. Latham Treatment Plant Package "B" Improvements and the Coastal Treatment Plant Facility Improvements Projects at a price not to exceed $1,708,015.

Motion carried:	Aye 5; Nay 0; Abstain 1; Absent 0	
	Director Dunbar	Aye
	Director Collings	Abstain
	Director Iseman	Aye
	Chairman Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye

6. General Manager's Reports

A. Investment Policy for Public Funds Annual Review

ACTION TAKEN
There being no objection from the Board, Chairman Ferons directed the SOCWA Investment Policy received and filed as submitted based on the annual review.

B. Quarterly Update Cash Roll Forward (Q3, 2019)

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dunbar to approve the Quarterly Update Cash Roll Forward:

a) Additional Committee comments and recommendations to the Board.
b) Board of Directors to receive and file the Q3, March 31, 2019, Report.
c) Board to approve issuing refunds for Large Capital, PC-15 Use Audit and Additional Cash as of June 30, 2018.

Motion carried:	Aye 10; Nay 0; Abstain 0; Absent 0	
	Director Dunbar	Aye
	Director Cafferty	Aye
	Vice Chairman Dopudja	Aye
	Director Collings	Aye
	Director Reinhart	Aye
	Director Iseman	Aye
	Chairman Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Rebensdorf	Aye

C. Project Committee No. 17

1) Regional Treatment Plant AT&T Underground Conduit Repair Project

ACTION TAKEN
Motion was made by Director Iseman and seconded by Director Collings of Project Committee No. 15 to ratify expenditure and receive and file the report.

Motion carried:	Aye 5; Nay 0; Abstain 0; Absent 0	
	Director Dunbar	Aye
	Director Cafferty	Aye
	Director Collings	Aye
	Director Iseman	Aye
	Director Erdman	Aye

D. Agenda Preparation Software/Audio Visual Hardware

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dunbar to approve:

1) Receive a report from the Finance Committee as to its discussion of the item.
2) Authorize the General Manager to acquire a limited software/hardware system to increase quality and improve efficiency in agenda/meeting/documentation functions at SOCWA at an amount not to exceed $120,000.
3) Direction to staff to bring back to the Board for further discussion prior to the September 2019 Board meeting: The Policy for the retention of minutes, the format for action minutes, and process for preparation and approval of minutes.

Motion carried:	Aye 10; Nay 0; Abstain 0; Absent 0	
	Director Dunbar	Aye
	Director Cafferty	Aye
	Vice Chairman Dopudja	Aye
	Director Collings	Aye
	Director Reinhart	Aye
	Director Iseman	Aye
	Chairman Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Rebensdorf	Aye

E. Project Committee(s) No. 2, 5, and 15

1) New or Used Heavy Equipment Purchases

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Iseman of Project Committee No. 15 to approve (Tractor):

1) Authorize the General Manager to purchase two (2) heavy equipment vehicles, as submitted, each not to exceed $95,000.
2) The General Manager to report the final purchase prices and Project Committee cost distributions to the Board of Directors upon completion.

Motion carried:	Aye 3; Nay 0; Abstain 1; Absent 0;	
	Director Dunbar	Aye
	Director Collings	Abstain
	Director Iseman	Aye
	Director Erdman	Aye

Motion was made by Director Erdman and seconded by Director Miller of Project Committees No. 2, 5, 15 (Truck):

1) Authorize the General Manager to purchase two (2) heavy equipment vehicles, as submitted, each not to exceed $95,000.
2) The General Manager to report the final purchase prices and Project Committee cost distributions to the Board of Directors upon completion.

Motion carried:	Aye 6; Nay 0; Abstain 1; Absent 0;	
	Director Dunbar	Aye
	Director Collings	Abstain
	Director Iseman	Aye
	Director Erdman	Aye
	Chairman Ferons	Aye
	Director Miller	Aye
	Director Rebensdorf	Aye

F. General Manager's Status Report

ACTION TAKEN
No action required.

G. Monthly Progress Report on State Audit Recommendations

ACTION TAKEN
No action required.

H. Report of the Nominating Committee - Election of Officers

ACTION TAKEN
Motion was made by Director Reinhart and seconded by Director Miller to approve the Nominating Committee recommendation of Elected Officers to the SOCWA Board of Directors for the FY 2019/2020, and the appointments to the Executive and Finance Committee for the FY 2019/2020 as follows:

Chairman Ferons noted for the record that through this action the Board is making an exception to the Executive Committee Bylaws.

Board of Directors - Chairman, Director Ferons; Vice Chairman, Director Dopudja; Secretary/Treasurer, Ms. Burnett; Assistant Secretary, Ms. Noson.

Finance Committee - Director Erdman, Chairman; Director Freshley, Director Iseman, Director Bourne, Chairman Ferons and Director Lopez.

Executive Committee - Chairman Ferons, Vice Chairman Dopudja, Director Erdman and Director Lopez.

Motion carried:	Aye 10; Nay 0; Abstain 0; Absent 0	
	Director Dunbar	Aye
	Director Cafferty	Aye
	Vice Chairman Dopudja	Aye
	Director Collings	Aye
	Director Reinhart	Aye
	Director Iseman	Aye
	Chairman Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Rebensdorf	Aye

7. Closed Session

There being no objection from the Board, the Chairman noted a Closed Session would not be conducted for the following matter:

A. Closed Session Pursuant to Government Code Section 54957.6 Conference with Labor Negotiators

SOCWA Designated Representatives: Betty Burnett, General Manager; Brad Neufeld Labor Counsel

Employee Organization: SOCWA Employee Association

8. Report Out of Closed Session

None.

Other Matters

Chairman Ferons asked if there were any more questions or comments from the Board. No questions or comments were received.

Adjournment

There being no further business, Chairman Ferons adjourned the meeting at 9:44 a.m.

I HEREBY CERTIFY that the foregoing Minutes are a true and accurate copy of the Minutes of the Regular Meeting of the South Orange County Wastewater Authority Board of Directors on June 6, 2019, and approved by the Board of Directors of the South Orange County Wastewater Authority.

_____

Betty C. Burnett, General Manager/Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

SUMMARY OF BOARD ACTIONS
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

June 6, 2019

DESCRIPTION	MOTION MADE BY	ACTION
4. Consent Calendar	Erdman	Approved
4.F. Project Committee No. 15 1) Change Order – Hazen & Sawyer Design Services Contract 2) Change Order – SS Mechanical Construction Contract	Erdman	Approved
5.A. Project Committee No. 5 1) Contract Amendment for Engineering Services. 2) Award of Environmental Services Contract.	Rebensdorf	Approved
5.B. Project Committee No. 15 1) Award of a Construction Contract to PCL Construction 2) Award of Engineering Services During Construction	Dunbar	Approved
5.C. Project Committee(s) No. 2 and 15 1) Award of Construction Management Services Contract	Erdman	Approved
6.A. Investment Policy for Public Funds Annual Review	Direction of Chairman	Received and Filed
6.B. Quarterly Update Cash Roll Forward (Q3, 2019)	Erdman	Approved
6.C. Project Committee No. 17 1) Regional Treatment Plant AT&T Underground Conduit Repair Project	Iseman	Received and Filed
6.D. Agenda Preparation Software/Audio Visual Hardware	Erdman	Approved

6.E. Project Committee(s) No. 2, 5, and 15 1) New or Used Heavy Equipment Purchases	Erdman	Approved
6.H. Report of the Nominating Committee - Election of Officers	Reinhart	Approved

MINUTES OF SPECIAL MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Board of Directors
Special Meeting

June 20, 2019

The Special Meeting of the South Orange County Wastewater Authority (SOCWA) Board of Directors Special Meeting was held on June 20, 2019, at 10:30 a.m. at their Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Board of Directors Special Meeting were present:

DAN FERONS	Santa Margarita Water District	Director
DENNIS ERDMAN	South Coast Water District	Director
TONI ISEMAN	City of Laguna Beach	Director
RAY MILLER	City of San Juan Capistrano	Alternate Director
KATHRYN FRESHLEY	El Toro Water District	Director
JOONE LOPEZ	Moulton Niguel Water District	Director
DAVE REBENSDORF	City of San Clemente	Director
STEPHEN DOPUDJA	Trabuco Canyon Water District	Director
PAUL COOK	Irvine Ranch Water District	Alternate Director
MIKE DUNBAR	Emerald Bay Service District	Director

Staff Present:

BETTY BURNETT	General Manager
MARY CAREY	Finance Controller
JIM BURROR	Director of Operations
BRIAN PECK	Director of Engineering
AMBER BAYLOR	Director of Environmental Compliance
JASON MANNING	Senior Engineer
RONNIE GRANT	Associate Engineer
KONSTANTIN SHILKOV	Senior Accountant
NADYN KIM	Accountant
DINA ASH	HR Administrator
JEANETTE COTINOLA	Procurement & Contracts Administrator
DANITA HIRSH	Administrative Assistant

Also Present:

ADRIANNA OCHOA	Procopio Law Firm
BRAD NEUFELD	Varner & Brandt LLP
DENNIS CAFFERTY	El Toro Water District
PAMELA ARENDS-KING	South Coast Water District
ROBB GRANTHAM	Santa Margarita Water District
TREVOR AGRELIUS	Moulton Niguel Water District
MIKE GASKINS	El Toro Water District
STEVE GREYSHOCK	Greycomm, LLC

A. <u>Call Meeting to Order</u>

Chairperson Ferons called the meeting to order at 10:04 a.m.

B. Pledge of Allegiance – Alternate Director Cook

C. Public Comments

Director Dunbar expressed concerns of making sure meeting agendas were certified and posted in a timely manner.

Chairperson Ferons confirmed agendas are certified by the General Managers signature as noted on page 4 of the agenda.

D. Approval of Minutes

1. Board Budget Workshop Meeting Minutes for May 23, 2019.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Rebensdorf to approve Board Budget Workshop Meeting Minutes for May 23, 2019 as submitted.

Motion carried:	Aye 8, Nay 0, Abstained 2, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Abstained
	Director Dopudja	Aye
	Director Freshley	Aye
	Alternate Director Cook	Abstained
	Director Rebensdorf	Aye

E. Financial Reports for the Month of May 2019

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Miller to ratify the May 2019 disbursements for the period from May 1, 2019 through May 31, 2019, and to receive and file May 2019 Financial Reports as submitted.

Motion carried:	Aye 10, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Aye
	Director Dopudja	Aye
	Director Freshley	Aye
	Alternate Director Cook	Aye
	Director Rebensdorf	Aye

F. Approval of FY 2019-20 Budget

Chairperson Ferons stated in reference to Moulton Niguel Water District letter dated June 19, 2019, on the Allocation of PERS Unfunded Liability Payment and Retiree Health Benefits; he

requested additional information on the preparation of allocations for the FY2020-21 Budget. An open discussion ensued.

Ms. Burnett stated when closing out the FY2019-20 budget, staff would review the allocation impacts based on the approved distribution methodology to bring back to the Board for consideration.

Chairperson Ferons stated on item 3 of Moulton's letter, the Summary of Costs Allocation table of the budget book; pages 27 and 28, appeared inconsistent with current Board practices. He requested a column be added to the table summarizing the current practices of Board decisions in one location. No further changes to the FY2019-20 Budget were requested.

ACTION TAKEN

Motion was made by Director Dunbar and seconded by Director Iseman to revise the Summary of Costs Allocation tables on pages 27 & 28 of the FY2019-20 Budget book to add a column that would summarize Board decisions and redistribute updated pages.

Motion carried:	Aye 10, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Aye
	Director Dopudja	Aye
	Director Freshley	Aye
	Alternate Director Cook	Aye
	Director Rebensdorf	Aye

Director Lopez made the following motion which impacted item 4703-000 on Budget page 81, Lab Reconstruction Evaluation.

ACTION TAKEN

Motion was made by Director Lopez and seconded by Director Iseman to approve PC-17 Lab Reconstruction Evaluation Study cost allocation based on labor cost allocation instead of PC-17 Member allocation.

Motion carried:	Aye 10, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Aye
	Director Dopudja	Aye
	Director Freshley	Aye
	Alternate Director Cook	Aye
	Director Rebensdorf	Aye

1. **General Fund Budget (FY 2019-20)**
   Approval of the FY 2019/20 ***General Fund Budget***. Approval of the General Fund Budget authorizes the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Miller to approve the General Fund Budget (FY2019-20) with the corrections to pages 27, 28 & 81 as noted in comments above.

Motion carried:	Aye 9, Nay 1, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Nay
	Director Dopudja	Aye
	Director Freshley	Aye
	Alternate Director Cook	Aye
	Director Rebensdorf	Aye

2. **Project Committee Operating Budget (FY 2019-20)**

   a. Approval of the FY 2019-20 ***Administration Budget*** (inclusive of project committee administration expenses, residual engineering and IT) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Freshley to approve Administration Budget (FY 2019-20) as submitted.

Motion carried:	Aye 9, Nay 1, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Nay
	Director Dopudja	Aye
	Director Freshley	Aye
	Alternate Director Cook	Aye
	Director Rebensdorf	Aye

   b. Approval of the Project Committee ***("PC") 2*** Operations and Maintenance Budget (inclusive of Environmental Compliance, Safety and IT) as proposed and PC 2 Capital Expenditures Budget (inclusive of large capital, non-capital engineering and small capital) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services

policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Ferons and seconded by Director Miller, members of PC 2 to approve PC 2 Budget (FY 2019-20) as submitted.

Motion carried:	Aye 4, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Lopez	Aye

c. Approval of the Project Committee ***("PC") 17*** Operations and Maintenance Budget (inclusive of Environmental Compliance, Safety and IT) and PC 17 Capital Expenditures Budget (inclusive of large capital, non-capital engineering and small capital) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dunbar, members of PC 17 to approve PC 17 Budget (FY 2019-20) as submitted.

Motion carried:	Aye 5, Nay 0, Abstained 0, Absent 0	
	Director Iseman	Aye
	Director Erdman	Aye
	Director Dunbar	Aye
	Director Lopez	Aye
	Director Freshley	Aye

d. Approval of the Project Committee ***("PC") 15*** Operations and Maintenance Budget (inclusive of Environmental Compliance, Safety and IT) and PC 15 Capital Expenditures Budget (inclusive of large capital, non-capital engineering and small capital) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dunbar, members of PC 15 to approve PC 15 Budget (FY 2019-20) as submitted.

Motion carried:	Aye 3, Nay 1, Abstained 0, Absent 0	
	Director Iseman	Aye
	Director Erdman	Aye
	Director Dunbar	Aye
	Director Lopez	Nay

e. Approval of the Project Committee ***("PC") 5*** Operations and Maintenance Budget (inclusive of Environmental Compliance, Safety and IT) and PC 5 Capital Expenditures Budget (inclusive of large capital and non-capital engineering) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Rebensdorf and seconded by Director Erdman, members of PC 5 to approve PC 5 Budget (FY 2019-20) as submitted.

Motion carried:	Aye 5, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Lopez	Nay
	Director Rebensdorf	Aye

f. Approval of the Project Committee ***("PC") 24*** Operations and Maintenance Budget (inclusive of Environmental Compliance, Safety and IT) and PC 24 Capital Expenditures Budget (inclusive of large capital and non-capital engineering) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Dunbar, members of PC 24 to approve PC 24 Budget (FY 2019-20) as submitted.

Motion carried:	Aye 6, Nay 0, Abstained 0, Absent 0	
	Director Iseman	Aye
	Director Erdman	Aye
	Director Dunbar	Aye
	Director Lopez	Nay
	Director Freshley	Aye
	Alternate Director Cook	Aye

g. Approval of the Project Committee ***("PC") 21 (ETM)*** Operations and Maintenance Budget and PC 21 Capital Expenditures Budget (inclusive of large capital and non-capital engineering) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Alternate Director Cook and seconded by Director Freshley, members of PC 21 (ETM) to approve PC 21 (ETM) Budget (FY 2019-20) as submitted.

Motion carried:	Aye 3, Nay 0, Abstained 0, Absent 0	
	Director Lopez	Nay
	Director Freshley	Aye
	Alternate Director Cook	Aye

h. Approval of the Project Committee ***("PC") 8*** (Pretreatment) Operations and Maintenance Budget (inclusive of Environmental Compliance and Safety) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action; the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Rebensdorf and seconded by Director Erdman, members of PC 8 (Pretreatment) to approve PC 8 (Pretreatment) Budget (FY 2019-20) as submitted.

Motion carried:	Aye 9, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Nay
	Director Freshley	Aye
	Alternate Director Cook	Aye
	Director Rebensdorf	Aye

i. Approval of the Project Committee ***("PC") 2SO (PC12***) Operations and Maintenance Budget (inclusive of Environmental Compliance, Safety and IT) and authorize the General Manager to expend up to and not more than the total budget funds per the purchasing and/or emergency services policy; funding in excess of the authorized budget requires additional Board action. Authorization includes the redistribution of the costs of PC 2SO (PC 12) among the member agencies to exclude El Toro Water District and Irvine Ranch Water District); the Board approves the allocation of expenses with approval of the Budget.

ACTION TAKEN
Motion was made by Director Dopudja and seconded by Director Ferons, members of PC 2SO PC 12 to approve PC 2SO PC 12 Budget (FY 2019-20) as submitted.

Motion carried:	Aye 8, Nay 0, Abstained 0, Absent 0	
	Director Ferons	Aye
	Director Iseman	Aye
	Director Erdman	Aye
	Director Miller	Aye
	Director Dunbar	Aye
	Director Lopez	Aye
	Director Dopudja	Aye
	Director Rebensdorf	Aye

j. The Board directs the staff to prepare and distribute a final printed budget consistent with any additional changes presented and approved at the June 20, 2019 meeting.

ACTION TAKEN
Motion was made by Director Erdman and seconded by Director Freshley directing staff to prepare and distribute a final printed budget book consistent with any additional changes presented and approved at the June 20, 2019 meeting.

Motion carried: Aye 9, Nay 1, Abstained 0, Absent 0

Director Ferons	Aye
Director Iseman	Aye
Director Erdman	Aye
Director Miller	Aye
Director Dunbar	Aye
Director Lopez	Nay
Director Dopudja	Aye
Director Freshley	Aye
Alternate Director Cook	Aye
Director Rebensdorf	Aye

H. PC 15 and PC 21 meeting scheduled: July 11th to discuss engineering items

Ms. Burnett proposed to the Board of Directors to cancel the Regular Board Meeting on July 11, 2019, in lieu of holding a joint PC-15/PC-21 meeting to discuss and obtain recommendations on engineering items that have been ongoing.

The Board was in concurrence to cancel the Regular Board Meeting that was scheduled for July 11, 2019, at 8:30 a.m. to hold a PC-15/PC21 Joint Meeting to address engineering issues.

I. OTHER MATTERS

None

The meeting convened to Closed Session at 11:25 a.m.

G. CLOSED SESSION

1. Closed Session Pursuant to Government Code Section 54957.6 Conference with Labor Negotiators

SOCWA Designated Representatives: Betty Burnett, General Manager; Brad Neufeld Labor Counsel

Employee Organization: SOCWA Employee Association

The meeting reconvened to Open Session at 11:40 a.m.

REPORT OUT OF CLOSED SESSION

The Board of Directors met in closed session to discuss the SOCWA Employee Association Agreement. General Counsel, Adriana Ochoa of Procopio Law Firm reported, pursuant to Government Code Section 54957.6 approval of agreement concluding Labor Negotiators with

represented employees, the Board approved the tentative agreement for a new 3-year MOU and Resolution of MOU dispute with the SOCWA Employee Association. The vote was 9 in favor; 0 against; with Moulton Niguel abstaining.

ADJOURNMENT

There being no further business, Director Ferons adjourned the meeting at 11:41 a.m.

I HEREBY CERTIFY that the foregoing Minutes are a true and accurate copy of the Minutes of the Special Meeting of the South Orange County Wastewater Authority Board Budget Workshop of June 20, 2019 and approved by the Board Budget Workshop and received and filed by the Board of Directors of the South Orange County Wastewater Authority.

_____

Betty Burnett, General Manager/Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item

Board of Directors Meeting
Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Mary Carey, Finance Controller

SUBJECT: Cash Reports for the Month of June 2019

Summary/Discussion

The following cash reports are routinely provided monthly to the Finance Committee for recommendation to the Board of Directors to ratify Cash Disbursements. The reporting package typically includes Budget vs. Actuals for project committees and SOCWA's various departments; however, due to fiscal year-end and the annual financial statements audit that is in progress, the remaining reports will be presented with the draft Audit report for FY2018-19.

The reports included are as follows:

a) Summary of Disbursements for June 2019 (Exhibit A)

b) Schedule of Funds Available for Reinvestment (Exhibit B)

- Local Agency Investment Fund (LAIF)

c) Schedule of Cash and Investments (Exhibit C)

Fiscal impact

June 2019 cash disbursements were: $6,065,041 (Increased primarily due to Large Capital Closed Projects Refund to Member Agencies, $3.6MM.)

- Monthly disbursements are summarized in the attached Exhibit A.
- The attached Exhibits B and C are informational reports only.

Recommendation

Staff recommends to the Board of Directors to ratify the June 2019 disbursements for the period from June 1, 2019, through June 30, 2019, totaling $6,065,041, and to receive and file the June 2019 Cash Reports as submitted.

Exhibit A

South Orange County Wastewater Authority
Summary of Disbursements for June 2019
Staff Recommendation of Fiscal Matters

	Actual
General Fund	(456,135)
PC 2 - Jay B. Latham Plant	(1,432,798)
PC 3 - SOCWA Plant/PCA AWT	(123,797)
PC 5 - San Juan Creek Ocean Outfall	(55,103)
PC 8 - Pretreatment Program	(12,244)
PC 12 SO - Water Reclamation Permits	(20,604)
PC 15 - Coastal Treatment Plant/AWT	(1,583,417)
PC 17 - Joint Regional Wastewater Reclamation	(2,221,335)
PC 21 - Effluent Transmission Main	(140,642)
PC 24 - Aliso Creek Ocean Outfall	(18,966)
Total	**($6,065,041)**

*Increase primarily due to Inactive/Closed Projects refund checks paid to Member Agencies, $3.6MM.

Exhibit B

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
SCHEDULE OF FUNDS AVAILABLE FOR REINVESTMENT
as of June 30, 2019

CASH IN BANK: (BEGINNING BAL.)	6,213,478
L.A.I.F. FUNDS: (BEGINNING BAL.)	8,747,584
DEPOSITS, TRANSFERS & ADJUSTMENTS:	610,099
FUND REQUIREMENTS:	
BILLS FOR CONSIDERATION	(6,065,041) *
	$ 9,506,121

*Includes Inactive/Closed Projects refund checks paid to Member Agencies, $3.6MM.

In accordance with Government Code 53646(c), since all funds are placed in the State LAIF, staff has included in the Financial Packet, the most current statement from the State LAIF, in lieu of the report required by Government Code 53646(b)(1).

In accordance with requirements of the Government Code and the "SOCWA Investment Policy",

I hereby certify that:

1). All investment actions executed since the last report have been made in full compliance with the Investment Policy.

2). SOCWA does not have sufficient funds currently on hand to meet its expenditure obligations for the next six months (see note) due to the fact that SOCWA bills and receives operational funds on a quarterly basis only.

Betty Burnett
General Manager

Note: Operational funds are collected on a quarterly basis at the beginning of the quarter. Capital funds are collected on a quarterly basis in connection with projected needs. Member agencies have pledged to have funds available to meet all obligations.

CALIFORNIA STATE TREASURER
FIONA MA, CPA

PMIA Performance Report

Date	Daily Yield*	Quarter to Date Yield	Average Maturity (in days)
06/24/19	2.41	2.44	166
06/25/19	2.40	2.44	167
06/26/19	2.41	2.44	168
06/27/19	2.41	2.44	169
06/28/19	2.40	2.44	174
06/29/19	2.40	2.44	174
06/30/19	2.39	2.44	173
07/01/19	2.40	2.40	180
07/02/19	2.40	2.40	180
07/03/19	2.39	2.40	182
07/04/19	2.39	2.40	182
07/05/19	2.39	2.40	182
07/06/19	2.39	2.40	182
07/07/19	2.39	2.39	182
07/08/19	2.39	2.39	179
07/09/19	2.39	2.39	179
07/10/19	2.39	2.39	178
07/11/19	2.38	2.39	179
07/12/19	2.38	2.39	179
07/13/19	2.38	2.39	179
07/14/19	2.38	2.39	179
07/15/19	2.38	2.39	176
07/16/19	2.38	2.39	178
07/17/19	2.38	2.39	179
07/18/19	2.37	2.39	180
07/19/19	2.37	2.39	179
07/20/19	2.37	2.39	179
07/21/19	2.37	2.39	179
07/22/19	2.37	2.38	179
07/23/19	2.37	2.38	177
07/24/19	2.37	2.38	178

*Daily yield does not reflect capital gains or losses

LAIF Performance Report

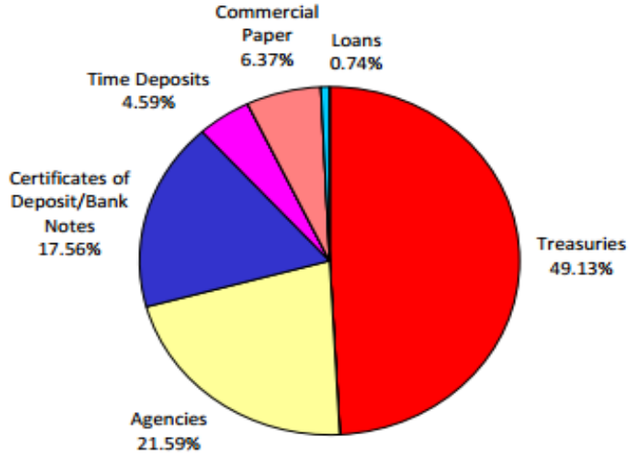
Quarter Ending 06/30/19

Apportionment Rate:	2.57
Earnings Ratio:	.00007028813234525
Fair Value Factor:	1.001711790
Daily:	2.39%
Quarter to Date:	2.44%
Average Life:	173

PMIA Average Monthly Effective Yields

June 2019	2.428
May 2019	2.449
Apr 2019	2.445

Pooled Money Investment Account Portfolio Composition 06/30/19 $105.7 billion



Percentages may not total 100% due to rounding

Notes: The apportionment rate includes interest earned on the CalPERS Supplemental Pension Payment pursuant to Government Code 20825 (c)(1)

Based on data available as of 07/24/2019

Exhibit C

South Orange County Wastewater Authority
Schedule of Cash and Investments
as of June 30, 2019

MVA	$	12,696	(A)
A/P Checking		762,521	(B)
Payroll Checking		224,320	(C)
State LAIF		8,506,584	(D)
Total Cash in Bank	**$**	**9,506,121**	
Petty Cash		1,600	(E)
Total Operating Cash	**$**	**9,507,721**	
OPEB Trust		5,137,817	(F)
Total Cash and Investments	**$**	**14,645,538**	

Notes:

(A) Interest bearing account; all cash receipts are deposited in this account and later moved to the LAIF account.

(B) Accounts Payable Checks are drawn against this account; money is transferred to this account, as needed, from the LAIF account.

(C) Payroll including payroll taxes and related liabilities are drawn against this account; money is transferred into this account, as needed, from the LAIF account.

(D) LAIF balance.

(E) Cash on hand with GM's office and held by Chief Operators at each Treatment facility.

(F) OPEB Trust Fund; these funds can only be used for Retiree Health Benefits.

Agenda Item

Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Jim Burror, Director of Operations

SUBJECT: May 2019 Operations Report

Summary/Discussion

The following selected operational reports are provided monthly to the Board of Directors. The operational reports included are as follows:

1) Monthly Operational Report
   An eight (8) page overview and comparison of owner use of facilities, including influent and recycled water production. The pages include ongoing calculation used by SOCWA for billing the agencies. Other items include important statistics for regulatory compliance, visits by the public to the treatment works, and other vendor interactions. The information is broken down by facility and by member agency.

2) SOCWA Ocean Outfall Discharges by Agency
   This data shows how much water is being discharged to the ocean each month and for the last 12 months. This data is presented for the agencies planning reuse projects to better understand the potential to expand water reuse in their service area.

3) Beach Ocean Monitoring Report

4) Recycled Water Report

5) Pretreatment Report

Fiscal impact

No change.

Recommendation

Receive and file the Operational Reports.

Monthly Operational Report

SOCWA Operational Report May, 2019

Excursion, Complaint, and Violation Event

Events	CTP	RTP	JBL	Totals
Odor	0	0	0	0
Noise	0	0	0	0
Spills	0	0	0	0
Violations	0	0	0	0
Others	0	0	0	0

Plant Wastewater Billing Characteristics

Key Parameters	CTP	RTP	JBL TP1	JBL TP2	Totals
Influent (mgd) (1)	2.79	7.08	5.93	0.86	16.66
Effluent (mgd)	2.31	2.12	5.93	1.96	12.32
Peak Flow (mgd)	6.44	16.46	8.14	7.73	38.77
Influent BOD (mg/l)	253	245	279	278	
Influent TSS (mg/l)	255	348	713	409	
Effluent BOD (mg/l)	5.1	3.6	5.9	6.2	
Effluent TSS (mg/l)	8.3	6.2	7.2	8.1	
Effluent Turbidity (NTU)	3.5	2.0	3.1	3.6	

(1) CTP Influent value does not include AWT backwash in this table.

Recycled Water (AWT) Operations

Key Parameters	CTP	RTP	JBL	Totals
Average Flow (mgd)	0.57	4.95		5.52
Days of Operation (days)	31	31		
Total Flow (million gallons)	17.7	153.5		171.2
Plant Irrigation (million gallons)	0.00	0.00	0.25	
AWT Time Online (%)	100.0	100.0		

Wastewater Unit Definitions

mgd = million gallons per day

mg/l = milligram per liter also known as parts per million

NTU = Nephelometric Turbidity Units

SOCWA Operational Report May, 2019 (cont'd)

Biosolids Management

Biosolids Management Site	CTP	RTP	JBL	Totals
Synagro Compost (tons)		790.0	0.0	790.0
Nursery Products (tons)		308.9	634.9	943.7
Prima Deshecha (tons)		74.3	122.0	196.3
Other:_____ (tons)		0.0	0.0	0.0
Total Processed (tons)		1,173.1	756.9	1,930.0

Summary of Maintenance Activities

Task Type	CTP	RTP	JBL	Totals
Preventative Maintenance	328	693	524	1,545
Corrective Maintenance	25	72	53	150

Site Visitors

Visitor Types	CTP	RTP	JBL	Totals
Regulatory	1	0	0	1
Member Agency	1	4	7	12
Residents	0	0	0	0
Others	40	0	35	75
Tours #/Visitors	0	21	1	22

Grit Disposal Management

Grit & Screenings	CTP	RTP	JBL	Totals
Simi Valley Landfill (tons)		23.9	23.0	46.9

Chemical and Energy Utilization

Chemical/Utility	CTP	RTP	JBL	Totals
Ferric Chloride (tons)	8.8	26.6	17.4	52.8
Utility Power Purchase (kWh)	208,085	220,183	201,250	629,518
Cogen Power (kWh)		371,729	463,743	835,472
Natural Gas (Dth)	15	901	1,378	2,279
Digester Gas to Engine (scfm)		6,407,512	7,262,391	13,669,903
Digester Gas to Boiler (scfm)		0		0
Digester Gas to Flares (scfm)		4,365,592	221,292	4,586,884
Digester Gas Power Savings		(1)		

(1) The bills to calculate these values are received after this report is prepared for the Board meeting, but will be available upon request at the Board meeting.

NA = Not Available at the time this report was generated.

Wastewater Unit Definitions

kWh = kilowatt hours

Dth = Dekatherms

scfm = standard cubic feet per minute

SOCWA Operational Report May, 2019 (cont'd)

Agency Wastewater Flows to SOCWA by Facility
(Including Internal Waste Streams Used for Billing)

Agency	CTP (mgd)	CTP (%)	RTP (mgd)	JBL (mgd)	JBL (%)	Total (mgd)
CLB	1.671	58.10%				1.67
EBSD	0.052	1.82%				0.05
SCWD	1.153	40.07%		1.543	22.74%	2.70
MNWD	0.000	0.00%	7.08	1.400	20.62%	8.48
CSJC				2.088	30.75%	2.09
SMWD				1.757	25.88%	1.76
Total	2.877	100.00%	7.08	6.788	100.00%	16.74

Total Agency Outfall Flows by Outfall System-Billing Flows

Agency	SJCOO (mgd)	SJCOO (%)	SJCOO Meter (mgd)	ACOO (mgd)	ACOO (%)	Total (mgd)	Notes
CLB				1.67	19.89%	1.67	
EBSD				0.05	0.62%	0.05	
SCWD	1.85	12.20%		0.53	6.31%	2.38	Includes Desalters
MNWD	2.86	18.89%		2.12	25.29%	4.98	
ETWD				2.50	29.72%	2.50	Direct Outfall Only
CSJC	2.45	16.17%				2.45	Incudes Desalter
SMWD	5.00	33.00%				5.00	Includes Chiquita
CSC	2.99	19.73%				2.99	Direct Outfall Only
IRWD				1.53	18.16%	1.53	Direct Outfall Only
Total	15.14	100.00%	13.56	8.40	100.00%	23.54	

SOCWA Operational Report May, 2019 (cont'd)

FY Flow/Solids Summary-Billing

Project Committee No. 2 Liquids (JBL)

Agency	Own (mgd)	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)(1)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CSJC	4.00	30.77%	2.12	31.98%	2.088	30.75%	2.07	35.54%
MNWD	3.00	23.08%	1.40	21.12%	1.400	20.62%	1.40	24.04%
SCWD	3.75	28.85%	1.70	25.64%	1.543	22.74%	1.70	29.17%
SMWD	2.25	17.31%	1.41	21.27%	1.757	25.88%	0.65	11.24%
Total	13.00	100.00%	6.63	100.00%	6.788	100.00%	5.82	100.00%

Project Committee No. 2 Solids (JBL)

Agency	Own (lbs/d)	Own (%)	Budget (lbs/d)	Budget (%)	Month (lbs/d)	Month (%)	36 Month Rol. Avg. (lbs/d) (2)	36 Month Rol. Avg. (%)
CSJC	11,572	30.00%	5,767	24.54%	6,579	25.25%	5,770	27.77%
MNWD	8,340	21.62%	4,396	18.70%	6,561	25.18%	5,564	26.78%
SCWD	7,715	20.00%	5,391	22.94%	4,682	17.97%	5,207	25.06%
SMWD	10,946	28.38%	7,949	33.82%	8,234	31.60%	4,238	20.40%
Total	38,573	100.00%	23,503	100.00%	26,056	100.00%	20,778	100.00%

Project Committee No. 5 - Effluent Pumping Station (SJCOO EPS)

Agency	Own (%)	Variable Budget (mgd)	Variable Budget (%)	Month Outfall Flow (mgd)	Month Outfall Flow (%)	Month EPS Outfall Flow (mgd)	Month EPS Outfall Flow (%)
CSC	16.62%	2.531	21.57%	2.99	19.73%		
CSJC	11.08%	2.348	20.01%	2.45	16.17%	2.09	30.75%
MNWD(3)	15.51%	2.013	17.16%	2.86	18.89%	1.40	20.62%
SCWD	12.47%	1.740	14.83%	1.85	12.20%	1.54	22.74%
SMWD	44.32%	3.101	26.43%	5.00	33.00%	1.76	25.88%
Total	100.00%	11.733	3.10%	15.14	100.00%	6.79	100.00%

(1) Influent billing meter summary:

a. CSJC is metered daily in the collection system. The area-velocity meter has an accuracy of +/- 20%.

b. MNWD is assumed to be 1.4 mgd unless Treatment Plant 3A is discharging to the sewer. If other discharges occur, they are estimated.

c. SCWD flows are the summation of the DPSD and Victoria PS meters. The two metering systems have an accuracy of +/- 10%.

d. The Oso Trabuco sewer is metered daily in the collection system. The flows from MNWD are subtracted from the metering data collected to determine SMWD's flows. The metering system in the collection system has an accuracy of +/- 20%.

(2) The 36-month average is the average of the past 36 months. The Use Audit is based on the last 3 Fiscal Years versus the average of the past 36 months.

(3) All monthly flow data for 3A is reported as part of MNWD's flow to the ocean outfall.

FY Flow/Solids Summary-Billing (cont'd)

Project Committee No. 5 - Outfall (SJCOO)

Agency	FY Avg Outfall Flow (mgd)	FY Avg Outfall Flow (%)	FY Avg EPS Outfall Flow (mgd)	FY Avg EPS Outfall Flow (%)
CSC	2.880	23.69%		
CSJC	2.460	20.24%	2.07	35.54%
MNWD	2.382	19.60%	1.40	24.04%
SCWD	1.843	15.17%	1.70	29.17%
SMWD	2.590	21.31%	0.65	11.24%
Total	12.154	100.00%	5.82	100.00%

Project Committee No. 15 (CTP)

Agency	Own (mgd)	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CLB	2.54	37.91%	1.770	59.00%	1.671	58.10%	1.610	60.54%
EBSD	0.20	2.99%	0.050	1.67%	0.052	1.82%	0.051	1.90%
SCWD	2.00	29.85%	1.180	39.33%	1.153	40.07%	0.999	37.56%
MNWD	1.96	29.25%	0.000	0.00%	0.000	0.00%	0.000	0.00%
Total	6.70	100.00%	3.000	100.00%	2.877	100.00%	2.660	100.00%

Project Committee No. 17 Liquids (RTP)

Agency	Budget Liquids (mgd)	Budget Liquids (%)	Month Plant Influent (mgd)	Month Centrate (mgd)	Month Total (mgd)(1)	Month Total (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CLB	0.01220	0.157%	0.0000	0.0124	0.0124	0.17%	0.0143	0.19%
EBSD	0.00040	0.005%	0.0000	0.0004	0.0004	0.01%	0.0005	0.01%
SCWD	0.00810	0.104%	0.0000	0.0085	0.0085	0.12%	0.0089	0.12%
ETWD	0.01410	0.181%	0.0000	0.0147	0.0147	0.21%	0.0141	0.18%
MNWD	7.75000	99.553%	7.0774	0.0533	7.1307	99.50%	7.6414	99.51%
Total	7.78480	100.000%	7.0774	0.0893	7.1667	100.00%	7.6791	100.00%

(1) Month total does not double count MNWD centrate. It is included in the Monthly Plant Influent too.

FY Flow/Solids Summary (cont'd)

Project Committee No. 17 Solids (RTP)

Agency	Own (lbs/d)	Own (%)	Budget (lbs/d)	Budget (%)	Total Month (lbs)	Total Month (%)	FY Avg Total to Date (lbs)	FY Avg Total to Date (%)
CLB	5,605	11.22%	5,133	12.48%	148,998	13.85%	178,996	15.51%
EBSD	295	0.59%	158	0.38%	4,676	0.43%	5,616	0.49%
SCWD	4,480	8.96%	3,546	8.62%	102,756	9.55%	111,352	9.65%
ETWD	10,200	20.41%	5,755	13.99%	177,393	16.49%	175,280	15.19%
MNWD	29,395	58.82%	26,532	64.52%	642,113	59.68%	682,584	59.16%
Total	49,975	100.00%	41,124	100.00%	1,075,935	100.00%	1,153,828	100.00%

Project Committee No. 24 (ACOO)

Agency	Own (%)	Budget (mgd)	Budget (%)	Month Outfall Flow (mgd)	Month Outfall Flow (%)	FY Avg Outfall Flow (mgd)	FY Avg Outfall Flow (%)
CLB	11.000%	1.89	17.73%	1.671	19.89%	1.610	14.39%
EBSD	0.780%	0.05	0.47%	0.052	0.62%	0.051	0.45%
ETWD	16.302%	2.46	23.08%	2.498	29.72%	2.643	23.62%
IRWD	15.760%	2.48	23.26%	1.526	18.16%	3.192	28.52%
MNWD	43.848%	3.08	28.89%	2.125	25.29%	3.211	28.69%
SCWD	12.310%	0.70	6.57%	0.530	6.31%	0.484	4.33%
Total	100.000%	10.66	100.00%	8.403	0.00%	11.191	100.00%

Select Critical Equipment Repairs

JBL - PC2

Removed digester mix pump #2 to clear rags clogging the pump.
Fabricated and installed new airline in Building #35.
Replaced failed mechanical seal on TWAS Pump #1.
Replaced failed connecting shaft bearings on sludge Conveyors #3 and #4.
Replaced failed Centrifuge #3 scroll motor.
Removed and replaced failed Grit Pump #2.
Replaced failed 9-side grit pump #1 & #2 suction valves.
Fabricated new spool to replaced failed grit suction piping.
Replaced wore out volute on Grit Pump #1.
Unclogged rags from Primary Sludge Pump #1.
Added building numbers as recommended by the Safety Committee.
Replaced failing Blower Fan on Odor Scrubber #1.
Prepared old laboratory building and area for the demolition project.
Replaced failed suction valve on Primary Sludge Pump #1.

CTP - PC15

Removed CTP asbestos panels (contractor) and corroded lab cabinets.
Supported the startup of AWT with Engineering's project completion.
Supported SCWD project to line the incoming sewer forcemain.
Inspected media for odor scrubber - ordered 10-year media swap out.
Worked on failed and damaged entrance access gates.
Troubleshot SCADA system after AWT project completed by Engineering.
Replaced 5 failing Ops Building AC units.
Repaired water leak near Personnel Building. .
Repaired broken Secondary #7 flight.

RTP - PC17

Remove and replace leaking heat loop pipe section.

Items with a (*) have been identified as preventable repairs.

Select Critical Equipment Repairs (cont'd)

RTP - PC17 (cont'd)

Install new stainless steel screw, cyclone, and repiped supply lines on Grit Separator #2.

Replace failed motor and fan bearing on ORT Fan #6.

Replace faulty discharge gauge on Scrubber #3, Stage 2/3 Recirculation Pump.

Remove 3 HiOx aeration panels from Tank #4 and rebuild them for installation in Tank #5.

Install new ice maker.

Freed up frozen check valve on Digester Recirculation Pump #2.

Replaced failed motor in CTP Tow Tractor.

Performed media swap on H2S removal vessel.

Replaced failed upper bearings on centrifuge conveyor.

Cleaned out and repaired waste gas flare flash backs.

Repipe failed Scrubber #2 Bleach Pump discharge line.

Replace failed AWT Filtered Water Sample Pump.

ELECTRICAL - ALL PC'S

Worked on the Headworks PLC upgrade project at JBL.

Troubleshot Headworks Bubbler at JBL.

Completed Hach Wims and SCADA Tie Project at CTP.

Troubleshot CEMS PC – replaced failed PC at RTP.

Failed process water pump VFD replaced at CTP.

Replaced failed Centrifuge #3 control touch screen at RTP.

Corrected Fan #8 controls and breaker settings at CTP.

Replaced corroded Centrifuge controls conduit at JBL.

Replaced failed Secondary skimmer motor at CTP.

Replaced corroded DAF transfer fan at RTP.

Replaced failing Centrifuge #3 motor at JBL.

Replaced failed DAF mixer motor at JBL.

Sealed coolant leak on the Co-gen plate heat exchanger.

Work on replacing the failing main heat loop air separator.

Items with a (*) have been identified as preventable repairs.

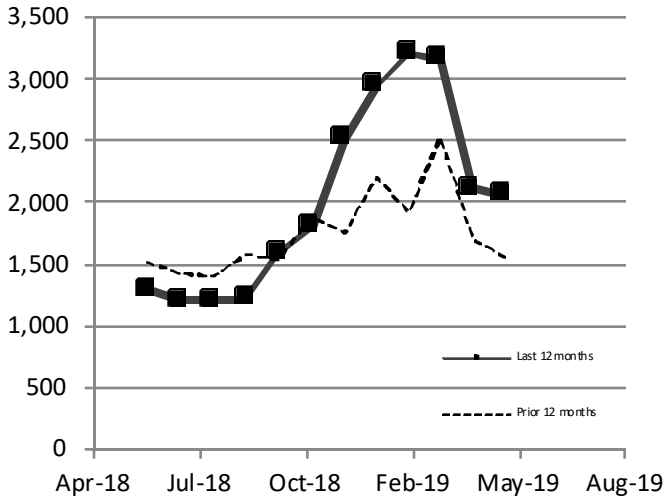
SOCWA Ocean Outfall Discharges by Agency

SOCWA Outfall Discharge Report May, 2019

Agency	SJCOO (mgd)	SJCOO (%)	ACOO (mgd)	ACOO (%)	Total (mgd)
CLB			1.67	19.89%	1.67
EBSD			0.05	0.62%	0.05
SCWD	1.85	12.20%	0.53	6.31%	2.38
MNWD	2.86	18.89%	2.12	25.29%	4.98
ETWD			2.50	29.72%	2.50
CSJC	2.45	16.17%			2.45
SMWD	5.00	33.00%			5.00
CSC	2.99	19.73%			2.99
IRWD			1.53	18.16%	1.53
Total	15.14	100.00%	8.40	100.00%	23.54
	or Acre-Feet per year equivalent				26,366

12-Month Running Total Discharge to Ocean Outfalls (AF)

May-19	2,061
Apr-19	2,117
Mar-19	3,163
Feb-19	3,211
Jan-19	2,950
Dec-18	2,518
Nov-18	1,804
Oct-18	1,587
Sep-18	1,210
Aug-18	1,207
Jul-18	1,205
Jun-18	1,292
Total	24,326



Beach / Ocean Monitoring Report

May 2019

ALISO CREEK OCEAN OUTFALL MONITORING REPORT

May 2019

	IRWD LOS ALISOS WRP				EL TORO WRP				SOCWA REGIONAL PLANT				SOCWA COASTAL PLANT				IRWD IDP	IRWD SGU	SCWD ACWRF	ACOO	Rain
	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	FLOW	FLOW	FLOW	Fall
DATE	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	MGD	MGD	MGD	inches
05/01/19	No Flow				2.295	8.4	7.8	ND	1.390	7.8	4.0	<0.1	2.831	2.8	3.0	0.1	0.601	0.384	0.000	7.501	
05/02/19	No Flow				2.193	15.6	12.4	ND	1.26	5.2	3.0	0.1	2.762	5.3	5.0	0.1	0.766	0.376	0.000	7.357	
05/03/19	No Flow				1.811			0.1	1.290	4.2	2.0	0.1	2.722	4.3	3.0	0.2	0.632	0.374	0.000	6.829	
05/04/19	No Flow				2.260				0.370				2.704				0.707	0.515	0.000	6.556	
05/05/19	No Flow				3.053	5.6	5.2		1.060	4.3	4.0	<0.1	2.797	1.9	2.0		0.765	0.592	0.000	8.267	
05/06/19	No Flow				2.333	10.8	9.0	ND	1.370	13.6	7.0	<0.1	2.831	8.8	7.0	<0.1	0.765	0.584	0.000	7.883	0.01
05/07/19	No Flow				1.348	8.0	7.2	ND	0.330	5.7	3.0	0.1	2.755	6.7	4.0	0.1	0.766	0.615	0.000	5.814	
05/08/19	No Flow				2.113	7.6	7.1	ND	0.070	6.5	4.0	0.2	2.656	5.1	4.0	<0.1	0.730	0.632	0.000	6.201	
05/09/19	No Flow				1.957	76.0	6.8	ND	0.170	4.3	3.0	0.1	2.595	5.6	4.0	0.1	0.766	0.626	0.000	6.114	
05/10/19	No Flow				1.521			ND	0.190	2.7	2.0	0.2	2.094	2.9	4.0	0.1	0.765	0.621	0.000	5.191	
05/11/19	No Flow				2.776				0.490				2.030				0.766	0.618	0.000	6.680	
05/12/19	No Flow				2.138	11.2	9.7		3.250	4.6	3.0	<0.1	2.783	7.1	6.0		0.766	0.614	0.007	9.558	
05/13/19	No Flow				2.131	11.6	10.8	0.1	2.050	8.5	4.0	<0.1	2.817	4.7	5.0	<0.1	0.765	0.613	0.027	8.403	
05/14/19	No Flow				2.351	7.6	7.0	ND	0.220	5.0	3.0	0.1	2.740	11.6	7.0	0.1	0.655	0.611	0.074	6.651	
05/15/19	No Flow				2.225	8.0	7.2	ND	1.150	4.3	3.0	0.2	1.522	7.5	5.0	0.1	0.691	0.610	0.094	6.292	
05/16/19	No Flow				3.129	10.0	8.8	ND	2.620	4.7	4.0	0.3	1.132	11.5	9.0	<0.1	0.765	0.609	0.120	8.375	0.16
05/17/19	No Flow				3.647			0.1	3.830	4.9	3.0	0.3	2.798	4.4	3.0	0.2	0.766	0.608	0.101	11.750	
05/18/19	No Flow				2.641				3.910				1.707				0.766	0.606	0.099	9.729	
05/19/19	No Flow				3.040	6.0	5.5		4.580	9.1	5.0	<0.1	2.696	3.2	3.0		0.765	0.606	0.001	11.688	0.15
05/20/19	No Flow				3.079	12.8	11.5	ND	4.950	9.2	4.0	0.1	2.735	15.6	11.0	0.2	0.765	0.605	0.095	12.229	0.07
05/21/19	No Flow				3.701	11.6	10.8	0.1	4.480	8.5	4.0	0.1	1.855	10.1	4.0	0.1	0.692	0.559	0.108	11.395	
05/22/19	No Flow				2.530	10.0	9.1	ND	3.860	6.8	3.0	0.3	2.191	15.1	6.0	0.1	0.766	0.617	0.074	10.038	
05/23/19	No Flow				3.108	8.0	7.4	0.1	3.400	6.7	3.0	0.2	1.298	8.6	6.0	0.1	0.698	0.606	0.095	9.205	
05/24/19	No Flow				2.195			ND	3.310	5.5	3.0	0.1	1.926	15.0	7.0	0.2	0.765	0.588	0.110	8.894	
05/25/19	No Flow				2.811				3.660				1.923				0.766	0.582	0.102	9.844	
05/26/19	No Flow			<0.3	2.893	8.8	7.7		2.990	5.8	5.0	<0.1	1.701	17.9	9.0		0.766	0.595	0.091	9.036	0.13
05/27/19	1.257	16.0	6.4	<0.3	3.125	7.6	7.2	0.1	3.130	5.9	4.0	<0.1	2.181	12.8	5.0	0.1	0.766	0.592	0.095	11.146	
05/28/19	1.997	10.0	5.9	<0.3	2.577	9.6	8.6	ND	3.470	9.4	4.0	<0.1	2.300	15.1	7.0	<0.1	0.765	0.603	0.096	11.808	
05/29/19	1.039	12.0	7.3	<0.3	2.773	10.0	9.2	0.1	1.290	5.8	3.0	0.2	1.580	4.7	3.0	0.1	0.766	0.607	0.084	8.139	
05/30/19	1.018	11.0	6.7	<0.3	2.209	7.6	7.0	ND	0.640	4.3	5.0	0.2	1.285	12.7	3.0	0.1	0.765	0.606	0.129	6.652	
05/31/19	1.021	11.0	7.5	<0.3	1.470			ND	1.090	5.3	3.0	0.1	1.930	4.0	3.0	0.9	0.761	0.603	0.084	6.959	
AVG	0.204	12.0	6.8	<0.3	2.498	12.4	8.3	ND0.0	2.125	6.2	3.6	<0.1	2.254	8.3	5.1	<0.2	0.742	0.580	0.054	8.458	
TOTAL	6.33				77.43				65.87				69.88				23.01	17.98	1.686	262.18	0.52

Unified Beach Monitoring #1

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1 , 2019
SAMPLE SOURCE: Surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 12:59
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	05/08/19	8:08	<10	20	2	None	None	None	None	Green	58	Slightly Turbid		
S4	05/08/19	8:25	20	<10	10	None	None	None	None	Green		Slightly Turbid		2
S5	05/08/19	8:44	<10	<10	<2	None	None	None	None	Green	60	Slightly Turbid		
S6	05/08/19	8:59	<10	<10	<2	None	None	None	None	Green		Slightly Turbid		
WEST	05/08/19	9:03	<10	<10	<2	None	None	None	None	Green	60	Slightly Turbid		
S7	05/08/19	9:06	<10	<10	<2	None	None	None	None	Green	57	Slightly Turbid		
S8	05/08/19	10:21	<10	<10	2	None	None	None	None	Green		Slightly Turbid		
S9	05/08/19	10:15	<10	<10	<2	None	None	None	None	Green		Slightly Turbid		5
ACM1	05/08/19	9:27	<10	<10	<2	None	None	None	None	Green		Slightly Turbid	Flowing	
S10	05/08/19	9:35	<10	<10	<2	None	None	None	None	Green	60	Slightly Turbid		
S11	05/08/19	9:53	<10	<10	<2	None	None	None	None	Green		Slightly Turbid		
S12	05/08/19	10:00	<10	<10	2	None	None	None	None	Green	58	Slightly Turbid		

RECREATIONAL WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #2

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 459
Weather: Drizzle
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	05/13/19	755	10	10	<2	None	None	None	None	Green	59	Clear		
S4	05/13/19	1030	10	<10	<2	None	None	None	None	Green		Clear		
S5	05/13/19	1015	10	<10	<2	None	None	None	None	Green		Clear		
S6	05/13/19	955	<10	<10	10	None	None	None	None	Green		Clear		
WEST	05/13/19	950	<10	10	<2	None	None	None	None	Green		Clear		
S7	05/13/19	945	10	<10	4	None	None	None	None	Green		Clear		
S8	05/13/19	935	<10	<10	8	None	None	None	None	Blue		Clear		
S9	05/13/19	910	<10	10	2	None	None	None	None	Brown		Slightly Turbid		
ACM1	05/13/19	850	>=200	60	100	None	None	None	None	Brown		Slightly Turbid	Flowing	
S10	05/13/19	840	40	<10	10	None	None	None	None	Brown		Slightly Turbid		
S11	05/13/19	830	<10	<10	<2	None	None	None	None	Green		Clear		
S12	05/13/19	820	10	<10	4	None	None	None	None	Green		Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #3

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 1120
Weather: Clear
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	05/20/19	740	30	<10	10	None	None	None	None	Green		Clear		
S4	05/20/19	1020	100	40	4	None	None	None	None	Green	58	Slightly Turbid		
S5	05/20/19	1000	40	20	10	None	None	None	None	Green		Clear		
S6	05/20/19	945	50	20	20	None	None	None	None	Green		Clear		
WEST	05/20/19	935	180	<10	8	None	None	None	None	Green		Clear		
S7	05/20/19	930	120	20	10	None	None	None	None	Green		Clear		
S8	05/20/19	920	190	10	10	None	None	None	None	Green		Slightly Turbid		
S9	05/20/19	905	600	130	70	None	None	None	None	Green		Slightly Turbid		
ACM1	05/20/19	840	70	10	4	None	None	None	None	Brown		Slightly Turbid	Flowing	
S10	05/20/19	835	20	10	4	None	None	None	None	Green		Clear		
S11	05/20/19	825	40	<10	<2	None	None	None	None	Green		Clear		
S12	05/20/19	815	10	<10	<2	None	None	None	None	Green		Slightly Turbid		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #4

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 512
Weather: Clear
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	05/28/19	755	10	<10	<2	None	None	None	None	Green	59	Clear		
S4	05/28/19	1015	<10	<10	20	None	None	None	None	Green		Clear		
S5	05/28/19	955	<10	<10	<2	None	None	None	None	Green		Clear		
S6	05/28/19	935	<10	<10	<2	None	None	None	None	Green		Clear		
WEST	05/28/19	930	10	<10	<2	None	None	None	None	Green		Clear		
S7	05/28/19	925	10	<10	<2	None	None	None	None	Green		Clear		
S8	05/28/19	915	<10	<10	<2	None	None	None	None	Blue		Clear		
S9	05/28/19	900	200	20	6	None	None	None	None	Green		Clear		
ACM1	05/28/19	845	900	100	40	None	None	None	None	Green		Slightly Turbid	Flowing	
S10	05/28/19	835	40	10	2	None	None	None	None	Green		Clear		
S11	05/28/19	825	40	20	<2	None	None	None	None	Green		Clear		
S12	05/28/19	815	<10	<10	<2	None	None	None	None	Green		Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Aliso Creek Ocean Outfall

Unified Beach Water Quality Monitoring Stations

SOCWA's NPDES discharge permit requires participation in the South Orange County Unified Beach Water Quality Monitoring Program. The monitoring stations below are tested by SOCWA at least once per week for Total and Fecal Coliform and Enterococcus Bacteria.

Station	Location
S3	Three Arch Bay Beach; 10,000' down-coast from ACOO
S4	Ninth Street-1000 Steps; 5,000' down-coast from ACOO
S5	Laguna Lido Beach; 4,000 down-coast from ACOO
West	West Street Drain; 2,000' down-coast from ACOO
S6	Table Rock Beach; 3,000' down-coast from ACOO
S7	Camel Point Beach; 2,000' down-coast from ACOO
S8	Aliso Beach south; 1,000' down-coast from ACOO
S9	Aliso Beach middle; at ACOO
ACM1	Aliso Beach at Aliso Creek Outlet
S10	Aliso Beach north; 1,000' up-coast of ACOO
S11	Treasure Island Beach; 2,000' up-coast of ACOC
S12	Goff Island Beach; 3,000' up-coast of ACOO

Unified Beach Water Quality Sample Station Map – Aliso Creek Ocean Outfall

MONITORING REPORT

Off Shore Stations

South Orange County Wastewater Authority

DISCHARGE: Aliso Creek Ocean Outfall
REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water, nearshore and offshore
EXACT SAMPLE POINTS: As specified in permit
SAMPLES COLLECTED BY: Seaventures/SOCWA staff
SAMPLES ANALYZED BY: SOCWA Lab

REPORT FREQUENCY: Monthly

SAMPLING FREQUENCY: Monthly
TYPE OF SAMPLE: Grab

Comments: Surface foam from station N2-N6; High Tide 823

Sta No.	Sample Depth	Sample Date	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Sample Time	Oil & Grease	Sewage Debris
A-1	Surface	05/02/19	6	<2	<2	824	0	0
A-1	Mid depth	05/02/19	<10	10	10			
A-2	Surface	05/02/19	2	4	<2	755	0	0
A-2	Mid depth	05/02/19	<10	10	<10			
A-3	Surface	05/02/19	<2	<2	<2	800	0	0
A-3	Mid depth	05/02/19	30	<10	<10			
A-4	Surface	05/02/19	2	<2	<2	806	0	0
A-4	Mid depth	05/02/19	20	20	<10			
A-5	Surface	05/02/19	<2	<2	<2	803	0	0
A-5	Mid depth	05/02/19	20	<10	<10			
B-1	Surface	05/02/19	2	<2	<2	748	0	0
B-1	Mid depth	05/02/19	60	<10	<10			
B-2	Surface	05/02/19	2	<2	<2	813	0	0
B-2	Mid depth	05/02/19	<10	<10	<10			
N1	Surface	05/02/19	2	2	<2	839	0	0
N2	Surface	05/02/19	2	<2	<2	837	0	0
N3	Surface	05/02/19	6	<2	<2	836	0	0
N4	Surface	05/02/19	10	2	<2	835	0	0
N5	Surface	05/02/19	4	2	<2	833	1	0
N6	Surface	05/02/19	2	<2	4	832	0	0
N7	Surface	05/02/19	8	<2	2	830	0	0

0 - None
1 - Mild
2 - Moderate
3 - Severe

REQUIREMENT: (1) Floating particulates and grease and oil shall not be visible. (2) The discharge of wasteshall not cause aesthetically undesireable discoloration of the ocean surface.

Compliance Summary Report
Aliso Creek Ocean Outfall 2019

ACOO Permit Order No. R9-2012-0013							
Agency - Facility	**Violation Date**	**Constituent**	**Effluent Limit Violation**	**Units**	**Permit Limit**	**Reported Value**	**Potential Fine**
ACOO - SOCWA Outfall	5/14/2019	Chronic Toxicity	Monthly	Tuc	238	500	$3000

SOCWA and MEMBER AGENCY FACILITIES
ACOO Spill / Overflow Report Log - 2019
Order No. R9-2012-0013 ~ NPDES Permit No. CA0107611

Reporting Agency	Responsible Agency	Estimated Volume (Gallons)	Type of Discharge	Location/Comments	Receiving Waters	Date Reported To State	Date Resolved
SOCWA	SOCWA - Coastal Treatment Plant	10,800	Raw Sewage	The spill was completely recovered recirculated back into the treatment plant. There was no raw sewage that left the facility.	N/A	No	02-09-19

SAN JUAN CREEK OCEAN OUTFALL MONITORING REPORT

May 2019

	J.B. LATHAM FACILITY				SAN CLEMENTE WRP				SMWD CHIQUITA WRP				3-A PLANT				CSJC Desalter	SCWD Desalter	SJCOO	Rain Fall
DATE	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	FLOW MGD	FLOW MGD	inches
05/01/19	5.290	12.5	7.8	0.1	3.094	24.2	8.0	<0.1	2.630	7.2	5.4	0.1	1.878	35.0	8.5	ND	0.338	No Flow	12.400	
05/02/19	5.480	9.5	7.4	0.2	2.672	26.0	7.0	<0.1	3.130	5.5	7.3	0.3	1.400	6.0	7.2	ND	0.397	No Flow	10.570	
05/03/19	5.750	10.9	6.1	0.2	2.706	19.9	9.0	<0.1	2.590	5.7	5.9	0.2	1.480				0.414	No Flow	10.560	
05/04/19	5.690				2.750				2.770				1.443				0.415	No Flow	13.700	
05/05/19	5.610	7.4	3.6		3.025				3.040				1.485	51.0	8.2	ND	0.401	No Flow	13.700	
05/06/19	5.960	8.4	7.7	0.1	3.276	23.8	10.0	<0.1	3.350	7.4	15.6	0.2	1.564	6.0	7.3	ND	0.418	No Flow	13.700	0.01
05/07/19	5.930	5.8	5.7	<0.1	3.084	31.6	9.0	0.3	2.600	5.3	14.0	0.1	1.432	3.2	6.9	ND	0.423	No Flow	9.170	
05/08/19	5.790	8.1	6.5	<0.1	2.665	21.0	15.0	0.1	1.950	6.2	7.0	0.1	1.489	4.8	6.1	ND	0.423	No Flow	6.250	
05/09/19	5.970	7.0	5.8	0.1	2.963	22.5	14.0	<0.1	4.140	6.3	5.2	0.3	1.438	5.6	6.7	ND	0.423	0.913	9.240	
05/10/19	5.740	8.7	6.4	0.1	2.787	22.4	14.0	<0.1	3.350	8.4	4.9	0.3	1.491				0.425	1.045	11.560	
05/11/19	5.740				3.330				3.370				1.536				0.423	1.045	11.570	
05/12/19	5.940	8.4	7.3		3.870				3.630				1.562	6.8	8.0	ND	0.427	1.076	12.920	
05/13/19	6.050	13.3	11.3	<0.1	4.040	22.7	7.0	<0.1	3.150	5.6	7.4	0.3	1.471	4.4	5.8	0.1	0.419	0.836	12.640	
05/14/19	5.810	8.9	7.0	0.1	3.550	21.8	8.0	0.4	2.900	7.0	8.1	0.2	1.431	4.8	7.1	ND	0.421	0.809	10.270	
05/15/19	5.750	7.2	6.3	0.2	3.800	10.6	6.0	<0.1	3.770	4.9	3.6	0.1	1.348	6.8	6.1	ND	0.389	0.820	15.400	
05/16/19	5.690	7.1	5.7	<0.1	3.610	13.0	21.0	<0.1	4.860	4.8	3.6	0.3	1.420	7.2	7.5	ND	0.400	0.354	17.520	0.16
05/17/19	6.250	5.8	5.0	<0.1	3.560	17.4	6.0	<0.1	3.700	4.7	3.4	0.3	1.442				0.417	0.171	18.450	
05/18/19	5.710				3.220				3.630				1.459				0.418	0.167	16.480	
05/19/19	6.010	5.0	6.3		3.530				4.080				1.486	11.2	8.3	ND	0.417	0.175	16.790	0.15
05/20/19	6.040	10.4	9.1	<0.1	3.610	8.3	8.0	0.2	3.360	5.4	7.8	<0.1	1.486	8.4	7.5	ND	0.250	0.171	16.940	0.07
05/21/19	5.950	4.9	5.0	<0.1	3.017	12.3	8.0	<0.1	3.920	4.1	7.3	<0.1	1.425	12.8	8.0	ND	0.000	0.176	15.280	
05/22/19	6.040	5.0	5.0	0.1	2.284	14.3	11.0	<0.1	4.030	4.0	2.5	<0.1	1.425	12.8	8.8	0.1	0.283	0.170	15.370	
05/23/19	5.950	5.4	4.7	0.2	2.307	15.8	9.0	<0.1	3.040	2.8	2.5	<0.1	1.467	11.6	8.7	ND	0.400	0.073	15.830	
05/24/19	5.840	4.9	4.6	0.1	2.421	20.2	8.0	<0.1	3.250	5.0	2.5	<0.1	1.513				0.416	0.175	14.210	
05/25/19	6.050				2.209				3.780				1.339				0.417	0.170	14.520	
05/26/19	5.970	5.4	6.0		2.273				4.690				1.316	8.0	6.4	ND	0.385	0.174	15.510	0.13
05/27/19	5.950	5.4	4.0	<0.1	2.426	14.0	7.0	<0.1	3.820	4.7	8.0	<0.1	1.497	10.8	8.4	ND	0.366	0.170	16.330	
05/28/19	6.460	7.5	5.3	<0.1	2.963	11.1	8.0	<0.1	1.700	4.6	7.2	0.1	1.324	5.8	6.7	ND	0.367	0.169	16.650	
05/29/19	6.170	5.4	4.3	0.2	2.734	7.4	6.0	<0.1	1.850	4.4	3.0	0.1	1.377	8.8	7.2	0.1	0.369	0.174	13.660	
05/30/19	6.040	6.7	3.0	<0.1	2.394	4.6	4.0	<0.1	2.810	6.0	3.6	0.4	1.378	3.2	7.0	ND	0.111	0.174	12.990	
05/31/19	6.120	6.3	4.0	0.1	2.430	5.9	4.0	<0.1	1.520	6.2	3.8	0.3	1.453				0.000	0.195	14.530	
AVG	5.895	7.5	6.0	<0.1	2.987	17.0	9.0	<0.1	3.239	5.5	6.1	<0.2	1.460	10.7	7.4	ND0.0	0.360	0.303	13.700	
TOTAL	182.740				92.600				100.410				45.255				11.172	9.402	424.710	0.52

Unified Beach Monitoring #1

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 0500
Weather: Clear
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	05/06/19	0845	4,000	2,000	20	None	None	None	None	Green		Turbid		
S1	05/06/19	0855	500	400	500	None	None	None	None	Green		Turbid		
S2	05/06/19	0825	<20	<20	2	None	None	None	None	Green		Turbid		
DSB5	05/06/19	0815	>=4000	10,000	>=4000	None	None	None	None	Brown	68	Turbid		
S3	05/06/19	0900	700	200	400	None	None	None	None	Green		Turbid		
DSB4	05/06/19	0900	500	100	200	None	None	None	None	Green		Turbid		
S5	05/06/19	0905	300	60	130	None	None	None	None	Green		Turbid		
DSB1	05/06/19	0915	100	80	100	None	None	None	None	Green		Turbid		
SJC1	05/06/19	0850	4,000	1,000	2,000	None	None	None	None	Green		Turbid		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #2

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 514
Weather: Drizzle
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	05/13/19	825	500	260	170	None	None	None	None	Green	65	Turbid		
S1	05/13/19	840	100	100	80	None	None	None	None	Green		Turbid		
S2	05/13/19	812	<20	<20	<2	None	None	None	None	Green		Turbid		
DSB5	05/13/19	802	20	<20	20	None	None	None	None	Green		Turbid		
S3	05/13/19	843	100	20	26	None	None	None	None	Green		Turbid		
DSB4	05/13/19	844	40	80	36	None	None	None	None	Green	65	Turbid		
S5	05/13/19	846	20	<20	10	None	None	None	None	Green		Turbid		
DSB1	05/13/19	902	<20	<26	6	None	None	None	None	Green		Turbid		
C1	05/13/19	822	3,000	400	270	None	None	None	None	Green		Turbid	Flowing	100

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #3

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 1135
Weather: Clear
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	05/20/19	830	7,000	6,000	>=4,000	None	None	None	None	Green	63	Turbid		
S1	05/20/19	840	2,000	300	400	None	None	None	None	Green		Turbid		
S2	05/20/19	812	60	20	400	None	None	None	None	Green		Turbid		
DSB5	05/20/19	802	80	60	2	None	None	None	None	Green		Turbid		
S3	05/20/19	845	1,000	400	700	None	None	None	None	Green	63	Turbid		
DSB4	05/20/19	846	1,000	400	400	None	None	None	None	Green		Turbid		
S5	05/20/19	853	1,000	200	400	None	None	None	None	Green		Turbid		
DSB1	05/20/19	900	400	100	200	None	None	None	None	Green		Turbid		
C1	05/20/19	822	>=20,000	2,000	7,000	None	None	None	None	Green		Turbid	Flowing	

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #4

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 630
Weather: Clear
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	05/29/19	840	>=880	680	280	None	None	None	None	Green		Slightly Turbid		
S1	05/29/19	850	>=60	80	34	None	None	None	None	Green		Clear		
S2	05/29/19	800	20	20	<20	None	None	None	None	Green	59	Slightly Turbid		
DSB5	05/29/19	750	20	<20	8	None	None	None	None	Green		Slightly Turbid		
S3	05/29/19	855	>=80	80	20	None	None	None	None	Green		Clear		
DSB4	05/29/19	905	400	100	10	None	None	None	None	Green		Clear		
S5	05/29/19	910	40	<20	4	None	None	None	None	Green		Clear		
DSB1	05/29/19	915	40	<20	20	None	None	None	None	Green		Clear		
C1	05/29/19	815	<200	<200	10	None	None	None	None	Brown		Slightly Turbid	Flowing	

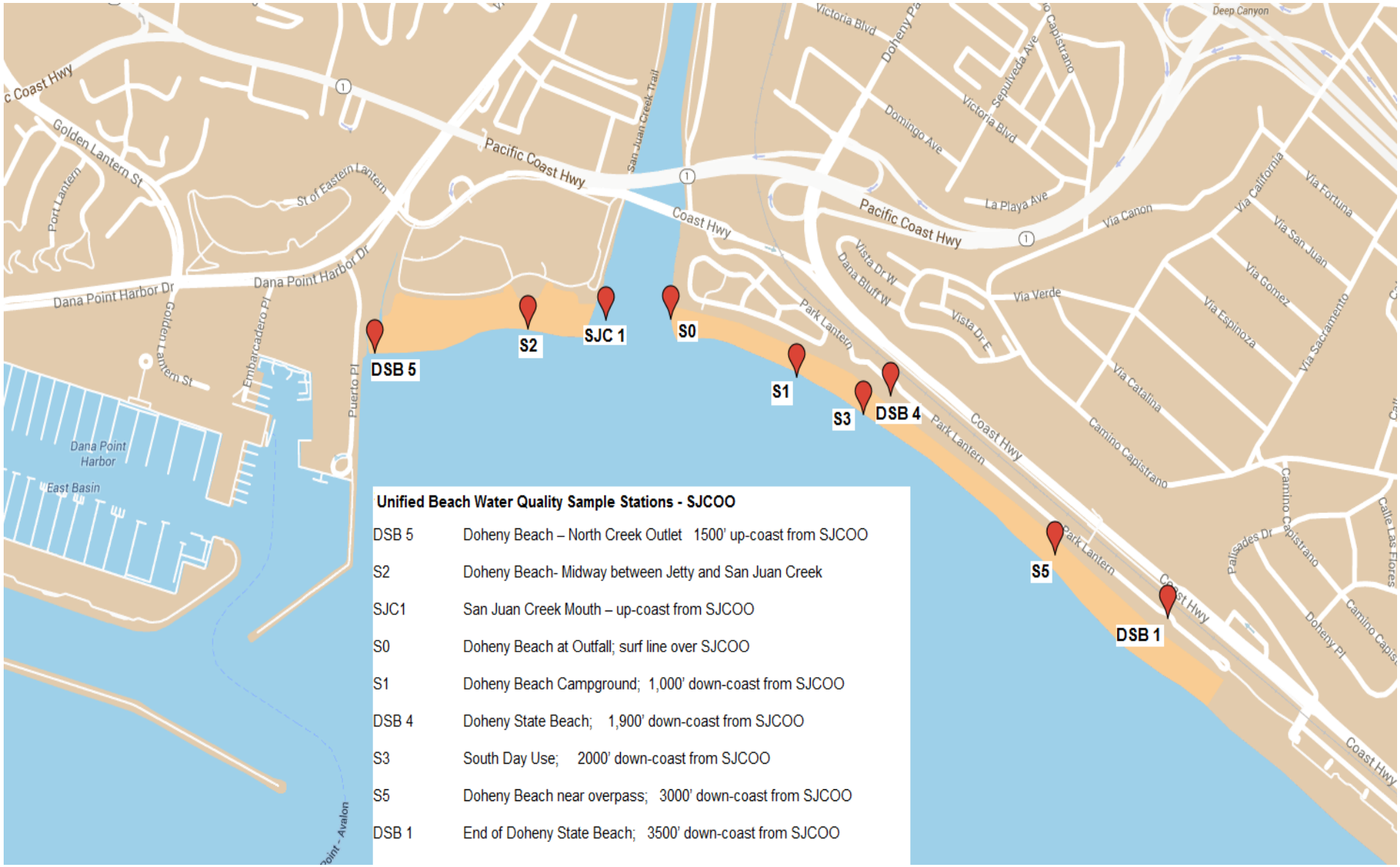
RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

San Juan Creek Ocean Outfall

Unified Beach Water Quality Monitoring Stations

SOCWA's NPDES discharge permit requires participation in the South Orange County Unified Beach Water Quality Monitoring Program. The monitoring stations below are tested by SOCWA SOCWA at least once per week for Total and Fecal Coliform and Enterococcus Bacteria.

Station	Location
DSB 5	Doheny Beach – North Creek Outlet 1500' up-coast from SJCOO
S2	Doheny Beach- Midway between Jetty and San Juan Creek
SJC1	San Juan Creek Mouth – up-coast from SJCOO
S0	Doheny Beach at Outfall; surf line over SJCOO
S1	Doheny Beach Campground; 1,000' down-coast from SJCOO
DSB 4	Doheny State Beach; 1,900' down-coast from SJCOO
S3	South Day Use; 2000' down-coast from SJCOO
S5	Doheny Beach near overpass; 3000' down-coast from SJCOO
DSB 1	End of Doheny State Beach; 3500' down-coast from SJCOO


DSB 5
S2
SJC 1
S0
S1
S3
DSB 4
S5
DSB 1
Pacific Coast Hwy
Coast Hwy
Golden Lantern St
Dana Point Harbor Dr
Dana Point Harbor
Dana Point Harbor
East Basin
San Juan Creek Trail
Victoria Blvd
Doheny Pa
Sepulveda Ave
Domingo Ave
La Playa Ave
Via Canon
Via Verde
Vista Dr W
Dana Bluff W
Vista Dr E
Park Lantern
Via California
Via Fortuna
Via San Juan
Via Gomez
Via Espinoza
Via Sacramento
Via Catalina
Camino Capistrano
Palisades Dr
Doheny Pl
Calle Las Flores
Deep Canyon
Port Lantern
St of Eastern Lantern
Colon Lantern St
Embarcadero Pl
Puerto Pl
Unified Beach Water Quality Sample Stations - SJCOO
DSB 5 Doheny Beach – North Creek Outlet 1500' up-coast from SJCOO
S2 Doheny Beach- Midway between Jetty and San Juan Creek
SJC1 San Juan Creek Mouth – up-coast from SJCOO
S0 Doheny Beach at Outfall; surf line over SJCOO
S1 Doheny Beach Campground; 1,000' down-coast from SJCOO
DSB 4 Doheny State Beach; 1,900' down-coast from SJCOO
S3 South Day Use; 2000' down-coast from SJCOO
S5 Doheny Beach near overpass; 3000' down-coast from SJCOO
DSB 1 End of Doheny State Beach; 3500' down-coast from SJCOO

MONITORING REPORT Offshore

South Orange County Wastewater Authority

DISCHARGE: San Juan Creek Ocean Outfall
REPORT FOR: May 2019
REPORT DUE: July 1, 2019
SAMPLE SOURCE: Receiving water, nearshore and offshore
EXACT SAMPLE POINTS: As specified in permit
SAMPLES COLLECTED BY: Seaventures/SOCWA staff
SAMPLES ANALYZED BY: SOCWA Lab

REPORT FREQUENCY: Monthly
SAMPLING FREQUENCY: Monthly
TYPE OF SAMPLE: Grab

Comments: High Tide 823

Sta No.	Sample Depth	Sample Date	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Sample Time	Oil & Grease	Sewage Debris
A-1	Surface	05/02/19	8	16	<2	935	0	0
A-1	Mid depth	05/02/19	<10	<10	<10			
A-2	Surface	05/02/19	<2	<2	<2	938	0	0
A-2	Mid depth	05/02/19	<10	<10	<10			
A-3	Surface	05/02/19	<2	<2	<2	941	0	0
A-3	Mid depth	05/02/19	10	<10	<10			
A-4	Surface	05/02/19	4	4	<2	950	0	0
A-4	Mid depth	05/02/19	<10	<10	<10			
A-5	Surface	05/02/19	<2	<2	<2	945	0	0
A-5	Mid depth	05/02/19	10	<10	<10			
B-1	Surface	05/02/19	4	<2	<2	927	0	0
B-1	Mid depth	05/02/19	<10	<10	<10			
B-2	Surface	05/02/19	<2	<2	<2	955	0	0
B-2	Mid depth	05/02/19	<10	<10	<10			
N1	Surface	05/02/19	16	8	<2	923	0	0
N2	Surface	05/02/19	10	4	<2	918	0	0
N3	Surface	05/02/19	>=22	14	12	914	0	0
N4	Surface	05/02/19	4	2	<2	911	0	0
N5	Surface	05/02/19	26	2	2	908	1	0
N6	Surface	05/02/19	20	4	<2	905	0	0

0 - None
1 - Mild
2 - Moderate
3 - Severe

REQUIREMENT: (1) Floating particulates and grease and oil shall not be visible. (2) The discharge of waste shall not cause aesthetically undesireable discoloration of the ocean surface.

Compliance Summary Report
San Juan Creek Ocean Outfall 2019

SJCOO Permit Order No. R9-2012-0012							
Agency	Violation Date	Constituent	Effluent Limit Violation	Units	Permit Limit	Reported Value	Potential Fine
No Violations During this Reporting Period							

SOCWA and MEMBER AGENCY FACILITIES
SJCOO Spill / Overflow Report Log - 2019
Order No. R9-2012-0012 ~ NPDES Permit No. CA0107417

Reporting Agency	Responsible Agency	Estimated Volume (Gallons)	Type of Discharge	Location/Comments	Receiving Waters	Date Reported To State	Date Resolved
SOCWA	SMWD	5,000	Recycled Water	Transferring sludge from digester 5 to sludge holding tank through common transfer line connected to digester 1 which is offline and being cleaned caused flow through open flush valve at digester 1. Operator stopped flow through valve after about 10 minutes of transfer but cleanup required use of around 5000 gallons of plant wash water. Everything is contained in the plant.	None	Yes	05-26-19

Recycled Water Report

Compliance Summary Report
Recycled Water Permit
2019

Waste Discharge Requirement Order 97 - 52							
Agency - Facility	**Violation Date**	**Constituent**	**Effluent Limit Violation**	**Units**	**Permit Limit**	**Reported Value**	**Remarks**
TCWD - RRWRP	10/19/2018	Nitrate as NO3	Annual	mg/L	45	68	Results reported in January. Agency to begin quarterly accelerated monitoring.
SOCWA - RTP	1/16/2019-1/22/2019	Coliform	30-day Max	cfu/100mL	23	37-548	There were six instances of exceedances of MPN greater than 23 cfu/100mL. Permit limits no more than one sample in excess of 23 in 30 day period. Chlorine contact basin past scheduled annual maintenance due to storm as key contributor to exccedances. Chlorine contact basin cleaned early February.
SOCWA - RTP	1/16/2019	Coliform	Instaneous	cfu/100mL	240	548	Chlorine contact basin past scheduled annual maintenance due to storm as key contributor to exccedances. Chlorine contact basin cleaned early February.
SOCWA - RTP	1/22/2019-1/30/2019	Coliform	7 Day Median	cfu/100mL	2.2	3-37	There were nine exceedances of the 7 day median. Chlorine contact basin past scheduled annual maintenance due to storm as key contributor to exccedances. Chlorine contact basin cleaned early February.
SOCWA - RTP	1/3/2019	Manganese	12-Month	mg/L	0.05	0.07	
SOCWA - RTP	1/3/2019	TDS	12-Month	mg/L	1000	1024	SOCWA began accelerated monitoring.
SMWD - 3A	1/1/2019	Manganese	12-Month	mg/L	0.05	0.06	Plant offline but running annual average continues to be above the permit limit.
SOCWA - RTP	2/5/2019	Manganese	12-Month	mg/L	0.05	0.08	
SOCWA - RTP	2/5/2019	TDS	12-Month	mg/L	1000	1072	
SOCWA - CTP	2/28/2019	Manganese	12-Month	mg/L	0.05	0.06	Plant offline but running annual average continues to be above the permit limit.
SMWD - 3A	2/7/2019	Manganese	12-Month	mg/L	0.05	0.06	
SMWD - 3A	2/9/2019	Coliform	Instaneous	cfu/100mL	<2	2419	Suspected sample contamination.
SOCWA - RTP	3/5/2019	Manganese	12-Month	mg/L	0.05	0.07	
SMWD - 3A	3/20/2019	Manganese	12-Month	mg/L	0.05	0.07	
SOCWA - RTP	4/16/2019	Manganese	12-Month	mg/L	0.05	0.07	
SMWD - 3A	4/30/2019	Manganese	12-Month	mg/L	0.05	0.07	
SOCWA - RTP	5/16/2019	Manganese	12-Month	mg/L	0.05	0.09	
SOCWA - RTP	5/16/2019	TDS	12-Month	mg/L	1000	1123	
SMWD - 3A	offline	Manganese	12-Month	mg/L	0.05	0.07	Offline

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

QUARTERLY RECYCLED WATER MONITORING

Monitoring Period Ending: Apr 30, 2019

Constituent	Units	12-month Avg Maximum Permit Limit	IRWD-LAWRP 12-month Average *	ETWD-WRP 12-month Average **	TCWD 12-month Average	SMWD Oso 12-month Average	SMWD Chiquita 12-month Average	SMWD Nichols 12-month Average	MNWD-3A 12-month Average	MNWD-RTP 12-month Average	SCWD-CTP 12-month Average ***
TDS	mg/L	1000	757	957	962	816	831	857	907	1,156	927
Chloride	mg/L	375	143	218	259	169	199	255	202	268	268
Sulfate	mg/L	400	225	305	275	227	208	197	236	370	210
Sodium	mg/L	None	145	183	184	163	163	190	143	190	190
Alkalinity	mg/L	None	-	-	-	-	-	-	240	243	170
Adjusted SAR	Ratio	None	5.05	-	4.51	4.99	5.20	5.61	4.48	4.11	4.05
Iron	mg/L	0.3	0.056	0.083	0.017	0.013	0.150	0.029	0.13	0.160	0.096
Manganese	mg/L	0.05	0.031	0.012	0.011	0.015	0.040	0.017	0.070	0.087	0.060
MBAS	mg/L	0.5	0.07	0.00	0.17	0.19	0.28	0.16	0.02	0.03	0.05
Boron	mg/L	0.75	0.24	0.260	0.297	0.355	0.380	0.367	0.31	0.340	0.34
Fluoride	mg/L	None	0.33	0.990	0.29	0.830	0.60	0.52	0.75	0.93	0.61
Total Organic Carbon	mg/L	None	10.5	-	9.9	12.0	10.6	7.0	7.5	14.6	10.0

* The LAWRP 12-month permit limits are listed below:

TDS 1000 mg/L
Chloride 180 mg/L
Sulfate 340 mg/L

**The ETWD 12-month permit limits are listed below:

TDS 910 mg/L

*** The CTP 12-month permit limits are listed below:

TDS 1200 mg/L
Chloride 400 mg/L
Sulfate 500 mg/L

SOCWA Service Area
Recycled Water Production (ac-ft) 2019

Agency	Facility or Region	Jan '19	Feb '19	Mar '19	Apr '19	May '19	Jun '19	Jul '19	Aug '19	Sep '19	Oct '19	Nov '19	Dec '19	Annual Totals
CSJC 1	3-A Plant/MNWD	0.00	0.000	0.000	0.000	0.000								0.00
CSJC 2	Chiquita/SMWD	0.18	0.003	3.892	35.017	38.254								77.35
CSJC 3	Non-Domestic Well	13.29	3.410	11.500	27.690	18.430								74.32
ETWD	Region 8	23.64	10.087	41.028	130.768	98.002								303.53
IRWD														
4	IRWD - 8	35.00	11.253	16.545	82.854	115.785								261.44
4	IRWD - 9	15.72	2.968	10.973	60.604	59.543								149.81
SCWD	SOCWA CTP	-0.832	0.000	0.000	0.000	54.267								53.44
MNWD	JRP	245.54	221.482	112.321	373.361	471.166								1,423.87
	3-A Plant	0.00	14.353	74.850	176.553	0.000								265.76
5	CTP	10.71	1.481	-15.580	-74.249	-30.104								-107.74
SMWD	Oso Creek	103.42	142.274	151.757	139.665	138.560								675.68
	Chiquita	179.53	45.266	55.056	235.138	174.221								689.21
	Nichols	2.00	1.967	1.936	1.728	1.897								9.53
TCWD	RRWRP	41.93	23.762	22.535	35.952	42.747								166.93
TOTALS		670.1	478.3	486.8	1,225.1	1,182.8								4,043.11

1 Denotes transfer of recycled water from MNWD (3A Plant) for use in the CSJC service area. Not counted as additional production.
2 Denotes recycled water purchased from SMWD Chiquita-WRP used in the CSJC service area. Not counted as additional production.
3 Denotes nondomestic groundwater produced from wells used for landscape irrigation.
4 IRWD production is from recycled water production, nonpotable water wells, and surface water impoundments
5 Denotes transfer of recycled water from SCWD (SOCWA CTP) for use in the MNWD service area. Not counted as additional production.
Note: All of ETWD reclaimed water produced and used in Region 8.
NR = No Report

Agenda Item

Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Jim Burror, Director of Operations

SUBJECT: June 2019 Operations Report

Summary/Discussion

The following selected operational reports are provided monthly to the Board of Directors. The operational reports included are as follows:

1) Monthly Operational Report – Fiscal Year 17-18

   A nine (9) page overview and comparison of owner use of facilities, including influent and recycled water production. The pages include ongoing calculation used by SOCWA for billing the agencies. Other items include important statistics for regulatory compliance, visits by the public to the treatment works, and other vendor interactions. The information is broken down by facility and by member agency.

2) SOCWA Ocean Outfall Discharges by Agency

   This data shows how much water is being discharged to the ocean each month and for the last 12 months. This data is presented for the agencies planning reuse projects to better understand the potential to expand water reuse in their service area.

3) Fiscal Year Report on Key Operational Expenses

   These charts include tracking of monthly expenses for key operational expenses with estimated projections for the Fiscal Year. The key parameters that are being tracked are Electricity, Odor Control, Polymer, Biosolids, Maintenance expenses (not including SOCWA staff labor), small capital purchases and safety.

4) Beach Ocean Monitoring Report

5) Recycled Water Report

6) Pretreatment Report

Fiscal impact

No change

Recommendation

Receive and file the June 2019 Operational Reports.

Monthly Operational Report

SOCWA Operational Report June, 2019

Excursion, Complaint, and Violation Event

Events	CTP	RTP	JBL	Totals
Odor	0	0	0	0
Noise	0	0	1(1)	1
Spills	0	0	0	0
Violations	1(2)	0	0	1
Others	0	0	0	0

(1) Noise complaint from South Cove development resident regarding trucks arriving before 7 a.m.

(2) Spill by SCWD Contractor during the ongoing forcemain relining project was inside the CTP plant. All sewage was contained within the treatment plant.

Plant Wastewater Billing Characteristics

Key Parameters	CTP	RTP	JBL TP1	JBL TP2	Totals
Influent (mgd) (3)	2.82	7.16	5.24	0.90	16.13
Effluent (mgd)	2.08	1.17	5.24	2.06	10.56
Peak Flow (mgd)	20.46	17.14	8.78	6.97	53.35
Influent BOD (mg/l)	423	221	205	248	
Influent TSS (mg/l)	571	347	606	353	
Effluent BOD (mg/l)	5.4	5.8	5.4	4.4	
Effluent TSS (mg/l)	9.4	7.3	8.0	7.4	
Effluent Turbidity (NTU)	4.9	2.3	3.5	3.3	

(3) CTP Influent value does not include AWT backwash in this table.

Recycled Water (AWT) Operations

Key Parameters	CTP	RTP	JBL	Totals
Average Flow (mgd)	1.06	5.99		7.05
Days of Operation (days)	30	30		
Total Flow (million gallons)	31.8	179.6		211.4
Plant Irrigation (million gallons)	0.00	0.00	0.27	
AWT Time Online (%)	96.5	99.0		

Wastewater Unit Definitions

mgd = million gallons per day

mg/l = milligram per liter also known as parts per million

NTU = Nephelometric Turbidity Units

SOCWA Operational Report June, 2019 (cont'd)

Biosolids Management

Biosolids Management Site	CTP	RTP	JBL	Totals
Synagro Compost (tons)		763.6	0.0	763.6
Nursery Products (tons)		127.6	638.7	766.3
Prima Deshecha (tons)		303.8	170.0	473.8
Other:_____ (tons)		0.0	0.0	0.0
Total Processed (tons)		1,195.0	808.7	2,003.7

Summary of Maintenance Activities

Task Type	CTP	RTP	JBL	Totals
Preventative Maintenance	453	605	262	1,320
Corrective Maintenance	38	78	165	281

Site Visitors

Visitor Types	CTP	RTP	JBL	Totals
Regulatory	2	1	0	3
Member Agency	0	4	4	8
Residents	0	0	0	0
Others	16	0	13	29
Tours #/Visitors	0	15	0	15

Grit Disposal Management

Grit & Screenings	CTP	RTP	JBL	Totals
Simi Valley Landfill (tons)	1.0	28.5	10.5	40.0

Chemical and Energy Utilization

Chemical/Utility	CTP	RTP	JBL	Totals
Ferric Chloride (tons)		24.8		24.8
Utility Power Purchase (kWh)	194,405	344,251	200,394	739,050
Cogen Power (kWh)		231,868	448,666	680,534
Natural Gas (Dth)	7	1,250		1,257
Digester Gas to Engine (scfm)		3,521,286	7,346,831	10,868,117
Digester Gas to Boiler (scfm)		0		
Digester Gas to Flares (scfm)		6,903,721	253,339	7,157,060
Digester Gas Power Savings		(1)		

(1) The bills to calculate these values are received after this report is prepared for the Board meeting, but will be available upon request at the Board meeting.

NA = Not Available at the time this report was generated.

Wastewater Unit Definitions

kWh = kilowatt hours

Dth = Dekatherms

scfm = standard cubic feet per minute

SOCWA Operational Report June, 2019 (cont'd)

Agency Wastewater Flows to SOCWA by Facility
(Including Internal Waste Streams Used for Billing)

Agency	CTP (mgd)	CTP (%)	RTP (mgd)	JBL (mgd)	JBL (%)	Total (mgd)
CLB	1.731	57.23%				1.73
EBSD	0.049	1.60%				0.05
SCWD	1.245	41.16%		1.621	26.38%	2.87
MNWD	0.000	0.00%	7.16	1.400	22.78%	8.56
CSJC				2.076	33.77%	2.08
SMWD				1.049	17.07%	1.05
Total	3.025	100.00%	7.16	6.146	100.00%	16.33

Total Agency Outfall Flows by Outfall System-Billing Flows

Agency	SJCOO (mgd)	SJCOO (%)	SJCOO Meter (mgd)	ACOO (mgd)	ACOO (%)	Total (mgd)	Notes
CLB				1.73	25.41%	1.73	
EBSD				0.05	0.71%	0.05	
SCWD	1.87	15.65%		0.20	3.00%	2.08	Includes Desalters
MNWD	2.86	23.92%		1.17	17.24%	4.03	
ETWD				2.07	30.34%	2.07	Direct Outfall Only
CSJC	2.46	20.58%				2.46	Incudes Desalter
SMWD	2.04	17.04%				2.04	Includes Chiquita
CSC	2.73	22.81%				2.73	Direct Outfall Only
IRWD				1.59	23.30%	1.59	Direct Outfall Only
Total	11.96	100.00%	21.38	6.81	100.00%	18.77	

SOCWA Operational Report June, 2019 (cont'd)

FY Flow/Solids Summary-Billing

Project Committee No. 2 Liquids (JBL)

Agency	Own (mgd)	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)(1)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CSJC	4.00	30.77%	2.12	31.98%	2.076	33.77%	2.07	35.39%
MNWD	3.00	23.08%	1.40	21.12%	1.400	22.78%	1.40	23.93%
SCWD	3.75	28.85%	1.70	25.64%	1.621	26.38%	1.69	28.92%
SMWD	2.25	17.31%	1.41	21.27%	1.049	17.07%	0.69	11.75%
Total	13.00	100.00%	6.63	100.00%	6.146	100.00%	5.85	100.00%

Project Committee No. 2 Solids (JBL)

Agency	Own (lbs/d)	Own (%)	Budget (lbs/d)	Budget (%)	Month (lbs/d)	Month (%)	36 Month Rol. Avg. (lbs/d) (2)	36 Month Rol. Avg. (%)
CSJC	11,572	30.00%	5,767	24.54%	6,574	29.77%	5,817	28.15%
MNWD	8,340	21.62%	4,396	18.70%	6,203	28.09%	5,571	26.96%
SCWD	7,715	20.00%	5,391	22.94%	4,661	21.10%	5,165	25.00%
SMWD	10,946	28.38%	7,949	33.82%	4,648	21.04%	4,108	19.88%
Total	38,573	100.00%	23,503	100.00%	22,086	100.00%	20,662	100.00%

Project Committee No. 5 - Effluent Pumping Station (SJCOO EPS)

Agency	Own (%)	Variable Budget (mgd)	Variable Budget (%)	Month Outfall Flow (mgd)	Month Outfall Flow (%)	Month EPS Outfall Flow (mgd)	Month EPS Outfall Flow (%)
CSC	16.62%	2.531	21.57%	2.73	22.81%		
CSJC	11.08%	2.348	20.01%	2.46	20.58%	2.08	33.77%
MNWD(3)	15.51%	2.013	17.16%	2.86	23.92%	1.40	22.78%
SCWD	12.47%	1.740	14.83%	1.87	15.65%	1.62	26.38%
SMWD	44.32%	3.101	26.43%	2.04	17.04%	1.05	17.07%
Total	100.00%	11.733	3.10%	11.96	100.00%	6.15	100.00%

(1) Influent billing meter summary:

a. CSJC is metered daily in the collection system. The area-velocity meter has an accuracy of +/- 20%.

b. MNWD is assumed to be 1.4 mgd unless Treatment Plant 3A is discharging to the sewer. If other discharges occur, they are estimated.

c. SCWD flows are the summation of the DPSD and Victoria PS meters. The two metering systems have an accuracy of +/- 10%.

d. The Oso Trabuco sewer is metered daily in the collection system. The flows from MNWD are subtracted from the metering data collected to determine SMWD's flows. The metering system in the collection system has an accuracy of +/- 20%.

(2) The 36-month average is the average of the past 36 months. The Use Audit is based on the last 3 Fiscal Years versus the average of the past 36 months.

(3) All monthly flow data for 3A is reported as part of MNWD's flow to the ocean outfall.

FY Flow/Solids Summary-Billing (cont'd)

Project Committee No. 5 - Outfall (SJCOO)

Agency	FY Avg Outfall Flow (mgd)	FY Avg Outfall Flow (%)	FY Avg EPS Outfall Flow (mgd)	FY Avg EPS Outfall Flow (%)
CSC	2.867	23.62%		
CSJC	2.460	20.26%	2.07	35.39%
MNWD	2.422	19.95%	1.40	23.93%
SCWD	1.846	15.20%	1.69	28.92%
SMWD	2.545	20.96%	0.69	11.75%
Total	12.139	100.00%	5.85	100.00%

Project Committee No. 15 (CTP)

Agency	Own (mgd)	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CLB	2.54	37.91%	1.770	59.00%	1.731	57.23%	1.620	60.23%
EBSD	0.20	2.99%	0.050	1.67%	0.049	1.60%	0.050	1.88%
SCWD	2.00	29.85%	1.180	39.33%	1.245	41.16%	1.019	37.89%
MNWD	1.96	29.25%	0.000	0.00%	0.000	0.00%	0.000	0.00%
Total	6.70	100.00%	3.000	100.00%	3.025	100.00%	2.690	100.00%

Project Committee No. 17 Liquids (RTP)

Agency	Budget Liquids (mgd)	Budget Liquids (%)	Month Plant Influent (mgd)	Month Centrate (mgd)	Month Total (mgd)(1)	Month Total (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CLB	0.01220	0.157%	0.0000	0.0130	0.0130	0.18%	0.0142	0.19%
EBSD	0.00040	0.005%	0.0000	0.0004	0.0004	0.01%	0.0004	0.01%
SCWD	0.00810	0.104%	0.0000	0.0093	0.0093	0.13%	0.0089	0.12%
ETWD	0.01410	0.181%	0.0000	0.0144	0.0144	0.20%	0.0141	0.18%
MNWD	7.75000	99.553%	7.1620	0.0613	7.2233	99.49%	7.6070	99.51%
Total	7.78480	100.000%	7.1620	0.0984	7.2604	100.00%	7.6447	100.00%

(1) Month total does not double count MNWD centrate. It is included in the Monthly Plant Influent too.

FY Flow/Solids Summary (cont'd)

Project Committee No. 17 Solids (RTP)

Agency	Own (lbs/d)	Own (%)	Budget (lbs/d)	Budget (%)	Total Month (lbs)	Total Month (%)	FY Avg Total to Date (lbs)	FY Avg Total to Date (%)
CLB	5,605	11.22%	5,133	12.48%	137,040	13.18%	175,500	15.34%
EBSD	295	0.59%	158	0.38%	3,842	0.37%	5,468	0.48%
SCWD	4,480	8.96%	3,546	8.62%	98,561	9.48%	110,286	9.64%
ETWD	10,200	20.41%	5,755	13.99%	152,676	14.68%	173,396	15.15%
MNWD	29,395	58.82%	26,532	64.52%	647,838	62.29%	679,689	59.40%
Total	49,975	100.00%	41,124	100.00%	1,039,957	100.00%	1,144,339	100.00%

Project Committee No. 24 (ACOO)

Agency	Own (%)	Budget (mgd)	Budget (%)	Month Outfall Flow (mgd)	Month Outfall Flow (%)	FY Avg Outfall Flow (mgd)	FY Avg Outfall Flow (%)
CLB	11.000%	1.89	17.73%	1.731	25.41%	1.620	14.96%
EBSD	0.780%	0.05	0.47%	0.049	0.71%	0.050	0.47%
ETWD	16.302%	2.46	23.08%	2.067	30.34%	2.596	23.97%
IRWD	15.760%	2.48	23.26%	1.588	23.30%	3.060	28.25%
MNWD	43.848%	3.08	28.89%	1.174	17.24%	3.044	28.10%
SCWD	12.310%	0.70	6.57%	0.205	3.00%	0.461	4.26%
Total	100.000%	10.66	100.00%	6.814	0.00%	10.832	100.00%

Select Critical Equipment Repairs

JBL - PC2

Replaced 9-side Scrubber Water Softener that was failed and beyond its useful life.
Entered and inspected 9-side Raw Sewage Pump (RSP) Wetwell. (Out of service during CIP project.)
Replaced failed suction valve and Y-strainer on Solid Odor Scrubber Caustic Pump.
Repaired hole in DAFT#2 inner wall.
Fabricated process water pump station sound wall.
Fabricated and installed 9-side Scum Trough Flush Water Manifold.
Replaced and rebuilt Exhaust Fan and Supply Fan for Building #30.
Replaced failed Centrifuge #1 Polyblend Pump.
Repaired 4-side Grit Auger leak.
Repaired leaking seal water line on Digester #3 Recirculation Pump.
Replaced skylights on Building #35 with ones that have OSHA approved fall protection covers.

CTP - PC15

Repaired water leak in the Operations Building Laboratory.
Replaced rubber wear-strips on West Secondary Scum Skimmer #3.
Started reorganization of the Vehicle Storage Building Project to get more storage space.
Installed motorized door openers on the Vehicle Storage Building doors to eliminate a safety problem.
Replaced the failed sample line for RAS Pump #2.
Reconfigured the Drainage Pumping Station Discharge Line after the SCWD Forcemain Project was complete to eliminate a primary basin overloading issue.
Replaced the media in the Foul Air Odor Control Scrubber.
Replaced faded safety signage around the plant.

RTP - PC17

Overhauled RAS #6 Pump and replaced the motor.
Overhauled RAS #66 Pump and replaced the motor.
Removed and replaces welding fume extractor with a unit in compliance with new safety standards.
Performed H2S media swap using staff resources only; estimated labor cost savings are $15,000 using internal resources.
Replaced failed Scrubber #3 Recirculation Pump.
Cleaned out built up sand from DAFT #3.
Installed safety bollards around the new temporary gas line.
Slurry coated the plant’s Entrance Access Road and Guest Parking Lot.

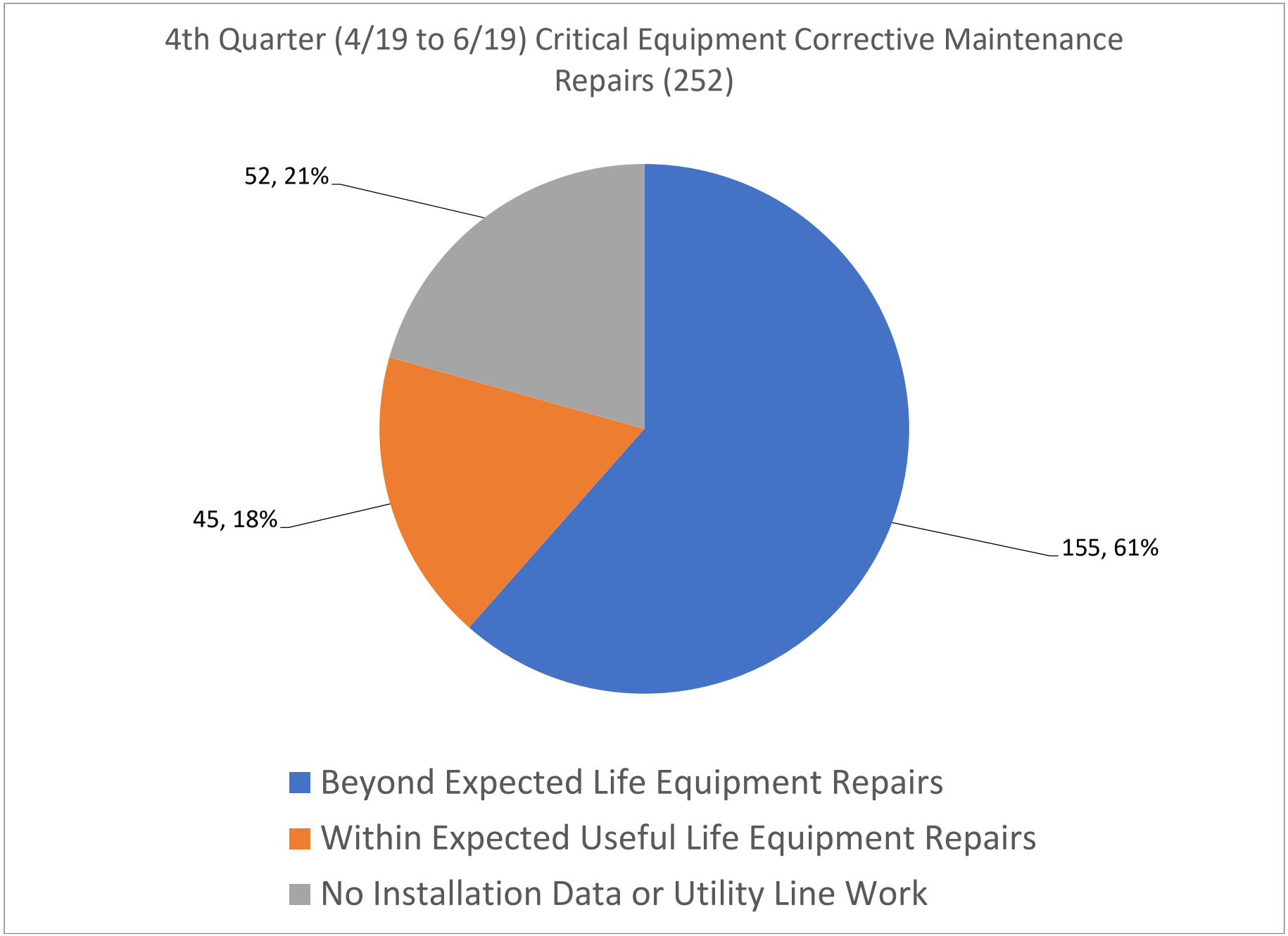
Items with a (*) have been identified as preventable repairs.

Select Critical Equipment Repairs (cont'd)

ELECTRICAL - ALL PC'S

Replaced failed motor on CTP's East Secondary Drive #2.
Replaced failed Cogen Gas Flow Meters at RTP.
Updated the Win-911 operator callout procedures.
Troubleshot the Influent Diversion Structure Gate Operator at JBL.
Replaced faulty wiring for the 4-Side Effluent Flow Meter at JBL.
Troubleshot the JBL Waste Gas Burner.
Replaced several lighting units with new LED lights at JBL and RTP.
Replaced failed Centrifuge #3 scroll motor at JBL.
Started Waste Oil Tank Upsizing Project at JBL with the relocation of the Control Panel to make room for the new Tank.
Replaced failed Sludge Pump #2 VFD at JBL.
Moved several conduits at JBL to prepare for the removals of the old Laboratory Building under a CIP project.
Removed abandoned laboratory equipment at CTP.
Supported the shutdown of MCC's A, H, C, G to allow Engineering's Consultants to inspect the older electrical gear at RTP for an upcoming project.
Troubleshot and repaired the CTP Export Building AC Unit.(*)
Troubleshot and repaired CTP Non-Potable Water Backwash Controller.
Replaced failed Influent Level Sensor at RTP.
Troubleshot and repaired SET #2 and #3 motors.
Troubleshot and repaired Air Compressor #2 at JBL.
Replaced failed RTP Boiler Re-circ Pump.

Items with a (*) have been identified as preventable repairs.


4th Quarter (4/19 to 6/19) Critical Equipment Corrective Maintenance Repairs (252)
52, 21%
45, 18%
155, 61%
Beyond Expected Life Equipment Repairs
Within Expected Useful Life Equipment Repairs
No Installation Data or Utility Line Work

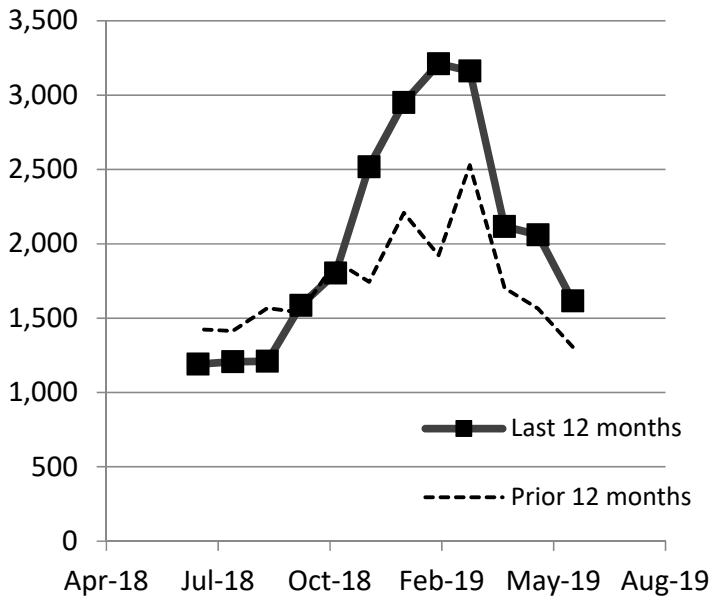
SOCWA Ocean Outfall Discharges by Agency

SOCWA Outfall Discharge Report June, 2019

Agency	SJCOO (mgd)	SJCOO (%)	ACOO (mgd)	ACOO (%)	Total (mgd)
CLB			1.73	25.41%	1.73
EBSD			0.05	0.71%	0.05
SCWD	1.87	15.65%	0.20	3.00%	2.08
MNWD	2.86	23.92%	1.17	17.24%	4.03
ETWD			2.07	30.34%	2.07
CSJC	2.46	20.58%			2.46
SMWD	2.04	17.04%			2.04
CSC	2.73	22.81%			2.73
IRWD			1.59	23.30%	1.59
Total	11.96	100.00%	6.81	100.00%	18.77
	or Acre-Feet per year equivalent				21,026

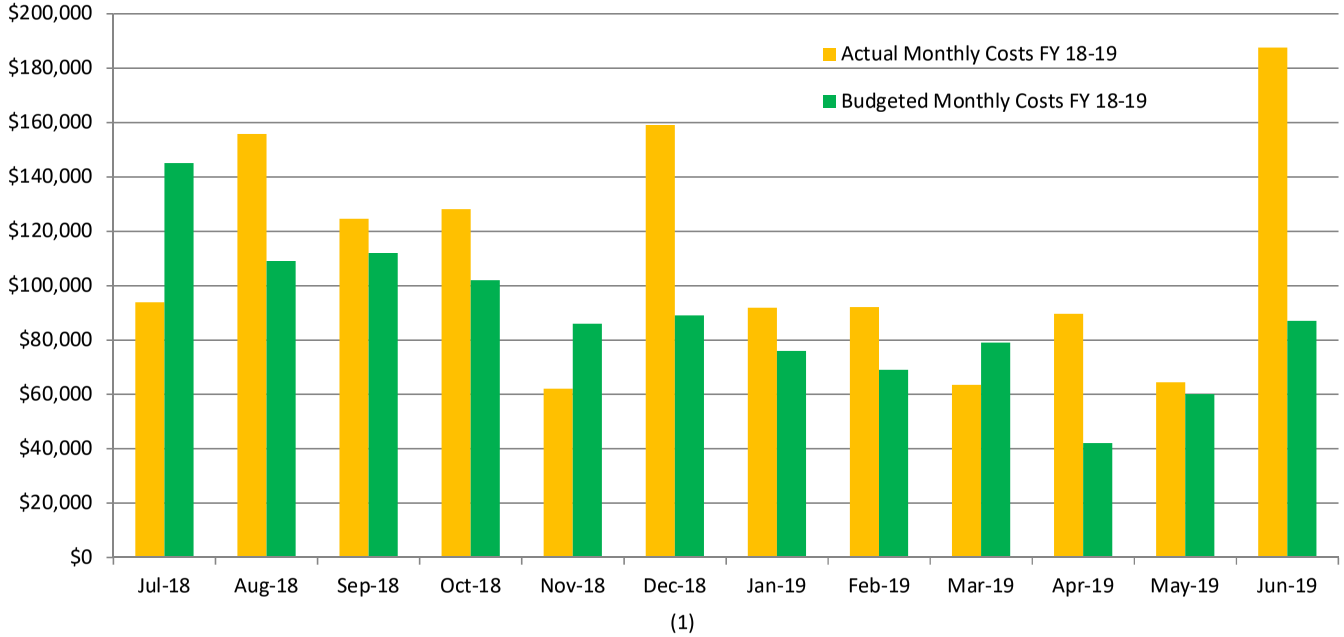
12-Month Running Total Discharge to Ocean Outfalls (AF)

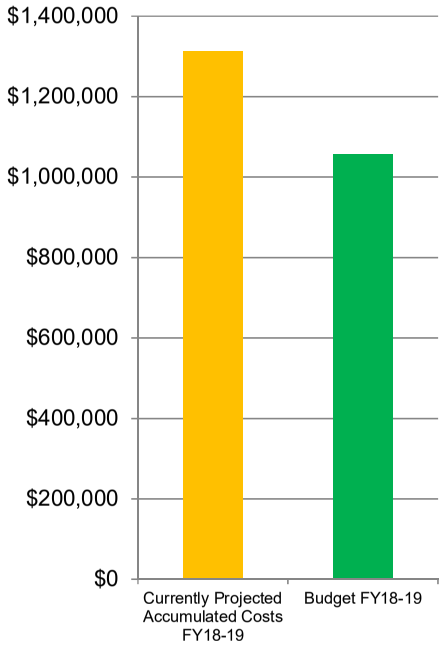
Jun-19	1,616
May-19	2,061
Apr-19	2,117
Mar-19	3,163
Feb-19	3,211
Jan-19	2,950
Dec-18	2,518
Nov-18	1,804
Oct-18	1,587
Sep-18	1,210
Aug-18	1,207
Jul-18	1,191
Total	24,635



Quarterly Report on Key Operational Expenses

Electricity (5002) Costs



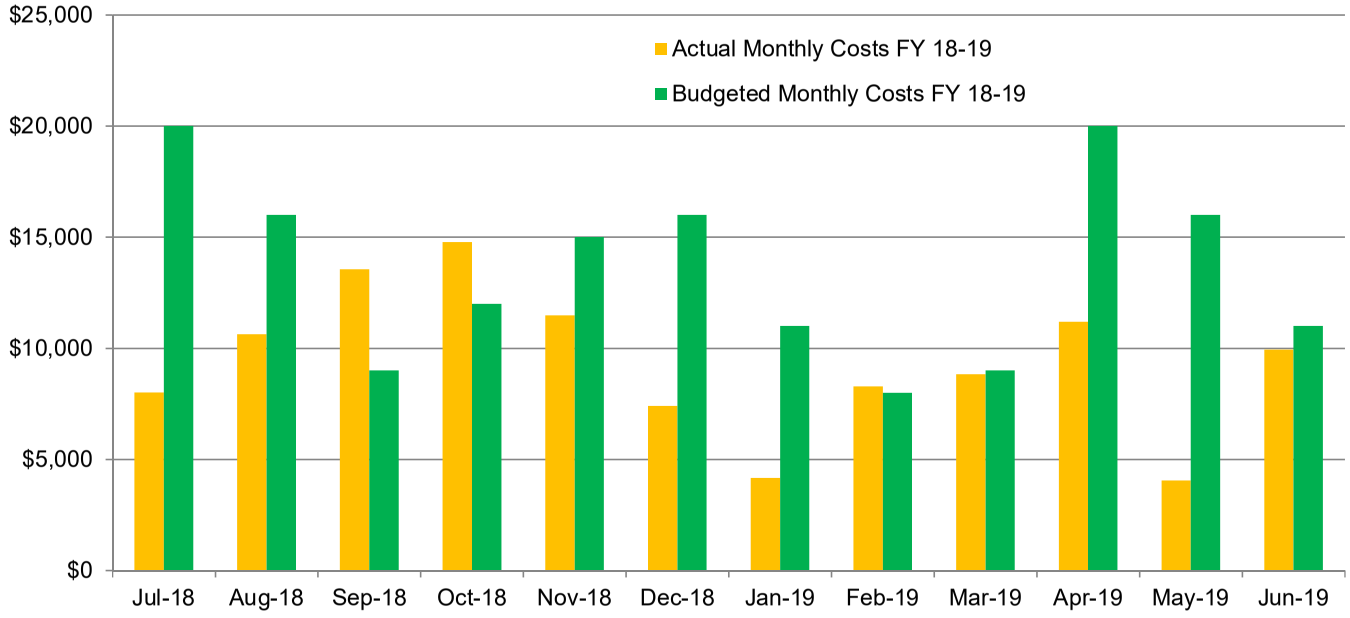


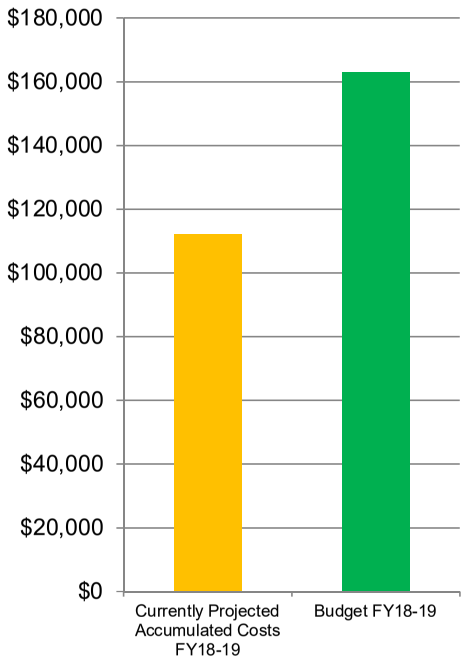
	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Actual Monthly Costs FY 18-19	$93,851	$155,749	$124,599	$128,064	$62,044	$159,010	$91,853	$92,008	$63,471	$89,646	$64,425	$187,496
Budgeted Monthly Costs FY 18-19	$145,000	$109,000	$112,000	$102,000	$86,000	$89,000	$76,000	$69,000	$79,000	$42,000	$60,000	$87,000

Currently Projected Accumulated Costs FY18-19	$1,312,217
Budget FY18-19	$1,056,000
Currently Projected Under(+)/Over (-) Budget	-$256,217

(1) SCE adjusted billings back to May 2018 in December 2018 for RTP's new rate structure for the new engine system. RTP is over budget for the FY due to delays in completing the engine construction project.

Odor Control (5009) Costs

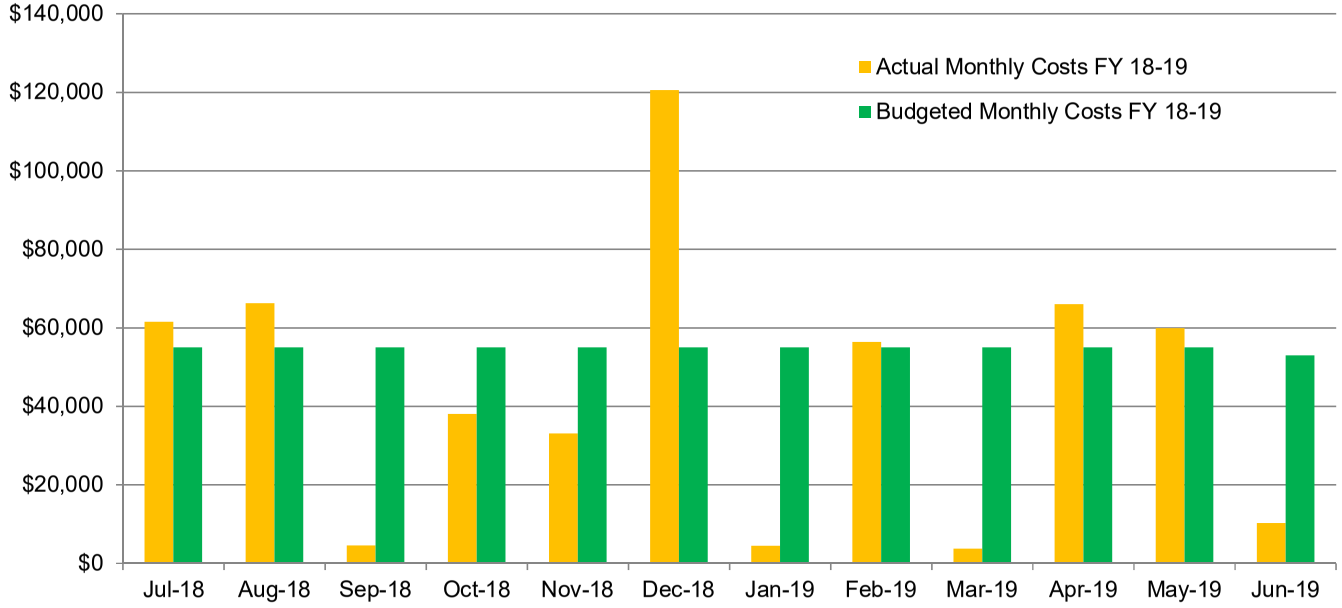


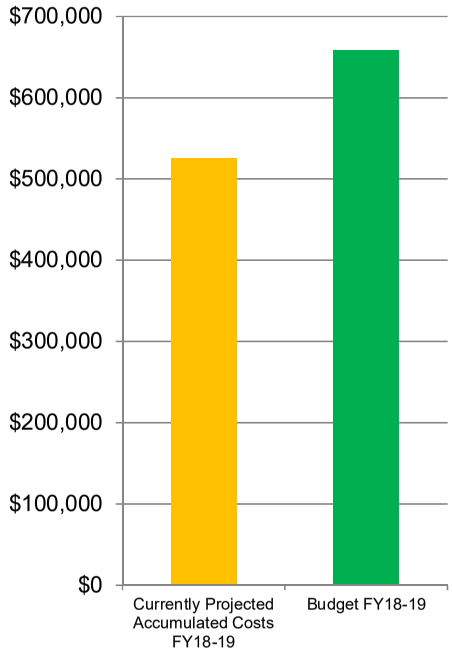


	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Actual Monthly Costs FY 18-19	$8,002	$10,633	$13,557	$14,780	$11,471	$7,402	$4,167	$8,288	$8,835	$11,183	$4,042	$9,934
Budgeted Monthly Costs FY 18-19	$20,000	$16,000	$9,000	$12,000	$15,000	$16,000	$11,000	$8,000	$9,000	$20,000	$16,000	$11,000

Currently Projected Accumulated Costs FY18-19	$112,294
Budget FY18-19	$163,000
Currently Projected Under(+)/Over (-) Budget	$50,706

Polymer (5007) Costs

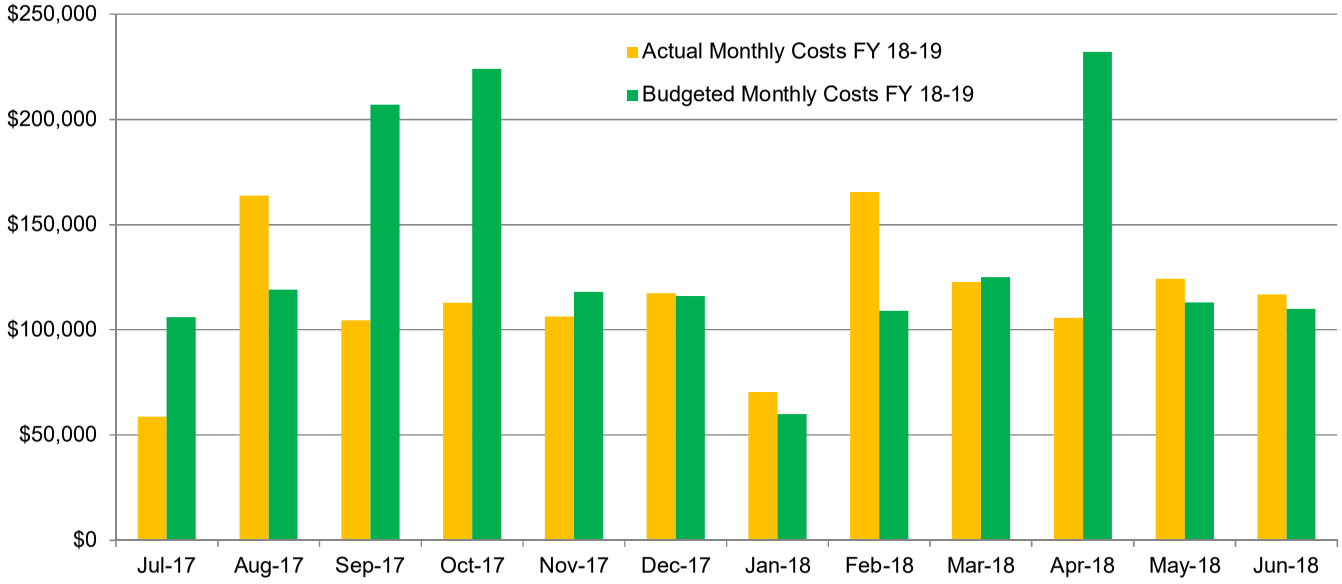


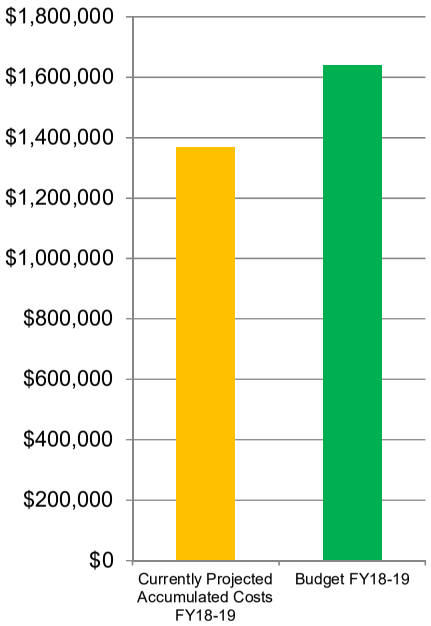


	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Actual Monthly Costs FY 18-19	$61,498	$66,295	$4,569	$38,044	$33,118	$120,545	$4,485	$56,366	$3,696	$66,036	$59,921	$10,222
Budgeted Monthly Costs FY 18-19	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$53,000

Currently Projected Accumulated Costs FY18-19	$524,794
Budget FY18-19	$658,000
Currently Projected Under(+)/Over (-) Budget	$133,206

Biosolids (5049) Costs

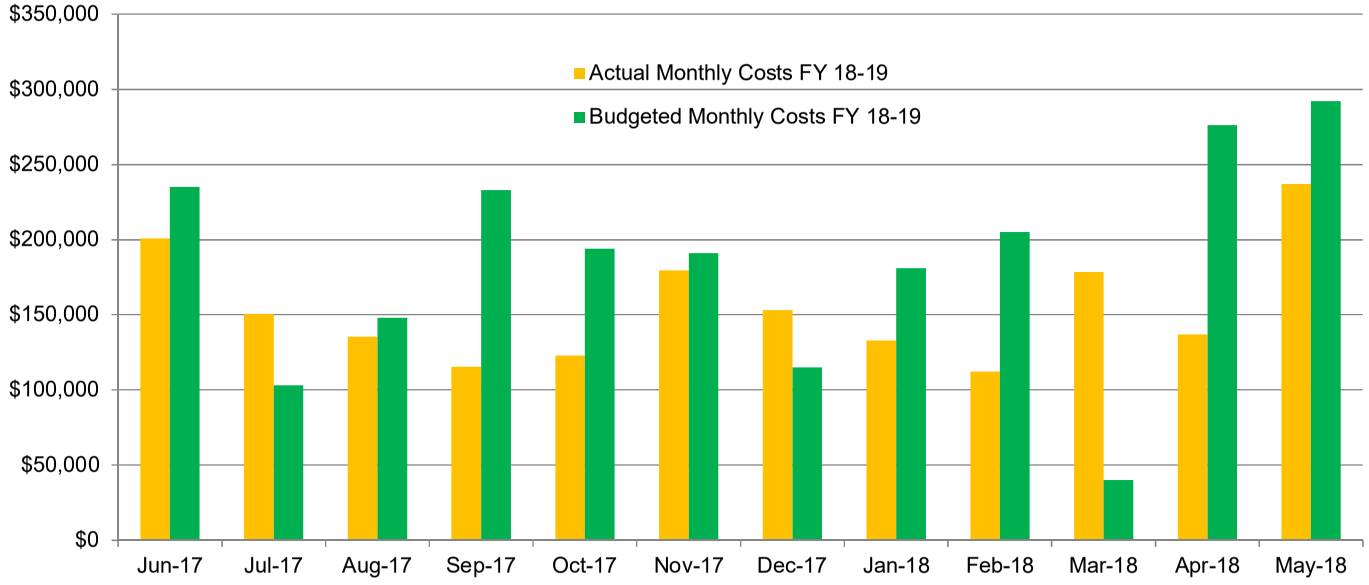


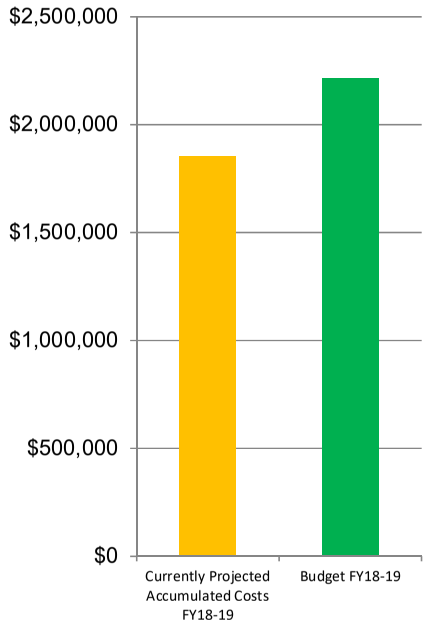


	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Actual Monthly Costs FY 18-19	$58,670	$163,703	$104,444	$112,796	$106,241	$117,363	$70,415	$165,371	$122,663	$105,703	$124,244	$116,865
Budgeted Monthly Costs FY 18-19	$106,000	$119,000	$207,000	$224,000	$118,000	$116,000	$60,000	$109,000	$125,000	$232,000	$113,000	$110,000

Currently Projected Accumulated Costs FY18-19	$1,368,478
Budget FY18-19	$1,639,000
Currently Projected Under(+)/Over (-) Budget	$270,522

Maintenance Repair (5056 to 5060) Costs

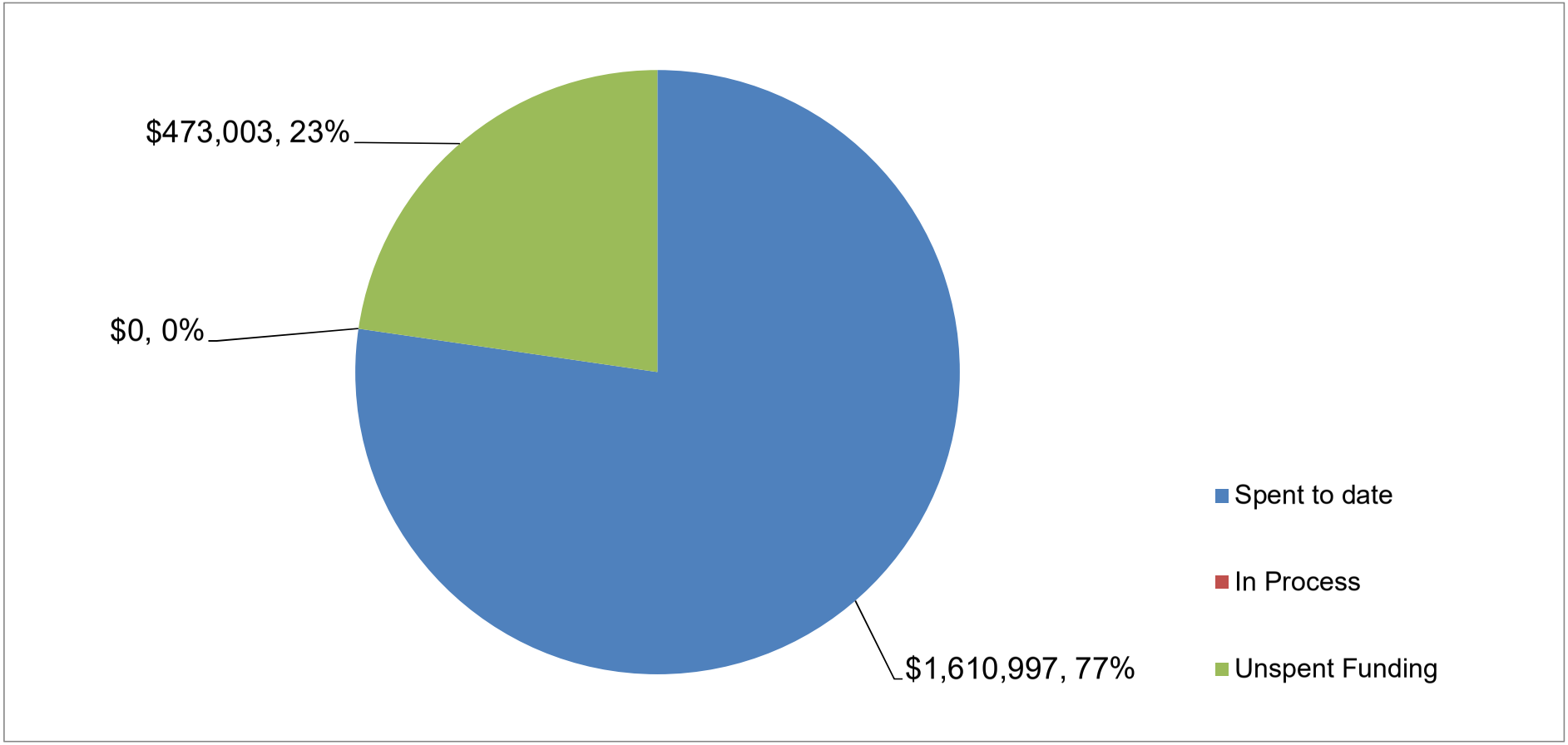




	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18
Actual Monthly Costs FY 18-19	$200,790	$150,552	$135,353	$115,444	$122,816	$179,480	$153,071	$132,855	$112,293	$178,405	$136,854	$236,841
Budgeted Monthly Costs FY 18-19	$235,000	$103,000	$148,000	$233,000	$194,000	$191,000	$115,000	$181,000	$205,000	$40,000	$276,000	$292,000

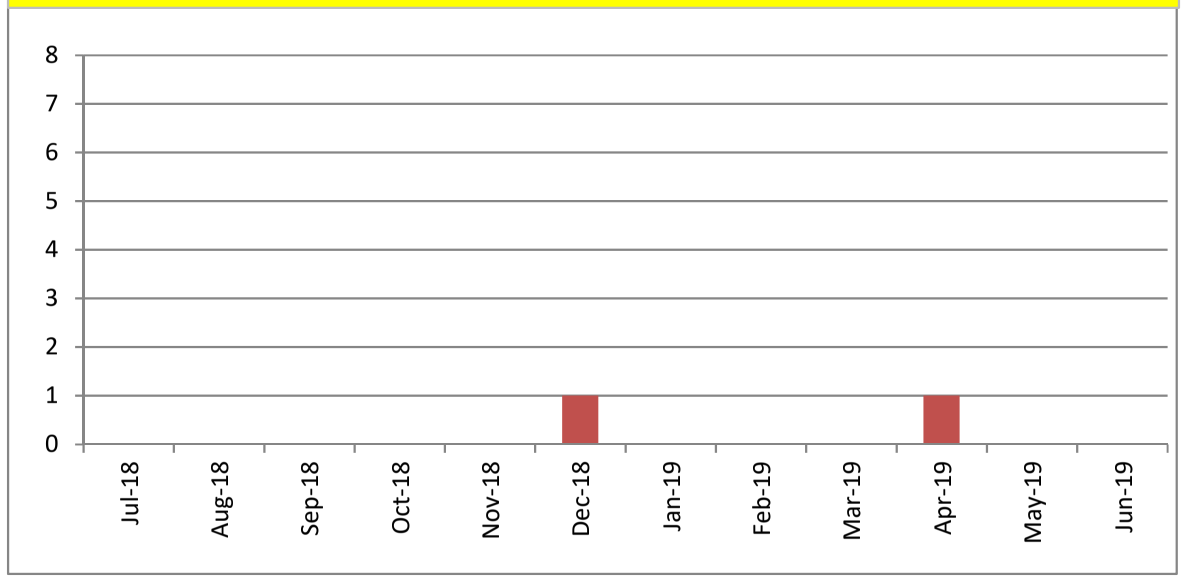
Currently Projected Accumulated Costs FY18-19	$1,854,754
Budget FY18-19	$2,213,000
Currently Projected Under(+)/Over (-) Budget	$358,246

FY18-19 Small Internal Capital Costs



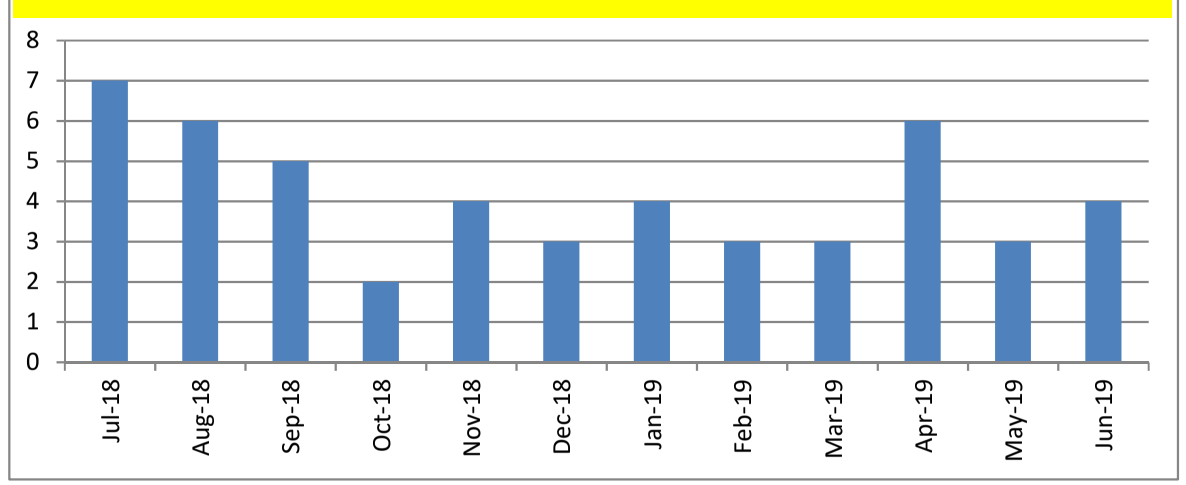
SAFETY UPDATE - JULY 2, 2019

OSHA RECORDABLE INJURIES



	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
OSHA RECORDABLE INJURIES	0	0	0	0	0	1	0	0	0	1	0	0

NEAR MISS REPORTS



	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
NEAR MISS REPORTS	7	6	5	2	4	3	4	3	3	6	3	4

SAFETY TRAINING

TRAINING TOPIC	ATTENDANCE
June '19 - Annual Confined Space Entry Rescue Refresher Training	95%
May '19 - Annual Heat Illness Training	90%
April '19 - Annual HAZWOPER Refresher Training (8-Hour)	90%
March '19 - Annual Respirator Fit Testing and PPE Use Traning	95%
Feb '19 - Annual Bloodborne Pathogens Training / Additional Arc Flash Training	90%
December '18 - Annual Defensive Driving/Distracted Driving/DUIs Training (w/ CHP)	100%
November '18 - Annual Audiometric Hearing Testing	100%
October '18 - Crane Safety	100%
September '18 - Silica Safety Training	100%
August '18 - Lockout/Tagout Training & Fire Awareness Safety for Field Personnel	100%
July '18 - Annual Fire Extinguisher Training	90%
May '18 - Annual Heat Illness Training	100%
March '18 - CPR/First Aid/AED Training	100% (all SOCWA employees)
January '18 - Respiratory PPE Training/Fit Testing, Additional ICS Training	90%
October '17 - Forklift Training / Certification	100%
September '17 - Active Shooter and Workplace Violence Training	100%
July/August '17 - Spill Response Training (hands on training with use of ICS System)	100%
May '17 - Annual Fire Extinguisher Training and Safety Culture Training	100%
March '17 - Authorized User Fall Protection Training and CPR/First Aid/AED Training	100%
January '17 - Confined Space Rescue Practice/Training and Lockout/Tagout Training	100%
October '16 - Confined Space Awareness/Entry Rescue Training and Forklift Training (for newer employees)	100%
May '16 - Fire Extinguisher Training, Entry Level NIMS/ICS Training, and Heat Illness Training	100%
February '16 - Biomechanics and Ergonomics Training (with CSRMA) and Bloodborne Pathogen Training	100%
Oct '15 and Jan '16 - Initial Confined Space Entry Rescue (Two 3-day training sessions)	100%
November '15 - Annual Hearing Testing and Laboratory Safety (for Laboratory Employees)	100%
September '15 - Pre-Storm Workshop/Training, Arc Flash Training, and Forklift Training (Biennial)	100%
August '15 - Fire Prevention for Water Utility Field Staff and Disaster Cost Recovery Training	100%
July '15 - Initiate additional NIMS/ICS Training and Water and Power Resiliency Workshop	Ongoing
June '15 - Initial Confined Space Awareness and Non-Entry Rescue Training	100%

Beach / Ocean Monitoring Report

June 2019

ALISO CREEK OCEAN OUTFALL MONITORING REPORT

June 2019

	IRWD LOS ALISOS WRP				EL TORO WRP				SOCWA REGIONAL PLANT				SOCWA COASTAL PLANT				IRWD IDP	IRWD SGU	SCWD ACWRF	ACOO	Rain Fall
DATE	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	FLOW MGD	FLOW MGD	FLOW MGD	inches
06/01/19	0.926	8.6		<0.3	2.541				0.750				1.693				0.603	0.603	0.098	6.611	
06/02/19	0.753	10.0	7.3	<0.3	2.621	8.4	7.3		2.24	8.2	7.0	<0.1	1.925	2.6	2.0		0.601	0.601	0.100	8.240	
06/03/19	0.748	5.3	6.0	<0.3	2.373	8.8	8.1	ND	1.980	8.2	6.0	<0.1	2.215	11.5	5.0	<0.1	0.601	0.601	0.095	8.012	
06/04/19	0.889	8.4	5.6	<0.3	1.724	9.2	8.4	ND	0.620	5.4	6.0	<0.1	2.378	8.7	5.0	<0.1	0.603	0.603	0.107	6.321	
06/05/19	0.884	4.8	3.8	<0.3	2.272	7.2	6.5	ND	0.400	6.3	3.0	<0.1	2.121	9.1	6.0	<0.1	0.598	0.598	0.114	6.389	
06/06/19	0.884	9.4	6.4	<0.3	2.029	10.8	8.8	ND	1.600	7.1	3.0	0.1	1.761	7.8	4.0	0.1	0.599	0.599	0.042	6.915	
06/07/19	0.891	9.4	5.7	<0.3	1.309			ND	1.290	6.2	5.0	0.2	2.066	6.8	5.0	0.1	0.598	0.598	0.105	6.259	
06/08/19	0.889	9.0		<0.3	2.886				0.670				2.046				0.597	0.597	0.096	7.184	
06/09/19	0.884	10.0	5.4	<0.3	2.780	7.4			1.640	5.9	8.0	<0.1	2.174	11.5	7.0	<0.1	0.596	0.596	0.087	8.161	
06/10/19	0.883	13.0	5.1	<0.3	2.168	11.4	6.2	ND	1.590	7.2	14.0	0.1	2.027	22.3	15.0	1.0	0.596	0.596	0.110	7.374	
06/11/19	0.883	13.0	4.2	<0.3	1.433	14.0	6.2	ND	0.240	6.4	20.0	<0.1	1.453	26.7	13.0	<0.1	0.594	0.594	0.032	4.635	
06/12/19	0.879	13.0	5.2	<0.3	1.601	13.2	6.7	1.0	0.200	3.8	9.0	0.1	1.578	12.2	6.0	<0.1	0.593	0.593	0.015	4.866	
06/13/19	0.687	12.0	5.8	<0.3	1.883	14.6	6.4	0.1	0.230	6.3	8.0	0.1	1.966	9.3	6.0	0.1	0.599	0.599	0.120	5.485	
06/14/19	0.604	9.8	5.4		1.525	16.6	7.0	0.1	0.240	5.2	4.0	0.2	1.844	8.3	6.0	0.1	0.600	0.600	0.100	4.913	
06/15/19	No Flow				1.713	16.4		0.2	0.250				1.981				0.596	0.596	0.106	4.646	
06/16/19	No Flow				1.945	17.4		ND	0.770	7.0	6.0	<0.1	1.995	3.4	3.0		0.594	0.594	0.086	5.390	
06/17/19	No Flow				2.606	19.2	7.3	0.1	2.820	10.0	5.0	<0.1	2.191	18.1	8.0	0.6	0.592	0.592	0.076	8.285	
06/18/19	No Flow				2.580	13.4	5.7	0.2	0.830	7.7	4.0	<0.1	2.110	12.5	6.0	<0.1	0.606	0.606	0.128	6.254	
06/19/19	No Flow				2.366	11.8	5.1	0.2	1.790	6.9	2.0	0.1	2.076	9.1	3.0	<0.1	0.606	0.606	0.078	6.916	
06/20/19	No Flow				1.818	12.6	4.5	0.1	0.680	15.2	4.0	0.1	1.760	3.5	2.0	0.2	0.606	0.606	0.127	4.991	
06/21/19	No Flow				1.714	10.8	4.1	0.1	2.160	6.0	3.0	0.1	2.128	5.6	3.0	0.3	0.604	0.604	0.080	6.686	0.01
06/22/19	No Flow				3.519	6.4		ND	3.210				1.944				0.603	0.603	0.119	9.395	
06/23/19	No Flow				2.057	9.6		ND	2.660	7.6	4.0	<0.1	2.301	11.5	8.0		0.601	0.601	0.097	7.716	
06/24/19	No Flow				2.159	10.6	6.9	ND	1.580	10.1	4.0	<0.1	2.319	9.0	6.0	<0.1	0.602	0.602	0.103	6.763	
06/25/19	No Flow				1.793	11.2	4.9	ND	0.460	8.2	3.0	0.1	2.152	6.9	4.0	0.1	0.600	0.600	0.075	5.080	
06/26/19	No Flow				1.902		7.9	0.1	0.330	9.1	3.0	0.4	1.854	6.6	4.0	0.1	0.598	0.598	0.087	4.771	
06/27/19	No Flow				1.698	9.6	4.7		1.950	6.3	3.0	0.1	1.679	5.5	3.0	0.2	0.599	0.599	0.130	6.056	
06/28/19	No Flow				1.580	9.2	5.5	ND	0.550	5.0	2.0	0.1	2.080	4.3	3.0	0.2	0.597	0.597	0.088	4.895	
06/29/19	No Flow				1.690	8.6		ND	0.840				1.721				0.597	0.597	0.105	4.953	
06/30/19	No Flow				1.728	7.6		ND	0.660	7.4	10.0	<0.1	1.994	1.8	3.0		0.596	0.596	0.086	5.064	
AVG	0.389	9.7	5.5	<0.3	2.067	11.4	6.4	ND0.1	1.174	7.3	5.8	<0.1	1.984	9.4	5.4	<0.2	0.599	0.599	0.093	6.308	
TOTAL	11.68				62.01				35.23				59.53				17.98	17.98	2.792	189.23	0.01

Unified Beach Monitoring #1

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 528
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F	Water Condition	Water Outlet	Birds
S3	06/05/19	750	<10	<10	<2	None	None	None	None	Green		Clear		
S4	06/05/19	1005	<10	10	<2	None	None	None	None	Green		Clear		
S5	06/05/19	945	20	<10	<2	None	None	None	None	Green		Clear		
S6	06/05/19	920	<10	<10	<2	None	None	None	None	Green		Clear		
WEST	06/05/19	915	<10	<10	<2	None	None	None	None	Green		Clear		
S7	06/05/19	905	<10	<10	<2	None	None	None	None	Green		Clear		
S8	06/05/19	855	<10	10	<2	None	None	None	None	Blue		Clear		
S9	06/05/19	845	<10	<10	<2	None	None	None	None	Green		Clear		
ACM1	06/05/19	835	<10	<10	<2	None	None	None	None	Green		Clear		
S10	06/05/19	830	<10	<10	<2	None	None	None	None	Green		Clear		
S11	06/05/19	820	<10	<10	<2	None	None	None	None	Green		Clear		
S12	06/05/19	810	<10	<10	2	None	None	None	None	Green	59	Clear		

RECREATIONAL WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #2

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 1010
Weather: Partly Cloudy
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F	Water Condition	Water Outlet	Birds
S3	06/10/19	805	<10	<10	<2	None	None	None	None	Green		Clear		
S4	06/10/19	1020	<10	<10	<2	None	None	None	None	Green	59	Clear		
S5	06/10/19	1005	<10	<10	<2	None	None	None	None	Green		Clear		
S6	06/10/19	945	<10	<10	<2	None	None	None	None	Green		Clear		
WEST	06/10/19	940	<10	<10	<2	None	None	None	None	Green		Clear		
S7	06/10/19	935	<10	<10	<2	None	None	None	None	Green		Clear		
S8	06/10/19	925	<10	<10	<2	None	None	None	None	Blue		Clear		
S9	06/10/19	905	<10	<10	<2	None	None	None	None	Green		Clear		
ACM1	06/10/19	900	10	<10	<2	None	None	None	None	Green		Clear		
S10	06/10/19	850	<10	<10	<2	None	None	None	None	Green		Clear		
S11	06/10/19	840	<10	<10	<2	None	None	None	None	Green		Clear		
S12	06/10/19	830	<10	<10	<2	None	None	None	None	Green		Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #3

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 1031
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	06/17/19	7:58	<10	10	10	None	None	None	None	Brown	64	Slightly Turbid		
S4	06/17/19	8:16	<10	20	<2	None	None	None	None	Brown		Slightly Turbid		
S5	06/17/19	11:25	40	40	2	None	None	None	None	Green		Slightly Turbid		
S6	06/17/19	8:43	<10	<10	<2	None	None	None	None	Green		Slightly Turbid		
WEST	06/17/19	8:46	10	<10	<2	None	None	None	None	Green		Slightly Turbid		
S7	06/17/19	8:49	30	<10	4	None	None	None	None	Green	64	Slightly Turbid		
S8	06/17/19	10:12	<10	<10	<2	None	None	None	None	Green		Slightly Turbid		
S9	06/17/19	10:02	140	80	24	None	None	None	None	Green		Slightly Turbid		
ACM1	06/17/19	9:54	200	60	56	None	None	None	None	Green		Slightly Turbid	Flowing	
S10	06/17/19	9:16	<10	10	4	None	None	None	None	Green		Slightly Turbid		1
S11	06/17/19	9:30	10	<10	<2	None	None	None	None	Green	63	Slightly Turbid		1
S12	06/17/19	9:37	10	10	4	None	None	None	None	Green		Slightly Turbid		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #4

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low tide 914
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	06/24/19	1015	<10	<10	<2	None	None	None	None	Green		Clear		
S4	06/24/19	947	<10	<10	<2	None	None	None	None	Green		Clear		
S5	06/24/19	937	<10	10	<2	None	None	None	None	Green		Clear		
S6	06/24/19	925	10	<10	4	None	None	None	None	Green		Clear		
WEST	06/24/19	920	<10	10	<2	None	None	None	None	Green		Clear		
S7	06/24/19	915	<10	10	<2	None	None	None	None	Green		Clear		
S8	06/24/19	857	60	<10	8	None	None	None	None	Green		Clear		
S9	06/24/19	849	40	10	14	None	None	None	None	Green		Clear		
ACM1	06/24/19	845	30	<10	4	None	None	None	None	Green		Clear	Flowing	
S10	06/24/19	821	<10	<10	<2	None	None	None	None	Green		Clear		
S11	06/24/19	826	<10	<10	2	None	None	None	None	Green		Clear		
S12	06/24/19	800	10	<10	<2	None	None	None	None	Green		Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Aliso Creek Ocean Outfall

Unified Beach Water Quality Monitoring Stations

SOCWA's NPDES discharge permit requires participation in the South Orange County Unified Beach Water Quality Monitoring Program. The monitoring stations below are tested by SOCWA at least once per week for Total and Fecal Coliform and Enterococcus Bacteria.

Station	Location
S3	Three Arch Bay Beach; 10,000' down-coast from ACOO
S4	Ninth Street-1000 Steps; 5,000' down-coast from ACOO
S5	Laguna Lido Beach; 4,000 down-coast from ACOO
West	West Street Drain; 2,000' down-coast from ACOO
S6	Table Rock Beach; 3,000' down-coast from ACOO
S7	Camel Point Beach; 2,000' down-coast from ACOO
S8	Aliso Beach south; 1,000' down-coast from ACOO
S9	Aliso Beach middle; at ACOO
ACM1	Aliso Beach at Aliso Creek Outlet
S10	Aliso Beach north; 1,000' up-coast of ACOO
S11	Treasure Island Beach; 2,000' up-coast of ACOO
S12	Goff Island Beach; 3,000' up-coast of ACOO

Unified Beach Water Quality Sample Station Map – Aliso Creek Ocean Outfall

MONITORING REPORT

Off Shore Stations

South Orange County Wastewater Authority

DISCHARGE: Aliso Creek Ocean Outfall
REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water, nearshore and offshore
EXACT SAMPLE POINTS: As specified in permit
SAMPLES COLLECTED BY: Seaventures/SOCWA staff
SAMPLES ANALYZED BY: SOCWA Lab

REPORT FREQUENCY: Monthly

SAMPLING FREQUENCY: Monthly
TYPE OF SAMPLE: Grab

Comments:

Sta No.	Sample Depth	Sample Date	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Sample Time	Oil & Grease	Sewage Debris
A-1	Surface	06/13/19	6	2	2	804	0	0
A-1	Mid depth	06/13/19	<10	<10	<10			
A-2	Surface	06/13/19	2	6	2	754	0	0
A-2	Mid depth	06/13/19	<10	<10	10			
A-3	Surface	06/13/19	<2	<2	<2	758	0	0
A-3	Mid depth	06/13/19	20	10	<10			
A-4	Surface	06/13/19	<2	<2	<2	808	0	0
A-4	Mid depth	06/13/19	<10	<10	<10			
A-5	Surface	06/13/19	<2	6	2	802	0	0
A-5	Mid depth	06/13/19	10	<10	<10			
B-1	Surface	06/13/19	<2	<2	<2	746	0	0
B-1	Mid depth	06/13/19	<10	20	<10			
B-2	Surface	06/13/19	<2	<2	<2	816	0	0
B-2	Mid depth	06/13/19	20	<10	10			
N1	Surface	06/13/19	<2	<2	<2	830	0	0
N2	Surface	06/13/19	4	<2	<2	829	0	0
N3	Surface	06/13/19	8	8	2	828	0	0
N4	Surface	06/13/19	12	4	2	827	0	0
N5	Surface	06/13/19	10	6	<2	826	0	0
N6	Surface	06/13/19	14	6	2	825	0	0
N7	Surface	06/13/19	6	4	<2	823	0	0

0 - None
1 - Mild
2 - Moderate
3 - Severe

REQUIREMENT: (1) Floating particulates and grease and oil shall not be visible. (2) The discharge of wasteshall not cause aesthetically undesireable discoloration of the ocean surface.

Compliance Summary Report
Aliso Creek Ocean Outfall 2019

ACOO Permit Order No. R9-2012-0013							
Agency - Facility	**Violation Date**	**Constituent**	**Effluent Limit Violation**	**Units**	**Permit Limit**	**Reported Value**	**Potential Fine**
ACOO - SOCWA Outfall	5/14/2019	Chronic Toxicity	Monthly	Tuc	238	500	$3000
South Coast Water District - CTP	5/1/2019	Dissolved Oxygen	Weekly	mg/L	Weekly	Not Reported	$3000
South Coast Water District - CTP	5/1/2019	Temperature	Weekly	C	Weekly	Not Reported	$3000

SOCWA and MEMBER AGENCY FACILITIES
ACOO Spill / Overflow Report Log - 2019
Order No. R9-2012-0013 ~ NPDES Permit No. CA0107611

Reporting Agency	Responsible Agency	Estimated Volume (Gallons)	Type of Discharge	Location/Comments	Receiving Waters	Date Reported To State	Date Resolved
SOCWA	SOCWA - Coastal Treatment Plant	10,800	Raw Sewage	The spill was completely recovered recirculated back into the treatment plant. There was no raw sewage that left the facility.	N/A	No	02-09-19

SAN JUAN CREEK OCEAN OUTFALL MONITORING REPORT

June 2019

	J.B. LATHAM FACILITY				SAN CLEMENTE WRP				SMWD CHIQUITA WRP				3-A PLANT				CSJC Desalter	SCWD Desalter	SJCOO	Rain Fall
DATE	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	TSS mg/L	cBOD mg/L	SS ml/L	FLOW MGD	FLOW MGD	FLOW MGD	inches
06/01/19	6.020				2.203				1.450				1.329				0.161	No Flow	12.620	
06/02/19	6.190	6.9	6.7		2.933				1.900				1.496	3.2	4.6	ND	0.448	No Flow	13.150	
06/03/19	6.040	7.8	5.0	0.1	3.082	4.6	8.0	<0.1	2.060	7.6	10.2	0.5	1.377	9.6	7.2	ND	0.467	No Flow	14.380	
06/04/19	5.980	6.7	5.0	<0.1	2.689	7.2	7.0	<0.1	0.410	6.4	9.1	0.3	1.232	6.4	8.2	ND	0.464	No Flow	14.120	
06/05/19	5.890	6.9	5.7	0.1	2.660	4.0	8.0	<0.1	0.740	3.0	2.6	0.2	1.299	6.4	5.8	ND	0.459	0.728	11.650	
06/06/19	6.100	9.2	4.7	0.1	2.681	4.4	8.0	<0.1	1.150	4.8	3.5	0.3	1.359	9.2	7.8	ND	0.461	0.174	13.620	
06/07/19	6.170	7.4	6.4	0.1	3.098	4.8	8.0	<0.1	0.090	4.0	2.2	0.3	1.339				0.165	0.170	11.950	
06/08/19	6.080				2.275				0.860				1.276				0.297	0.170	11.050	
06/09/19	6.290	19.9	10.3	<0.1	2.951				1.100				1.638	11.2	8.0	ND	0.347	0.174	12.830	
06/10/19	6.230	13.5	8.5	0.1	2.770	5.8	7.0	<0.1	0.760	4.6	7.5	<0.1	1.713	10.2	6.6	ND	0.362	0.170	13.350	
06/11/19	6.490	7.4	4.4	<0.1	2.595	3.9	6.0	<0.1	0.030	4.0	2.9	<0.1	1.009	5.6	6.3	ND	0.372	0.174	12.740	
06/12/19	6.100	8.6		0.1	3.363	3.9	7.0	<0.1	0.000				1.172	10.0	7.6	ND	0.387	0.170	11.610	
06/13/19	6.110	6.5	4.6	0.1	3.580	4.7	6.0	<0.1	1.290	2.4	2.9	<0.1	1.481	10.4	8.2	0.1	0.389	0.170	12.130	
06/14/19	6.150	6.6	4.3	0.1	3.500	5.4	6.0	<0.1	1.750	5.2	4.0	0.2	1.906				0.389	0.170	14.140	
06/15/19	5.970				2.559				1.420				1.993				0.393	0.174	13.820	
06/16/19	6.150	3.0	3.9		2.558				1.510				1.931				0.398	0.170	13.520	
06/17/19	6.120	10.0	5.9	0.1	2.715	8.9	6.0	<0.1	0.840	4.8	10.2	0.1	1.667	40.0	12.5	0.1	0.401	0.158	13.940	
06/18/19	6.130	7.8	4.7	<0.1	2.624	5.4	8.0	<0.1	0.190	3.2	8.8	<0.1	1.553	0.0		ND	0.400	0.012	12.910	
06/19/19	6.180	6.8	3.0	0.1	2.528	5.9	5.0	<0.1	0.770	2.5	2.9	0.2	1.417	7.6	7.1	ND	0.400	0.826	11.860	
06/20/19	6.280	6.4	3.7	0.1	2.069	5.5	5.0	<0.1	0.940	2.3	3.5	<0.1	1.441	5.6	5.5	ND	0.405	1.006	12.890	
06/21/19	6.060	6.4	4.7	0.2	2.965	5.1	4.0	<0.1	2.320	4.2	4.0	0.3	1.393	0.0			0.404	1.006	13.580	0.01
06/22/19	6.390				2.388				2.410				1.403				0.403	0.383	15.810	
06/23/19	6.380	5.6	4.3		3.193				1.920				1.444	4.0	5.8	ND	0.403	0.182	15.800	
06/24/19	6.590	6.7	4.7	<0.1	2.432	6.4	7.0	0.1	0.710	4.4	9.1	0.1	1.495	5.6	5.1	ND	0.401	0.187	14.770	
06/25/19	6.300	7.2	2.7	0.1	2.727	5.5	7.0	<0.1	0.050	3.6	8.4	<0.1	1.428	4.8	6.7	ND	0.401	0.184	13.270	
06/26/19	6.300	8.7	5.2	0.1	2.529	6.3		<0.1	0.710	5.0	5.5	<0.1	1.401	7.6	7.2	ND	0.396	0.187	12.280	
06/27/19	6.330	6.3	3.7	0.1	2.551	8.6	8.0	<0.1	0.690	3.6	4.0	0.1	1.449	4.4	5.7	ND	0.402	0.183	12.800	
06/28/19	6.200	6.3	3.3	0.2	2.648	8.4	6.0	<0.1	0.670	4.1	6.0	<0.1	1.389				0.406	0.227	12.820	
06/29/19	6.520				2.330				0.240				1.401				0.403	0.184	13.360	
06/30/19	7.240	5.9	6.1		2.642				0.680				1.385	4.8	6.1	ND	0.403	0.184	13.350	
AVG	6.233	7.8	5.1	<0.1	2.728	5.7	6.7	<0.1	0.989	4.2	5.6	<0.2	1.461	7.9	6.9	ND0.0	0.386	0.251	13.204	
TOTAL	186.980				81.838				29.660				43.816				11.587	7.523	396.120	0.01

Unified Beach Monitoring #1

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 0528
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	06/05/19	0840	<20	20	12	None	None	None	None	Green	66	Turbid		
S1	06/05/19	0855	<20	20	14	None	None	None	None	Green		Turbid		
S2	06/05/19	0830	<20	<20	10	None	None	None	None	Green		Turbid		
DSB5	06/05/19	0820	60	40	160	None	None	None	None	Green		Turbid		
S3	06/05/19	0900	20	20	18	None	None	None	None	Green		Turbid		
DSB4	06/05/19	0900	20	<20	14	None	None	None	None	Green		Turbid		
S5	06/05/19	0910	<20	<20	10	None	None	None	None	Green		Turbid		
DSB1	06/05/19	0915	<20	<20	14	None	None	None	None	Green		Turbid		
SJC1	06/05/19	0845	100	100	60	None	None	None	None	Green		Turbid	Flowing	

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #2

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: low tide 1021
Weather: Partly Cloudy
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	06/10/19	915	<20	<20	<2	None	None	None	None	Green	66	Turbid		
S1	06/10/19	920	20	<20	4	None	None	None	None	Green		Turbid		
S2	06/10/19	905	<20	<20	2	None	None	None	None	Green		Turbid		
DSB5	06/10/19	855	<20	<20	26	None	None	None	None	Green		Turbid		
S3	06/10/19	925	<20	20	4	None	None	None	None	Green		Turbid		
DSB4	06/10/19	926	20	<20	4	None	None	None	None	Green		Turbid		
S5	06/10/19	936	20	<20	2	None	None	None	None	Green	66	Turbid		
DSB1	06/10/19	945	20	<20	<2	None	None	None	None	Green		Turbid		
C1	06/10/19	914	100	<100	<10	None	None	None	None	Green		Turbid		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #3

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 1045
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	06/17/19	858	20	20	<2	None	None	None	None	Green	66	Turbid		
S1	06/17/19	825	<20	<20	4	None	None	None	None	Green		Turbid		
S2	06/17/19	915	<20	<20	48	None	None	None	None	Green		Turbid		
DSB5	06/17/19	925	40	20	12	None	None	None	None	Green		Turbid		
S3	06/17/19	828	<20	<20	<2	None	None	None	None	Green		Turbid		
DSB4	06/17/19	830	<20	20	<2	None	None	None	None	Green		Turbid		
S5	06/17/19	840	<20	<20	12	None	None	None	None	Green	66	Turbid		
DSB1	06/17/19	850	<20	<20	8	None	None	None	None	Green		Turbid		
C1	06/17/19	900	<100	<100	100	None	None	None	None	Green		Turbid		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #4

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: June 2019
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: low tide 1053
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	06/26/19	922	60	<20	<2	None	None	None	None	Green	66	Turbid		
S1	06/26/19	930	40	20	2	None	None	None	None	Green		Turbid		
S2	06/26/19	850	80	<20	2	None	None	None	None	Green		Turbid		
DSB5	06/26/19	840	180	40	4	None	None	None	None	Green		Turbid		
S3	06/26/19	935	100	<20	<2	None	None	None	None	Green		Turbid		
DSB4	06/26/19	940	200	20	2	None	None	None	None	Green		Turbid		
S5	06/26/19	955	80	<20	4	None	None	None	None	Green	66	Turbid		
DSB1	06/26/19	1005	40	<20	<2	None	None	None	None	Green		Turbid		
C1	06/26/19	920	<100	<100	<10	None	None	None	None	Green		Turbid		

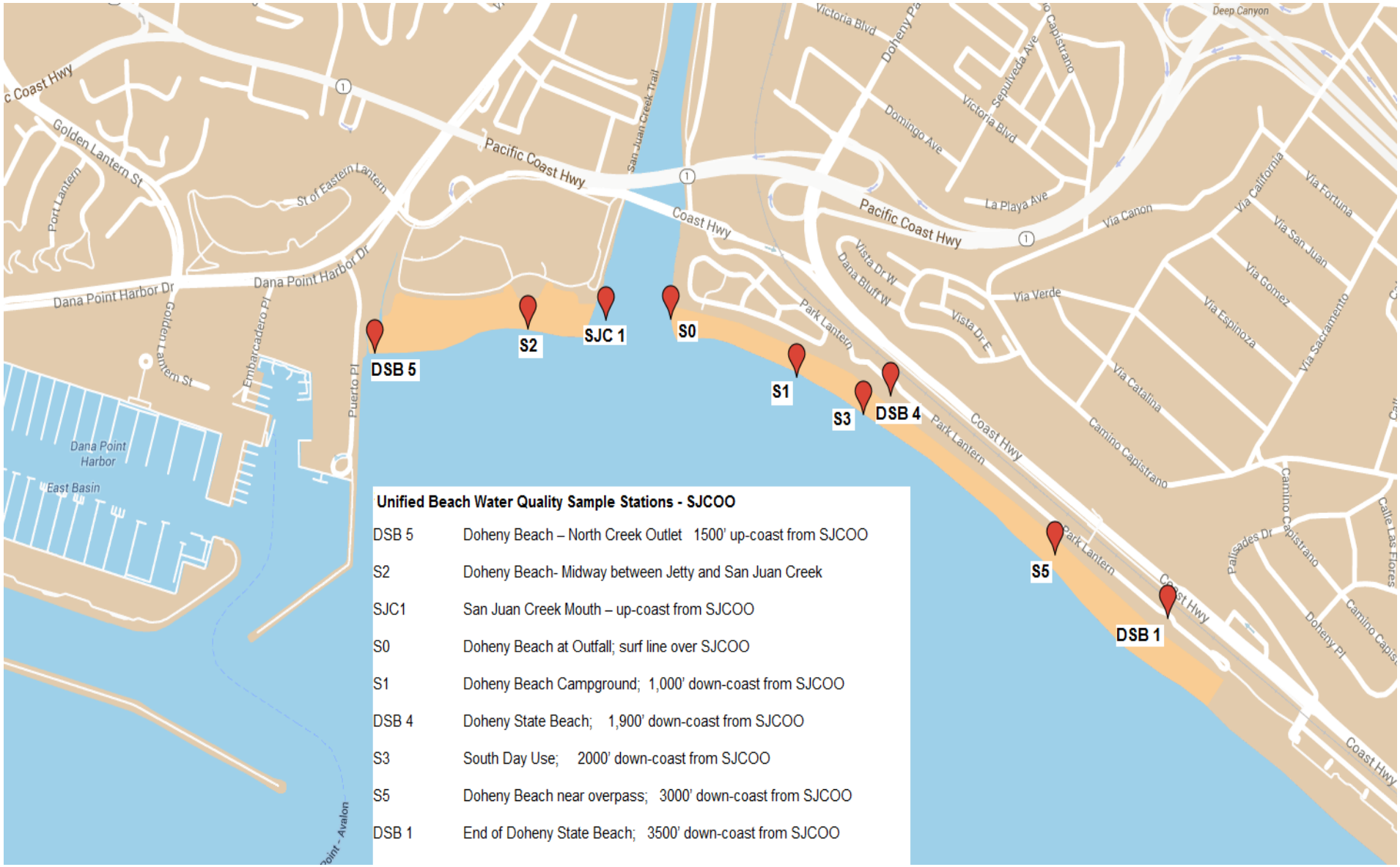
RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

San Juan Creek Ocean Outfall

Unified Beach Water Quality Monitoring Stations

SOCWA's NPDES discharge permit requires participation in the South Orange County Unified Beach Water Quality Monitoring Program. The monitoring stations below are tested by SOCWA SOCWA at least once per week for Total and Fecal Coliform and Enterococcus Bacteria.

Station	Location
DSB 5	Doheny Beach – North Creek Outlet 1500' up-coast from SJCOO
S2	Doheny Beach- Midway between Jetty and San Juan Creek
SJC1	San Juan Creek Mouth – up-coast from SJCOO
S0	Doheny Beach at Outfall; surf line over SJCOO
S1	Doheny Beach Campground; 1,000' down-coast from SJCOO
DSB 4	Doheny State Beach; 1,900' down-coast from SJCOO
S3	South Day Use; 2000' down-coast from SJCOO
S5	Doheny Beach near overpass; 3000' down-coast from SJCOO
DSB 1	End of Doheny State Beach; 3500' down-coast from SJCOO



Unified Beach Water Quality Sample Stations - SJCOO

DSB 5	Doheny Beach – North Creek Outlet 1500' up-coast from SJCOO
S2	Doheny Beach- Midway between Jetty and San Juan Creek
SJC1	San Juan Creek Mouth – up-coast from SJCOO
S0	Doheny Beach at Outfall; surf line over SJCOO
S1	Doheny Beach Campground; 1,000' down-coast from SJCOO
DSB 4	Doheny State Beach; 1,900' down-coast from SJCOO
S3	South Day Use; 2000' down-coast from SJCOO
S5	Doheny Beach near overpass; 3000' down-coast from SJCOO
DSB 1	End of Doheny State Beach; 3500' down-coast from SJCOO

MONITORING REPORT Offshore

South Orange County Wastewater Authority

DISCHARGE: San Juan Creek Ocean Outfall
REPORT FOR: June 2019 REPORT FREQUENCY: Monthly
REPORT DUE: August 1, 2019
SAMPLE SOURCE: Receiving water, nearshore and offshore SAMPLING FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in permit TYPE OF SAMPLE: Grab
SAMPLES COLLECTED BY: Seaventures/SOCWA staff
SAMPLES ANALYZED BY: SOCWA Lab

Comments:

Sta No.	Sample Depth	Sample Date	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Sample Time	Oil & Grease	Sewage Debris
A-1	Surface	06/13/19	<2	<2	<2	926	0	0
A-1	Mid depth	06/13/19	<10	<10	<10			
A-2	Surface	06/13/19	<2	<2	<2	931	0	0
A-2	Mid depth	06/13/19	<10	<10	<10			
A-3	Surface	06/13/19	<2	<2	<2	934	0	0
A-3	Mid depth	06/13/19	<10	<10	<10			
A-4	Surface	06/13/19	<2	<2	<2	940	0	0
A-4	Mid depth	06/13/19	<10	<10	<10			
A-5	Surface	06/13/19	<2	<2	<2	937	0	0
A-5	Mid depth	06/13/19	<10	<10	<10			
B-1	Surface	06/13/19	<2	<2	<2	921	0	0
B-1	Mid depth	06/13/19	<10	<10	<10			
B-2	Surface	06/13/19	<2	<2	<2	948	0	0
B-2	Mid depth	06/13/19	<10	<10	<10			
N1	Surface	06/13/19	<2	<2	<2	911	0	0
N2	Surface	06/13/19	<2	<2	<2	909	0	0
N3	Surface	06/13/19	<2	<2	<2	907	0	0
N4	Surface	06/13/19	<2	<2	<2	903	0	0
N5	Surface	06/13/19	<2	<2	<2	859	0	0
N6	Surface	06/13/19	<2	<2	<2	856	0	0

0 - None
1 - Mild
2 - Moderate
3 - Severe

REQUIREMENT: (1) Floating particulates and grease and oil shall not be visible. (2) The discharge of waste shall not cause aesthetically undesireable discoloration of the ocean surface.

Compliance Summary Report
San Juan Creek Ocean Outfall 2019

SJCOO Permit Order No. R9-2012-0012							
Agency	**Violation Date**	**Constituent**	**Effluent Limit Violation**	**Units**	**Permit Limit**	**Reported Value**	**Potential Fine**
City of San Clemente	6/26/2019	cBOD	Monitoring Failure	mg/L	Daily	Not Reported	$3,000
Moulton Niguel Water District	6/18/2019	cBOD	Monitoring Failure	mg/L	Daily	Not Reported	$3,000
Moulton Niguel Water District	6/18/2019	Total Suspended Solids	Monitoring Failure	mg/L	Daily	Not Reported	$3,000
Moulton Niguel Water District	06/21/2019	cBOD	Monitoring Failure	mg/L	Daily	Not Reported	$3,000
Moulton Niguel Water District	06/21/2019	Total Suspended Solids	Monitoring Failure	mg/L	Daily	Not Reported	$3,000
Moulton Niguel Water District	06/21/2019	Settleable Solids	Monitoring Failure	mg/L	Daily	Not Reported	$3,000

SOCWA and MEMBER AGENCY FACILITIES
SJCOO Spill / Overflow Report Log - 2019
Order No. R9-2012-0012 ~ NPDES Permit No. CA0107417

Reporting Agency	Responsible Agency	Estimated Volume (Gallons)	Type of Discharge	Location/Comments	Receiving Waters	Date Reported To State	Date Resolved
SOCWA	SMWD	5,000	Recycled Water	Transferring sludge from digester 5 to sludge holding tank through common transfer line connected to digester 1 which is offline and being cleaned caused flow through open flush valve at digester 1. Operator stopped flow through valve after about 10 minutes of transfer but cleanup required use of around 5000 gallons of plant wash water. Everything is contained in the plant.	None	Yes	05-26-19

Recycled Water Report

Compliance Summary Report
Recycled Water Permit
2019

Waste Discharge Requirement Order 97 - 52							
Agency - Facility	**Violation Date**	**Constituent**	**Effluent Limit Violation**	**Units**	**Permit Limit**	**Reported Value**	**Remarks**
TCWD - RRWRP	10/19/2018	Nitrate as NO3	Annual	mg/L	45	68	Results reported in January. Agency to begin quarterly accelerated monitoring.
SOCWA - RTP	1/16/2019-1/22/2019	Coliform	30-day Max	cfu/100mL	23	37-548	There were six instances of exceedances of MPN greater than 23 cfu/100mL. Permit limits no more than one sample in excess of 23 in 30 day period. Chlorine contact basin past scheduled annual maintenance due to storm as key contributor to exccedances. Chlorine contact basin cleaned early February.
SOCWA - RTP	1/16/2019	Coliform	Instaneous	cfu/100mL	240	548	Chlorine contact basin past scheduled annual maintenance due to storm as key contributor to exccedances. Chlorine contact basin cleaned early February.
SOCWA - RTP	1/22/2019-1/30/2019	Coliform	7 Day Median	cfu/100mL	2.2	3-37	There were nine exceedances of the 7 day median. Chlorine contact basin past scheduled annual maintenance due to storm as key contributor to exccedances. Chlorine contact basin cleaned early February.
SOCWA - RTP	1/3/2019	Manganese	12-Month	mg/L	0.05	0.07	
SOCWA - RTP	1/3/2019	TDS	12-Month	mg/L	1000	1024	SOCWA began accelerated monitoring.
SMWD - 3A	1/1/2019	Manganese	12-Month	mg/L	0.05	0.06	Plant offline but running annual average continues to be above the permit limit.
SOCWA - RTP	2/5/2019	Manganese	12-Month	mg/L	0.05	0.08	
SOCWA - RTP	2/5/2019	TDS	12-Month	mg/L	1000	1072	
SOCWA - CTP	2/28/2019	Manganese	12-Month	mg/L	0.05	0.06	Plant offline but running annual average continues to be above the permit limit.
SMWD - 3A	2/7/2019	Manganese	12-Month	mg/L	0.05	0.06	
SMWD - 3A	2/9/2019	Coliform	Instaneous	cfu/100mL	<2	2419	Suspected sample contamination.
SOCWA - RTP	3/5/2019	Manganese	12-Month	mg/L	0.05	0.07	
SMWD - 3A	3/20/2019	Manganese	12-Month	mg/L	0.05	0.07	
SOCWA - RTP	4/16/2019	Manganese	12-Month	mg/L	0.05	0.07	
SMWD - 3A	4/30/2019	Manganese	12-Month	mg/L	0.05	0.07	
SOCWA - RTP	5/16/2019	Manganese	12-Month	mg/L	0.05	0.09	
SOCWA - RTP	5/16/2019	TDS	12-Month	mg/L	1000	1123	
SMWD - 3A	offline	Manganese	12-Month	mg/L	0.05	0.07	Offline
SOCWA - RTP	6/4/2019	Manganese	12-Month	mg/L	0.05	0.09	
SOCWA - RTP	6/4/2019	TDS	12-Month	mg/L	1000	1084	
SOCWA - CTP	6/4/2019	Manganese	12-Month	mg/L	0.05	0.06	
SMWD - 3A	6/12/2019	Manganese	12-Month	mg/L	0.05	0.07	

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

QUARTERLY RECYCLED WATER MONITORING

Monitoring Period Ending: Jun 30, 2019

Constituent	Units	12-month Avg Maximum Permit Limit	IRWD-LAWRP 12-month Average *	ETWD-WRP 12-month Average **	TCWD 12-month Average	SMWD Oso 12-month Average	SMWD Chiquita 12-month Average	SMWD Nichols 12-month Average	MNWD-3A 12-month Average	MNWD-RTP 12-month Average	SCWD-CTP 12-month Average ***
TDS	mg/L	1000	714	1,000	920	748	802	870	907	1,084	958
Chloride	mg/L	375	121	250	248	178	193	250	202	258	250
Sulfate	mg/L	400	212	330	260	232	204	245	236	340	217
Sodium	mg/L	None	135	195	174	153	158	193	143	178	177
Alkalinity	mg/L	None	-	-	-	-	-	-	240	235	191
Adjusted SAR	Ratio	None	5.00	-	5.19	4.93	5.10	5.65	4.48	4.19	4.05
Iron	mg/L	0.3	0.069	0.090	0.021	0.016	0.160	0.028	0.13	0.150	0.111
Manganese	mg/L	0.05	0.030	0.015	0.018	0.017	0.035	0.016	0.070	0.089	0.063
MBAS	mg/L	0.5	0.06	0.00	0.16	0.16	0.21	0.12	0.02	0.03	0.03
Boron	mg/L	0.75	0.20	0.270	0.294	0.333	0.368	0.368	0.31	0.343	0.37
Fluoride	mg/L	None	0.28	0.980	0.33	0.733	0.70	0.54	0.75	0.97	0.71
Total Organic Carbon	mg/L	None	11.0	-	10.1	11.5	11.0	8.0	7.5	14.2	10.0

* The LAWRP 12-month permit limits are listed below:

TDS 1000 mg/L
Chloride 180 mg/L
Sulfate 340 mg/L

**The ETWD 12-month permit limits are listed below:

TDS 910 mg/L

*** The CTP 12-month permit limits are listed below:

TDS 1200 mg/L
Chloride 400 mg/L
Sulfate 500 mg/L

SOCWA Service Area
Recycled Water Production (ac-ft) 2019

Agency	Facility or Region	Jan '19	Feb '19	Mar '19	Apr '19	May '19	Jun '19	Jul '19	Aug '19	Sep '19	Oct '19	Nov '19	Dec '19	Annual Totals
CSJC 1	3-A Plant/MNWD	0.00	0.000	0.000	0.000	0.000	0.000							0.00
CSJC 2	Chiquita/SMWD	0.18	0.003	3.892	35.017	38.254	38.770							116.12
CSJC 3	Non-Domestic Well	13.29	3.410	11.500	27.690	18.430	30.350							104.67
ETWD	Region 8	23.64	10.087	41.028	130.768	98.002	147.874							451.40
IRWD														
4	IRWD - 8	35.00	11.253	16.545	82.854	115.785	106.747							368.19
4	IRWD - 9	15.72	2.968	10.973	60.604	59.543	69.004							218.81
SCWD	SOCWA CTP	-0.832	0.000	0.000	0.000	54.267	97.462							150.90
MNWD	JRP	245.54	221.482	112.321	373.361	471.166	551.264							1,975.14
	3-A Plant	0.00	14.353	74.850	176.553	0.000	0.000							265.76
5	CTP	10.71	1.481	-15.580	-74.249	-30.104	5.528							-102.22
SMWD	Oso Creek	103.42	142.274	151.757	139.665	138.560	122.541							798.22
	Chiquita	179.53	45.266	55.056	235.138	174.221	364.737							1,053.95
	Nichols	2.00	1.967	1.936	1.728	1.897	2.029							11.56
TCWD	RRWRP	41.93	23.762	22.535	35.952	42.747	41.749							208.68
TOTALS		670.1	478.3	486.8	1,225.1	1,182.8	1,578.1							5,621.17

1 Denotes transfer of recycled water from MNWD (3A Plant) for use in the CSJC service area. Not counted as additional production.
2 Denotes recycled water purchased from SMWD Chiquita-WRP used in the CSJC service area. Not counted as additional production.
3 Denotes nondomestic groundwater produced from wells used for landscape irrigation.
4 IRWD production is from recycled water production, nonpotable water wells, and surface water impoundments
5 Denotes transfer of recycled water from SCWD (SOCWA CTP) for use in the MNWD service area. Not counted as additional production.
Note: All of ETWD reclaimed water produced and used in Region 8.
NR = No Report

Pretreatment Report

May, June, July

2019

Agenda Item

	Legal Counsel Review: N/A
	Meeting Date: August 8, 2019

TO: SOCWA Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Katie Greenwood, Source Control Manager

SUBJECT: Monthly Pretreatment Report, May, June, and July 2019
San Juan Creek Ocean Outfall
NPDES Permit #CA0107417 Order #R9-2012-0012
Aliso Creek Ocean Outfall
NPDES Permit #CA0107611 Order #R9-2012-0013

Summary of Program Activities

EPA published a new rule for Management Standards for Hazardous Waste Pharmaceuticals on February 22, 2019, and the effective date of the sewer related prohibition is August 22, 2019. EPA Region 9 and EPA Headquarters are not expecting Publicly Owned Treatment Works (POTWs) to modify their pretreatment programs to incorporate this prohibition since it is a Resource Conservation and Recovery Act (RCRA) regulation revision, not a Clean Water Act/pretreatment regulation revision (and therefore not a reason to revise pretreatment legal authority, unless POTWs want to for added notification). SOCWA staff reached out to OC Health Care Agency staff, through the regional Strike force network, and found that OC staff is notifying health care facilities. SOCWA staff may collaborate with OC staff to ensure that small health facilities within the SOCWA jurisdiction are notified.

Permit Related Activities

The following Wastewater Discharge (WD) Permits, Special Wastewater Discharge (SWD) Permits, Nuisance Water-Special Wastewater Discharge (NSWD) Permits, Non-Industrial Wastewater Discharge (NIWD) forms, and BMP letters were issued or are in the process of being drafted for issuance:

CLB - NSWD Permit No. CLB-N4-001 – Multiple Dry Weather Diversions – Renewal NSWD Permit to continue to allow dry weather diversion flows to be discharged to the sewer. A renewal permit was issued on July 30, 2018. SCWD and CLB have worked out a New Agreement for three diversion structures located in SCWD jurisdiction and operated by CLB staff. Once signed, SOCWA will modify the CLB NSWD Permit and attach the Agreement.

CSC - NSWD Permit No. CSC-N4-001 – Multiple Dry Weather Diversions – Renewal Permit to continue to allow dry weather diversion flows to be discharged to the sewer with the addition of a new development, Marblehead. A renewal application was received on June 10, 2019, and a new permit issued on June 24, 2019.

CSC – WD Permit No. CSC-1-002 – Non-Significant Categorical Industrial User (NSCIU) - WD Permit to allow Glaukos to continue discharge of and certify a daily discharge of no more than 100 gpd of wastewater subject to metal finishing rules under 40 CFR Part 433. A permit application was received on May 8, 2019, and a permit issued on June 19, 2019.

Inspections

SOCWA staff is conducting its annual site inspections and monitoring/sampling of all SIU/CIU's in the SOCWA service area. This is a required activity of the SOCWA pretreatment program. The information and data obtained from these required activities will be incorporated into the SOCWA Pretreatment Annual Report.

On June 25-26, 2019, SOCWA staff inspected and sampled process wastewater from South Coast Fashion Jewelry, Permit No. CSC-1-001, to verify compliance with permit limits. Staff is awaiting laboratory results.

On July 15, 2019, SOCWA staff inspected and sampled process wastewater from Applied Medical's rubber manufacturing process, Permit No. SMWD-1-003, to verify compliance. Lab analysis is pending.

On July 16, 2019, SOCWA staff inspected and sampled process wastewater from Applied Medical's passivation process, Permit No. SMWD-1-004, to verify compliance. Lab analysis is pending.

Trainings and Committee Meetings Attended

On June 11, 2019, SOCWA staff attended the Industry Advisory Council Meeting at the Regional Recycled Water Advanced Purification Center at the Joint Water Pollution Control Plant located in Carson.

On June 12, 2019, SOCWA staff attended a CWEA P3S training event in Dana Point that included an outfall sampling demonstration on SOCWA's contracted Ocean Monitoring vessel and technical presentations on Brewery Wastewater and Microplastics.

On June 17, 2019, SOCWA staff attended a SCAP hosted Microplastics Workshop at OCSD. The workshop highlighted efforts being undertaken by agencies such as SCCWRP and the San Francisco Estuary Institute to meet deadlines outlined by SB-1422. SB-1422 addresses microplastics under the CA Safe Drinking Water Act and requires the State Board, on or before July 1, 2020, to adopt a definition of microplastics in drinking water, and on or before July 1, 2021, to adopt a standard methodology to be used in the testing of drinking water for microplastics. Workshop participants discussed known and potential negative impacts that microplastics have on the environment, human health, and how WWTPs may transport microplastics into environments from residential and industrial sources. Microplastics include microfibers, microbeads (now banned in most but not all personal care products), and macro-plastics broken down in size to less than 5mm.

On July 24, 2019, SOCWA staff attended a SCAP hosted workshop on perfluorinated alkyl substances (PFAS), specifically two PFAS compounds produced in the largest amounts within the United States, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). Both organic compounds are considered contaminants of emerging concern in that they are known to persist and move throughout the soil, air, and groundwater environments, are resistant to typical degradation processes, bioaccumulate, and cause adverse human health effects. Multiple agencies are working to develop approved sampling and analytical methods.

Summary of IWS Activities in the SOCWA Service Area - YTD through July 25, 2019

MA		Events	Permit	NIWD	BMP	FSE	OSE	Closed	Enforcement	# of IUs
CLB	(S)	0	3	2	5	8	111	0	0	129
CSC	(M)	0	7	35	18	181	1283	0	1	1524
CSJC	(S)	0	2	27	59	137	1669	0	1	1894
ETWD	(M)	0	3	98	0	262	134	0	0	497
EBSD	(U)	0	1	0	0	0	0	0	0	1
IRWD	(S)	0	4	51	21	63	920	0	0	1059
MNWD	(S)	77	4	123	40	625	2121	15	0	2913
SMWD	(S)	36	6	19	20	198	784	8	1	1027
SCWD	(S)	0	7	33	7	148	184	0	1	380
TCWD	(S)	0	11	0	0	7	33	0	0	51
SOCWA	(S)	0	3	1	0	0	0	0	1	4
Totals		113	51	389	170	1629	7239	23	5	9479
Dentist (All)										484
									Total Known IUs	**9963**

(S) = SOCWA conducts PT program.
(M) = MA conducts PT program /w SOCWA oversight.
(U) = Urban Diversion Only.
YTD = Year to Date.

NIWD = Non-industrial Waste Discharger.
BMP = Best Management Practices.
FSE = Food Service Establishment.
OSE = Other Surveyed Establishment.

Agenda Item

	Legal Counsel Review: N/A
	Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Jason Manning, Senior Engineer

SUBJECT: Capital Improvement Program Status Report

The status of the SOCWA Capital Improvement Program is presented in the tables on the following pages.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 2(R) - JB LATHAM TREATMENT PLANT CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECT LIQUIDS			
3220-000	Package B Liquids	Construction	The construction contract for Package 'B' was awarded at the April 4, 2019, SOCWA Board meeting. Tasks 3226-000 and 3228-000 have been combined into this one Task Code.
4201-000	Plant 1 Blower Building Condition Assessment	Study	Project advertised for proposal in July 2019.
4202-000	Pipeline Condition Assessment Methodology Evaluation	Study	Project scheduled to begin in November 2019.
4203-000	Plant Hydraulic Model and Flow Management Plan	Study	Project advertised for proposal in July 2019.
3250-000	Plant 1 Grit Basin Improvements (2017)	Construction	This project has been substantially completed. SS Mechanical is working on punch list items.
3350-000	Motor Control Center 'M' Replacement (2019)	Design	Project advertised for proposal in July 2019.
CAPITAL IMPROVEMENT PROJECT COMMON			
3231-000	Package B Common	Construction	The construction contract for Package 'B' was awarded at the April 4, 2019, SOCWA Board meeting. Tasks 3216-000 and 3230-000 have been combined into this one Task Code.
3221-000	Electrical System Evaluation	Study	Project advertised for proposal in July 2019.
4001-000	Plant Drain System Study (2017) (NCP)	Study	TetraTech is proceeding with the mapping of the drain system.
4204-000	Electrical Manhole Condition Assessment	Study	Project advertised for proposal in July 2019.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 2(R) - JB LATHAM TREATMENT PLANT CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECT SOLIDS			
3287-000	Package B Solids	Construction	The construction contract for Package 'B' was awarded at the April 4, 2019, SOCWA Board meeting. Tasks 3224-000, 3233-000 and 3236-000 have been combined into this one Task Code.
3210-000	Facility Improvements - Solids Area (2015)	Construction	This work is part of the Package 'B' Improvements. The construction contract for Package 'B' was awarded at the April 4, 2019, SOCWA Board meeting.
3353-000	Centrate System Design (2019)	Design	Project advertised for proposal in July 2019.
4214-000	Solids Management Plan	Study	Project is scheduled to begin in February 2020.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 5 - SAN JUAN CREEK OCEAN OUTFALL CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECTS			
3601-000	Junction Structure Rehabilitation Design	Design	The proposals for this work were approved at the June 6, 2019 Board Meeting.
3357-000	Junction Structure Reinforcement Permitting and Final Design	Design	The proposals for this work were approved at the June 6, 2019 Board Meeting.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 15(R) - COASTAL TREATMENT PLANT CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECTS LIQUIDS			
3539-000	Facility Improvements	Construction	The construction contract for Facility Improvements Project was awarded at the June 6, 2019 SOCWA Board meeting. Task 3595-000 has been combined into this one Task Code.
3534-000	Export Sludge System (1997)	Design	USFWS has completed review and transferred documentation to USACOE for Nationwide Permit application. Project awaiting bid schedule go ahead for PC15.
3358-000	Personnel Building Reconstruction (2019)	Bid	Project to advertise for bids in October 2019.
3361-000	AWMA Road Sites West 1 and 2 Embankment Protection (2019)	Design	Proposals have been received from Tetra Tech and Dudek. These proposals will be submitted to the Board of Directors on August 8, 2019.
3362-000	Aliso Creek Long Term Repair Planning (2019)	Planning	Proposals have been received from Tetra Tech and Dudek. These proposals will be submitted to the Board of Directors on August 8, 2019.
3553-000	Plant Drainage Improvements (2017)	Design	TetraTech has completed design. Project expected to advertise for bid in September 2019.
3360-000	Vehicle Storage Building Roof (2019)	Construction	Project completed by Operations staff.
4501-000	Electrical Manhole/Cable Assessment	Study	Project is scheduled to begin in October 2019.
4502-000	Building Roof Condition Assessment	Study	Project is scheduled to begin in October 2019.
CAPITAL IMPROVEMENT PROJECT AWT			
3364-000	Chlorine Contact Basin Mixer Construction (AWT) (2019)	Construction	Installation of clearwell pump valves anticipated in August 2019

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 17(R) - REGIONAL TREATMENT PLANT CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECT LIQUIDS			
3701-000	Miscellaneous Improvements 2018	Construction	The construction contract was awarded to Filanc at the May 16, 2019 SOCWA Board meeting. Tasks 3702-000, 3730-000, 3784-000, 3785-000, and 3786-000 have been combined into this one Task Code.
3752-000	AWT No.2 Upgrade Design (2017)	Design	The design by Carollo is completed. The timing of the bid is under discussion.
3758-000	AWT No.2 Upgrade Construction	Bid	A small portion of this project will be completed this year to maintain operation of the AWT
3759-000	AWT No.2 Electrical Upgrades	Bid	A small portion of this project will be completed this year to maintain operation of the AWT
3741-000	Southwest Influent Sewer and Manhole Design (2019)	Design	The draft RFP for this item will be presented to the Engineering Committee after completion of the Moulton Niguel Water District design.
4008-000	Effluent Equalization Pond and Gate Condition Assessment (2017) (NCP)	Condition Assessment	Due to weather, this will be delayed until Spring of 2020.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 17(R) - REGIONAL TREATMENT PLANT CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECT COMMON			
3769-000	Trailer Drain Line	Construction	This is the common portion of the Miscellaneous Improvement project 2018. The construction contract was awarded to Filanc at the May 16, 2019 SOCWA Board meeting.
3761-000	External Lighting Upgrade	Bid	This item has been removed from the Miscellaneous Improvements 2018 project and will be repackaged in a subsequent project.
3744-000	Administration Building Repair Design (2019)	Design	This project has been awarded to Tetra Tech.
3745-000	West Slope Protection Evaluation (2019)	Study	This project has been awarded to Tetra Tech.
3746-000	Motor Control Center A, G, H Design (2019)	Design	The SOCWA Board approved the award of contract to Lee & Ro at the March 7, 2019, SOCWA Board Meeting.
3747-000	Southside Plant Flooding Evaluation (2019)	Study	This project has been awarded to Tetra Tech.
3740-000	SE Electrical Manhole Reconstruction (2018)	Design	The SOCWA Board approved the award of contract to Lee & Ro at the March 7, 2019, SOCWA Board Meeting.
4703-000	Laboratory Reconstruction Evaluation	Study	Project is scheduled to begin in February 2019.
4704-000	Evaluate Plant and Storm Water Drainage System	Study	Project is scheduled to begin in October 2019.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 17(R) - REGIONAL TREATMENT PLANT CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECT SOLIDS			
3751-000	Miscellaneous Improvements 2018	Construction	The construction contract was awarded to Filanc at the May 16, 2019 SOCWA Board meeting. Task 3790-000 has been combined into this one Task Code.
3749-000	Phase I Solids Piping Upgrade (2019)	Construction	This project is expected to advertise for bid in June 2019.
3750-000	Dewatering Room Floor Sealing and Lighting (2019)	Design	Harper & Associates has been retained to provide a specification for the floor sealing.
3754-000	SET Piping Reconstruction (2019)	Construction	This project is expected to advertise for bid in October 2019.
3790-000	Solids Area Upgrade Design (2018)	Design	Lee & Ro is working on the design for the modifications to the digester gas piping.
3772-000	Hot Water Piping Reconstruction	Design	Lee & Ro is working on the design for the modifications to the digester gas piping.
3773-000	Cogeneration System Modifications	Design	A review is being conducted to identify the needed elements for this project. The project should advertise for design in October.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 21 - EFFLUENT TRANSMISSION MAIN CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECTS			
3105-000	Air Vacuum Release Valve Replacement Reach D Design and Permitting	Design	RFP for design to be submitted in January, 2019.
3106-000	Air Vacuum Release Valve Replacement Reach E Design and Permitting	Design	RFP for design to be submitted in January, 2019.
3101-000	Trail Bridge Creek Crossing Protection (Reach D) Design and Permitting	Design	Tetra Tech has submitted a set of design drawings for SOCWA review.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 24 - ALISO CREEK OCEAN OUTFALL CAPITAL PROJECTS
('19/'20)

Task Code	*Description*	*Phase*	*Status*
CAPITAL IMPROVEMENT PROJECTS			
3480-000	Internal Seal Replacement (2018)	Design	A purchase order has been issued to Black & Veatch to provide design documents. The project is expected to advertise for bidding in August, 2019.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 2(R) - JB LATHAM TREATMENT PLANT CAPITAL PROJECTS

		Fiscal Year 19/20				Fiscal Year 20/21			
	Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th
3220-000; 3216-000; 3287-000	Facility Improvements Package B	C	C	C	C	C	C	C	C
3350-000	MCC "M" Replacement Design	D	D						
3221-000	Electrical System Evaluation	P	P						
3353-000	Centrate System Design	D	D						
4001-000	Plant Drain System Study	P							
4201-000	Plant 1 Blower Building Condition Assessment	CA	CA						
4204-000	Electrical Manhole Condition Assessment	CA	CA						
4214-000	Solids Management Plan			P	P				
4202-000	Pipeline Condition Assessment Methodology Evaluation		P	P					
4203-000	Plant Hydraulic Model and Flow Management Plan	P	P						
3234-000	Centrate Piping Reconstruction						B&A	C	C
3235-000; 3227-000	Package D Solids Design					D	D	D	D
3285-000	Main Plant Drain Line Reconstruction						B&A	C	C
4205-000	Influent Flow Metering Evaluation					P			
4206-000	Plant 1 Grit Handling Evaluation						P	P	
4207-000	Chlorine Contact Basin/Effluent Pump Station Condition Assessment						CA		
4208-000	Dana Point Influent Sewer Condition Assessment					CA			
4209-000	Plant 1 Influent Sewer Condition Assessment					CA			
4210-000	Plant 1 Bypass Sewer Condition Assessment					CA			
4211-000	Site Storage Evaluation							P	P
3229-000	Drainage Pump Station Reconstruction						B&A	C	C
4212-000	Buried Utility Master Plan						P	P	
4213-000	Electrical Conduit and Cable Master Plan					P	P		

P	Planning	D	Design
CA	Condition Assessment	B&A	Bidding and Award
ENV	Environmental/Permitting	C	Construction

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 15(R) - COASTAL TREATMENT PLANT CAPITAL PROJECTS

		Fiscal Year 19/20				Fiscal Year 20/21			
	Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th
3525-000	Personnel Building Reconstruction		B&A	C					
3539-000	Facility Improvements Construction	C	C	C	C	C	C	C	C
3541-000	Export Sludge System Reconstruction	B&A	C	C	C				
3553-000	Plant Drainage Improvements		B&A	C	C				
4501-000	Electrical Manhole/Cable Assessment		CA	CA					
4502-000	Building Roof Condition Assessment		CA	CA					
3542-000	South Section Embankment Protection					ENV	ENV	ENV	ENV
15137	Foul Air System Condition Assessment						CA		
15138	Scum Pump Station Condition Assessment							CA	
4503-000	Site Storage Evaluation						P	P	
15139	Buried Utility Master Plan							P	P
3544-000	Aeration Upgrade Construction			D	B&A	C	C	C	
3546-000	Chlorine Contact Basin Gates					D	B&A	C	

P	Planning	D	Design
CA	Condition Assessment	B&A	Bidding and Award
ENV	Environmental/Permitting	C	Construction

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 17(R) - REGIONAL TREATMENT PLANT CAPITAL PROJECTS

		Fiscal Year 19/20				Fiscal Year 20/21			
	Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th
3701-000; 3769-000; 3751-000	Miscellaneous Improvement 2018	C	C	C	C	C			
3753-000	Aeration Diffuser Upgrade		B&A	C	C	C			
3741-000	Southwest Influent Sewer and MH Repair Design			D	D				
3756-000	Secondary Clarifier Safety Repairs		B&A	C	C				
3757-000	Miscellaneous Safety Imps - Liquids		B&A	C	C				
3761-000	External Lighting Upgrade		B&A	C	C				
3771-000	Miscellaneous Safety Imps - Solids		B&A	C	C				
3749-000	Phase I Solids Piping Upgrade			B&A	C	C			
3755-000	SE Sewer Rehabilitation			B&A	C	C			
3758-000	AWT No. 2 Reconstruction				B&A	C	C		
3759-000	AWT No. 2 Electrical Upgrades				B&A	C	C		
3772-000	Hot Water Piping Reconstruction			B&A	C	C			
3766-000	AWT Hypochlorite Tanks Shade			B&A	C	C			
3773-000	Cogeneration System Modifications	D	D	B&A	C	C			
4704-000	Evaluate Plant and Storm Water Drainage System	P	P						
4703-000	Laboratory Reconstruction Evaluation			P	P	P			

P	Planning	D	Design
CA	Condition Assessment	B&A	Bidding and Award
ENV	Environmental/Permitting	C	Construction

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
PROJECT COMMITTEE NO. 17(R) - REGIONAL TREATMENT PLANT CAPITAL PROJECTS CONTINUED

		Fiscal Year 19/20				Fiscal Year 20/21			
	Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th
17087	Odor Control Chemical Tank					C			
17088	Primary Sedimentation Condition Assessment					CA			
37001-000; 37002-000; 3779-000	MCC A, C, G, H Replacement					B&A	C	C	
37002-000	West Slope Protection						B&A	C	C
37003-000	Admin Building Door & Window Repair						B&A	C	C
3775-000	Aeration Basin Handrail Upgrade						B&A	C	C
3776-000	Effluent Pond Gate Replacement					B&A	C	C	
3777-000; 3778-000	Site Lighting Upgrade							B&A	C
4701-000	Interstage Pump Station Condition Assessment						CA		
4702-000	Site Storage Evaluation							P	P

P	Planning	D	Design
CA	Condition Assessment	B&A	Bidding and Award
ENV	Environmental/Permitting	C	Construction

Agenda Item

Budgeted:	Yes
Budget amount:	$463,500
Line Items:	PC 2, Task 3250-000
Legal Counsel Review:	No
Meeting Date:	August 8, 2019

TO: Project Committee No. 2

FROM: Betty Burnett, General Manager

STAFF CONTACT: Brian Peck, Director of Engineering

SUBJECT: Change Order to SS Mechanical Construction Contract for the J. B. Latham Treatment Plant, Plant 1 Grit Basin Rehabilitation Project

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Recommendation

The Engineering Committee recommends that the Board of Directors approve Change Orders 1, 2, and 3 to the construction contract with SS Mechanical Construction for the J. B. Latham Treatment Plant, Plant 1 Grit Basin Rehabilitation Project.

Change Orders

1. Recommend Change Orders 1, 2, and 3 for the construction contract for Plant 1 Grit Basin Rehabilitation (PC 2, Task 3250-000)

CO #	CO Item	Description	Change Order Price	Cumulative Change Order Amount*	Status
1	Additional Concrete Repair Along Rebate Removal	The removal of rebate exposed areas of weakened concrete beyond the replacement on the bid drawings.	$7,980.00	$7,980.00	SOCWA Engineering Committee Recommendation
2	Replace Grit Pump No.1 Suction Piping	Existing piping elbow partially encased in concrete perforated. Work included chipping out concrete; replacing elbow and installing grout around new elbow.	$4,943.32	$12,923.32	SOCWA Engineering Committee Recommendation

CO #	CO Item	Description	Change Order Price	Cumulative Change Order Amount*	Status
3	Grit Pump Suction Pipe Recoating	The original scope for the project did not include recoating the original suction piping. Coating was recommended for existing pipe and replacement fitting upon closer inspection.	$1,591.98	$14,515.30	SOCWA Engineering Committee Recommendation

* Cumulative change order cost for this task code only.

Advisory Status

Reviewed and recommended by the SOCWA Engineering Committee on July 18, 2019.

Financial Status

Original Contract Amount:	____$	343,450.00
Net change by previous change orders:	____$	0.00
Contract amount prior to this change order:	____$	343,450.00
Net increase, decrease due to this change order:	____$	14,515.30
New contract amount, including this change order:	____$	357,965.30

The overall project remains within budget. The revised project ledger is presented in Exhibit A. The allocation of these change order costs is shown below.

Member Agency	PC 2 Task 3250-000
Moulton Niguel Water District	$3,350.13
City of San Juan Capistrano	$4,466.36
Santa Margarita Water District	$2,512.60
South Coast Water District	$4,186.21
Total	$14,515.30

Exhibit A

Project Cost Ledger: J. B. Latham Treatment Plant

Plant 1 Grit Basin Rehabilitation

(Millions)

	Plant 1 Grit Basin Rehabilitation
Budget (2019/207)	**0.464**
Budget Task Codes	**PC 2 Task 3250-000**
Actual Bid Costs-Constr.	0.343
Construction Change Orders	0.015
Previous Costs (Prior Construct and Design)	0.060
Contingency	0.016
Construction Services	0.030
Other	0.000
Total Project Costs	**0.464**
Spending	
Total Current Spending	(0.419)
Remaining Spending	(0.045)
Remaining Budget	**0.045**

Agenda Item

Budgeted:	Yes
Budget amount:	$1,725,000.00
Line Items:	PC 15 Task 3592-000
Legal Counsel Review:	No
Meeting Date:	August 8, 2019

TO: Project Committee No. 15 Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Roni Young, Associate Engineer

SUBJECT: Change Orders to Hazen and Sawyer Engineers Design Services Contract for the Coastal Treatment Plant Facility Improvements Project

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Recommendation

The Engineering Committee recommends that the Board of Directors approve Change Orders 12 through 22 to the design services contract with Hazen and Sawyer for the Coastal Treatment Plant Facility Improvements Project.

Change Orders

Recommend Change Orders 12 through 22 to the design services contract for the Facility Improvements Project (PC 15, Task 3592-000). Note that Change Orders 8 through 11 and 15 through 18 were approved at the June 2019 Board of Directors Meeting. Change Order 21 was deleted due to no-cost change.

CO #	CO Item	Description	Change Order Price	Cumulative Change Order*	Status
12	Delete Standby Generator at Headworks (MCC-1)	Deleted design work to provide a standby generator at MCC-1	-$8,280.00	$98,883.00	SOCWA Engineering Committee Recommended
13	Delete Aeration System after 35% Design	Deleted design work associated with the aeration system after 35% design	-76,279.00	$22,604.00	SOCWA Engineering Committee Recommended
14	Aeration Blower Alternative Analysis	Revised the aeration system to meet the 4 mgd flow capacity	$62,605.00	$85,209.00	SOCWA Engineering Committee Recommended

CO #	CO Item	Description	Change Order Price	Cumulative Change Order*	Status
19	Canopy at Ferric Chloride Area	Revised design work to reflect a canopy to cover the pumps	$5,115.00	$90,324.00	SOCWA Engineering Committee Recommended
20	Reroute Discharge Piping from the Drainage Pump Station (DPS)	Revised design to provide additional discharge flexibility	$2,435.00	$92,759.00	SOCWA Engineering Committee Recommended
22	Additional Project Management	Additional project management and coordination to accommodate the revised scope and schedule	$6,550.00	$99,309.00	SOCWA Engineering Committee Recommended

*Cumulative for specific task order only

Advisory Status

This item was reviewed with the SOCWA Engineering Committee on July 18, 2019. The change orders were recommended by the present Project Committee 15 Engineering Committee members with the abstention of the representative of the Moulton Niguel Water District (MNWD).

Financial Status

Original Contract Amount:	____$	1,195,286.00
Net change by previous change orders:	____$	107,163.00
Contract amount prior to this change order:	____$	1,254,111.00
Net increase, decrease due to this change order:	____$	-7,854.00
New contract amount, including this change order:	____$	1,246,257.00

The allocation of the change order costs is shown below.

Member Agency	Task 3592-000
Emerald Bay Service District	-$234.83
City of Laguna Beach	-$2,977.45
Moulton Niguel Water District	-$2,297.30
South Coast Water District	-$2,344.42
Total	-$7,854.00

The overall project remains within budget. The revised project ledger is presented in Exhibit A.

Exhibit A

Project Cost Ledger: Coastal Treatment Plant

Facility Improvements Design

(Millions)

	Facility Improvements Design
Budget (2018/2019)	**1.725**
Budget Task Codes	**3592-000**
Estimated Costs-Constr.	0.000
Construction Change Orders	0.000
Design	1.195
Design Change Orders	0.099
Contingency	0.430
Construction Management	0.000
Utilities	0.000
Total Project Costs	**1.725**
Spending	
Total Current Spending	(1.195)
Remaining Spending	(0.530)
Remaining Budget	0.000

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Engineering Committee

June 13, 2019

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee was held on Thursday, June 13, 2019, at 8:30 a.m. at their Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members present:

MIKE MARQUIS	City of San Juan Capistrano
DON BUNTS	Santa Margarita Water District [arrival 8:35 a.m.]
MARC SERNA	South Coast Water District
MIKE DUNBAR	Emerald Bay Service District
DAVID SHISSLER	City of Laguna Beach [exit 9:20 a.m.]
ROD WOODS	Moulton Niguel Water District
DENNIS CAFFERTY	El Toro Water District
LORRIE LAUSTEN	Trabuco Canyon Water District
KEVIN BURTON	Irvine Ranch Water District

Absent:

DAVE REBENSDORF	City of San Clemente

Staff present:

BRIAN PECK	Director of Engineering
JASON MANNING	Senior Engineer
RONI YOUNG	Associate Engineer
JEANETTE COTINOLA	Procurement/Contracts Administrator
TERI NOSON	Clerk of the Board/Assistant Secretary

Also Present:

DENNIS ERDMAN	South Coast Water District
BOBBY YOUNG	El Toro Water District
JOE MCDIVITT	South Coast Water District

1. Call Meeting to Order

Mr. Peck called the meeting to order at 8:31 a.m. and welcomed everyone present.

2. Public Comments

Mr. Peck asked if members of the public desired to address the Engineering Committee or desired to reserve addressing the Engineering Committee during the meeting regarding any item on the Agenda. No comments were received.

3. <u>Review/Approval of Meeting Minutes</u> (March, April, May 2019)

Mr. Peck reported that the provided statement by Mr. Shintaku was attached to March 14, 2019, Engineering Committee minutes as handed out for review.

<u>ACTION TAKEN</u>
Motion was made by Mr. Bunts and seconded by Mr. Cafferty to approve the March, April, and May 2019 as amended Engineering Committee Meeting minutes as amended.

March 2019 Minutes
Motion carried: Aye 6; Nay 0; Absent 1; Abstain 3

Mike Dunbar	Aye
Kevin Burton	Abstain
Lorrie Lausten	Abstain
Marc Serna	Aye
Mike Marquis	Aye
Dave Rebensdorf	Absent
Don Bunts	Aye
Rod Woods	Abstain
Dennis Cafferty	Aye
David Shissler	Aye

April 2019 Minutes
Motion carried: Aye 9; Nay 0; Absent 1; Abstain 0

Mike Dunbar	Aye
Kevin Burton	Aye
Lorrie Lausten	Aye
Marc Serna	Aye
Mike Marquis	Aye
Dave Rebensdorf	Absent
Don Bunts	Aye
Rod Woods	Aye
Dennis Cafferty	Aye
David Shissler	Aye

May 2019 Minutes
Motion carried: Aye 8; Nay 0; Absent 1; Abstain 1

Mike Dunbar	Abstain
Kevin Burton	Aye
Lorrie Lausten	Aye
Marc Serna	Aye
Mike Marquis	Aye
Dave Rebensdorf	Absent
Don Bunts	Aye
Rod Woods	Aye
Dennis Cafferty	Aye
David Shissler	Aye

4. Operations Report

DISCUSSION

An Operations Report was not provided.

RECOMMENDED ACTION

None.

5. Aliso Creek Buried Utility and Roadway Protection Project
(Project Committees No. 15 and 21)

DISCUSSION

Mr. Peck presented the proposals from Dudek (for environmental services) and Tetra Tech (for engineering services) to evaluate Wood Canyon drainage to Aliso Creek, to design and permit permanent repairs to Site West 1, and to develop conceptual repairs along Aliso Creek for use as a template for future emergency repairs. The proposed costs were within the current budget for both PC 15 and PC 21 for this work.

RECOMMENDED ACTION

There was the consensus of the Engineering Committees members of Project Committees No. 15 and 21 to recommend the award of contracts for Dudek and Tetra Tech to the Board of Directors.

6. Coastal Treatment Plant AWT Upgrade Project Status Report
(Project Committee No. 15)

DISCUSSION

Mrs. Young provided an update to the Tertiary System Upgrades Project and presented Change Order No. 5 for SS Mechanical Construction to rewire the AWT controls. It was noted that this project was fully funded by the South Coast Water District as it involves only the Coastal Plant AWT system.

RECOMMENDED ACTION

There was the consensus of the Engineering Committees members of Project Committees No. 15 to recommend to the Project Committee No. 15 Board of Directors to approve Change Order No. 5 for the construction contract of AWT Filter Valve Upgrades at the cost of $922.18.

7. J. B. Latham Treatment Plant, Plant 1 Grit Basin Rehabilitation Project Status Report
(Project Committee No. 2)

DISCUSSION

This item was deferred to the July 2019 Engineering Committee Meeting. RECOMMENDED ACTION

None.

8. J. B. Latham Treatment Plant Draft Ten Year Plan Review
(Project Committee No. 2)

DISCUSSION

Mr. Peck reviewed the PowerPoint presentation on the Draft Ten Year Plan for the J.B. Latham Treatment Plant. An open discussion ensued.

RECOMMENDED ACTION
Information item, no action taken.

Adjournment

There being no further business, Mr. Peck adjourned the meeting at 9:36 a.m.

I HEREBY CERTIFY that the foregoing Minutes are a true and accurate copy of the Minutes of the Regular Meeting of the South Orange County Wastewater Authority Engineering Committee of June 13, 2019, and, approved by the Board of Directors of the South Orange County Wastewater Authority.

_____

Betty Burnett, General Manager/Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item

Budgeted: Yes
Budget amount: $4,805,981
Line Item: PC 17 Tasks 3701-000, 3769-000, and 3751-000
Legal Counsel Review: No
Meeting Date: August 8, 2019

TO: Project Committee No. 17 Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Jason Manning, Senior Engineer

SUBJECT: Regional Treatment Plant Miscellaneous Improvements 2018 – Engineering Services During Construction

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Summary

This agenda item provides a recommendation for the award of an Engineering Services During Construction (ESDC) contract to Lee and Ro for the Miscellaneous Improvements 2018 Project at the Regional Treatment Plant.

Overview

The Regional Treatment Plant (RTP) Miscellaneous Improvements 2018 includes three sets of design packages all from Lee and Ro. They were asked to prepare proposals for engineering services during construction for each project with the understanding that the projects are consolidated under one construction contractor. These services include but are not limited to the preparation of conformed documents, attendance at progress meetings, response to requests for information, review of shop drawings, review change orders, start-up services and the preparation of record drawings.

Lee and Ro submitted an engineering services during construction proposal with a fee totaling $123,310. During other project discussions within the Engineering Committee, it has been noted that it would be preferable to include engineering services during construction as part of the design contract in future projects. The design portion of this project was bid prior to that discussion.

The ESDC proposals for the RTP Miscellaneous Improvements, the RTP Secondary Process Electrical Improvements, and the RTP Solids Area Upgrades are presented in Exhibits A, B, and C respectively.

The proposed ESDC fee represents about 3% of the construction contract price of $4.1 million, which is in line with recently awarded engineering services contracts. Table 1 shows the fees as they relate to each of the three design projects.

Table 1 - Engineering Services During Construction Fees

Project Design Component	**ESDC Fee**
Miscellaneous Improvements	$66,212
Secondary Process Electrical Improvements	$28,356
Solids Area Upgrades	$28,742
Total Fee	$123,310

Advisory Committee Review

The attached proposals for engineering services during construction for the Regional Treatment Plant Miscellaneous Improvements 2018 project were reviewed by the Engineering Committee on July 18, 2019. The PC 17 Engineering Committee members recommended the approval of the ESDC proposal for Lee and Ro.

Fiscal Impact

Table 2 shows the allocation by member agency for the engineering services during construction.

Table 2 - Allocation by Member Agency

	Liquids	**Common**	**Solids**	
Member Agency	*3701-000*	*3769-000*	*3751-000*	Total
El Toro Water District	$0	$112	$5,866	$5,979
Emerald Bay Service District	$0	$4	$170	$173
City of Laguna Beach	$0	$69	$3,225	$3,294
Moulton Niguel Water District	$93,472	$856	$16,906	$111,234
South Coast Water District	$0	$55	$2,575	$2,630
Total	$93,472	$1,096	$28,742	$123,310

Recommendation

The following action is recommended:

Approval of the award of the engineering services during construction contract to Lee and Ro at a fee not to exceed $123,310.

Exhibit A
Scope of Work

Tasks include the following:

1. RFI Responses – Respond to Design Clarifications and Requests for Information (RFIs). Contractor will submit all requests in writing to SOCWA. All responses will be submitted in writing to SOCWA. It is assumed that there will be a maximum of 42 RFIs.

2. Shop Drawing Review – Review shop drawings and other submittals as required in the Contract Documents. Review procedures will be as specified in the Contract Documents and as directed by SOCWA. Hazen will review shop drawings for conformance with the design documents. The review does not relieve the Contractor from specification or contractual requirements. Contractor is expected to provide complete submittals. It is assumed that there will be a maximum of 80 submittals.

3. Change Order Assistance – Review and analyze Change Order Requests to determine their merit relative to the Contract Documents and design intent. The review of change orders will only be upon the request of SOCWA. It is assumed that there will be a maximum of 8 change orders total. Hazen's review and analysis of Change Order Requests will include review of scope and pricing information submitted by the Contractor and/or SOCWA.

4. Record Drawing Preparation – Lee and Ro will prepare record drawings from markups made by the Contractor and reviewed by SOCWA's representative.

5. Meetings and Site Visits - Meetings with construction manager and SOCWA. It is assumed that there will be 16 site visits for meetings and inspections over the duration of the project.

Exhibit A

LEE & RO, Inc.

1199 South Fullerton Road, City of Industry, CA 91748
Tel: (626) 912-3391
Fax: (626) 912-2015
www.LEE-RO.com

Mr. Jason Manning
South Orange County Wastewater Authority
34156 Del Obispo Street.
Dana Point, CA 92629

June 27, 2019

Subject: Construction Phase Services for the RTP Miscellaneous Improvements *J1173*

Dear Mr. Manning:

LEE & RO is pleased to submit this proposal for Construction Phase Services for the RTP Miscellaneous Improvements. Our proposed not-to exceed fee is **$66,212.00**. The proposed Scope of Work is as follows:

Task 1. Engineering Services During Construction:

LEE & RO will attend and participate in the following tasks.

- Project management, coordination, invoicing and reporting.
- LEE & RO will attend Construction Progress Meetings, as requested by SOCWA. We have assumed 10 construction meetings.
- LEE & RO will review Contractor's shop drawing submittals. We have assumed a maximum total of 42 submittals for review. Our fee estimate is based upon reviewing 42 submittals at 3 1/2 hours per submittal plus clerical.
- LEE & RO will respond to Contractor RFIs. We have assumed a maximum of 20 RFIs and our fee is based upon a review time of 3 hours per RFI plus clerical.

Task 2. Post Construction Assistance:

LEE & RO will prepare As-Built record drawings from the contractor's red-line mark-ups.

A detailed fee proposal for Task 1 and Task 2 is included as **Exhibit 1**. Our billing rate schedule is also included as **Exhibit 2.**

Thank you for the invitation to submit this proposal. Please do not hesitate to call Dhiru Patel or me, if you have any questions or comments.

Respectfully submitted,

LEE & RO, Inc.

Lee Badertscher

Lee Badertscher, P.E.

Encl.: One (1) Copy of Fee Proposal (Exhibit 1) and One (1) Copy of Billing Rate Schedule (Exhibit 2)

June 27, 2019

Exhibit 1: FEE PROPOSAL
SOCWA RTP Miscellaneous Improvements
Construction Phase Services

Task ID	Task Description	Hours per Labor Category					Total Hours	Labor Cost	Other Direct Costs (ODCs)	TOTAL FEES
		E8	E5	E2	T4	A2				
		LABOR CLASSIFICATION AND BILLING RATE ($/hr): E8 Managing Eng, E5 Senior Eng, E2 Assistant Engineer, T4 Designer, and A2 Word Processor								
		$240	$178	$128	$145	$112				
1.0	Engineering Services During Construction						343	$56,992	$550	$57,542
	Project Management, Coordination & Invoicing	10		10		10	30	$4,800		$4,800
	Meetings (10 Meetings)	40		40			80	$14,720	$400	$15,120
	Respond to RFI's (20 RFI's)	24		36		6	66	$11,040	$50	$11,090
	Shop Drawing Review (42 submittals)	48		99		20	167	$26,432	$100	$26,532
2.0	Post Construction Phase Services						56	$8,520	$150	$8,670
	Prepare Record (As-Built) Drawings	6		10	40		56	$8,520	$150	$8,670
	TOTAL	128	0	195	40	36	399	$65,512	$700	$66,212

LEE & RO, Inc.

FY 2019 HOURLY BILLING RATE SCHEDULE

(Effective From November 1, 2018 to October 31, 2019)

This Schedule will change at the beginning of the new fiscal year (November 1st)

PERSONNEL CLASSIFICATION			BILLING RATES ($/HOUR)
ENGINEERS			
Engineer 8	E8	Managing Engineer	$240
Engineer 7	E7	Supervising Engineer	$217
Engineer 6	E6	Principal Engineer	$196
Engineer 5	E5	Senior Engineer	$178
Engineer 4	E4	Engineer	$162
Engineer 3	E3	Associate Engineer	$145
Engineer 2	E2	Assistant Engineer	$128
Engineer 1	E1	Junior Engineer	$112
CAD / DESIGNERS			
Designer 5	T5	Principal Designer	$162
Designer 4	T4	Senior Designer	$145
Designer 3	T3	Designer	$128
Designer 2	T2	Associate Designer	$112
Designer 1	T1	Assistant Designer	$96
FIELD PROFESSIONALS			
Field Professional 5	F5	Senior Resident Engineer	$162
Field Professional 4	F4	Resident Engineer	$145
Field Professional 3	F3	Senior Inspector	$128
Field Professional 2	F2	Inspector	$112
Field Professional 1	F1	Assistant Inspector	$96
ADMINISTRATIVE			
Administrative 3	A3	Contract Manager	$145
Administrative 2	A2	Project Assistant	$112
Administrative 1	A1	Word Processor	$96

Exhibit B

LEE & RO, Inc.

1199 South Fullerton Road, City of Industry, CA 91748
Tel: (626) 912-3391
Fax: (626) 912-2015
www.LEE-RO.com

Mr. Jason Manning
South Orange County Wastewater Authority
34156 Del Obispo Street.
Dana Point, CA 92629

June 27, 2019

Subject: Construction Phase Services for the RTP Secondary Process Electrical Improvements
J1173

Dear Mr. Manning:

LEE & RO is pleased to submit this proposal for Construction Phase Services for the RTP Secondary Process Electrical Improvements. Our proposed not-to exceed fee is **$28,356.00**. The proposed Scope of Work is as follows:

Task 1. Engineering Services During Construction:

LEE & RO will attend and participate in the following tasks.

- Project management, coordination, invoicing and reporting.
- LEE & RO will attend Construction Progress Meetings, as requested by SOCWA. We have assumed 3 construction meetings.
- LEE & RO will review Contractor's shop drawing submittals. We have assumed a maximum total of 20 submittals for review. Our fee estimate is based upon reviewing 20 submittals at 3 1/2 hours per submittal plus clerical.
- LEE & RO will respond to Contractor RFIs. We have assumed a maximum of 10 RFIs and our fee is based upon a review time of 3 hours per RFI plus clerical.

Task 2. Post Construction Assistance:

LEE & RO will prepare As-Built record drawings from the contractor's red-line mark-ups.

A detailed fee proposal for Task 1 and Task 2 is included as **Exhibit 1**. Our billing rate schedule is also included as **Exhibit 2.**

Thank you for the invitation to submit this proposal. Please do not hesitate to call Dhiru Patel or me, if you have any questions or comments.

Respectfully submitted,

LEE & RO, Inc.

Lee Badertscher

Lee Badertscher, P.E.

Encl.: One (1) Copy of Fee Proposal (Exhibit 1) and One (1) Copy of Billing Rate Schedule (Exhibit 2)

Exhibit 1: FEE PROPOSAL
SOCWA RTP Secondary Process Electrical Improvements
Construction Phase Services

Task ID	Task Description	Hours per Labor Category					Total Hours	Labor Cost	Other Direct Costs (ODCs)	TOTAL FEES
		E8	E5	E2	T4	A2				
		LABOR CLASSIFICATION AND BILLING RATE ($/hr): E8 Managing Eng, E5 Senior Eng, E2 Assistant Engineer, T4 Designer, and A2 Word Processor								
		$240	$178	$128	$145	$112				
1.0	Engineering Services During Construction						148	$24,064	$300	$24,364
	Project Management, Coordination & Invoicing	4		4		4	12	$1,920		$1,920
	Meetings (3 Meetings)	12		12			24	$4,416	$200	$4,616
	Respond to RFI's (10 RFI's)	10		20		4	34	$5,408	$50	$5,458
	Shop Drawing Review (20 submittals)	22		48		8	78	$12,320	$50	$12,370
2.0	Post Construction Phase Services						26	$3,892	$100	$3,992
	Prepare Record (As-Built) Drawings	2		4	20		26	$3,892	$100	$3,992
	TOTAL	50	0	88	20	16	174	$27,956	$400	$28,356

LEE & RO, Inc.

FY 2019 HOURLY BILLING RATE SCHEDULE

(Effective From November 1, 2018 to October 31, 2019)

This Schedule will change at the beginning of the new fiscal year (November 1st)

PERSONNEL CLASSIFICATION			BILLING RATES ($/HOUR)
ENGINEERS			
Engineer 8	E8	Managing Engineer	$240
Engineer 7	E7	Supervising Engineer	$217
Engineer 6	E6	Principal Engineer	$196
Engineer 5	E5	Senior Engineer	$178
Engineer 4	E4	Engineer	$162
Engineer 3	E3	Associate Engineer	$145
Engineer 2	E2	Assistant Engineer	$128
Engineer 1	E1	Junior Engineer	$112
CAD / DESIGNERS			
Designer 5	T5	Principal Designer	$162
Designer 4	T4	Senior Designer	$145
Designer 3	T3	Designer	$128
Designer 2	T2	Associate Designer	$112
Designer 1	T1	Assistant Designer	$96
FIELD PROFESSIONALS			
Field Professional 5	F5	Senior Resident Engineer	$162
Field Professional 4	F4	Resident Engineer	$145
Field Professional 3	F3	Senior Inspector	$128
Field Professional 2	F2	Inspector	$112
Field Professional 1	F1	Assistant Inspector	$96
ADMINISTRATIVE			
Administrative 3	A3	Contract Manager	$145
Administrative 2	A2	Project Assistant	$112
Administrative 1	A1	Word Processor	$96

Exhibit C

LEE & RO, Inc.

1199 South Fullerton Road, City of Industry, CA 91748
Tel: (626) 912-3391
Fax: (626) 912-2015
www.LEE-RO.com

Mr. Jason Manning
South Orange County Wastewater Authority
34156 Del Obispo Street.
Dana Point, CA 92629

June 27, 2019

Subject: Construction Phase Services for the RTP Solids Area Upgrades *J1173*

Dear Mr. Manning:

LEE & RO is pleased to submit this proposal for Construction Phase Services for the RTP Solids Area Upgrades. Our proposed not-to exceed fee is **$28,742.00**. The proposed Scope of Work is as follows:

Task 1. Engineering Services During Construction:

LEE & RO will attend and participate in the following tasks.

- Project management, coordination, invoicing and reporting.
- LEE & RO will attend Construction Progress Meetings, as requested by SOCWA. We have assumed 3 construction meetings.
- LEE & RO will review Contractor's shop drawing submittals. We have assumed a maximum total of 18 submittals for review. Our fee estimate is based upon reviewing 18 submittals at 3 1/2 hours per submittal plus clerical.
- LEE & RO will respond to Contractor RFIs. We have assumed a maximum of 12 RFIs and our fee is based upon a review time of 3 hours per RFI plus clerical.

Task 2. Post Construction Assistance:

LEE & RO will prepare As-Built record drawings from the contractor's red-line mark-ups.

A detailed fee proposal for Task 1 and Task 2 is included as **Exhibit 1**. Our billing rate schedule is also included as **Exhibit 2.**

Thank you for the invitation to submit this proposal. Please do not hesitate to call Dhiru Patel or me, if you have any questions or comments.

Respectfully submitted,

LEE & RO, Inc.

Lee Badertscher

Lee Badertscher, P.E.

Encl.: One (1) Copy of Fee Proposal (Exhibit 1) and One (1) Copy of Billing Rate Schedule (Exhibit 2)

Exhibit 1: FEE PROPOSAL
SOCWA RTP Solids Area Upgrades
Construction Phase Services

Task ID	Task Description	Hours per Labor Category					Total Hours	Labor Cost	Other Direct Costs (ODCs)	TOTAL FEES
		E8	E5	E2	T4	A2				
		LABOR CLASSIFICATION AND BILLING RATE ($/hr): E8 Managing Eng, E5 Senior Eng, E2 Assistant Engineer, T4 Designer, and A2 Word Processor								
		$240	$178	$128	$145	$112				
1.0	Engineering Services During Construction						149	$24,160	$300	$24,460
	Project Management, Coordination & Invoicing	4		4		4	12	$1,920		$1,920
	Meetings (3 Meetings)	12		12			24	$4,416	$200	$4,616
	Respond to RFI's (12 RFI's)	12		24		6	42	$6,624	$50	$6,674
	Shop Drawing Review (18 submittals)	20		43		8	71	$11,200	$50	$11,250
2.0	Post Construction Phase Services						28	$4,182	$100	$4,282
	Prepare Record (As-Built) Drawings	2		4	22		28	$4,182	$100	$4,282
	TOTAL	50	0	87	22	18	177	$28,342	$400	$28,742

LEE & RO, Inc.

FY 2019 HOURLY BILLING RATE SCHEDULE

(Effective From November 1, 2018 to October 31, 2019)

This Schedule will change at the beginning of the new fiscal year (November 1st)

PERSONNEL CLASSIFICATION			BILLING RATES ($/HOUR)
ENGINEERS			
Engineer 8	E8	Managing Engineer	$240
Engineer 7	E7	Supervising Engineer	$217
Engineer 6	E6	Principal Engineer	$196
Engineer 5	E5	Senior Engineer	$178
Engineer 4	E4	Engineer	$162
Engineer 3	E3	Associate Engineer	$145
Engineer 2	E2	Assistant Engineer	$128
Engineer 1	E1	Junior Engineer	$112
CAD / DESIGNERS			
Designer 5	T5	Principal Designer	$162
Designer 4	T4	Senior Designer	$145
Designer 3	T3	Designer	$128
Designer 2	T2	Associate Designer	$112
Designer 1	T1	Assistant Designer	$96
FIELD PROFESSIONALS			
Field Professional 5	F5	Senior Resident Engineer	$162
Field Professional 4	F4	Resident Engineer	$145
Field Professional 3	F3	Senior Inspector	$128
Field Professional 2	F2	Inspector	$112
Field Professional 1	F1	Assistant Inspector	$96
ADMINISTRATIVE			
Administrative 3	A3	Contract Manager	$145
Administrative 2	A2	Project Assistant	$112
Administrative 1	A1	Word Processor	$96

Agenda Item

Budgeted: Yes
Budget amount: $351,000
Line Item: PC 15 Tasks 3361-000 and 3362-000 and PC 21 (Reach E) Task 3381-000
Legal Counsel Review: No
Meeting Date: August 8, 2019

TO: Project Committee No. 15 and 21 (Reach E) Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Brian Peck, Director of Engineering

SUBJECT: Award of Engineering Services for the Aliso Creek Buried Utility and Roadway Protection Project

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Summary

This agenda item provides a recommendation for the award of an engineering services contract to Tetra Tech for the Aliso Creek Buried Utility and Roadway Protection Project.

Background

The lower reach of Aliso Creek extends from the Coastal Treatment Plant (CTP) north to Alicia Parkway. This reach of Aliso Creek lies entirely within the County of Orange Aliso and Wood Canyons Wilderness Park. SOCWA's CTP Access Road (also called the AWMA Road) is located on the west side of the lower reach of Aliso Creek. This roadway has historically been vulnerable to erosion along Aliso Creek. The road has been relocated twice (most recently in 2006) due to creek embankment erosion. SOCWA has two sets of buried utilities on the east side of Aliso Creek:

The Effluent Transmission Main (ETM)

The CTP Export Sludge System (two 4-inch diameter pipelines)

SOCWA is in the process of completing the permitting for a project to replace the Export Sludge System.

The development of the Coastal Treatment Plant Export Sludge System Replacement required consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act. During the permitting phase of the project, the USFWS proposed a project wherein SOCWA would coordinate with USFWS and United States Army Corps of Engineers staff to prepare a long-term operations and maintenance plan. The plan would identify contingency plans for future repair work along Aliso Creek in the event of embankment failures.

Over the past three winter seasons, Orange County has been subject to higher-than-normal rainfall. These storm events have resulted in damages within the lower reach of Aliso Creek. These damages have had a greater impact on the west side of Aliso Creek. The damage appears to be largely a function of runoff from tributaries to west of Aliso Creek conveying high volumes of water seeking a route to discharge into Aliso Creek. The key tributary is Wood Canyon. The area tributary to Wood Canyon drains to the confluence of Wood and Aliso Canyons. Wood Canyon intercepts the CTP Access Road along Aliso Creek. The 1980 construction of the Access Road included a concrete culvert structure to allow water draining from Wood Canyon to pass beneath the Access Road and discharge to Aliso Creek. However, the increased quantity of flow has breached the sides of the water course in Wood Canyon bypassing the existing culvert. The resulting flow has traveled south along the Access Road seeking a point to drain into Aliso Creek. These events have caused damage both to the Access Road and to the adjacent embankments along Aliso Creek.

The winter storms of 2017 caused damage to two points along the roadway. The sites were designated as West 1 (W1) and West 2 (W2) at that time. Tetra Tech developed basic design methodologies for the repair of those sites. However, the resource agencies did not authorize permanent repairs under the emergency permits acquired for the project and requested that separate, stand-alone permits be acquired authorizing the permanent solution. A temporary fill was added to Site W1 in September 2018.

Further storms in the winter of 2019 have caused additional damage to the areas surrounding Site W1.

Goals

The Aliso Creek Buried Utility and Roadway Protection Project has the following goals:

- Perform an evaluation of Wood Canyon drainage flow and identify two options for managing the discharge of Wood Canyon drainage into Aliso Creek.

- Complete the design and permitting for permanent repairs at the West 1 site.

- Develop conceptual plans for the two hypothetical repair sites along Aliso Creek to address requirements by USFWS.

Discussion/Analysis

Sole Source Proposal

The proposed project was reviewed with the Engineering Committee in early 2019. The discussion centered on whether to solicit competitive proposals for the project or to seek proposals directly from Tetra Tech and Dudek for the engineering and environmental services respectively. The rationale for requesting sole-source proposals is based on the following points:

- Dudek and Tetra Tech conducted the permit negotiations with the United States Fish and Wildlife Service (USFWS) during which the resource agency staff outlined the desire and the goals for a long-term operations plan.

- Tetra Tech prepared the hydraulic model for Aliso Creek for the United States Army Corps of Engineers (USACOE) that would be used to evaluate flow impacts through Wood Canyon.

- Tetra Tech and Dudek prepared the design and the permit applications for the original emergency work at site West 1.

- Dudek has been conducting biological surveys in Aliso Canyon since 2001.

Based on these points, the Engineering Committee directed SOCWA to obtain sole-source proposals from Tetra Tech and Dudek for the engineering and environmental services respectively.

The engineering services proposal from Tetra Tech was reviewed by both SOCWA staff and the Engineering Committee. The proposed fee from Tetra Tech is $123,525. The scope of services for the project is presented in Exhibit A. The proposal prepared by Tetra Tech is included as Exhibit B.

Advisory Committee Review

The Tetra Tech proposal for the Aliso Creek Buried Utility and Roadway Project engineering services was reviewed at the Engineering Committee meeting on June 13, 2019. The present Project Committee 15 and 21 Engineering Committee members recommended the award of contract to Tetra Tech, with the abstention of the representative of the Moulton Niguel Water District (MNWD) regarding Project Committee 15.

Fiscal Impact

The proposed fees for Tetra Tech are presented in Table 1. This table also includes the proposed fees for Dudek for environmental services which are addressed in another agenda item. The total proposed fee for Tetra Tech is $123,525.

Table 1 - Proposed Fees

Scope Item		Budget Line Item		Tetra Tech	Dudek	Total
1	Evaluate Wood Canyon Drainage	PC 15	3361-000	$ 27,798	$ 7,150	$ 34,948
2	Repairs to Site West 1 - Design and Permitting	PC 15	3361-000	$ 46,523	$ 138,600	$185,123
	Subtotal	**PC 15**	**3361-000**	**$ 74,321**	**$ 145,750**	**$220,071**
3a	Aliso Creek Long Term Repair Template	PC 15	3362-000	$ 24,602	$ 25,000	$ 49,602
3b	Aliso Creek Long Term Repair Template	PC 21	3381-000	$ 24,602	$ 25,000	$ 49,602
			TOTAL	$ 123,525	$ 195,750	$319,275

The budget for each of the line items is compared with the proposed costs in Table 2. It should be noted the budget for the Project Committee (PC) 15 line item for the embankment protection design (Task 3361-000) is exceeded. The is largely because the original scope for the budget

did not include the evaluation of the Wood Canyon flows. It should be noted that the overall PC 15 cost is just under budget. The Project Committee 21 work is well within budget.

Table 2 - Comparison of Cost and Budget

Budget Line Item		Tetra Tech	Dudek	Total Fee	Budget
PC 15	3361-000	$ 74,321	$ 145,750	$220,071	$185,000
PC 15	3362-000	$ 24,602	$ 25,000	$ 49,602	$85,000
Subtotal PC 15		**$ 98,923**	**$ 170,750**	**$269,673**	**$270,000**
PC 21	3381-000	$ 24,602	$ 25,000	$ 49,602	$81,500
TOTAL		$ 123,525	$ 195,750	$319,275	$351,500

The allocation of the proposed project costs is presented in Table 3.

Table 3 - Member Agency Cost Allocation

	PC 15			**PC 21**	
Member Agency	*3361-000*	*3362-000*	*Subtotal*	*3381-000*	TOTAL
El Toro Water District	$ -	$ -	$ -	$ 5,730	$ 5,730
Emerald Bay Service District	$ 2,222	$ 736	$ 2,958	$ -	$ 2,958
Irvine Ranch Water District	$ -	$ -	$ -	$ 5,730	$ 5,730
City of Laguna Beach	$ 28,175	$ 9,327	$ 37,502	$ -	$ 37,502
Moulton Niguel Water District	$ 21,739	$ 7,196	$ 28,935	$ 13,142	$ 42,077
South Coast Water District	$ 22,185	$ 7,344	$ 29,529	$ -	$ 29,529
Total	$ 74,321	$ 24,602	$ 98,923	$ 24,602	$ 123,525

Recommendation

The following action is recommended:

Approval of the award of the engineering services contract to Tetra Tech at a fee not to exceed $123,525.

EXHIBIT A
SCOPE OF SERVICES

Tasks include the following:

Analysis of Wood Canyon Discharge at Coastal Treatment Plant Access Road

I. Progress Meetings. FIRM will attend up to two meetings with SOCWA at the SOCWA's Administration Building in Dana Point. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation, and handouts as needed.

II. Wood Canyon Drainage Calculation. FIRM shall prepare basic calculations expected at the terminus of Wood Canyon for 10-year, 50-year and 10-year storm events.

III. Evaluate Existing Culvert and Lower Wood Canyon Capacity. FIRM shall evaluate capacity of culvert transmitting flow from Wood Canyon beneath the Coastal Treatment Plant Access Road and the lower portion of Wood Canyon.

IV. Develop Two Alternatives for Handling Wood Canyon Flow. FIRM shall develop concept and basic plan for two alternatives to convey 100-year storm flows from Wood Canyon to Aliso Creek. If the existing culvert capacity is determined to be inadequate for the projected flow Tasks II and III) the FIRM shall evaluate the following options at a minimum: (a) raising the Access Road to allow the flow to pass beneath an elevated bridge structure and (b) installing new collection and drainage feature to allow flow to be transmitted to Aliso Creek.

VI. Develop Preliminary Cost Estimates. FIRM shall provide a detailed cost estimate

VII. Coordination with OC Parks. FIRM will attend up to two meetings with OC Parks at the OC Park's Headquarters Building in Irvine. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation and handouts as needed.

VIII. Technical Memorandum. FIRM shall summarize results of Tasks I through VII in a technical memorandum. Five copies of the draft report shall be submitted to SOCWA for review and comment. The FIRM shall respond to all review comments. Ten copies of the finalized memorandum shall be submitted to SOCWA.

Permanent Repair at West 1 Site

I. Progress Meetings. FIRM will attend up to three meetings with SOCWA at the SOCWA's Administration Building in Dana Point. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation, and handouts as needed.

II. Evaluate Existing Conditions. FIRM will evaluate condition of existing embankments at the W1 site.

III. Alternative Analysis. Alternatives analysis will be conducted to meet the requirements of NEPA, the Regional Water Quality Control Board (RWQCB), and the California Coastal Commission (CCC). The general approach to the alternative's analysis will be to complete a screening analysis of alternatives to determine which alternatives should be

carried forward into the CEQA document and resource agency permit applications for full analysis.

XVI. Plans and Specifications. FIRM shall develop plans and specifications for the embankment protection.

XVII. Submittals. FIRM shall make three submittals: 50%, 95%, and 100%. FIRM shall address all SOCWA comments on the 50% and 95% submittals. FIRM shall provide one set of specifications on 8-1/2 x 11 paper, one copy of the final drawings on full size (22 x 34) mylar and one copy of the final drawings on ½ size bond paper. FIRM shall all provide specifications in electronic form (in *.doc format) and drawings in electronic form (in *.dwg and *.pdf format).

XVIII. Cost Estimate. FIRM shall provide a detailed cost estimate with the 50% and 95% submittals.

XXII. OC Parks Access Permit Application for Construction. FIRM shall prepare the application for the Public Properties Permit. FIRM is required to make all revisions and submittals necessary to obtain the Public Properties Permit.

Aliso Creek Long Term Repair Planning

I. Progress Meetings. FIRM will attend up to two meetings with SOCWA at the SOCWA's Administration Building in Dana Point. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation, and handouts as needed.

II. Potential Failure Definition. FIRM shall identify two potential scenarios for failure: (a) incident on east side of Aliso Creek threatening buried infrastructure and dirt access road and (b) incident on west side of Aliso Creek threatening the paved Access Road. FIRM shall estimate the vertical and horizontal dimensions impacted under each scenario. FIRM shall prepare plan and section views of impact area. FIRM shall estimate likely failure mechanism for each scenario. A single representative location will be used at each location to make this evaluation.

III. Potential Repairs. FIRM shall identify two repair options for each failure scenario. FIRM shall prepare plan and section views of proposed repairs.

IV. Repair Implementation. FIRM shall prepare a listing of the methodology needed for each of the repair options. FIRM shall prepare list of equipment and materials needed for each repair option. FIRM shall identify whether it is necessary for vehicle entry into Aliso Creek to implement repair. FIRM shall identify amount of time needed to implement repair.

IX. Additional Work Needed. FIRM shall identify any long-term monitoring, data collection, or evaluation needed to support long term repairs within Aliso Creek.

X. Technical Memorandum. FIRM shall summarize results of Tasks I through VIII in a technical memorandum. Five copies of the draft report shall be submitted to SOCWA for review and comment. The FIRM shall respond to all review comments. Ten copies of the finalized memorandum shall be submitted to SOCWA.

XI. Coordination with USFWS. FIRM will attend up to two meetings with USFWS and ACOE staff at the USFWS Regional Facility in San Diego. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation, and handouts as needed.

South Orange County Wastewater Authority

SOCWA

South Orange County Wastewater Authority

Request for Proposal
For Engineering Services

Aliso Creek Buried Utility and Roadway Protection Project 2019

TETRA TECH

April 22, 2019

TETRA TECH

Team Contact

Tetra Tech Inc
Patti Sexton, PE
Patti.sexton@tetratech.com
949-809-5099

Table of Contents

Firm Information

Years in Business: 50

Number of Employees: 17,000

Number of Offices Worldwide: 400

ENR Engineering News-Record Tetra Tech Rankings

1	Water
1	Environmental Science
1	Solid Waste
1	Treatment/Desalination
1	Wind Power
2	Dams & Reservoirs
4	Top 500 Design Firms

April 22, 2019

Brian Peck, P.E.
Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Subject: Engineering Services for the Aliso Creek Buried Utility and Roadway Protection Project - 2019

Dear Mr. Peck:

In order to protect the existing and future infrastructure along Aliso Creek in the Aliso and Woods Canyon Wilderness Park, South Orange County Wastewater Authority (SOCWA) continues to make improvements along the channel and develop long-term plans for stable solutions. The Tetra Tech team is excited to continue to support these efforts. We bring to SOCWA unique skills developed in support of you and other local agencies to complete this project successfully. Our skills provide the following benefits to SOCWA:

Unmatched experience along Aliso Creek. Our team has undertaken projects for multiple agencies along Aliso Creek including SOCWA, OC Public Works, and the U.S. Army Corps of Engineers. Through this wide range of projects our staff (the same staff proposed to support this project) have developed a deep and thorough understanding of the river mechanics and flooding issues along Aliso Creek that enables us to efficiently develop solutions. Through our work experience we have developed information such as hydraulic models, design plans, and river maps that can be used to streamline efforts for this project.

Innovative technical solutions. As our team has worked with the watershed stakeholders (SOCWA, OC Public Works) and the resource agencies we have developed an understanding of alternate technical solutions and approaches that allow project completion.

Tetra Tech is a dedicated partner to SOCWA and excited for the opportunity to deliver this project. We thank you for your consideration. If you have any questions about this proposal, please call me at 949.809.5099.

Sincerely,

Patti Sexton

Patti Sexton, P.E.
Vice-President

PROJECT APPROACH

PROJECT UNDERSTANDING

The South Orange County Wastewater Authority (SOCWA) maintains critical infrastructure along Aliso Creek through the Aliso and Woods Canyon Wilderness Park. This infrastructure includes both the access road (AWMA Road) along the west bank which provides access to the Coastal Treatment Plant and buried pipelines adjacent to the east bank. In addition to the existing infrastructure, SOCWA is in the process of replacing the Export Sludge Line with a new system that will similarly be buried along the east bank.

PROJECT GOALS

- ✓ Protect the access road along the west bank
- ✓ Protect existing and future buried utilities along the east bank
- ✓ Minimize future maintenance

In times of heavy rainfall both the east and west banks have been damaged, impacting the infrastructure. In the 2017 storm season the access road was undermined, and emergency repairs were required. In the 2019 storm season the bank adjacent to this repaired location was further damaged. Erosion along the east bank has exposed buried pipelines (out of service) and approached active pipelines.

The damages to both the east and west bank result from different actions. The most common include:

- heavy rainfall soaking a steepened bank leading to failures (slippage) of blocks of earth
- erosive forces on the bank from the river flow
- overtopping of the bank from the landward side as flows escaping upstream find a path back into the river

In order to protect the existing and future infrastructure, SOCWA fights the battle on two fronts – the short-term emergency needs and the long-term needs which include both planning and maintenance. The Engineering Services requested in this RFP address both short-term and long-term needs.

PROJECT EXECUTION

Tetra Tech proposes to work with Dudek Environmental and Bush Surveying (both under separate contract to SOCWA) to provide the support needed to address the short-term and long-term project needs. These 3 firms have significant experience supporting SOCWA together along Aliso Creek. Together we have analyzed conditions to define alternatives and required steps (engineering and permitting) in support of SOCWA operations along Aliso Creek. We have a proven history of good communication and history of successful completion of projects. Together we will make good use of the existing information generated in previous projects to support this project. Existing information includes previous work that can be updated and used such as the early versions of the Emergency Repair Plans that support the Permanent Repair. There is also existing data we would build upon to serve this project. For example, the hydraulic models for Aliso Creek will be expanded upon to include Wood Canyon.

Quality Management

A successful project always starts with planning for quality management and performing it. As we have done with our previous projects for SOCWA (and all our other clients), we will start the project with a work plan that outlines the tasks to be done, the associated schedule, and identification of the technical team and QA/QC team. For all types of work included on this project (analysis and design), we have deep resources to support both the technical work and

the QA/QC efforts. And because we have done a large range of projects along Aliso Creek over the past 15 years for multiple clients, these staff have specific work history along Aliso Creek.

Task A. Analysis of Wood Canyon Discharge at Coastal Treatment Plant Access Road

The proposed actions in this task are a high-level evaluation of the flooding and potential alternatives to address those impacts. Hydrologic data presented in past studies developed for the U.S. Army Corps of Engineers will be used in this analysis. This is the same source of data used to define flows along Aliso Creek and will allow for consistency in the flood frequency evaluation. A hydraulic model will be developed of the lower ½ mile of Wood Canyon. Following an evaluation of the topographic data that is captured (by others) and determination will be made as to whether a 1-dimensional or 2-dimensional model will be developed. The detail included in the model will be limited (due to the available funding for this task) but will be sufficient for conceptual planning. A 2-dimensional model may be required to capture the volume of flow that is lost over the bank but is dependent on the available hydrograph data.

With a working hydraulic model, we can test alternatives to address the flooding. Preliminary concepts that will be tested include:

1. Improve the existing undercrossing that currently conveys the Wood Canyon flows into Aliso Creek. This may require raising the Access Road to allow for the undercrossing to be replaced with a bridge.
2. Increase conveyance along Wood Canyon via improvements to the downstream reach of the Wood Canyon channel section or raising the existing channel banks. A related concept that will be explored in this alternative is the potential improvement that would result from raising the dirt path along Wood Canyon to an elevation consistent with the original elevation.

A technical memorandum will be developed to document the assumptions made in the analysis and the recommendations for addressing the flooding. Cost estimates (using RS Means cost data) will be developed for each of the alternatives. Coordination with OC Parks will occur over 2 meetings to coordinate the study efforts and present the results of the study.

This work addresses Tasks II – IV and VI – VI. Task V will be addressed by the environmental consultant. Task I, Task VII and Task VIII will be addressed jointly.

Survey needs: Under separate contract, it is anticipated the SOCWA will obtain survey that includes a DTM that covers the lower ½ mile of Wood Canyon and extends 100' to the west (picking up bottom and top of the earthen "curb" along the dirt trail on both sides of the trail) and 50' to the east. Detailed survey at the crossing will be needed to capture the configuration including the size of the boxes and the invert of the concrete apron at the upstream and downstream end and at the break in slope. Within Wood Canyon, the survey should capture the channel bed elevation and the elevation at the top and bottom of each bank.

Task B. Permanent Repair at West 1 Site

As part of earlier work for SOCWA, Tetra Tech developed improvements at this site that was ultimately not authorized for implementation under the emergency permit conditions. The plans at the West 1 site were altered to provide a solution more consistent with the "restore to previous conditions" criteria. To provide a more sustainable solution, the original concepts will be resurrected as a foundation for the work in this task. Field investigations will be performed to update the existing conditions that could affect the designs at both sites. Further damage sustained during the 2019 storms adjacent to the West 1 site will require the footprint of that site to be expanded to address the damaged location. For both sites, additional alternatives will be evaluated to support environmental documentation

requirements. These alternatives will be formulated in coordination with the environmental consultant. While the environmental consultant will be responsible for all resource agency permitting and biological surveys, Tetra Tech will prepare and process the Access Permit that will be required for construction through OC Parks.

Note that in order to work within allowable budgets for both engineering and environmental assessments, the West 2 Site is not considered. In addition the number of meetings was reduced from 6 to 3 meetings.

This works addresses Tasks II – III and XVI – XVIII and XXII. Task IV – XV and XIX – XXI will be addressed by the environmental consultant. Task I will be addressed jointly.

Survey needs: Along site West 1, additional topographic data will be required to provide a base to extend the plans to include the area damaged in the 2019 storm season as well as update the topography in the area where the repair project was implemented. Topography should include the full channel bank to a point beyond the damaged area, the adjacent roadway, and the drainage ditch on the opposite side of the access road.

Task C. Aliso Creek Long Term Repair Planning

As part of the coordination on the permitting for the future Export Sludge System project, resource agencies requested that SOCWA undertake long term planning to prepare for potential future failures along the bank that could impact the pipeline or roadway infrastructure. Two parallel paths are recommended to address this request. The first is to identify specific repairs that could be made to address an immediate risk resulting from an actual failure. The second is to propose measures that could be taken as preventative action.

To identify repairs that would be required for an actual failure, one location on the east bank and one on the west bank will be selected as representative locations to evaluate potential failure scenarios. The configuration of the failure scenario will be based on information available through the Erosion Assessment Study (Tetra Tech, 2013) which quantifies bank energy as a function of river hydraulic parameters. Descriptions of the configuration of the failure slope will also be informed by existing failure slopes that are evident along Aliso Creek.

Repair alternatives will be developed at each of the failure locations. The alternatives will include options based on the remaining horizontal offset available between the failure slope and the facility (road or pipeline). A more robust (typically hard engineered slope protection) is required if the failure is likely to imminently impact the facility. However, where greater offset are presents, a wider range of less engineered solutions are available. An example is the use of rock groins to deflect flows away from a failed bank and captured sediments to allow for the rebuilding of a portion of the bank, in particular the toe of the bank.

In addition to the specific alternatives that will be developed at each of the failure locations, the Technical Memorandum associated with this Task will outline a plan that prioritizes locations for preventative protection and encourage participation in the long-term implementation of measures which could improve the stability of the channel. This could include planting of vegetation that would encourage diversion of flows and capture of sediment to rebuild failed or failing banks or in-stream options to re-direct flows in appropriate locations (such as the abandoned oxbow).

This works addresses Tasks II – IV. Task V-VIII will be addressed by the environmental consultant. Task I and Task IX - XI will be addressed jointly.

CHALLENGES

As indicated by the history of most projects along Aliso Creek, problems can arise. But when planned for, the problems can be considered challenges to overcome. Our team has successfully completed studies that were used to determine next steps, designed and implemented projects, and obtained permits all along Aliso Creek. We are ready to overcome the challenges associated with this project.

Challenge #1: Resource Agency Support

Resource Agency comments, and their vision for what should occur along the project area, have been a challenge throughout this project.

SOLUTION: The team will continue to build on the progress made with the resource agencies to date to complete this work. Expectations from the resource agencies are better understood following the permitting associated with the Export Sludge System Replacement and the 2017 Emergency Repairs. The fact that we are proposing permanent repairs and incorporated long-term planning, per their requests, is expected to support a good partnership.

Challenge #2: OC Parks

OC Parks retains property ownership in the project area with a SOCWA easement layered on top. OC Parks will need to be a partner in implementation of the final solution.

SOLUTION: The scope of work includes meetings with OC Parks to coordinate the efforts. It will be important to ensure that prior to presenting solutions a meeting is held with OC Parks to clearly lay out the causes of flooding and solicit their input (and get their concurrence) on the potential range of solutions.

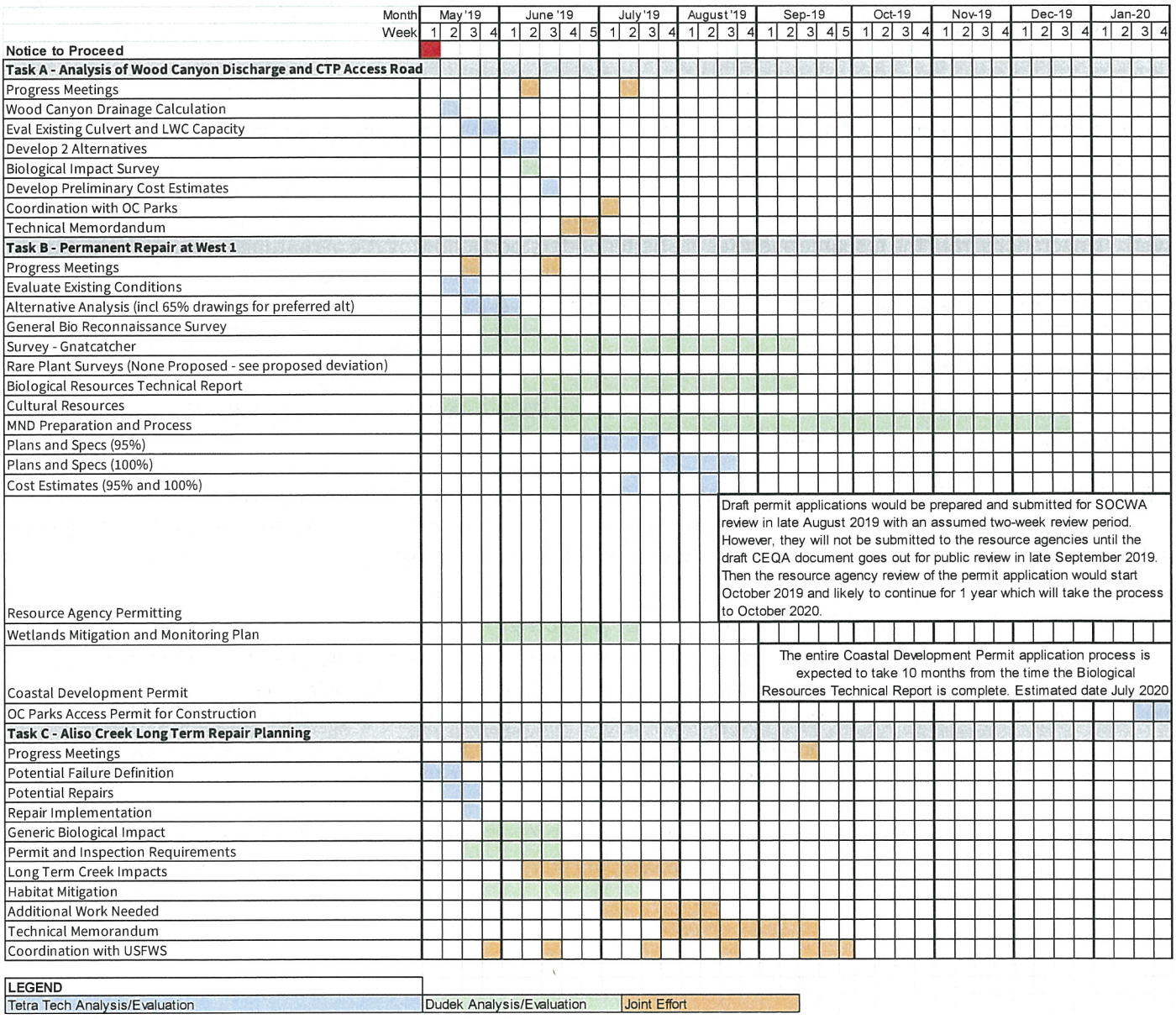
Challenge #3: Unpredictability of Natural River Systems

There is an inherent challenge in working with a natural river system in that it is possible to predict likely outcomes, the behavior of the system and timing of changes cannot be guaranteed. This is based on the variable composition of the waterways (legacy engineered rock, clay layers) but also the unpredictability of weather patterns. Drought and heavy rains cause the system to respond in different ways. As such the problems can changes – such as was seen during the additional damage near the West 1 site from the 2018 to the 2019 storms.

SOLUTION: Our team's experience on the system results in improved engineering judgement on river and flood responses. We will use the experience to support developing plans to meet the project goals of protecting infrastructure and reducing future maintenance.

SCHEDULE

The following schedule assumes that survey information will be available at the time NTP is provided and that coordination meetings will be scheduled within the time periods allocated for each task.



EFFORT

The level of effort by classification for each task is included in the detailed cost estimate which is included in Appendix B. Note that this does not include the efforts of the environmental consultant or the surveyor.

Task B will require the development of drawings. The following identifies the proposed sheet count. Note that the CAD time is incorporated into the Staff Engineer level of effort estimates provided in Appendix B.

SHEET	Number
Title Sheet	1
General Notes	1
Project Survey	1
Work Limits	1
Plan Sheets	2
Detail Sheets	2
Restoration Plan	2

A detailed cost estimate is included in Appendix B. A summary of costs by task is as follows:

TASK	Cost
Task A – Analysis of Wood Canyon	$27,798
Task B – Permanent Site West 1 Repair	$46,523
Task C – Aliso Creek Long Term Planning	$49,204
TOTAL	**$123,525**

Note that this does not include the efforts of the environmental consultant or the surveyor.

CONTRACT

Tetra Tech agrees to the contract language contained in SOCWA's standard engineering contract.

TEAM EXPERIENCE

KEY STAFF

The proposed team is the same team that has been supporting SOCWA over the past several years on projects along Aliso Creek. We are an integrated team that has a high degree of understanding of Aliso Creek as well as the work that has been done and the data that has been generated. The following is a brief introduction to the key staff who will support SOCWA on this project. Appendix A includes detailed resumes that include specific project experience, much of that project experience is directly related to this Project.

PATTI SEXTON, PE

PROJECT ROLE:

Project Manager

KEY SCOPE OF WORK EXPERIENCE:

- 15 years of project experience along Lower Aliso Creek
- Analysis of river hydraulics
- Design of channel protection alternatives

As a Senior Program Manager and Water Resources Engineer with Tetra Tech Ms. Sexton is responsible for water resource projects including river and floodplain analysis (hydrology, hydraulics, and sediment transport studies), design of river improvements, and restoration projects. She manages Tetra Tech's on-call contracts with multiple agencies in Southern California, including the OC Flood Control District.

Ms. Sexton has served as the Project Manager for multiple projects for SOCWA, Orange County, and the Los Angeles District of the USACE. As the Project Manager for this project she will ensure that adequate resources are made available to meet the schedule and that appropriate coordination and quality control is maintained throughout the project. With her personal experience with projects along Aliso Creek, Ms. Sexton will also direct the technical work.

ARIC TORREYSON, PE

PROJECT ROLE:

Lead Designer

KEY SCOPE OF WORK EXPERIENCE:

- Designed 2017 emergency repairs along Lower Aliso Creek
- Design of channel protection alternatives

Mr. Torreyson has over 19 years of diverse engineering experience in the fields of water resources engineering, environmental engineering, and infrastructure assessment and master planning. He is the current Program Manager for the Los Angeles District IDIQ contract and his expertise in water resources issues covers a broad range of subjects, including water quality infrastructure improvements, surface water hydrology; sediment transport; storm water runoff; hydraulic and hydrodynamic modeling. He has specific experience in flood control projects throughout California (in particular, Southern California) and Arizona. He has recently managed numerous large multidiscipline flood control projects which included tieback walls, soldier/secantpile walls, floodwalls, underground storm drain, jack and bore pipe, railroad permitting, R/W mapping and acquisition, geotechnical engineering, structural analysis, and environmental permitting. He led the design efforts for the recently completed Emergency Repair Project along Aliso Creek for SOCWA.

DR. CHUNG-CHENG YEN, PE

PROJECT ROLE:

Lead Hydraulic Engineer

KEY SCOPE OF WORK EXPERIENCE:

- Hydraulic modeling (1D and 2D)
- Past evaluations along Aliso Creek

Dr. Yen has over 30 years of experience in the field of water resources engineering, specializing in hydrology, hydraulics, and groundwater modeling. His work experience includes rainfall analysis, rainfall-runoff modeling, detention basin flood routing analysis, floodplain evaluations and mapping, flood flow frequency analysis, risk and uncertainty analysis, quantitative climate change analysis, drainage facility deficiency and mitigation studies for large and small river systems throughout Southern California. He supported the recent hydraulic work done for the Erosion Assessments along Aliso Creek has performed gage analysis, rainfall-runoff modeling.

BRANDON FELIPE, EIT

PROJECT ROLE:

Staff Engineer

KEY SCOPE OF WORK EXPERIENCE:

- Hydraulic Modeling
- Design Plan Development

As a Civil Engineer at Tetra Tech, Mr. Felipe has experience in developing civil plans/details, preparing engineering reports, hydrologic/hydraulic analysis, and performing field inspections for levee/flood control improvement projects. He has been supporting the ongoing FEMA Levee Certification efforts along the Santa Ana River. Work on that project includes hydraulic analysis of the river and interior drainage analysis of the storm drain system. Mr. Felipe and has conducted many levee and channel inspections for the U.S. Army Corps of Engineers Los Angeles District throughout Southern California.

SUBCONSULTANTS

The Tetra Tech team does not include any subconsultants. We anticipate that SOCWA will contract separately with Dudek Environmental and Bush Surveying. These 3 firms have history successfully completing projects for SOCWA along Aliso Creek.

TABLE OF AVAILABILITY

STAFF AVAILABILITY	Current Project Workload	Future Project Workload
Patti Sexton, PE, CFM	50%	30%
Aric Torreyson, PE	75%	50%
Chung-Cheng, PE	75%	50%
Brandon Felipe, EIT	80%	55%

Note that the above table reflects time allocated to direct project efforts. The decrease from current to future workload of all individuals indicate more than sufficient capacity to complete this project.

PROJECT DESCRIPTIONS

ALISO CREEK EROSION ASSESSMENT

CLIENT: SOCWA

CLIENT CONTACT
South Orange County
Wastewater Authority
Brian Peck, Dir. Of Engineering

(949) 234-5411

LOCATION
Orange County, CA

DATE COMPLETED
February 22, 2013

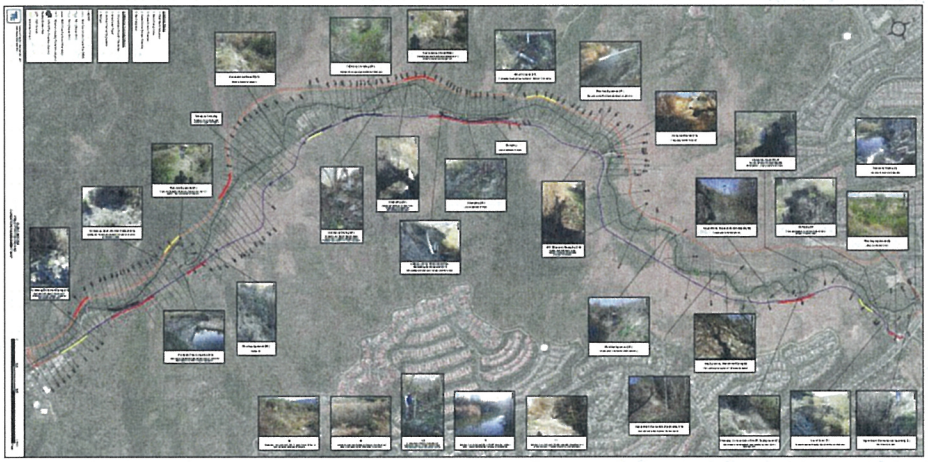
CONTRACT VALUE
$114,000

The potential for erosion along lower Aliso Creek between the CTP Bridge crossing and the AWMA Road Bridge crossing was been identified as a key consideration relative to the Export Sludge Force Main Replacement planning process. Tetra Tech was tasked by SOCWA to conduct an erosion assessment to categorize the vulnerability of the proposed alternatives along both the east bank and west bank of the creek over a 50-year planning period.

Recent and historical erosion areas, including modes of failure and conditions which promote failure, as well as conditions that have promoted stable banks were identified through field reconnaissance. Hydraulic modeling was performed to quantify and categorize hydraulic conditions that control fluvial processes most likely to initiate or maintain bank erosion. The vulnerability of the infrastructure along the channel to bank erosion was rated qualitatively (high, moderate, low) to provide an understanding of relative risk.

PROJECT OUTCOMES:

- ✓ Identified alternative with lowest erosion risk
- ✓ Identified most vulnerable areas for additional protection



ALISO CREEK EMERGENCY REPAIRS

CLIENT: SOCWA

CLIENT CONTACT
South Orange County Wastewater Authority
Brian Peck, Dir. Of Engineering
(949) 234-5411

LOCATION
Irvine, CA

DATE COMPLETED
December 31, 2017

CONTRACT VALUE
$140,000

Based on damage that occurred during the storm events in January 2017 along lower Aliso Creek, SOCWA task Tetra Tech to provide design plans for to repairs at 5 locations to protect existing infrastructure (utilities and roadway). Concept plans were developed that were used to communicate project features to OC Parks and the resource agencies. Based on comments received, the plans were updated to develop construction plans and specification for the location with the highest risk of imminent failure and significant consequences. Support during the bidding and construction phase of implementation of this project was provided.

PROJECT OUTCOMES:

- ✓ Implemented Emergency Repair
- ✓ Conceptual plans to be used for future projects

ALISO CREEK FEABILITY STUDY

CLIENT: USACE LA DISTRICT

CLIENT CONTACT
USACE Los Angeles District
Rene Vermeeren
(213) 452-3547

LOCATION
Aliso Viejo, CA

DATE COMPLETED
June 30, 2018

CONTRACT VALUE
$576,000

This Feasibility Study was initiated by the U.S. Army Corps of Engineers (Corps) in 2014 to include the assessment of 4 alternatives that support the ecosystem restoration and infrastructure (buried utilities and access road) protection goals. The alternatives were modeled using HEC-RAS 4.0. The USACE-beta version of the program was used to model the sediment transport through the system with each of the alternatives in place. A risk and uncertainty analysis was performed for each alternative. Sediment delivery to the ocean and climate change impacts were assessed for each alternative. This project followed up on earlier studies for which Tetra Tech supported the Corps in 1999 (the *Watershed Management Study*) and 2009 (the *Aliso Creek Mainstem Ecosystem Restoration Study*).

As part of the Feasibility Study, Tetra Tech also developed the Civil Design Drawings and cost estimates for the alternatives. Cost estimates were performed using MCACES (MII). An abbreviated Cost and Schedule Risk Analysis (CSRA) was prepared.

PROJECT OUTCOMES:

- ✓ Feasibility Report with Recommended Alternative

ALISO CREEK RENDERINGS

CLIENT: OC PUBLIC WORKS

CLIENT CONTACT
Orange County Public Works
Jenna Voss, OC Env. Resources
(714) 955-0652

LOCATION
Orange County, CA

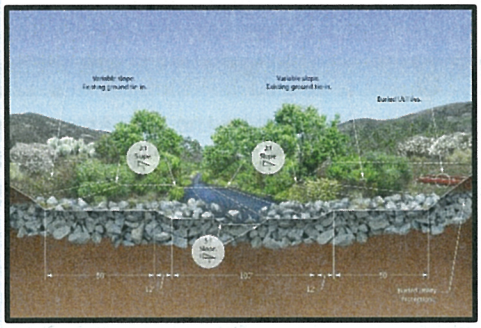
DATE COMPLETED
June 30, 2016

CONTRACT VALUE
$27,000

OC Public Works tasked Tetra Tech with the development of photo-realistic renderings and a design plan view map/poster to support Public Coordination for the Aliso Feasibility Study in collaboration with the U.S. Army Corps of Engineers. Exhibits included cross-section renderings (see image below), a key design feature poster overview, and a plan view aerial exhibit. Based on the success of these deliverables supporting the County in their communication with the public, and additional deliverable was requested that include a video flyover of the creek in the existing and post-project condition.

PROJECT OUTCOMES:

- ✓ Graphics that were successful in communicating the purpose and aesthetics of the project.
- ✓ A product usable by OCPW for presentations and website communication.



LANE CHANNEL ALTERNATIVES ANALYSIS

CLIENT: OC PUBLIC WORKS

CLIENT CONTACT
Orange County Public Works
Ariel Corpuz, PE, Sr. Civil Engineer
(714) 647-3966

LOCATION
Irvine, CA

DATE COMPLETED
Ongoing

CONTRACT VALUE
$156,000

Under contract to OCPW, Tetra Tech provided engineering services along for Lane Creek Channel from Main Street to Jamboree Road. Work included hydraulic modeling, geotechnical evaluation, and conceptual design of alternatives to address the eroding bank along this reach of Lane Creek. Constraints for the alternatives included adjacent Caltrans ROW for the I-405 and existing commercial development. The preliminary engineering included development of plans, specifications, costs estimates, and an environmental analysis to quantify impacts.

PROJECT OUTCOMES:

- ✓ 3 feasible alternatives for construction consideration

APPENDIX A - RESUMES

TETRA TECH

Patti Sexton, PE, CFM

Project Manager

Ms. Sexton is a Senior Program Manager and Water Resources Engineer with Tetra Tech. In the Irvine office she is responsible for water resource projects including floodplain analysis (hydrology, hydraulics, and sediment transport studies) and restoration projects. Ms. Sexton's experience includes hydraulic analyses and design for numerous watersheds in southern California. She is highly experienced with all hydraulic models for analyzing both natural and improved channels. She currently manages projects for OC Public Works Watersheds Program as well as OC Flood Control District.

EDUCATION

MS Water Resource and Environmental Engineering, George Washington University (1995)

BS Civil Engineering, Virginia Tech (1991)

REGISTRATION/CERTIFICATION

Professional Engineer, Civil: CA License No. 58643 (1996)

Professional Engineer, Civil: LA License No. 37416 (2012)

Certified Floodplain Manager (CFM) (2009)

YEARS OF EXPERIENCE

23 Years

YEARS WITH TETRA TECH

21 Years

OFFICE LOCATION

Irvine, CA

AREAS OF EXPERTISE

Levees

Floodplain Analysis

Hydrology, Hydraulics, and Sediment Transport Studies

PROJECT EXPERIENCE

Aliso Creek Stabilization, South Orange County Water Agency, CA
Project Manager for an erosion assessment of the relative vulnerabilities of proposed pipeline alignments. The vulnerable locations were prioritized to support capital improvement decisions. For high priority locations, bank stabilization alternatives are being developed. At some locations opportunities for water quality and environmental restoration are being incorporated into the designs.

Aliso Creek Baseline Conditions (F3) and Alternative Analysis (F4), USACE Los Angeles District, Orange County, CA
Project Manager. Hydrologic (HEC-1), hydraulic (HEC-GeoRAS), and sediment transport (SAM) baseline conditions were reanalyzed based on updates to the topographic information. A sediment budget analysis was performed to determine the volume of sediment transported to the beach and the creek outlet. Comparisons of results using SAM and SIAM were made to determine the best modeling approach. Ongoing work for the alternative analysis includes a geomorphic assessment to provide a more accurate future without project conditions scenario and analysis of 5 alternatives. Additional sediment transport analyses will be performed using HEC-6T.

Aliso Creek Bacteria Load Reduction Plan, Orange County Public Works, CA
Project Manager. Based on requirements in the approved Beaches and Creeks TMDL, a bacteria load reduction plan implementation strategy was developed. Based on an exhaustive regional literature search, current strategies for bacteria load reduction were identified. Most promising strategies (including structural and non-structural BMPs, additional studies, and regulatory approaches) were incorporated into the plan along with the expected impact on compliance of each strategy. Plan development included extensive coordination with the co-permittees.

Clean Beach Initiatives Program BMPs, Orange County Department of Public Works, CA
Ms. Sexton was the Project Manager and Project Engineer on two beaches covered in Orange County's Clean Beach Initiatives Program. As part of the CBI grant to Orange County, BMP treatment projects were formulated at two County locations to address bacteria levels exceeding REC1 and REC2 limits, resulting in beach postings and closures. The first location is at the outfall of the J01P28 storm drain just before it enters Aliso Creek, and the second is at the M01 flood control channel at the beach outlet. For both projects, Ms. Sexton was involved with agency and public coordination and presentation, as well as the preparation of permits and environmental documentation. Ms. Sexton also assisted in the preparation of the CEQA and NEPA.

Aliso Creek 13225 Directive, Orange County Department of Public Works, CA
Project Manager. This project includes assistance to the County in developing information for the quarterly reports for the Regional Water Quality Board. Work has included data gathering and community coordination. Ongoing work includes development of a source identification process flowchart and a bacteria fate and transport model of Aliso Creek. As project engineer, Ms. Sexton has contributed to the data gathering and community coordination as well as the model and flowchart development.

Aliso Creek Restoration Project, Orange County, CA
Project Manager. Using a previous USACE recommended alternative as a basis, 3 new alternatives were developed for restoration of Aliso Creek from AWMA Road Bridge to the Ocean outlet. The primary objective of the project was stabilization with secondary objectives for terrestrial restoration and water quality improvements at the ocean. Concept plans were produced to the 10% level of design. This project was submitted as part of the County IRWMP Proposition 50 Grant and $5million was awarded for implementation of the Aliso Creek plan.

Santa Ana River (E01) FEMA Levee Certification, Orange County Public Works (Orange County, CA)
Project Manager. Responsible for a 25-mile certification project along the E01 system. Performed hydraulic (river and interior drainage joint probability analyses), geotechnical, and structural analyses to determine compliance with the 44CFR 65.10 requirements for accreditation for a levee system. Maintenance needs were identified to rehabilitate portions of the system to meet those requirements.

Sulphur Creek Reservoir Seasonal Storage Conceptual Alternative Evaluation, Mouton Niguel Water District (Orange County, CA)
QA/QC Lead. Performed QA/QC for this project to develop a conceptual-level alternative of potentially using Sulphur Creek Reservoir as a seasonal recycled storage facility. The project involved analyses of multiple alternatives. Performed analysis of a design alternative which bypasses all storm drain flow to the east of Sulphur Creek reservoir using a reinforced concrete box culvert and prepared conceptual-level design plans, basis of design report, quantity calculations, and cost estimate.

Eagle Canyon Dam Inundation Study and Letter of Map Revision, Riverside County Flood and Water Conservation District, Palm Springs, CA
Project Manager for a study to perform a dam breach analysis and prepare downstream inundation mapping for Eagle Canyon Dam. The dam breach and inundation mapping was performed in accordance with the Dam Inundation Mapping Procedures Regulations provided by the California Office of Emergency Services. The dam embankment extends approximately 370 feet across the canyon mouth while the spillway is constructed over the lower portion of existing mountains, immediately northwest of the dam embankment. Based on the dam operations a FEMA Letter of Map Revision package was prepared to show the reduced flood area within the City of Palm Springs

TETRA TECH

Aric M. Torreyson, PE

Lead Designer

Mr. Torreyson has over 19 years of diverse engineering experience in the fields of water resources engineering, environmental engineering, and infrastructure assessment and master planning. He is the current Program Manager for the Los Angeles District IDIQ contract and his expertise in water resources issues covers a broad range of subjects, including water quality infrastructure improvements, surface water hydrology; sediment transport; storm water runoff; hydraulic and hydrodynamic modeling. He has specific experience in flood control projects throughout California, Arizona, and specifically Southern Californina region including Los Angeles County. He and has recently managed numerous large multidispline flood control projects which included tieback walls, soldier/secantpile walls, floodwalls, underground storm drain, jack and bore pipe, railroad permitting, R/W mapping and acquisition, geotechnical engineering, structural analysis, and environmental permiting.

EDUCATION

BS, Civil Engineering, California State Polytechnic University, Pomona (2000)

REGISTRATION/CERTIFICATION

Professional Engineer, Civil, CA, License No. 66068

PROFESSIONAL AFFILIATION

American Society of Civil Engineers (ASCE)

Association of State Dam Safety Officials (ASDSO)

Association of State Floodplain Managers (ASFPM)

YEARS OF EXPERIENCE

19 Years

YEARS WITH TETRA TECH

10 Years

OFFICE LOCATION

Irvine, CA

AREAS OF EXPERTISE

Project Management

Water Resources

Water Quality Design/Analysis

Hydrology and Hydraulic

Drainage

Floodplain

PROJECT EXPERIENCE

Aliso Creek Mainstem Ecosystem Restoration, U.S. Army Corps of Engineers (USACE), Los Angeles District, CA,

Design Manager. This comprehensive ecosystem restoration project of Aliso Creek (7-mile reach) involves hydrologic, hydraulic & sediment transport modeling, civil engineering design, and cost engineering. The scope of work includes the design of 40 grade control structures, bank stabilization, channel modification, utility/infrastructure protection, streambed raising, stream lengthening, historic floodplain reconnection and connectivity for aquatic wildlife movement. Four channel design alternatives are being developed/evaluated to assist USACE in selection of the optimal Agency Recommended Plan.

Lower Penitencia Creek Flood Control Project, Milpitas, CA

Managing preparation of construction documents for approximately 1 miles of flood control improvements, involving coordination with structural, geotechnical, and landscape. Project includes R/W acquisition, levee design, sheet pile design, hydraulic engineering, utility relocations, and environmental coordination. The purpose of the creek improvements is to add channel capacity with the use of levee improvements consisting of sheet pile floodwalls, closure structures, and earthen embankment fills. Additionally, creation of freshwater wetlands and tidal habitat is included as part of this project. Responsible for the preparation of Plans, Specifications, and construction cost estimate.

Riverside WQCP Levee Rehabilitation Project, City of Riverside, CA

Mr. Torreyson is the project manager for the levee rehabilitation PS&E, hydraulic, scour, and sediment-transport analyses of the City of Riverside Regional Water Quality Control Plant (RWQCP) Levee, which currently protects the plant from the Santa Ana River. Mr. Torreyson is responsible for the oversight of the detailed floodplain, historical fluvial, geomorphic, and sediment transport analysis for approximately 3 miles of the Santa Ana River adjacent to the City of Riverside WQCP. Additionally, Mr. Torreyson is managing the preparation of PS&E for the raising of the levee

embankment and constriction of a floodwall along the crest of the existing levee which included civil, structural, geotechnical engineering and utility coordination.

Soboba Flood Hazard Mitigation, Master Drainage Plan, and Emergency PS&E; Riverside County, CA
Project Manager for flooding issues throughout the reservation, including the adjacent casino property. Hydrologic analyses were performed using Advanced Engineering Software (AES) Rational Tabling Version and Synthetic Unit Hydrograph Version (AES 2014) and hydraulic studies were performed using FlowMaster and Federal Highway Administration. Proposed facilities were identified to address flooding issues and prioritized based on benefit to the reservation. In addition, a floodplain study was performed along Poppet Creek to define the 100-year floodplain.

Lower Mission Creek Flood Control & Restoration, USACE Los Angeles District, Santa Barbara, CA
Project Manager. Mr. Torreyson managed the preparation of Plans, Specifications, Cost Estimate, and Design Document Report for the Lower Mission Creek Flood Control and restoration project which is located in the City of Santa Barbara. The project includes approximately 4,000 linear feet of the lower Mission Creek Channel from Mason Street to Castillo Street and consists of widening and streamlining the channel bed, stabilizing creek banks using riprap side slope and short vertical walls, planting of native vegetation along the riprap to mitigate and minimize impacts to the biological resources within the creek. Additional fish passage improvements are included to improve the migration of the Steelhead Trout and Tidewater Goby (Lower Mission Creek is considered critical habitat). The channel will be widening will range from 60 to 70 feet at the top. The restored area covers the improvement reached 1B, and 3-7 for a total of approximately 5.6 acres. It includes grading of the existing channel and expansion parcels directly adjacent to the channel. The plans are being processed through Santa Barbara County Flood Control and Water Conservation District, Caltrans, and City of Santa Barbara. Mr. Torreyson recently received a ***letter of recommendation*** from Santa Barbara County Flood Control District for his work and management of this project.

St. Andrews Lift Station Bluff Protection, Pismo Beach, CA
Managing preparation of construction documents for this multidisciplinary engineering project (coastal, civil, structural, and geotechnical). The design improvements consist of a 150 lf tie-back wall varying in height between 25-35 feet, to provide bluff protection from future wave erosion. The project will protect the existing sewer pump station, and re-route existing storm drain lines and to prevent the potential utility collapse into the ocean. A detailed geologic mapping of the site was performed along with an erosion study of the existing shoreline bedrock formations to determine the limits and requirements of the proposed rock anchor tie-back wall. The wall included beach access with a vertical staircase built into the wall and architectural treatment of the wall to match the existing cliff aesthetics as required by the Coastal Commission permitting. Construction documents included a detailed DDR, preparation of construction documents including, SpecsIntact specifications, plans (MicroStation), and construction cost estimate.

TETRA TECH

Chung-Chen Yen, PhD, PE

Lead Hydraulic Engineer

Dr. Yen has over 30 years of experience in the field of water resources engineering, specializing in hydrology, hydraulics, and groundwater modeling. His work experience includes rainfall analysis, rainfall-runoff modeling, detention basin flood routing analysis, floodplain evaluations and mapping, flood flow frequency analysis, risk and uncertainty analysis, quantitavie climate change analysis, drainage facility deficiency and mitigation studies.

Dr. Yen has extensive knowledge of local hydrology procedures for Southern CA counties including the County of Orange, County of Los Angeles, County of San Bernardino, County of Riverside, County of San Diego and County of Ventura. Dr. Yen has been involved in the implementation of the San Diego County 2003 hydrology manual procedures for Advanced Engineering Software. Dr. Yen has extensive hands-on experience in applying HEC-1, HEC-HMS, HEC-2, HEC-RAS, HEC-GeoRAS, WSPG, HEC-SSP, HEC-FDA, and other hydrology/hydraulic computer programs on various studies and projects.

Dr. Yen has conducted floodplain analyses using the two-dimensional hydrodynamic models (such as FLO-2D, XP-SWMM, RAS-2D) for: the City of Oxnard floodplain analysis included Industrial Drain, Rice Road Drain, J-Street Drain, Hueneme Drain and Ormond Lagoon; Flood damage assessment for the final Industrial Drain feasibility study in the City of Oxnard; Dam Break analysis and floodplain mapping of Lang Creek Debris and Detention Basin in the City of Thousand Oaks; American River floodplain mapping in the City of Sacramento among other projects.

PROJECT EXPERIENCE

Aliso Creek ERS, County of Orange, CA
Dr. Yen was the Hydraulic Engineer in charge of the hydraulic analysis of the three alternavies at the confluence of Aliso and Sulphur Creeks.

Aliso Creek – Lime Creek Restoration Project, Pre-Design and Design Services, City of Los Angeles, CA
Dr. Yen is the project engineer in charges of hydraulic study. The proposed project includes two diervsion strucutres and two storm drain systems along the Aliso Creek and Limekin Creek channels to divert flows unto three proposed bioretention basins.

Lower Santa Ana River Levee Certification Project. County of Orange, CA
Dr. Yen was the Hydrologic/Hydraulic Engineer in charge of the interior drainage analysis and qualitative sediment transport analysis. Flow duration analysis of stream flow data were performed as part of the joint probability analysis (coincident frequency analysis) required by FEMA in interior drainage study.

EDUCATION

PhD, Civil Engineering, University of CA at Irvine (1985)

MS, Civil Engineering, University of CA at Irvine (1982)

BS, Hydraulic Engineering Chung Yuan College, Chung-Li Taiwan, Republic of China, (1975)

REGISTRATION/CERTIFICATION

Professional Engineer, Civil, CA, License No. 49913 (1992)

PROFESSIONAL AFFILIATION

ASCE

YEARS OF EXPERIENCE

30+ Years

YEARS WITH TETRA TECH

15 Years

OFFICE LOCATION

Irvine, CA

AREAS OF EXPERTISE

Water Resources

Hydrology

Hydraulics

Computer Programming (FORTRAN, Visual Basic)

Qualitative sediment transport analysis by comparing the channel invert profiles along the as-built centerline over a period from 1988 to 2018 with available data set to ensure that aggregation/degradation of the channel bottom will not have any impact to the performance of the levee system.

Ventura River (VR-1 & VR-2) Levee Final Design Project. County of Orange, CA
Dr. Yen was the Hydrologic/Hydraulic Engineer in charge of the interior drainage analysis. Flow duration analysis of stream flow data were performed as part of the joint probability analysis (coincident frequency analysis) required by FEMA in interior drainage study. The response table (i.e., interior ponding elevation versus river stage) used in the joint probability analysis was prepared using XPSWMM. The 1-percent annual exceedance probability interior drainage floodplain limits were delineated for all levee penetrations.

Santa Clara River (SCR-1) Levee Final Design Project. County of Orange, CA
Dr. Yen was the Hydrologic/Hydraulic Engineer in charge of the interior drainage analysis. Flow duration analysis of stream flow data were performed as part of the joint probability analysis (coincident frequency analysis) required by FEMA in interior drainage study. The response table (i.e., interior ponding elevation versus river stage) used in the joint probability analysis was prepared using XPSWMM. The 1-percent annual exceedance probability interior drainage floodplain limits were delineated for all levee penetrations.

Villa Park Dam Breach Inundation Study, County of Orange, CA
Dr. Yen was the Hydraulic Engineer in charge of the development of breach parameters based on the empirical equations developed from documented case studies. A breach parameter sensitivity analysis was conducted using HEC-RAS dam breach routine to determine the final breach parameters for the downstream inundation study.

Westminster Channel Hydarulic Analysis, County of Orange, CA
Dr. Yen was the Hydraulic Engineer in charge of the development of HEC-RAS 1D steady and unsteady models for the C05-C06 and C02-C04 channels under the existing conditions, minimal improvement conditions, and ultimate conditions.

Gregory Lake Dam Breach Inundation Study. County of San Bernardino, CA
Dr. Yen was the Hydraulic Engineer in charge of the development of breach parameters based on the empirical equations developed from documented case studies. A breach parameter sensitivity analysis was conducted using HEC-HMS dam breach routine to determine the final breach parameters for the downstream inundation study.

Final Design of Emergency Protection of Shake Flat Creek Channel Improvements, Southern California Edison, Oakhurst, CA
Hydraulic Engineer responsible for the design of emergency measures to protect an exposed 13-foot penstock crossing Shake Flat Creek.

Hydraulic Analysis of San Gorgonio Flowline 2, Southern California Edison, Banning, CA
Project Engineer responsible for the hydraulic analysis of the 2.9-mile long Flowline 2 along San Gorgonio River. The service includes using WSPG models to evaluate a HDPE pipeline and three alternatives for river crossing.

Rio de Flag Flood Control Project, Final Design. Flagstaff, AZ
Dr. Yen is the Project Engineer in charge of the Hydrology & Hydraulic analyses on this USA Army Corps of Engineers' project. The risk and uncertainty analysis was performed to determine the design top of channel elevations in order to satisfy the conditional non-exceedance probability for the 1% annual change exceedance flood.

TETRA TECH

Brandon Felipe, EIT

Staff Engineer

As a Civil Engineer at Tetra Tech, Mr. Felipe has experience in developing civil plans/details, preparing engineering reports, hydrologic/hydraulic analysis, and performing field inspections for levee/flood control improvement projects.

PROJECT EXPERIENCE

OC Levee Certification; OC Public Works; Various Locations, CA
Project Engineer involved with the hydraulic, interior drainage, risk/uncertainty and structural analysis for the FEMA Levee Certification of the Santa Ana River. Assisted with data collection, field inspections, structural inventory, hydraulic and hydrologic modeling, developed an inventory of all storm drains and helped create GIS maps of the appropriate corresponding drainage areas.

OC Reach 9 Phase 5A & 5B Trail Widening; OC Public Works; Yorba Linda, CA
Project Manager involved with assisting with the evaluation of potential causes for several fence post failures along a bikeway/trail retaining wall. The analysis included a field investigation, a review of the available design/construction information, and a structural assessment.

OC Levee Cert. Phase 1B; OC Public Works; Huntington Beach, CA
Project Manager involved with providing data and coordination with FEMA for necessary engineering services that will assist in the recertification of the Huntington Beach Channel, Talbert Channel, and Fountain Valley Channel. The effort included a survey and hydraulic analysis of the system to identify the upstream levee limits and a field inventory of the landside features of all systems.

SCE San Gorgonio Flowline 2; Southern California Edison; San Bernardino, CA
Project Engineer helped develop design plans for the replacement of the San Gorgonio Flowline 2 with a 26" HDPE Pipeline and concrete/steel flume. This project involved both engineering design services and construction assistance.

Periodic Inspection of Federal Levees; USACE, Los Angeles District; Various Locations, CA
Project Engineer involved in the periodic inspections of Los Angeles District levee systems. Mr. Felipe performed field inspections using the Levee Inspection System (LIS) tablet and prepared Periodic Inspection Reports that consist of field inspection findings, evaluation of any changes in design criteria from the time the levee was constructed, and recommendations to improve the overall integrity of the levee.

Periodic Inspection of State Levees; MCD, Various Locations, OH
Tetra Tech was contracted by Miami Conservancy District (MCD) to perform field inspections using the Levee Inspection System (LIS) tablet. Mr. Felipe operated the LIS tablet during the periodic inspection and prepared Initial Periodic

EDUCATION

BS, Civil Engineering, Environmental Emphasis, California Polytechnic University, Pomona (2015)

REGISTRATION/CERTIFICATION

Engineer-in-Training, Civil Engineering: License No. 155835 (2015)

PROFESSIONAL AFFILIATION

ASCE, Associate Member

YEARS OF EXPERIENCE

7 Years

YEARS WITH TETRA TECH

1 Year

OFFICE LOCATION

Irvine, CA

AREAS OF EXPERTISE

Civil Design Plans & Details
Hydrology and Hydraulics
Levee Systems
CAD Plans & Details
GIS Mapping
Wastewater Treatment

Inspection Reports using available levee information (inspections, design manuals, as-built drawings, O&M manuals, etc.) to compile information that could assess the as-built condition of the levee to the current condition of the levee. This effort included mapping and reporting of the deficiencies in accordance with MCD standards.

Thomas Fire Risk Assessment Mapping; Ventura County Watershed Protection District, Various Locations, CA
Project Engineer involved with the overall effort to produce Thomas Fire Risk Assessment and Vulnerability Mapping for jurisdictional streams categorized as high, medium, and low priority streams to identify flood hazard, risk and vulnerability. Assisted with inundation mapping to produce flood hazard and inundation boundaries for Emergency Services planning, data collection, hydrology/sediment analysis and hydraulic modeling.

Final Design of Emergency Protection of Shakeflat Creek Channel Improvements; Southern California Edison; Oakhurst, CA
Project Engineer helped develop design plans to protect an exposed 13' penstock crossing Shakeflat Creek. This project includes both engineering services and construction assistance.

Hurricane Michael Relief Projects, USACE/FEMA, Albany, GA
Mr. Felipe assisted in the data management for Hurricane Michael in Georgia. As a data manager, he performed daily quality control and quality assurance data checks for debris collection. Daily tasks included overseeing debris collection monitors, truck dispatches, labor hours, and tracking debris volume, type, storage, and destination (e.g., landfill or recycling center) for several areas in Southern Georgia. Programs used for data management included RecoveryTracTM and Esri ArgGIS. This operation ensures an accurate 24-hr turn around report of debris collection for the USACE and FEMA.

Final Design of Kaweah No. 3 Penstock; Southern California Edison; Three Rivers, CA
Project Engineer helped develop the design and as-built plans to replace the SCE Kaweah No. 3 Penstock. The project includes engineering, plans and specifications for the replacement of an existing 42" penstock. It also includes construction assistance.

Hurricane Irma Relief Projects; Various Florida Counties; FL
Project Engineer deployed to support relief efforts for Hurricane Irma. Assisted the logistics team in Maitland with the preparation, programming, and distribution of all field equipment distributed throughout Florida.

Florence FRS Rehabilitation Project; Florence Area Watershed FCD, Natural Resources Conservation Service; Florence, AZ
Project Engineer supporting with the design plans and details of the Florence Flood Retarding Structure (FRS). The primary goal of the project is to prepare a rehabilitation design that will eliminate or mitigate current dam safety deficiencies and to improve upon the level of flood protection currently being provided by the FRS. This project consists of modifications to the auxiliary spillway crest, modifications to portions of the entrance channel and exit channel, and raising the dam crest to account for freeboard.

Clean Harbors Levee; Clean Harbors Environmental Services; Westmorland, CA
Project Engineer helped develop the Levee Verification Plans which are used as an alternative to as-built plans and represent the existing levee condition based on a field investigation, field survey and subsurface evaluations.

APPENDIX B – FEE ESTIMATE

Aliso Creek Buried Utility and Roadway Protection

		QA/QC Principal Engineer	Program Manager	Senior Engineer	Project Engineer 1	Engineer 1	GIS Designer 2	Sr. Project Admin	Total Cost
	Hourly Rates:	$265	$297	$195	$160	$136	$140	$110	
FEE PROPOSAL - Scoped Tasks									
A	**Analysis of Wood Canyon Discharge and CTP Access Road**								$ 27,798
A.I	Progress Meetings		6			2			$ 2,054
A.II	Wood Canyon Drainage Calculations					4			$ 544
A.III	Eval Existing Culvert and LWC Capacity		4	6		24	16		$ 7,862
A.IV	Develop 2 Alternatives	4	2	8		24	12		$ 8,158
A.VI	Develop Preliminary Cost Estimates	2	2			8	6		$ 3,052
A.VII	Coordination with OC Parks		8			2			$ 2,648
A.VIII	Technical Memorandum		4			12		6	$ 3,480
B	**Permanent Repair at West 1**								$ 46,523
B.I	Progress Meetings		9		9			6	$ 4,773
B.II	Evaluate Existing Conditions	1	4		4				$ 2,093
B.III	Alternative Analysis	8	12	4	12	24			$ 11,648
B.XVI	Plans and Specs	4	10		32	60			$ 17,310
B.XVII	Design Submittals	3	12		12				$ 6,279
B.XVIII	Cost Estimates		2		6	12			$ 3,186
B.XXII	OC Parks Access Permit for Construction		2		4				$ 1,234
C	**Aliso Creek Long Term Repair Planning**								$ 49,204
C.I	Progress Meetings		8			2			$ 2,648
C.II	Potential Failure Definition		4	12		24			$ 6,792
C.III	Potential Repairs	4	12		16	16			$ 9,360
C.IV	Repair Implementation	2	2		8	4			$ 2,948
C.VI	Permit and Inspection Requirements		2			2			$ 866
C.VII	Long Term Creek Impacts		2	6		8			$ 2,852
C.IX	Additional Work Needed		6	4	4	8			$ 4,290
C.X	Technical Memorandum	8	8	16	16	24			$ 13,440
C.XI	Coordination with USFWS		16			6		4	$ 6,008
									$ 123,525
	Total Hours by classification:	36	137	56	123	266	34	16	

4/17/2019

TETRA TECH

17885 Von Karman Avenue, Suite 500, Irvine, CA USA
+1 (949) 809 - 5099 | tetratech.com

Agenda Item

	Budgeted: Yes
	Budget amount: $351,000
	Line Item: PC 15 Tasks 3361-000 and 3362-000 and PC 21 (Reach E) Task 3381-000
	Legal Counsel Review: No
	Meeting Date: August 8, 2019

TO: Project Committee No. 15 and 21 (Reach E) Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Brian Peck, Director of Engineering

SUBJECT: Award of Engineering Services for the Aliso Creek Buried Utility and Roadway Protection Project

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Summary

This agenda item provides a recommendation for the award of an environmental services contract to Dudek for Aliso Creek Buried Utility and Roadway Protection Project.

Background

The lower reach of Aliso Creek extends from the Coastal Treatment Plant (CTP) north to Alicia Parkway. This reach of Aliso Creek lies entirely within the County of Orange Aliso and Wood Canyons Wilderness Park. SOCWA's CTP Access Road (also called the AWMA Road) is located on the west side of the lower reach of Aliso Creek. This roadway has historically been vulnerable to erosion along Aliso Creek. The road has been relocated twice (most recently in 2006) due to creek embankment erosion. SOCWA has two sets of buried utilities on the east side of Aliso Creek:

The Effluent Transmission Main (ETM)

The CTP Export Sludge System (two 4-inch diameter pipelines)

SOCWA is in the process of completing the permitting for a project to replace the Export Sludge System.

The development of the Coastal Treatment Plant Export Sludge System Replacement required consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act. During the permitting phase of the project, the USFWS proposed a project wherein SOCWA would coordinate with USFWS and United States Army Corps of Engineers staff to prepare a long-term operations and maintenance plan identifying contingency plans for future repair work along Aliso Creek in the event of embankment failures.

Over the past three winter seasons, Orange County has been subject to higher-than-normal rainfall. These storm events have resulted in damages within the lower reach of Aliso Creek. These damages have had a greater impact on the west side of Aliso Creek. The damage

appears to be largely a function of runoff from tributaries to west of Aliso Creek conveying high volumes of water seeking a route to discharge into Aliso Creek. The key tributary is Wood Canyon. The area tributary to Wood Canyon drains to the confluence of Wood and Aliso Canyons. Wood Canyon intercepts the CTP Access Road along Aliso Creek. The 1980 construction of the Access Road included a concrete culvert structure to allow water draining from Wood Canyon to pass beneath the Access Road and discharge to Aliso Creek. However, the increased quantity of flow has breached the sides of the water course in Wood Canyon bypassing the existing culvert. The resulting flow has traveled south along the Access Road seeking a point to drain into Aliso Creek. These events have caused damage both to the Access Road and to the adjacent embankments along Aliso Creek.

The winter storms of 2017 caused damage to two points along the roadway. The sites were designated as West 1 (W1) and West 2 (W2) at that time. Tetra Tech developed basic design methodologies for the repair of those sites. However, the resource agencies did not authorize permanent repairs under the emergency permits acquired for the project and requested that separate, stand-alone permits be acquired authorizing the permanent solution. A temporary fill was added to Site W1 in September 2018.

Further storms in the winter of 2019 have caused additional damage to the areas surrounding Site W1.

Goals

The Aliso Creek Buried Utility and Roadway Protection Project has the following goals:

- Perform an evaluation of Wood Canyon drainage flow and identify two options for managing the discharge of Wood Canyon drainage into Aliso Creek.
- Complete the design and permitting for permanent repairs at the West 1 site.
- Develop conceptual plans for the two hypothetical repair sites along Aliso Creek to address requirements by USFWS.

Discussion/Analysis

Sole Source Proposal

The proposed project was reviewed with the Engineering Committee in early 2019. The discussion centered on whether to solicit competitive proposals for the project or to seek proposals directly from Tetra Tech and Dudek for the engineering and environmental services respectively. The rationale for requesting sole-source proposals is based on the following points:

- Dudek and Tetra Tech conducted the permit negotiations with the United States Fish and Wildlife Service (USFWS) during which the resource agency staff outline the desire and the goals for a long term operations plan.
- Tetra Tech prepared the hydraulic model for Aliso Creek for the United States Army Corps of Engineers (USACOE) that would be used to evaluate flow impacts through Wood Canyon.
- Tetra Tech and Dudek prepared the design and the permit applications for the original emergency work at site West 1.

- Dudek has been conducting biological surveys in Aliso Canyon since 2001.

Based on these points, the Engineering Committee directed SOCWA to obtain sole-source proposals from Tetra Tech and Dudek for the engineering and environmental services respectively.

The environmental services proposal from Dudek was reviewed by both SOCWA staff and the Engineering Committee. The proposed fee from Dudek is $195,750. The scope of services for the project is presented in Exhibit A. The proposal prepared by Dudek is included as Exhibit B.

Advisory Committee Review

The Dudek proposal for the Aliso Creek Buried Utility and Roadway Project engineering services was reviewed at the Engineering Committee meeting on June 13, 2019. The present Project Committee 15 and 21 Engineering Committee members recommended the award of contract to Tetra Tech.

Fiscal Impact

The proposed fees for Dudek are presented in Table 1. This table also includes the proposed fees for Tetra Tech for engineering services which are addressed in another agenda item. The total proposed fee for Dudek is $195,750.

Table 1 - Proposed Fees

Scope Item		Budget Line Item		Tetra Tech	Dudek	Total
1	Evaluate Wood Canyon Drainage	PC 15	3361-000	$ 27,798	$ 7,150	$ 34,948
2	Repairs to Site West 1 - Design and Permitting	PC 15	3361-000	$ 46,523	$ 138,600	$185,123
	Subtotal	**PC 15**	**3361-000**	**$ 74,321**	**$ 145,750**	**$220,071**
3a	Aliso Creek Long Term Repair Template	PC 15	3362-000	$ 24,602	$ 25,000	$ 49,602
3b	Aliso Creek Long Term Repair Template	PC 21	3381-000	$ 24,602	$ 25,000	$ 49,602
			TOTAL	$ 123,525	$ 195,750	$319,275

The budget for each of the line items is compared with the proposed costs in Table 2. It should be noted the budget for the Project Committee (PC) 15 line item for the embankment protection design (Task 3361-000) is exceeded. The is largely because the original scope for the budget did not include the evaluation of the Wood Canyon flows. It should be noted that the overall PC 15 cost is just under budget. The Project Committee 21 work is well within budget.

Table 2 - Comparison of Cost and Budget

Budget Line Item		Tetra Tech	Dudek	Total Fee	Budget
PC 15	3361-000	$ 74,321	$ 145,750	$220,071	$185,000
PC 15	3362-000	$ 24,602	$ 25,000	$ 49,602	$85,000
Subtotal PC 15		**$ 98,923**	**$ 170,750**	**$269,673**	**$270,000**
PC 21	3381-000	$ 24,602	$ 25,000	$ 49,602	$81,500
TOTAL		$ 123,525	$ 195,750	$319,275	$351,500

The allocation of the proposed project costs is presented in Table 3.

Table 3 - Member Agency Cost Allocation

	PC 15			**PC 21**	
Member Agency	*3361-000*	*3362-000*	*Subtotal*	*3381-000*	TOTAL
El Toro Water District	$ -	$ -	$ -	$ 5,823	$ 5,823
Emerald Bay Service District	$ 4,358	$ 748	$ 5,105	$ -	$ 5,105
Irvine Ranch Water District	$ -	$ -	$ -	$ 5,823	$ 5,823
City of Laguna Beach	$ 55,254	$ 9,478	$ 64,731	$ -	$ 64,731
Moulton Niguel Water District	$ 42,632	$ 7,313	$ 49,944	$ 13,355	$ 63,299
South Coast Water District	$ 43,506	$ 7,463	$ 50,969	$ -	$ 50,969
Total	$ 145,750	$ 25,000	$170,750	$ 25,000	$ 195,750

Recommendation

The following action is recommended:

Approval of the award of the environmental services contract to Dudek at a fee not to exceed $195,750.

EXHIBIT A
SCOPE OF SERVICES

Tasks include the following:

Analysis of Wood Canyon Discharge at Coastal Treatment Plant Access Road

V. Biological Impact Survey. FIRM will conduct a general biological reconnaissance survey of the entire project alignment (presumed to be less than two acres in size) to create a baseline biological resources map with vegetation communities and conspicuous sensitive species locations. Vegetation communities in the study area will be mapped using the List of California Vegetation Alliances and Associations system (CDFW 2010). During the field survey, a general inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs will be compiled as well as a determination of potential sensitive species which could occur on the project site. Observable sensitive resources including perennial plants and conspicuous wildlife commonly accepted as regionally sensitive by the California Native Plant Society (CNPS), the State of California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), and the County of Orange Central & Coastal Subregion Natural Community Conservation Plan & Habitat Conservation Plan (NCCP/HCP) will be recorded and later digitized into a Geographic Information Systems (GIS) format and added to a Biological Resources Map.

VIII. Technical Memorandum. FIRM shall summarize results of Tasks I through VII in a technical memorandum. Five copies of the draft report shall be submitted to SOCWA for review and comment. The FIRM shall respond to all review comments. Ten copies of the finalized memorandum shall be submitted to SOCWA.

Permanent Repair at West 1 Site

IV. General Biological Reconnaissance Survey. FIRM will conduct a general biological reconnaissance survey of the two repair sites to create a baseline biological resources map with vegetation communities and conspicuous sensitive species locations. The two impact areas combined are presumed to be less than 2 acres in size. Vegetation communities at the two repair sites will be based on the List of California Vegetation Alliances and Associations system with support from Gray and Bramlett (XXXX). During the field survey, a general inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs will be compiled as well as a determination of potential sensitive species which could occur on the project site. Observable sensitive resources including perennial plants and conspicuous wildlife commonly accepted as regionally sensitive by the CNPS, the State of California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), and the NCCP/HCP will be recorded and later digitized into a Geographic Information Systems (GIS) format and added to a Biological Resources Map.

A formal delineation for land under the jurisdiction of the CDFW as wetlands, pursuant to Section 1602 of the California Fish and Game Code; under the jurisdiction of the ACOE pursuant to Section 404 of the federal Clean Water Act as waters of the United States (U.S.), including wetlands, and wetlands under the jurisdiction of the RWQCB pursuant to Section 401 of the Clean Water Act and the Porter Cologne Water Quality Control Act will be conducted concurrently with the vegetation mapping effort. Following completion of the field work, all jurisdictional polygons will be digitized or downloaded

into an AutoCAD drawing and, using ArcView or ArcInfo; a GIS coverage will be created. Once in ArcView or ArchInfo, acreages of each jurisdictional area will be determined.

All mapping will be done in the field directly onto a 100- or 200- scale (1"=100' or 200') topographic or aerial photographic base and later digitized into GIS format using AutoCAD or ArcView. Where feasible and necessary, vegetation boundaries will be delineated using a Global Positioning System (GPS) unit and later downloaded into ArcView.

V. Focused Surveys for the California Gnatcatcher. A directed survey for the California gnatcatcher will be performed in all areas supporting suitable habitat at the two repair sites plus a 500-foot buffer. The surveys are to be conducted by biologists holding current Section 10(a)(1)(A) Permits to conduct gnatcatcher surveys. The surveys will be conducted using federal guidelines adopted by the USFWS in 1997 regarding acreage covered timing, and environmental conditions for Natural Communities Conservation Plan (NCCP) non-enrolled areas. Please assume the surveys will need to be conducted during the non-breeding season. As specified in the USFWS guidelines, surveys will not be conducted when the air temperatures are below 55 degrees or above 95 degree Fahrenheit, and if winds are stronger than 15 mph; bird activity (and consequently detectability) typically declines during these adverse weather conditions. Data will be collected on the number of individual gnatcatchers and habitat characteristics, including slope, elevation, dominant vegetation types, and habitat disturbances. The locations of any observed gnatcatchers will be mapped on the aerial photograph and then transferred to the topographic base map.

VI. Focused Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher. Focused surveys for the least Bell's vireo and southwestern willow flycatcher will be conducted in areas supporting suitable habitat within the two repair sites. The surveys are to be conducted during the breeding season for the species according to USFWS survey protocol. For the least Bell's vireo, eight site visits must be conducted with ten-day intervals between each visit. Surveys may only be conducted between April 10 and July 31. For the southwestern willow flycatcher, five surveys are now required for "project-related" surveys, with one visit between May 15 and May 31, one visit between June 1 and June 21, and three visits between June 22 and July 17. Each survey during the final period must be separated by at least five days. Because the habitat requirements for the two species overlap, most of the surveys can be conducted concurrently. Due to survey restrictions and protocol conflicts, a total of nine (9) visits are required to cover both species. A letter summarizing the results of the surveys will be prepared and submitted to SOCWA for review. The FIRM will also forward a copy of the survey letter to the USFWS.

Because several pairs of least Bell's vireo have been documented along the stretch of Aliso Creek within the Aliso and Woods Canyon Wilderness Park during previous surveys, the creek can be assumed occupied; therefore, focused surveys are not required. However, should SOCWA decide to work during the breeding season for this species, which extends from March through September, focused surveys will most likely need to be updated to determine the current location of the species within the creek.

VII. Focused Rare Plant Surveys. FIRM is to perform focused surveys for the following plant species: thread-leaved brodiaea, foothill mariposa lily, Catalina mariposa lily, crownbeard, many-stemmed dudleya, Laguna Beach dudleya, and Palmer's grappling-hook. Surveys will be conducted during the blooming period of these various species to maximize detection.

VIII. Biological Resources Technical Report. FIRM will produce a written technical biological resources technical report and a 40-scale biological resources map overlaid on the project topographic map portraying the findings of the field work. The biology report will include: (1) a description of existing site conditions with special regard to sensitive habitats and sensitive species; (2) quantification of the direct impacts of the project on biological resources; (3) analysis of the potential direct, indirect, and cumulative impacts of the proposed project, as required by CEQA; and (4) recommend mitigation measures that would reduce any significant impacts to a level less than significant.

FIRM will evaluate the project's relationship to the County of Orange Central & Coastal Subregion NCCP/HCP and its infrastructure policies (*e.g.*, minimization of impacts to coastal sage scrub, target species, and other habitats). The recommended mitigation measures will be in compliance with those set forth in the NCCP/HCP. The report and mitigation measures also will be in compliance with the requirements of the County of Orange Parks for projects in wilderness parks.

The report will be consistent with the scientific and technical standards required by the County of Orange, CEQA, USFWS, CDFW, CCC, and all other pertinent reviewing agencies and organizations.

IX. Preparation of Cultural Resources Analysis. FIRM to conduct an archaeological, paleontological, and historical survey of the entire project study area. Prior to conducting a field survey, FIRM will conduct a detailed archaeological and paleontological site files record search at the South Central Coastal Information Center at California State University, Fullerton, California. A list of previous studies conducted, and all registered archaeological and paleontological sites located within one mile of the subject property will be compiled from the inquiry. Copies of all reports pertaining to the immediate project area will be gathered. Once the results of the records search inquiry have been compiled, FIRM will conduct a field survey of the project study area, which consists of the identification of resources through intensive field reconnaissance of the entire project area. In addition to the specific location of these resources, a Phase I survey will also be conducted which seeks to establish a sense of the horizontal extent of the identified resources, a general impression regarding the potential for subsurface deposits, as well as an initial assessment of the integrity of the resources.

X. Initial Study. FIRM will prepare an Initial Study for the MND.

XII. Prepare Draft MND. FIRM will prepare draft MND for public review.

XIII. Public Workshop. FIRM will prepare and conduct one public workshop to be held at the offices of SOCWA in Dana Point.

XIV. MND Processing. Following public review, FIRM will prepare draft responses to all comments receive during the public review period. Draft responses will be submitted to the SOCWA for review and comment. FIRM will incorporate comments into the Final MND. For budgeting purposes, preparation of responses to a maximum of 10 individual comments has been assumed. (A single letter may contain numerous individual comments). One reproducible master of the Final MND will also be provided to the SOCWA.

After the response to comments has been completed, FIRM will prepare a Mitigation, Monitoring and Reporting Program (MMRP). The MMRP will be designed to ensure that

all potentially significant impacts have the appropriate mitigation measures in place and that potential impacts remain at levels below significance.

XV. Noticing and Distribution. FIRM will prepare the Notice of Intent (NOI) to Adopt an MND and the Notice of Determination (NOD) for SOCWA's review and approval. SOCWA will post both the NOI and NOD with the Orange County Clerk's office. FIRM will distribute the NOI to responsible and trustee agencies and agencies with jurisdiction by law and to all parties previously requesting notice. This task includes distribution of the Notice of Completion and MND to the State Clearinghouse for the public review period. FIRM will prepare the distribution mailing list with assistance from SOCWA. Fling fees for the NOD at the County Clerk's office and newspaper noticing fees for two newspapers are not included.

XIX. Resource Agency Permitting. FIRM shall prepare and file resource agencies permit applications to authorize impacts to waters of the U.S., including wetlands. FIRM shall prepare and process a Section 1602 Lake and Streambed Alteration Agreement with CDFW, a Section 404 Nationwide Permit from the ACOE, a Section 401 Water Quality Certification from the RWQCB, and a Section 7 Consultation from the USFWS. Permit application fees shall be paid by SOCWA. FIRM shall budget for a total of three (3) meetings to review the permit application including two field meetings and one office meeting. FIRM shall be responsible for responding to all foreseeable questions posed by the resource agencies, as needed, to finalize the permit applications.

XX. Conceptual Wetlands Mitigation and Monitoring Plan. FIRM will prepare a written draft conceptual wetlands mitigation and monitoring plan addressing all impacts to jurisdictional areas as well as mitigation needed to compensate for those impacts in accordance with resource agency permit requirements. The plan will summarize existing site conditions, discuss the project description and impacts, outline the goals of the revegetation program, detail the planting design, address plant materials sources and lead time, describe installation requirements, irrigation sources, erosion control, maintenance and monitoring requirements, and outline reporting/documentation requirements.

The report will be submitted for review to SOCWA, as well as submitted with the permit applications to the resource agencies. This task assumes that all wetlands mitigation will occur within the grounds of the Aliso and Wood Canyons Wilderness Park.

XXI. Coastal Develop Permit Application. FIRM shall prepare the application of the Coastal Development Permit. FIRM is required to make all revisions and submittals necessary to obtain the Coastal Development Permit.

XXII. OC Parks Access Permit Application for Construction. FIRM shall prepare the application for the Public Properties Permit. FIRM is required to make all revisions and submittals necessary to obtain the Public Properties Permit.

<u>Aliso Creek Long Term Repair Planning</u>

I. Progress Meetings. FIRM will attend up to two meetings with SOCWA at the SOCWA's Administration Building in Dana Point. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation, and handouts as needed.

V. Generic Biological Impact. FIRM shall identify generic biological features of impact area identified in Tasks III and IV. FIRM shall quantify potential impacts.

VI. Permit and Inspection Requirements. FIRM shall identify the anticipated permitting and inspection requirements for any emergency repair option.

VII. Long Term Creek Impacts. FIRM shall identify potential detrimental impacts of any of the four repair options on areas upstream and downstream of the repair area.

VIII. Habitat Mitigation. FIRM will identify a range of mitigation options to present to USFWS both in the Aliso and Wood Canyons Wilderness Park and offsite, if necessary, to compensate for permanent impacts to waters of the U.S. and State, including wetlands.

IX. Additional Work Needed. FIRM shall identify any long term monitoring, data collection, or evaluation needed to support long term repairs within Aliso Creek.

X. Technical Memorandum. FIRM shall summarize results of Tasks I through VIII in a technical memorandum. Five copies of the draft report shall be submitted to SOCWA for review and comment. The FIRM shall respond to all review comments. Ten copies of the finalized memorandum shall be submitted to SOCWA.

XI. Coordination with USFWS. FIRM will attend up to two meetings with USFWS and ACOE staff at the USFWS Regional Facility in San Diego. It shall be assumed that each meeting will be ninety minutes in duration. FIRM shall prepare agenda, presentation, and handouts as needed.

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

April 19, 2019

Brian Peck, PE
South Orange County Wastewater Authority
Director of Engineering
34156 Del Obispo Street
Dana Point, California 92629

Subject: Environmental Consulting Services for the Aliso Creek Buried Utility and Roadway Protection Project

Dear Mr. Peck,

We are pleased to provide the South Orange County Wastewater Authority (SOCWA) with the following proposal detailing our understanding of the project needs, the challenges we may face as we push the project through resource agency approval, and how we propose to resolve those challenges. For more than 20 years, Dudek has worked on a diverse portfolio of projects within the Aliso and Wood Canyons Wilderness Park, gaining extensive knowledge regarding the resources in the area and the issues that are most important to the community, stakeholders, and resource agencies. Our work on a variety of SOCWA projects has given us a strong understanding of your work processes, contracting needs, and expectations, so we can hit the ground running on assignments, saving you time and money. Dudek will respond quickly and efficiently with appropriate staff, and get your projects done right the first time. Due to our comprehensive and extensive work experience in the Aliso and Wood Canyons Wilderness Park, we are uniquely qualified and well-positioned to support you in the successful completion of this important project.

Because of our extensive work experience in the Aliso and Wood Canyons Wilderness Park, we are extremely familiar with its diverse community makeup, infrastructure, land use environments, and those issues that may pose a challenge with stakeholders and the resource agencies, which will facilitate smooth integration and successful consulting services. This experience, combined with the depth of knowledge held by our senior leadership in planning and environmental issues not just in the project area but throughout California, will allow us to complete the requested work in a timely, complete, and cost-effective manner.

Ms. Tricia Wotipka will serve as the dedicated program manager for the duration of the contract. Dudek has reviewed and agrees with the terms of the Standard Engineering Agreement. We look forward to continuing our productive working relationship with SOCWA. If you have any questions, please contact Ms. Wotipka at 760.479.4295 or twotipka@dudek.com.

Sincerely,

Frank Dudek
CEO

Tricia Wotipka
Program Manager

Frank Dudek is authorized to sign on behalf of Dudek. Frank Dudek works out of the firm's headquarters at 605 Third Street, Encinitas, California 92024 and can be reached at 760.942.5147 or hello@dudek.com.

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SECTIONS

TABLES

APPENDICES

Understanding of Need

Project Understanding

SOCWA maintains critical infrastructure along the east and west banks of Aliso Creek within the boundaries of the Aliso and Wood Canyons Wilderness Park, a 3,900-acre preserve comprised of natural open space lands encompassing the hills, canyons, and floodplain surrounding Aliso and Wood Canyons and portions of Laguna Canyon. AWMA Road, an existing paved access road running parallel to Aliso Creek to the west serves as SOCWA's primary access to their Coastal Treatment Plant (CTP). This roadway has historically been vulnerable to erosion along Aliso Creek and has been relocated twice (most recently in 2006) due to extensive creek embankment erosion. SOCWA also has buried infrastructure on the east side of Aliso Creek including the Effluent Transmission Main (ETM) and the export sludge force main system. SOCWA obtained wetlands regulatory permits from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) in 2018 for the replacement of the export sludge force main system and is in the process of completing the coastal permitting for the project.

Dudek at a Glance

- *Multidisciplinary environmental and engineering services*
- *Ten California offices*
- *38 years in business; employee-owned*
- *400+ employees*
- *Top 140 U.S. Environmental Firms (Engineering News-Record)*
- *Dun & Bradstreet 92% rating for reliability, timeliness, and responsiveness*

In times of heavy rainfall, both the east and west banks of Aliso Creek are subject to erosion increasing the probability of bank failures and threatening the integrity of the buried infrastructure. Between January 18 and January 24, 2017, a series of winter storm events occurred in the region causing considerable embankment damages along lower Aliso Creek within the Aliso and Wood Canyons Wilderness Park. Flow data analyzed by Tetra Tech suggested that Aliso Creek witnessed a "greater than a 100-year event" resulting in damage to AWMA Road at several locations on the west side of Aliso Creek. A short-term, emergency repair was authorized by the California Coastal Commission (CCC) at one location, herein referred to as West 1 Site, to stabilize a portion of the road undermined by heavy flows.

During the 2019 storm season, a section of channel bank adjacent to and upstream of Site West 1 was damaged and is currently undermining the integrity of the paved access road. Erosion along the east channel bank continues to expose buried infrastructure including active pipelines operated by SOCWA. In order to protect the existing and future infrastructure from continued storm damage, both short-term and long-term solutions need to be explored in close coordination with the resource agencies. The rocket science of this project is not necessarily the engineering design elements associated with the repairs and long-term planning, but navigating the approvals and permitting of the project elements. Yes, the design elements are very important, however we strongly believe it is a given that the design must be sound and address the physical constraints of sustainable implementation.

Project Team

The Aliso and Wood Canyons Wilderness Park is a valuable community resource and amenity with a unique suite of biological and cultural resources and as a result, any work that occurs in the park is often greeted with a heightened degree of scrutiny and community involvement. Paramount to the success of this project is assembling a team that not only has the experience needed to navigate any issues arise but experience and success working together. Dudek proposes to work with Tetra Tech (under separate contract to SOCWA) to provide the support needed to address the short-term and long-term project needs. The Dudek/Tetra Tech team has significant experience supporting SOCWA together for various projects along Aliso Creek. Together we have designed, analyzed, and successfully permitted critical projects that are vital to SOCWA's day-to-day operations including, most recently, the CTP Export Sludge Force Main Replacement Project. Given our team's vast experience working together in the Aliso and Wood Canyons Wilderness Park, we have at our disposal over two decades of technical information, studies, and institutional knowledge to support the successful completion of this project including sensitive species database records, prior survey data results completed by Dudek, mitigation site evaluations, and the extensive research done to support other projects in the immediate project area.

The Dudek team specifically chosen for this contract has the availability and capacity to provide the required services on this project. We have included staff that have experience not only working in Orange County but specifically in the Aliso and Wood Canyons Wilderness Park. The entire team is located in Southern California; Program Manager Tricia Wotipka is based in Dudek's Encinitas office, with all other project team members being located within a one-hour or less drive from the project area. While Dudek key staff members are currently managing multiple projects, our current and future anticipated workload will not impact our ability to perform SOCWA's project tasks on time. We will make this contract a priority, and delegate resources as needed in a timely and cost effective manner. With current workloads ranging from 50% to 75%, team members can commit substantial effort (up to 100%) to the task when it is necessary to ensure project success.

Full resumes for key staff members are attached as **Appendix A**.

Quality Assurance/Quality Control

Dudek's approach to preparing biological resource studies, environmental documents, and resource permitting for municipal projects is flexible and adapts each step as necessary, identifying potential issues or roadblocks to formulate solutions with SOCWA staff. Through our previous work experience with SOCWA, Dudek has refined a project management philosophy, as well as lessons learned and preferences for successful project management. As a midsized, employee-owned firm, we take pride in our open culture, flat structure, and operational flexibility. This progressive approach encourages multiple internal disciplines (e.g., environmental planning, coastal planning, regulatory, and compliance) to collaborate simultaneously on a given project, allowing us to consider a project more holistically than other more singularly-focused environmental consulting firms.

Tricia Wotipka, Dudek's program manager and main point of contact for this contract, is an experienced senior professional who will serve as the supervisor/administrator responsible for the delivery of services in accordance with the established scope of services. Ms. Wotipka has worked with SOCWA on environmental resource service contracts specific to the project area since 2001. She has developed strong relationships with local agency staff through her management of other environmental service contracts and local projects, and will apply the same hands-on approach to manage this contract. In addition to managing the contract, Ms. Wotipka will remain personally involved in this project to avoid and, when necessary, address any issues before they arise. Dudek's technical editing, publications, and quality assurance/quality control teams will work closely with Ms. Wotipka and each task manager, applying the highest quality standards to all project deliverables. Although Ms. Wotipka will manage this project from our office headquarters in Encinitas, she will rely heavily on utilizing staff from our San Juan Capistrano office to reduce project expenses and overall costs.

Project Execution and Schedule

Dudek understands and supports SOCWA's commitment to balancing the preservation of natural resources in the Aliso and Wood Canyons Wilderness Park with the need to protect SOCWA's infrastructure in areas adjacent to Aliso Creek. Engineering and environmental planning team collaboration is most critical during initial project planning; therefore, Dudek views this task as paramount to ultimate project success. Engineering/environmental coordination efforts are particularly important in identifying and minimizing project impacts and associated permit and mitigation requirements, where possible.

Task A. Analysis of Wood Canyon Discharge at Coastal Treatment Plant Access Road

Tasks V and VIII - Biological Reconnaissance Survey and Technical Memorandum Input

The proposed actions in this task consist of a high-level, "broad-brush" desktop evaluation of the baseline biological resource conditions in the project area focusing on our knowledge of the vegetation communities that occur within and adjacent to Wood Canyon and their sensitivity according to local, state, and federal guidelines and regulations. Wood Canyon is predominately supported by willow-dominated vegetation, a high-quality wetland that is subject to review and regulation by the USACE, RWQCB, CDFW, and CCC. We will work closely with Tetra Tech to identify alternatives that balance the need to adequately address flooding while minimizing impacts to this and other potentially occurring sensitive habitats in the area. Once complete, Dudek will work closely with Tetra Tech in investigating each potential alternative in terms of potential impacts to sensitive environmental resources as well as the regulatory implications, permitting requirements, anticipated mitigation, and ballpark costs for each alternative. The results of this evaluation will be presented in a joint technical memorandum to SOCWA. To ensure costs are kept at a minimum, Dudek will not participate in progress meetings (Task I). In the event that Dudek's attendance is required at one or both meetings identified in the Request for Proposal (RFP), a change order will be necessary.

Tetra Tech will be solely responsible for Tasks II – IV and Tasks VI – VII of the RFP. Task V of the RFP will be addressed by Dudek. Task VIII will be addressed jointly by Tetra Tech and Dudek.

Task B. Permanent Repair at West 1 Site

Please note that in an effort to reduce contract costs, the scope of services and cost estimate presented herein have been modified to eliminate West 2 Site. The following scope of services and proposed approach is specific to West Site 1 only.

Task IV - General Biological Reconnaissance Survey and Wetland Delineation

Back in late 2017, Dudek successfully obtained, on behalf of SOCWA, an immaterial amendment from the CCC to repair creek bank erosion at West 1 Site. The proposed slope repair was intended to correct severe erosion that occurred during heavy rainfall and related flooding in January 2017. Only the bare minimum repairs needed to alleviate the immediate safety threat were authorized with an understanding that a more permanent, long-term solution would require regular wetland and coastal development permits. The proposed repairs are necessary to maintain safe use of AWMA Road for both public pedestrian, bicycle, and equestrian access and SOCWA's access to its CTP.

The first step in the environmental process will be to update the biological resource survey data and vegetation map to reflect the current baseline environmental condition at West 1 Site. This is necessary due to the age of the biological resource survey data we have on file from the CTP Export Sludge Force Main Replacement Project. An updated biological resource study is needed to support the preparation of the Mitigated Negative Declaration (MND), the resource agency permit applications, and the coastal development permit application.

Tasks V, VI, and VII – Focused Wildlife Surveys and Rare Plant Surveys

The second step in the process is to initiate focused special-status wildlife surveys within the project area as soon as possible but during the appropriate time of year and in accordance with current U.S. Fish and Wildlife Service (USFWS) protocols. Heavy rain events during the 2018/2019 rainy season severely damaged West 1 Site, leaving behind sparsely vegetated channel banks and floodplain habitats in various stages of recovery. As a result, due to this disturbance and the dynamic nature of Aliso Creek, West 1 Site does not support suitable habitat for rare plants; therefore, rare plant surveys are not proposed.

The West 1 Site supports recovering willow-dominated vegetation along with drier mulefat scrub and possibly California sagebrush scrub on the channel banks. Therefore, in order to fully evaluate direct and indirect effects to potentially occurring federally listed wildlife that may occur in and/or near the repair site, focused wildlife surveys for the federally-threatened California gnatcatcher (*Polioptila californica californica*), the federally-listed endangered least Bell's vireo (*Vireo bellii pusillus*) and the state- and federally-listed endangered southwestern willow flycatcher (*Empidonax trailli extimus*) are proposed. The USFWS requires surveys be conducted within the project footprint along with a 500 foot survey buffer. Due to timing considerations associated with the breeding season and survey protocols for these species, Dudek has contracted with SOCWA separately to conduct least Bell's vireo and southwestern willow flycatcher at West 1 Site. Therefore, the costs associated with this survey are not included in the scope of services herein.

With respect to the California gnatcatcher survey, there is California sagebrush scrub habitat in various stages of disturbance along AWMA Road within 500 feet of West 1 Site, which has potential to support the federally listed California gnatcatcher. Although direct impacts to California sagebrush scrub habitat are not anticipated, construction-related noise has the potential to affect California gnatcatcher, particularly during the breeding season for this species (March 15 to June 30).

If SOCWA can commit to performing work outside of the breeding season for California gnatcatcher (March 15 to June 30), focused surveys for this species could be avoided because indirect effects during construction would not occur. This would result in a $5,145 reduction in survey costs. If, however, construction cannot feasibly be phased to occur outside of this restrictive window, focused surveys will be required to determine presence/absence. At this point, unless otherwise directed by SOCWA, Dudek recommends conducting focused, protocol-level surveys for California gnatcatcher.

Because SOCWA is a non-participating jurisdiction in the Natural Communities Conservation Plan (NCCP) they are required to conduct protocol surveys for California gnatcatcher following a more intensive survey protocol. From March 15 through June 30, a minimum of six (6) surveys must be conducted at least one week apart. From July 1 through March 14, during the non-breeding season, a minimum of nine (9) surveys shall be conducted at least two weeks apart. In most circumstances, this protocol is difficult to implement as written because most surveys straddle the breeding and non-breeding seasons, which require different survey frequencies as outlined above. We have had success working with USFWS staff in requesting extensions to the breeding season surveys when there is overlap. Therefore, our scope of services and cost estimate assumes that six (6) surveys will be authorized by USFWS, but note that there is a possibility that USFWS will require the full nine (9) surveys.

Task IX - Preparation of Cultural Resources Analysis

Another critical technical study that Dudek will be providing as part of this project is the cultural and paleontological resources analysis. Dudek has a strong history of conducting cultural and paleontological studies within the Aliso and Wood Canyons Wilderness Park having done the cultural resource investigation for the CTP Export Sludge Force Main Replacement Project, located on the east side of lower Aliso Creek within the Aliso and Wood Canyons Wilderness Park. Given the extent of prior disturbance in the project area, the likelihood of recovering significant archaeological and paleontological resources is low. However, in light of the cultural sensitivity in other regions of the park, the need to demonstrate compliance with the California Environmental Quality Act (CEQA), and the need to comply with Section 106 of the National Historic Preservation Act as part of the regulatory permitting process, we will prepare a cultural resource technical report documenting the results of the of the California Historical Resources Information System records search, Native American coordination, and cultural resource pedestrian survey (Task IX).

Tasks X – XV - Initial Study, Prepare Draft MND, Public Workshop, MND Processing, Noticing and Distribution

Once the technical studies are completed, Dudek will prepare an Initial Study (IS)/MND in compliance with CEQA. Dudek has prepared more than 2,500 environmental documents in compliance with CEQA, NEPA, and CEQA-Plus for large and small projects throughout California, including SOCWA, most notably the CTP Export Sludge Force Main Replacement Project and the CTP Export Sludge Equalization Basin Project. We pride ourselves on preparing complete and legally defensible environmental review documents supported by substantial evidence, and we've never had a CEQA document successfully challenged in court. The IS/MND we will prepare for the project will include a complete project description, supporting text figures, a detailed answer for each checklist question, and an environmental determination. Based on a preliminary review of the project we do not anticipate having any impacts that cannot be mitigated to a level that is less than significant.

Task XIX – Resource Agency Permitting

Dudek will prepare and process wetlands regulatory permit applications with the USACE, RWQCB, and CDFW (Task XIX) to authorize permanent repairs at West Site 1. Assuming the work footprint does not exceed ½ acre of impact to jurisdictional waters of the U.S., including wetlands, the project should qualify for a Section 404 Nationwide Permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Streambed Alteration Agreement from the CDFW. As previously stated, we understand based on previous experience working in the park that the location of SOCWA's infrastructure and the maintenance of said infrastructure in a wilderness park is often greeted with public scrutiny thereby encouraging greater community and agency involvement. To avoid any unforeseen surprises during the permit process, we recommend scheduling a pre-application meeting with the wetlands regulatory agencies, including the USFWS, once 60% design plans are generated. The intent of the meeting is to present the project and discuss any preliminary concerns they may have with respect to the design footprint. A meeting of this nature serves a dual purpose of not only engaging the resource agencies early on in the process so that issues can be identified before applications are submitted but proactively resolving as many questions as possible before the CEQA document is circulated for public review, thereby facilitating a quick and seamless agency review.

If the focused surveys conducted under Task V are negative, the project will not be required to consult with the USFWS on federally listed species. However, if focused surveys reveal the presence of federally listed species in the project area or within the 500 foot survey buffer required by the USFWS, the USACE will be required to consult with the USFWS under Section 7 of the Endangered Species Act (ESA) to ensure that the project will not jeopardize the continued existence of federally listed species (Task XIX). This differs from the USACE's initial position on the CTP Export Sludge Force Main Replacement Project, where following recent litigation staff initially limited their scope of analysis to just those isolated stream crossings under USACE regulation, plus a 300 foot buffer, thereby eliminating take coverage for the remainder (and a majority) of the linear alignment. This eliminated the federal nexus that would ordinarily drive the consultation process forcing SOCWA to interface directly with the USFWS under Section 10

of the ESA. The project incurred significant delay as the USFWS and USACE attempted to identify and dissect their roles and responsibilities with respect to the ESA consultation. In the end it took over a year of consultation but ultimately the USFWS elected to informally consult with the USACE using the detailed conservation measures we developed to support a "no effect" determination on least Bell's vireo and California gnatcatcher.

This project differs considerably in that the impact footprint for West 1 Site is situated on a secondary terrace within the active floodplain of Aliso Creek. Further, the 2015 Clean Water Rule, which just went into effect in October 2018 following a three-year legal stay, broadens the USACE's regulatory authority over waters of the U.S. to include adjacent wetlands. As it relates to the proposed project, the USACE would most likely regulate the proposed activities at West 1 Site under the federal Clean Water Act. The USACE's scope of analysis with respect to listed species is clear and unquestionable allowing SOCWA to process the incidental take of listed species under Section 7, a process driven solely by the USACE, not the applicant, with a federally-mandated 135-day timeline in which the USFWS must act. This differs from the Section 10 process, which has no timeline requirements. The Section 7 Consultation will occur concurrently with the wetlands regulatory permitting process. However, like other regulatory agencies in the region, the USFWS suffers from an equally taxing workload with limited staff. Keeping personnel engaged and ensuring the project remains a priority will be our greatest challenge moving forward. The key to advancing the Section 7 Consultation will be frequent communication with not just the USACE regulator driving the day-to-day process, but with Michelle Lynch, the USACE's South Coast Branch Chief, so that she is up to speed on the project, understands the project sensitivity, and can provide additional leverage, if needed, with USFWS supervisory staff. We have had great success in establishing this kind of relationship with Ms. Lynch in the past and it only benefits the project in that it helps open the door for successful elevation if the USFWS is unable to act within the prescribed timeline. Further, to keep costs low and to ensure a timely and more streamlined review of the project, we will rely heavily on adapting the list of conservation measures developed in concert with the USFWS for the CTP Export Sludge Force Main Replacement Project with the intent on pursuing an informal consultation with a "no effect" determination. That being said we assume we will not need to prepare a Biological Assessment to support the Section 7 ESA Consultation.

Task XX – Conceptual Wetlands Mitigation and Monitoring Plan

Impacts associated with the proposed activities must be adequately mitigated in compliance with state and federal law. In 2017/2018, Dudek conducted an exhaustive search for wetland mitigation opportunities in the lower Aliso and Wood Canyons Wilderness Park to satisfy additional mitigation imposed on the CTP Export Sludge Force Main Replacement Project by the CCC. In addition to researching potential mitigation bank opportunities in Orange County, including the Soquel Canyon Wetland Mitigation Bank, we identified suitable opportunities for permittee-responsible mitigation along Wood Canyon including a roughly 0.48 acre site. This site was initially intended to mitigate for permanent wetland impacts associated with the CTP Export Sludge Force Main Replacement Project before the CCC's requirement to increase SOCWA's mitigation obligation forced the team to explore other mitigation opportunities farther upstream. We assume this site remains a feasible and viable opportunity and that it is sufficient in size to accommodate the project's mitigation obligations. By operating under this assumption, very minimal time would be needed to prepare a written mitigation plan as one was already prepared for this site. Minimal updates to this plan would be needed to reflect the current project, impacts, and mitigation needs. However, if SOCWA feels this is no longer a feasible option then we will need to devote additional time and staff resources to research other mitigation opportunities in the vicinity. The time needed to research other opportunities and prepare a new written plan is not included in this scope of services and cost proposal. It's important to consider the following key points when evaluating mitigation opportunities for this project: (1) impacts within the coastal zone must be mitigated within the coastal zone and (2) the mitigation ratios must be consistent with current CCC policy which mandates a 4:1 ratio for impacts to wetlands and riparian areas regardless of the impact characterization and/or type. During the 2017 emergency notification process, the original design footprint for West 1 Site resulted in impacts to 0.07 acre of wetlands/waters with a 0.28-acre mitigation requirement. Even with the expanded work footprint at West 1 Site to accommodate recent additional embankment damage, Dudek is hopeful the 0.48-acre mitigation site along Wood Canyon can accommodate the project's entire mitigation needs.

Task XXI – Coastal Development Permit Application

With respect to coastal permitting, an expanded scope of work is provided below to address additional services that we'll provide as part of this important permit process as well as our assumptions for this task moving forward. As previously stated, the repairs completed in September 2018 were only the minimum necessary to address immediate safety needs at each of the two sites. Long-term solutions are necessary to ensure future stability of these sites.

Dudek coastal planners will prepare and process the CDP amendment application (CDPA) for permanent repairs at the West 1 Site. Work will include compiling all applicable project and environmental documentation for the application submittal package, as follows:

- CDPA Application and all necessary attachments;
- Submittal letter detailing compliance with CDPA requirements;
- Project alternatives analysis summary; and,
- Coastal Act/Local Coastal Plan (LCP) policy consistency analysis for the proposed project.

This scope of work assumes that no more than two (2) 30-day CDPA "completeness" review cycles will be required for a filing determination and assumes that material responses will be supported by existing and/or supplemental information provided by the project team.

This scope of work assumes that Dudek's coastal planners will prepare for and attend two (2) meetings with SOCWA and/or CCC staff, and participate, via conference call, in two (2) additional meetings to resolve any potential policy or procedural issues that may arise during the CDPA review process. Dudek will support SOCWA in reviewing and responding to staff reports/recommendations and written correspondence associated with the decision-making hearing and will attend one Southern or Central California public hearing, as necessary. Given the uncertainty additional information requests and time delays by CCC staff, if the project has not been processed for a hearing within 6 months of the CDPA filing date, the need for a supplemental scope of work authorization may be necessary at that time. Additionally, services for condition compliance are not included in this scope of work. This task assumes an approximately 10-month project schedule, with Dudek coastal planners dedicating an average of 16 hours per month for application processing.

As with any project impacting resources within the coastal zone, we anticipate the challenges due to Coastal Act and Local Coastal Plan (LCP) policies restricting development in environmentally sensitive habitat areas (ESHAs), including wetlands. As noted in CCC's 2017 letter rejecting the emergency CDP application for the initial emergency repairs package, the project as originally proposed would require work in and adjacent to the creek bank, which would result in impacts to ESHAs and wetland resources. However, we faced these same policy hurdles when we worked on the CTP Export Sludge Force Main Replacement Project and we were able to address them with a thorough alternatives analysis to show policy consistency. We will work closely with the Tetra Tech team and SOCWA to evaluate several project alternatives and present the design that will resolve the slope failure and erosion issues at each site but will have as minimal impacts to ESHAs as possible. One option to streamline CCC's review and approval could be to present these alternatives early in the process to receive feedback prior to CCC submittal. By receiving agency concurrence on the designs early on in the process we can ensure a more streamlined review and approval process once the CDP amendment application is submitted for review and processing.

Another challenge for the CDP amendment permitting will be potential processing delays by CCC. Once the application is filed as complete for processing, CCC staff have 180 days to bring the project to hearing. In the past, they have always requested a 90 extension of this deadline for hearing, which is mainly due to CCC staffing deficiencies. One way to try to keep CCC's review on schedule is to respond as quickly as possible to their need for information and to keep following up with the assigned planner to check on the hearing date. Diligence is key and we're prepared to dedicate the necessary manpower to ensure a reasonable permitting timeframe.

As a reminder, with the exception of Task VI, which is being addressed by Dudek under a separate cover, this work addresses Tasks IV – XV and Tasks XIX – XXI of the RFP. Tasks II – III and Tasks XVI – XVIII and Task XXII will be addressed by Tetra Tech. Task I will be addressed jointly by Dudek and Tetra Tech.

Task C. Aliso Creek Long Term Repair Planning

The development of the CTP Export Sludge Force Main Replacement Project required consultation with the USFWS under Section 7 of the ESA. As a condition of the consultation, the USFWS required SOCWA to coordinate with USFWS and USACE staff in the preparation of a long-term operations and maintenance plan (plan) identifying contingency plans for future pipeline repair work along Aliso Creek in the event of embankment failures that may occur during the anticipated life of the new force main. The intent of the plan is to help ensure that future pipeline protection repairs and maintenance activities are implemented in a manner that will avoid and minimize potential effects to federally listed wildlife that occur in and adjacent to Aliso Creek.

The plan framework would likely be composed of two main elements: monitoring at key locations targeted for significant erosion and maintenance activities, which is where the presentation of solutions for future bank repairs is identified. With respect to monitoring, the offsets between the existing buried infrastructure and the current channel bank will be assessed to define reaches that will be associated with various monitoring requirements. Protocol for performing this monitoring will be developed that can most easily be accomplished by SOCWA plant staff, where feasible. As part of the maintenance section of the plan, Dudek will work closely with Tetra Tech to identify "triggers" to perform maintenance activities along with a suite of actions that could be implemented to address slope failure. The concept is to proactively manage the potential risk so that alternatives that most effectively balance pipeline safety and environmental function can be implemented rather than reacting to an emergency situation in which maintenance options are limited.

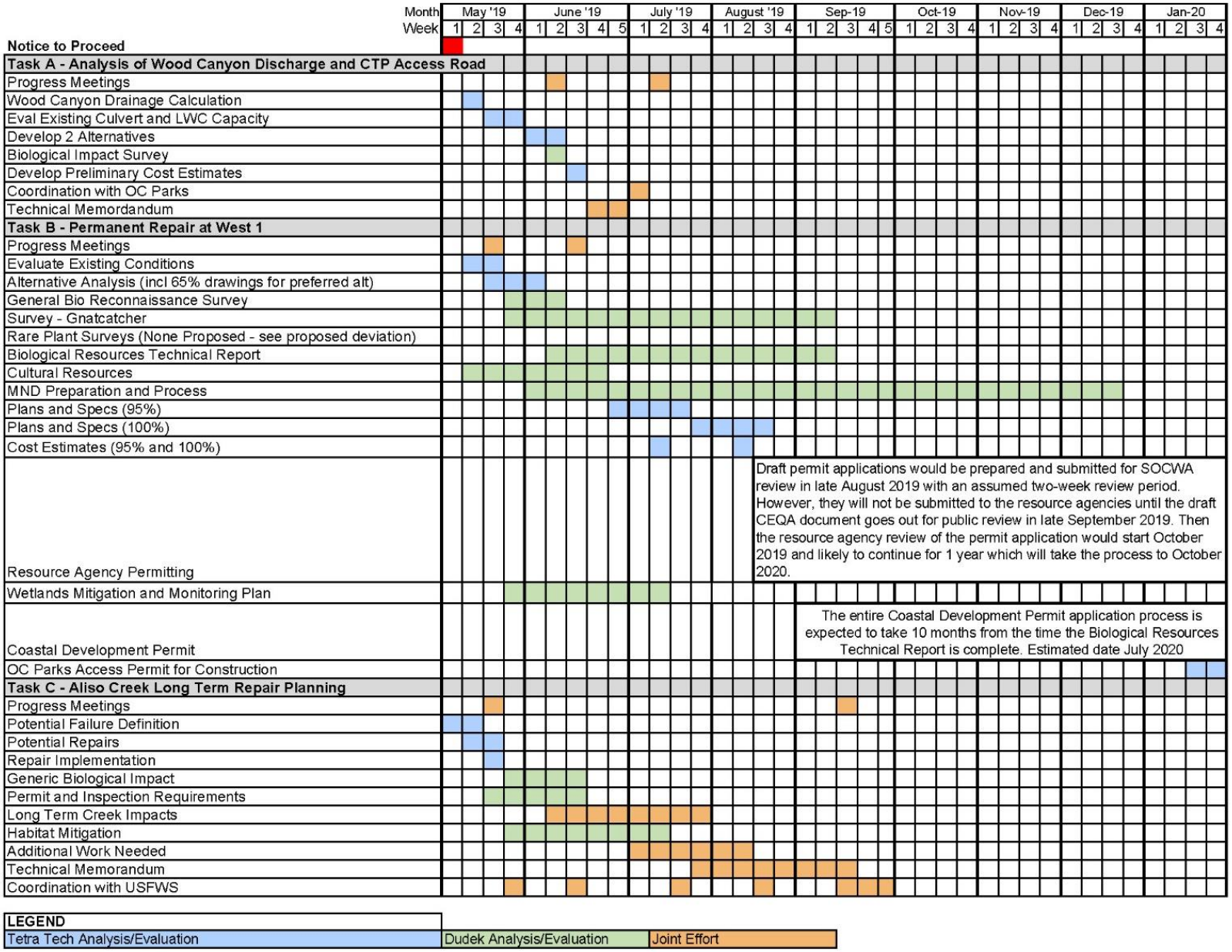
In addition to working with Tetra Tech on the development of specific alternatives that will be proposed at each of the failure locations, the Technical Memorandum associated with this task will outline a plan that prioritizes locations for preventative protection and encourage participation in the long-term implementation of measures that could improve channel stability and function. This could include the incorporation of focused/directed planting of vegetation that could encourage diversion of flows and capture sediment to rebuild failed or failing banks or in-stream options to re-direct flows in appropriate locations (such as the abandoned oxbow).

Tasks V-VIII will be addressed by Dudek. Tasks II – IV will be addressed by Tetra Tech. Task I and Tasks IX - XI will be addressed jointly by Dudek and Tetra Tech.

Schedule

Dudek proposes the following schedule (**Table 1**) to complete the required tasks associated with the project. The most time extensive elements are related to the IS/MND, and the resource agency and coastal permitting tasks. If a more aggressive schedule is desired, we would be happy to work with the project team to determine how this could be accomplished.

Table 1. Project Schedule



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Factors that could lengthen or shorten the schedule include dates of receipt of project information, length of project team review, and unanticipated issues arising from SOCWA staff or public review of the IS/MND.

Table of Effort

A detailed estimate of the level of effort anticipated by staff type for each task identified in the RFP is presented as **Appendix B**. Note that this does not include the efforts of Tetra Tech or the land surveyor.

Subconsultants

Dudek does not anticipate the need to include subconsultants on our team as all services can be completed in-house. We anticipate that SOCWA will contract separately with Tetra Tech and Bush Surveying. These three firms have a long history of successfully completing projects for SOCWA along Aliso Creek.

Cost Estimate

The budget proposal, including the fee schedule and the breakdown of the fee by task, is below (**Table 2**). A more detailed breakdown of the estimated hours that each project team member (Dudek) will contribute by task is provided in the detailed cost estimate provided in **Appendix B**.

Table 2. Summary of Estimated Costs

Task Item	Cost
A. Analysis of Wood Canyon Discharge at CTP Access Road	
Task V. Biological Reconnaissance Survey	$1,650
Task VIII. Technical Memorandum Support	$5,500
Subtotal	*$7,150*
B. Permanent Repairs at West 1 and 2 Sites	
Task IV. Biological Reconnaissance Survey and Wetland Delineation	$1,500
Task V. Focused California Gnatcatcher Survey	$5,145
Task VIII. Biological Resources Technical Report	$10,550
Task IX. Preparation of Cultural Resources Analysis	$8,825
Task X. Initial Study	$4,340
Task XII. Prepare Draft MND	$28,715
Task XIII. Public Workshop	$2,620
Task XIV. MND Processing	$2,665
Task XV. Noticing and Distribution	$2,420
Task XIX. Resource Agency Permitting	$37,125
Task XX. Conceptual Wetlands Mitigation and Monitoring Plan	$7,695
Task XXI. Coastal Development Permit Application	$27,000
Subtotal	*$138,600*
C. Aliso Creek Long-Term Repair Planning	
Task I. Progress Meetings	$1,910
Task V. General Biologic Impact	$4,510
Task VI. Permit and Inspection Requirements	$1,100
Task VII. Long Term Creek Impacts	$4,000
Task VIII. Habitat Mitigation	$9,650
Task IX. Additional Work Needed	$3,800

Table 2. Summary of Estimated Costs

Task Item	Cost
Task X. Technical Memorandum	$14,110
Task XI. Coordination with USFWS	$10,920
Subtotal	*$50,000*
Total Estimated Cost	**$195,750**

Fee Schedule

DUDEK
2019 STANDARD SCHEDULE OF CHARGES

Engineering Services

Project Director	$285.00/hr
Principal Engineer III	$265.00/hr
Principal Engineer II	$255.00/hr
Principal Engineer I	$245.00/hr
Program Manager	$225.00/hr
Senior Project Manager	$225.00/hr
Project Manager	$220.00/hr
Senior Engineer III	$215.00/hr
Senior Engineer II	$205.00/hr
Senior Engineer I	$195.00/hr
Project Engineer IV/Technician IV	$185.00/hr
Project Engineer III/Technician III	$175.00/hr
Project Engineer II/Technician II	$160.00/hr
Project Engineer I/Technician I	$145.00/hr
Project Coordinator	$115.00/hr
Engineering Assistant	$110.00/hr

Environmental Services

Project Director	$245.00/hr
Senior Specialist IV	$230.00/hr
Senior Specialist III	$220.00/hr
Senior Specialist II	$200.00/hr
Senior Specialist I	$190.00/hr
Specialist V	$180.00/hr
Specialist IV	$170.00/hr
Specialist III	$160.00/hr
Specialist II	$145.00/hr
Specialist I	$130.00/hr
Analyst V	$120.00/hr
Analyst IV	$110.00/hr
Analyst III	$100.00/hr
Analyst II	$90.00/hr
Analyst I	$80.00/hr
Technician IV	$90.00/hr
Technician III	$80.00/hr
Technician II	$70.00/hr
Technician I	$60.00/hr
Compliance Monitor	$95.00/hr

Data Management Services

GIS Programmer I	$185.00/hr
GIS Specialist IV	$160.00/hr
GIS Specialist III	$150.00/hr
GIS Specialist II	$140.00/hr
GIS Specialist I	$130.00/hr
Data Analyst III	$100.00/hr
Data Analyst II	$90.00/hr
Data Analyst I	$80.00/hr
UAS Pilot	$90.00/hr

Construction Management Services

Principal/Manager	$195.00/hr
Senior Construction Manager	$180.00/hr
Senior Project Manager	$165.00/hr
Construction Manager	$155.00/hr
Project Manager	$145.00/hr
Resident Engineer	$145.00/hr
Construction Engineer	$140.00/hr
On-site Owner's Representative	$140.00/hr
Construction Inspector III	$130.00/hr
Construction Inspector II	$120.00/hr
Construction Inspector I	$110.00/hr
Prevailing Wage Inspector	$135.00/hr

Hydrogeological Services

Project Director	$285.00/hr
Principal Hydrogeologist/Engineer II	$260.00/hr
Principal Hydrogeologist/Engineer I	$240.00/hr
Sr. Hydrogeologist IV/Engineer IV	$225.00/hr
Sr. Hydrogeologist III/Engineer III	$210.00/hr
Sr. Hydrogeologist II/Engineer II	$195.00/hr
Sr. Hydrogeologist I/Engineer I	$185.00/hr
Hydrogeologist VI/Engineer VI	$165.00/hr
Hydrogeologist V/Engineer V	$155.00/hr
Hydrogeologist IV/Engineer IV	$145.00/hr
Hydrogeologist III/Engineer III	$135.00/hr
Hydrogeologist II/Engineer II	$125.00/hr
Hydrogeologist I/Engineer I	$115.00/hr
Technician	$100.00/hr

District Management & Operations

District General Manager	$195.00/hr
District Engineer	$185.00/hr
Operations Manager	$160.00/hr
District Secretary/Accountant	$120.00/hr
Collections System Manager	$135.00/hr
Grade V Operator	$125.00/hr
Grade IV Operator	$110.00/hr
Grade III Operator	$100.00/hr
Grade II Operator	$75.00/hr
Grade I Operator	$70.00/hr
Operator in Training	$65.00/hr
Collection Maintenance Worker II	$75.00/hr
Collection Maintenance Worker I	$65.00/hr

Office Services

Technical/Drafting/CADD Services

3D Graphic Artist	$175.00/hr
Senior Designer	$165.00/hr
Designer	$155.00/hr
Assistant Designer	$150.00/hr
CADD Operator III	$145.00/hr
CADD Operator II	$140.00/hr
CADD Operator I	$125.00/hr
CADD Drafter	$115.00/hr
CADD Technician	$110.00/hr

Support Services

Technical Editor III	$145.00/hr
Technical Editor II	$130.00/hr
Technical Editor I	$115.00/hr
Publications Specialist III	$105.00/hr
Publications Specialist II	$95.00/hr
Publications Specialist I	$85.00/hr
Clerical Administration	$90.00/hr

Forensic Engineering – Court appearances, depositions, and interrogatories as expert witness will be billed at 2.00 times normal rates.
Emergency and Holidays – Minimum charge of two hours will be billed at 1.75 times the normal rate.
Material and Outside Services – Subcontractors, rental of special equipment, special reproductions and blueprinting, outside data processing and computer services, etc., are charged at 1.15 times the direct cost.
Travel Expenses – Mileage at current IRS allowable rates. Per diem where overnight stay is involved is charged at cost
Invoices, Late Charges – All fees will be billed to Client monthly and shall be due and payable upon receipt. Invoices are delinquent if not paid within 30 days from the date of the invoice. Client agrees to pay a monthly late charge equal to 1% per month of the outstanding balance until paid in full.
Annual Increases – Unless identified otherwise, these standard rates will increase 3% annually.

DUDEK

Effective January 1, 2019

Appendix A

Team Resumes

Tricia Wotipka

Environmental Specialist, Biologist

Tricia Wotipka is an environmental specialist and biologist with 19 years' professional experience as an environmental planner and biologist specializing in wetland delineations, environmental permitting, data collection and biological resources impact analyses, biology-related California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents, and special-status species surveys. Ms. Wotipka has extensive experience with public and private clients providing permitting for a variety of projects, including flood control, water and wastewater utilities, transportation, and conservation planning projects. She has served in a variety of project management and lead analyst roles for a diverse client base of public agencies, including cities, counties, special districts, and joint powers authorities, as well as private entities such as land developers. Ms. Wotipka is experienced with Southern California flora and fauna, and is well versed on current environmental regulations. Combining her expertise in bio logical resources and regulatory permitting with in-depth understanding of how environmental regulations interrelate, Ms. Wotipka helps clients prepare a strategic approach to permitting and documentation for greater project advancement and cost-effectiveness.

Tricia Wotipka

Education

Pennsylvania State University BS, Wildlife and Fisheries Science, 2000

Certifications

USFWS Quino Checkerspot Butterfly 10(a) Permit No. TE840619-0 (Issued December 2008)

USFWS Gnatcatcher 10(a) Permit No. TE840619-1 (Issued December 2008)

CDFW Rare, Threatened, and Endangered Plant Voucher Collection Permit No. 2081 (a)-08-04-V (Issued October 2008)

Professional Affiliations

Association of Environmental Professionals

Society of Wetland Scientists

Women's Environmental Council, Secretary (2001), Newsletter Chair (2002)

Project Experience

Coastal Treatment Plant Export Sludge Force Main Replacement Project, South Orange County Wastewater Authority, Laguna Niguel and Unincorporated Orange County, California. Served as the lead biologist and wetlands permitting expert for the design, evaluation, and permitting of the project, which involves the replacement of roughly 16,600 linear feet of existing sludge force main and the installation of channel bank stabilization along the lower reach of Aliso Creek within the biologically and culturally sensitive Aliso and Wood Canyons Wilderness Park. Conducted general biological surveys within a roughly 400-acre study area. Conducted focused surveys for special-status plant and wildlife species including the state and federally listed least Bell's vireo, the state and federally listed southwestern willow flycatcher, the federally listed coastal California gnatcatcher, and the federally listed arroyo toad. Organized a team of subconsultants to conduct surveys for the federally listed southern steelhead and southwestern pond turtle along the 16,600 linear foot alignment within Aliso Creek. Prepared the biological resources technical report for the project in support of the Environmental Impact Report. Participated in a number of public workshops over a 1 year period to discuss the project and to invite questions and dialog with members of the community. Obtained regulatory permits from the Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW) authorizing impacts to waters of the U.S. resulting from the

project. Currently working with the Carlsbad U.S. Fish and Wildlife Service (USFWS) field office on the issuance of an Incidental Take Permit for impacts to federally listed species and with the U.S. Army Corps of Engineers (USACE) on the issuance of a Department of the Army Nationwide Permit.

Buried Utility Protection along Aliso Creek, Phase I, South Orange County Wastewater Authority, Orange County, California. Assisted TetraTech and SOCWA in the identification of biological constraints, associated survey needs and probable mitigation and environmental document preparation costs for conceptual infrastructure protection proposed at four distinct sites along Aliso Creek within the Aliso and Wood Canyons Wilderness Park. Participated in a site survey with staff to field verify environmental conditions to support the preparation of a technical memorandum in 2014.

San Juan Creek Ocean Outfall Junction Structure Project, South Orange County Wastewater Authority, Dana Point, California. Served as the lead biologist and wetlands permitting expert for the project. Responsibilities included updating the existing 2007 biological resources technical report to reflect current conditions and the current project description; overseeing the preparation of the cultural resources technical report in support of the environmental document; and preparing and processing regulatory agency permits from the RWQCB and USACE.

Emergency Sludge Forcemain Replacement, South Orange County Wastewater Authority, Laguna Niguel, California. Served as the lead biologist and wetlands permitting expert for the project which involved the relocation of approximately 350 feet of existing sludge forcemains at an existing at-grade crossing of Sulphur Creek, providing new pipeline materials to eliminate further breakage and providing separation from the encroaching creek bank. Ms. Wotipka worked closely with SOCWA and resource agency staff, notably the USACE, RWQCB, CDFW, and USFWS to expediently authorize the emergency repair work to minimize delays with little to no impact to vegetated wetlands and special-status species.

Pectin Reef Biology Surveys for Sewer Transmission Upgrade, South Orange County Wastewater Authority, Unincorporated Orange County, California. Conducted vegetation mapping and wetlands delineation for a pipeline project within the Aliso and Wood Canyons Wilderness Park. Prepared a biological resources technical report for CEQA documentation and conceptual wetlands mitigation and monitoring for on-site mitigation.

Aliso Creek Environmental Permitting and Mitigation Plan for Emergency Sewer and Park Improvements, Aliso Water Management Agency, Laguna Niguel, California. Conducted vegetation mapping and wetlands delineation for sewer pipeline relocation and trail relocation. Prepared and processed permits from the wetlands regulatory agencies for impacts to non-tidal wetlands along Aliso Creek within the Aliso and Wood Canyons Wilderness Park. Assisted in conducting focused rare plant surveys for the federally listed threatened and state-listed endangered thread-leaved brodiaea (*Brodiaea filifolia*). Prepared a biological resources technical report in support of a CEQA document, and assisted in the preparation of a conceptual wetlands mitigation and monitoring plan for on-site mitigation.

Trail Bridge Effluent Transmission Main Crossing Protection Project, South Orange County Wastewater Authority, Aliso Viejo, California. Currently serving as lead biologist and wetlands permitting expert for the design, evaluation, and permitting of the project, which involves providing protection to an exposed section of an effluent transmission main within the low flow channel of Aliso Creek. Conducted general biological surveys within the study area. Conducted focused surveys for special-status wildlife species including the state and federally listed least Bell's vireo, the state and federally listed southwestern willow flycatcher, the federally listed coastal California gnatcatcher, and southwestern pond turtle. In the process of preparing the biological resources technical report in support of a CEQA document and overseeing preparation of the CEQA document.

Tommy Molioo

Senior Biologist

Tommy Molioo is a Sr. Biologist with 11 years' professional experience as a biologist and project manager specializing in technical surveys and reporting for projects requiring CEQA/NEPA compliance. Mr. Molioo's experience includes conducting habitat assessments, biological resources impact analyses, bat surveys, year-long biodiversity studies, avian and raptor surveys, habitat mitigation monitoring, and local and regional habitat conservation plan compliance and strategic planning.

Mr. Molioo has prepared biological technical reports for projects requiring compliance with local and regional habitat conservation plans, natural community conservation plans, and local coastal programs throughout Southern California. He has also prepared biological resources analyses sections for project and programmatic-level EIRs/EISs, as well as initial studies (ISs), environmental assessments (EAs), and biological assessments (BAs) to support USFWS Section 7 permitting. Mr. Molioo has also conducted focused protocol surveys for a variety of sensitive plant and wildlife species including, but not limited to, coastal California gnatcatcher, burrowing owl, desert tortoise, and Coachella Valley milkvetch.

Mr. Molioo specializes in conducting non-invasive acoustic monitoring surveys for bats for species identification, roost assessments, and preparing and implementing exclusion plans. He is well versed in full-spectrum bat-call data analysis and preparing bat exclusion plans for CDFW approval. He also conducts formal wetland delineations for state and federally regulated waters and wetlands, and preparing regulatory permitting applications for local, state, and federal agencies. Mr. Molioo has also prepared and implemented mitigation monitoring plans for restoration projects and has conducted reconnaissance-level surveys for numerous telecommunications projects throughout California.

Tommy Molioo

Education

University of Denver

MAS, Environmental Policy & Management, 2017

Minot State University

BA, Biology, 2008

Certifications

USFWS, Section 10(a)(1)(A) Survey Permit, No. TE06873C-0.1 (exp. 6/26/2022)

- *California gnatcatcher*

CDFW, Scientific Collecting Permit, No. SC-10395

Professional Affiliations

North American Society of Bat Research

Western Bat Working Group

Western Section of the Wildlife Society

Project Experience

De Soto Tanks Project, LA Department of Water and Power (LADWP), Chatsworth, California. Served as phase manager/project biologist. The project proposes to replace the existing 3 million-gallon (MG) De Soto Reservoir located at 11200 De Soto Avenue (APN: 2706-007-901), with two buried, pre-stressed circular concrete storage tanks immediately north of the existing reservoir site (APN: 2701-003-907). Conducted a late season botanical survey and summarized the results of the biological reconnaissance, and California gnatcatcher surveys into a biological technical letter report. Also prepared the Biological Resources section for the project's EIR. Project is currently in progress.

Relevant Previous Experience

San Juan Watershed Project, EIR, Santa Margarita Water District, Orange County, California. Served as field biologist. The Santa Margarita Water District, in conjunction with South Coast Water District, is proposing to implement the San Juan Watershed Project that would develop facilities to manage surface water resources to enhance groundwater resources of the San Juan Basin. The Project would increase the capture and storage of urban runoff and stormwater, optimize the use of recycled water for beneficial reuse, minimize the potential for undesirable impacts, and augment local water supplies to reduce the region's dependence on imported water. Tommy conducted the site reconnaissance for biological resources and prepared the Biological Resources Technical Report for the project.

San Jacinto Valley Enhanced Recharge and Recovery Program, Eastern Municipal Water District, City of San Jacinto, Riverside County, California. Served as project biologist. Conducted a habitat assessment survey of the project site which included 3 recharge basins and 44,000 linear feet of proposed pipelines within the City of San Jacinto and Hemet. Prepared a BTR of the proposed program and the Biological Resources Section of the EIR which analyzed both program-level and project-level impacts.

Lift Station No. 2 Project, South Coast Water District, City of Laguna Beach, Orange County, California. Served as project biologist. Conducted a habitat assessment survey and prepared the Biological Resources section for the Initial Study for the Phase 1 portion of the project. The South Coast Water District currently operates Lift Station 2 which is a reinforced concrete wet well and dry well sewage lift station. The lift station is located at 31104 Country Club Drive and conveys raw sewage to the South Orange County Wastewater Authority Coastal Treatment Plant via a 20-inch diameter ductile iron force main that is over a mile in length to the east and runs generally parallel to Aliso Creek.

On-Call Environmental Services, Los Angeles County Department of Public Works, Los Angeles County, California. Served as field biologist. Supporting the Los Angeles County Department of Public Works, including the Flood Maintenance Division (Los Angeles County Flood Control District) by providing a full array of environmental services under an on-call services contract. Providing a wide range of planning, permitting, and compliance needs for routine and emergency operations and maintenance projects, and services have included preparation of regulatory permits (404, 401, and 1602), biological and cultural resources surveys and reports, focused surveys for federally –listed species, wetland delineations, mitigation monitoring and reporting, air and water quality sampling, and preparation of California Environmental Quality Act documents. A few notable projects include the Big Dalton Dam, Big Tujunga Dam, Cattle Canyon, and Los Angeles Greenway Project, which all required preparation of permit applications and/or technical studies to support permitting and California Environmental Quality Act.

Annexation Project Orange County Water District, California. Served as biologist. Prepared the Biological Resources Section, which includes documenting existing conditions and impact analysis, for Orange County Water District's Annexation Project as part of a project-level and programmatic-level EIR. The project proposed to allow additional municipalities to pump additional water from Orange County Water District wells. A portion of the project involved constructing new pump stations and other portions involved no additional construction. The proposed project was evaluated for potential impacts to biological resources within the Orange County basin. Mitigation measures were prescribed in the impact analysis to minimize impacts to potential sensitive biological resources.

Patricia Schuyler

Biologist

Patricia Schuyler has 12 years' experience as a biologist working throughout Southern California. Through her extensive field experience, Ms. Schuyler provides clients with a full spectrum of biological services focusing on vegetation mapping, rare plant surveys, focused wildlife surveys and habitat assessments, jurisdictional wetlands delineations, permit applications and regulatory agency coordination, biological monitoring, and preparation of biological technical studies.

Patricia Schuyler

Education

Washington State University
MS, Environmental Science, 2005

University of Redlands
BA, Environmental Studies, 2003

Mira Costa College
AA, Business Administration, 2001

Professional Affiliations

California Native Plant Society

Project Experience

Development

Village Two Wetland Permitting, Baldwin & Sons LLC, Chula Vista, California. Permitting biologist for the proposed Village Two project, located in the city of Chula Vista. Prepared a jurisdictional delineation report in support of the permitting process. Prepared the permitting package for the project, which included U.S. Army Corps of Engineers (ACOE) Section 404 Nationwide Permit, Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification, and California Department of Fish and Wildlife (CDFW) Section 1601 Streambed Alteration Agreement (SAA). Worked with the agencies to secure suitable mitigation within the Otay River Valley.

Otay Ranch Village Four, Otay Valley Quarry LLC, Chula Vista, California. Serves as the lead biologist for the Village Four project, located in the city of Chula Vista. Biological services managed for the proposed project include rare plant surveys, focused surveys for various wildlife species, vegetation mapping, and the jurisdictional delineation. Prepared the biological resources technical report in accordance with the City of Chula Vista Subarea Plant and Otay Ranch Resource Management Plan (RMP). Worked with U.S. Fish and Wildlife Service (USFWS), CDFW, and the City to process a boundary line adjustment.

Proctor Valley Villages 14, Jackson Pendo Development, Chula Vista, California. Serves as the lead biologist for the Proctor Valley project which is located within the county of San Diego. The project consists of multiple jurisdictions including the County of San Diego, Otay Ranch, the City of San Diego, and the City of Chula Vista. Biological services managed for the proposed project include rare plant surveys, focused surveys for various wildlife species, vegetation mapping, and the jurisdictional delineation. Prepared the biological resources technical report using County of San Diego reporting guidelines.

Tejon Ranch Development, Tejon Ranch Corporation, Kern County, California. Project lead for the formal wetland delineation and determination for the Grapevine Development Area Project which consists of 15,664 acres in Kern County, California. The delineation and determination were based on the regulations of the CDFW, ACOE, and RWQCB. Prepared a delineation report for the ACOE which outline all of the potentially jurisdictional features within the project area. Also conducted vegetation mapping for the project area.

Merriam Mountains Land Development, Newland Sierra LLC, San Diego County, California. Assistant project manager and lead task manager. Conducted vegetation mapping, a jurisdictional wetlands delineation, focused rare plant surveys and focused burrowing owl (*Athene cunicularia*) surveys for the project area. Worked with the County of San Diego to prepare a hardline agreement for incorporation into the Draft North County Multiple Species Conservation Program (MSCP). Prepared the following project related documents: biological resources technical report, resource Protection Plan, and Conceptual Resource Management Plan.

Otay Ranch University Villages Environmental Impact Report (EIR), JPB Development, LLC, Chula Vista, California. Provided biological resource surveys and documentation for various developments covering over 2,400 acres of vacant land. Tasks included rare plant surveys, and confirmation of vegetation mapping. Prepared the biological resources technical report for the proposed project which included proposal for a boundary adjustment in accordance with the Chula Vista MSCP Subarea Plan and Otay Ranch RMP.

Alessandro Business Park, Western Realco, Riverside, California. Conducted a formal wetland delineation and determination based on the regulations of the CDFW, ACOE, and RWQCB.

Merriam Mountains Specific Plan EIR, NNP-Stonegate Merriam LLC, San Diego, California. Conducted biological monitoring for geotechnical investigations in support of this EIR.

Mission Oceanside EIR, Integral Partners Funding LLC, Oceanside, California. Performed initial biological assessment of the project site. Conducted a jurisdictional delineation, habitat assessment for special-status plants and wildlife, and vegetation mapping. Summarized findings in a biological technical report.

Oro Verde Biology Studies, Jack Henthorn & Associates, San Diego County, California. Conducted an assessment of potentially jurisdictional features. Coordinating with engineering staff to eliminate impacts to those features.

McMurray Residence, San Marcos, California. Project manager and biologist. Conducted a general biological survey for a proposed housing development. Wrote a biological technical report for the proposed project in accordance with the City of San Marcos guidelines.

Portola Center, City of Lake Forest, California. Conducted a jurisdictional delineation and vegetation mapping for an approximately 200-acre private landholding in the foothills of the Santa Ana Mountains. Updated the biological resources technical report and prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA. Coordinated with agencies regarding various potential mitigation plans.

San Timoteo Creek Alternative Discharge Outfall, Yucaipa Valley Water District, Riverside and San Bernardino Counties, California. Conducted biological construction monitoring for construction of the non-potable water outfall on San Timoteo Creek to ensure compliance with conditions within the Section 1602 SAA. Monitoring included photo documentation and completion of a detailed site observation report.

Copley Press 25 Acres, City of San Diego Development Services, San Diego County, California. Conducted biological resources monitoring for geotechnical activities conducted on a proposed development site to ensure avoidance and minimization of impacts to sensitive biological resources to the maximum extent feasible and ensure specific measures for the protection of sensitive habitats. Monitoring included holding an environmental awareness meeting with the crew prior to work activities, photo documentation, and completion of a site observation.

Warner Ranch, San Diego County, California. Served as a biologist. Conducted surveys for special-status plants in 2010 within the 566-acre project site.

Tejon Mountain Village, Tejon Mountain Village LLC, Kern County, California. Conducted rare plant surveys and ringtail (*Bassariscus astutus*) camera surveys. Assisted with the biological technical report.

Ferber Ranch, The Planning Center (Trabuco Canyon), Orange County, California. Assisted the project manager in preparing a biological technical report for California Environmental Quality Act documentation for the Ferber Ranch Project, which encompasses over 1,110 acres. Conducted vegetation mapping and jurisdictional wetlands delineation; assisted in managing and also participated in the wildlife corridor study. Conducted focused surveys for least Bell's vireo (*Vireo bellii pusillus*) and arroyo toad (*Anaxyrus californicus*), and habitat assessments and focused surveys for burrowing owl.

Newhall Specific Plan, Newhall Land and Farming Inc., Los Angeles and Ventura Counties, California. Conducted focused surveys for sensitive plant species, including the state-listed San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*).

Otay Quarry, Otay Valley Rock LLC, City of Chula Vista, San Diego County, California. Conducted focused surveys for special-status plant species.

Quail Meadows Project, City of Encinitas, San Diego County, California. Performed biological resources surveys and prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA, for a 34-unit residential development project on an 11.9-acre, former greenhouse and nursery operation site.

Lone Jack Road/Strafford Knoll Drainage Channel Improvement Project, City of Encinitas, San Diego County, California. Prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA. Conducted biological monitoring for routine channel clearing.

Target Commercial Center, Target Corporation, City of Vista, California. Monitored the clearing of native habitat to ensure that clearing activities only occur within approved boundaries and that best management practices (BMPs) were implemented.

Brown-Headed Cowbird Trapping Program, The Crossings at Carlsbad Golf Course, City of Carlsbad, California. Assisted in the daily operation and maintenance of brown-headed cowbird (*Molothrus ater*) trapping within the golf course. The trapping program is a USFWS requirement as mitigation for impacts to habitat for federally listed species, including least Bell's vireo, southwestern willow flycatcher (*Empidonax traillii extimus*), and California gnatcatcher (*Polioptila californica*).

City of San Marcos, County of San Diego, California. Served as project biologist. Conducted focused surveys for least Bell's vireo along San Marcos Creek. Several special-status species were detected, including least Bell's vireo, yellow-breasted chat (*Icteria virens*), and yellow warbler (*Dendroica petechia*).

Camelot, Integral Communities, San Diego County, California. Conducted focused surveys for least Bell's vireo within riparian habitat. All surveys were negative.

Championship Off-Road Racing Project, City of Chula Vista, California. Conducted monitoring during races to assess the impacts of race activity on known occurrences of special-status bird species. Both least Bell's vireo and California gnatcatcher were observed.

Education

Future Elementary School Project, San Marcos Unified School District, San Diego County, California. Prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA. Assisted in permit processing, mitigation identification, and development of a conceptual wetlands mitigation plan.

Dual Magnet High Schools Project, Vista Unified School District, Oceanside, San Diego County, California. Permit preparation, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA. Conducted biological monitoring during construction phase to ensure that impacts to coastal California gnatcatcher *(Polioptila californica californica)* were avoided and that BMPs were implemented.

College and Cannon High School Project, City of Carlsbad, San Diego County, California. Conducted a wildlife movement study that included scent station surveys, pedestrian trail surveys, and a remotely triggered wildlife camera survey. Assisted in preparation of a wildlife movement corridor report.

Energy

Confidential Solar Energy Project, California. Conducted focused surveys for quino checkerspot butterfly. Conducted a formal wetland delineation and determination based on the regulations of the CDFW, ACOE, and RWQCB. Mapped vegetation within the project area according to County of San Diego guidelines.

Devers Palo Verde No. 2 Segments 1, 2, and 3; Burns & McDonnell; Palo Verde, California. Conducted wetlands delineations and vegetation mapping along the Devers to Palo Verde alignment located in the Mojave Desert. Monitored geotechnical borings to ensure avoidance of impacts to special-status species and jurisdictional drainages. Conducted a CRAM within the project area and associated mitigation sites. Assisted in the preparation of a jurisdictional delineation report, and Conceptual Wetlands Mitigation and Monitoring Plan. Prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA. Coordinated with agencies to obtain permits and provided support to adhere to permit requirements, including the preparation of the Annual Report.

Borrego Springs Gildred Site, The Gildred Companies, Borrego Springs, California. Conducted focused rare plant surveys.

Tierra Del Sol Farm Solar LLC, San Diego County, California. Conducted vegetation mapping, focused rare plant surveys, and assisted the permitted Quino checkerspot (*Euphydryas editha quino*) biologist during focused surveys for a 420-acre solar development site located within an unincorporated section of San Diego County. Prepared the biological resources technical report in accordance with the County of San Diego's guidelines.

Rugged Solar, Rugged Solar Farm LLC, San Diego County, California. Conducted focused rare plant surveys for a 765-acre solar development site located within an unincorporated section of San Diego County.

Fingal Transmission Line, Southern California Edison (SCE), Riverside County, California. Assisted with special-status plant species surveys along an existing transmission line to provide data in cases where emergency work would need to be conducted that impacted special-status plant species.

Angeles National Forest Tower Staking Activities, SCE, Angeles National Forest, California. Conducted on-site biological monitoring during tower staking activities within the Angeles National Forest to ensure the avoidance of impacts to potentially occurring sensitive and U.S. Forest Service (USFS) threatened, endangered, and sensitive species. Conducted daily pre-staking site evaluations for the presence of nesting birds.

Tehachapi Renewable Transmission Project, SCE, Los Angeles and San Bernardino Counties, California. Served as biological monitor for weed abatement during 2011 for construction-related activities for the Tehachapi Renewable Transmission Project. Field Reporting Environmental Database reports were completed each day to discuss daily monitoring activities and nest updates. Attended construction monitoring workshop and Worker Environmental Awareness Program/Safety training.

Angeles National Forest Post-Fire Monitoring, SCE, Angeles National Forest, California. Conducted on-site biological monitoring during road-grading activities to ensure avoidance and minimization of jurisdictional resources.

Borrego Springs Property, Concentrix Solar Inc., San Diego County, California. Conducted a general biological reconnaissance survey for a proposed solar development site located in Borrego Springs. The survey included vegetation mapping of the proposed project area, surveying for potential jurisdictional wetlands and waters, a complete inventory of plant and wildlife species on site and an assessment for special-status species to occur. A constraints analysis, which outlined biological resources present, additional surveys necessary and county guidelines, was also completed.

Borrego Solar Project, Enel Green Power North America Inc., San Diego County, California. Conducted a general biological reconnaissance survey for two proposed solar development sites located in Borrego Springs. The surveys included vegetation mapping of the proposed project areas, surveying for potential jurisdictional wetlands and waters, a complete inventory of plant and wildlife species on site and an assessment for special-status species to occur. A constraints analysis for each project, which outlined biological resources present, additional surveys necessary and county guidelines, was also completed.

Bark Beetle Project, SCE, San Bernardino National Forest, San Bernardino and Riverside Counties, California. Monitored tree removal in biologically sensitive areas to ensure avoidance of impacts to jurisdictional areas and to potentially occurring special-status species and USFS threatened, endangered, and sensitive species. Conducted rare plant, arroyo toad, red-legged frog (*Rana draytonii*), and yellow-legged frog (*Rana muscosa*) surveys within the San Bernardino Mountains.

As-Needed Biological Services, SCE, Los Angeles, Orange, Santa Barbara, San Bernardino, Riverside, Inyo, Mono, Kern, and Tulare Counties, California, and La Paz County, Arizona. Assistant project manager. Assessed and monitored pole maintenance activities in biologically sensitive areas to ensure avoidance of impacts to potentially occurring special-status species and USFS threatened, endangered, and sensitive species and Bureau of Land Management sensitive species. Preparation of biological assessments and biological evaluations associated with pole maintenance activities. Conducted vegetation mapping and habitat assessment for desert tortoise (*Gopherus agassizii*) and burrowing owl for various projects within the Mojave Desert. Burrowing owls were detected during some surveys.

Municipal

As-Needed Biological and Cultural Resource Services, County of San Diego, California. Conducted baseline biological surveys including butterfly surveys, wildlife corridor camera studies, vegetation mapping, herp trap arrays and focused surveys for sensitive plant species. Prepared technical reports in support of the project.

Transportation

As-Needed Environmental Services for San Diego Association of Governments (SANDAG), Parsons Brinkerhoff Inc., San Diego County, California. Jurisdictional delineation task lead for regional transit project involving evaluation of light rail, bus rapid transit, and commuter rail alternatives. Conducted the jurisdictional delineation and focused surveys for least Bell's vireo. Prepared the biological resources technical report for the draft supplemental environmental impact statement/subsequent environmental impact report (SEIS/SEIR). Prepared necessary agency permits required for the project including: Section 404 Nationwide Permit, Section 401 Water Quality Certification, Section 1601 SAA, and Biological Assessment. Managed permit compliance during the construction phase of the project.

Highway Emergency Slope Repair Restoration, City of Encinitas, California. Confirmed vegetation mapping previously conducted for the site.

Barham Drive Widening Project, City of San Marcos, San Diego County, California. Prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 SAA.

Oceanside to Escondido Rail Project, North County Transit District, Cities of Oceanside, Vista, San Marcos, and Escondido, and County of San Diego, California. Surveyed for potential oak tree habitat in conformance with the mitigation plan.

Brown-Headed Cowbird Trapping Program, Oceanside to Escondido Rail Project, North County Transit District, City of Oceanside, San Diego County, California. Assisted in the daily operation and maintenance of a cowbird trapping program along Loma Alta Creek in the City of Oceanside. The trapping program is a USFWS requirement as mitigation for impacts to habitat for federally listed species, including least Bell's vireo, southwestern willow flycatcher, and California gnatcatcher.

Mid-County Parkway, Riverside County Transportation Commission, County of Riverside, California. Dudek was a subcontractor to Jacobs Engineering on this project. Assisted in fairy shrimp surveys for potential alignment alternative study for a proposed 32-mile transportation corridor. Completed burrowing owl habitat assessment for entire study area. Coordinated and conducted rare plant surveys and conducted focused surveys for least Bell's vireo.

Water/Wastewater

Southern Sacramento Habitat Conservation Plan (SSHCP), County of Sacramento, California. Prepared a watershed study for the South Sacramento Habitat Conservation Plan and Aquatic Resources Plan (ARP). Under the ARP, the Plan Partners are seeking master wetlands permits, a master SAA, and/or waste discharge requirement. The watershed plan required the analysis of several layers of GIS data, and incorporation of that data into tables and associated descriptive text as well as describing how the SSHCP Reserve System relates to each watershed located within the Plan Area.

Buena Vista Creek Channel Maintenance Project, Natures Image Inc., San Diego, California. In accordance with 1601 SAA requirements, provided biological field monitoring during the removal of riparian vegetation. Ensured that the project was in compliance with the conditions listed in the 1601 SAA.

Buena Vista Creek Channel Maintenance Project, City of Carlsbad, California. Conducted a formal wetland delineation and determination based on the regulations of the CDFW, ACOE, and RWQCB.

Buena Vista Creek Walk, City of Vista, California. Performed nesting bird surveys within riparian vegetation prior to vegetation removal for restoration activities.

Borden Bridge, City of San Marcos, California. Performed preconstruction nesting bird surveys within and adjacent to riparian habitat scheduled for removal. Focused on potential impacts to least Bell's vireo.

Pipeline Relining CEQA Services, Poseidon Resources, San Diego, California. Conducted vegetation mapping and a habitat assessment for special-status plant and wildlife species.

Environmental Services for the Corrugated Metal Pipe Replacement Program, City of Carlsbad, California. Conducted a formal wetland delineation and determination based on the regulations of the CDFW, ACOE, and RWQCB. Conducted vegetation mapping and prepared a biological technical report.

San Vicente Dam Raise, San Diego County Water Authority, Lakeside, California. Conducted biological monitoring during the removal of vegetation within habitat occupied by California gnatcatcher.

El Camino Real Channel Maintenance Flood Control Project, City of Encinitas, California. Prepared and Environmental Assessment (EA) for the ACOE for the proposed project. The EA summarized the project information and addressed comments reviewed by the community during the public notice period.

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Conducted construction monitoring and ensured permit compliance for channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash, remove several hundred thousand tons of sediment material from the river valley, and create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events.

Drainage Master Plan Update Programmatic Environmental Impact Report (PEIR), City of Vista, San Diego County, California. Provided evaluation of potential biological resource impacts for future infrastructure projects throughout the City of Vista. Developed evaluation criteria and mitigation measures for potentially significant impacts for PEIR.

As-Needed Biological Tasks, Metropolitan Wastewater Department (MWWD), City of San Diego, California. Assisted in preparation of a biological resources technical report for an MWWD project involving necessary sewer line maintenance.

Non-Potable Water Distribution System Project, Yucaipa Valley Water District, Riverside and San Bernardino Counties, California. Conducted jurisdictional wetlands delineation within a 6-mile study area along San Timoteo Creek. Assisted in preparation of a biological resources technical report and wetland permit applications.

Sorrento Valley Utilities Improvement Revegetation Project, City of San Diego, San Diego County, California. Monitored the removal of irrigation equipment used for wetlands creation and enhancement efforts.

Salton Sea Species Conservation Habitat Project, Cardno ENTRIX, Imperial County, California. The project consists of creating approximately 2,400 acres of new saline pond habitat near the Salton Sea as part of a wildlife habitat restoration project. Conducted focused surveys for least Bell's vireo along the New River. Conducted a CRAM assessment, including associated reporting. Prepared a Biological Assessment to assist in formal consultation with the USFWS, a Habitat Mitigation and Monitoring Plan, as well as a jurisdictional delineation report. Prepared permit applications, including an Individual Permit in accordance with Section 404 of the Federal Clean Water Act and a CDFW Section 1601 SAA. Coordinated with the ACOE and CDFW to obtain those permits.

Lake Mathews Multiple Species Reserve Management Plan, Riverside County, California. Conducted vegetation and exotic species mapping for the approximately 5,000-acre reserve. Assisted in the preparation of a Reserve Management Plan.

Del Dios, Escondido Creek, and San Luis Rey Preserves, County of San Diego, California. Conducted vegetation mapping for three preserves in San Diego County. Also assisted with special-status plant species surveys.

Specialized Training

- Desert Washed and Waters, 2013
- Arid Saline Wetlands, 2012
- Desert Tortoise Handling Workshop, 2010

Melis Ökter

Environmental Specialist, Coastal Planner

Melis Ökter is an environmental specialist and coastal planner with 6 years' experience in natural resource management. Ms. Ökter has expertise in coastal planning and permitting and has experience working on an array of coastal development and land use planning projects throughout California's coastal regions. She also served as a permit analyst and sea-level rise analyst for the CCC's San Francisco office, making her highly knowledgeable in the application of the California Coastal Commission's (CCC's) Sea-Level Rise Guidance and the California Coastal Act (CCA) policies.

Melis Ökter

Education

Middlebury Institute of International Studies at Monterey MA, International Environmental Policy (Ocean and Coastal Resource Management), 2016

University of California, San Diego BS, Environmental Systems (Ecology, Behavior, and Evolution), 2013

Project Experience

Municipal

Gaviota Pier Repairs, Moffatt & Nicol Engineers, Santa Barbara, California. Served as the coastal planner responsible for coordinating with the CCC and other jurisdictions to process Coastal Development Permits (CDP) for repairing the damaged Gaviota State Park pier. Coordinated with engineering staff, geotechnical and shoreline process experts, and various resource agencies. Environmental specialist responsible for processing necessary U.S. Army Corps of Engineers permits and California Central Coast Regional Water Quality Control Board 401 Water Quality Certification.

Sea-Level Rise Study and Local Coastal Plan Amendment (LCPA), City of Dana Point, California. Served as deputy project manager for the update of the City's LCPA to address impacts of sea-level rise and associated coastal hazards. Assisted with the development of the Sea-Level Rise Vulnerability Assessment which builds on existing sea-level rise vulnerability studies to assess the potential significant physical impacts and their various externalities in order to better understand current and future local hazard conditions. Drafted policies and implementation measures regarding coastal hazards and shoreline development in accordance with CCC's 2015 Sea-Level Rise policy guidance and assist with the development of public workshop information and materials. The City received a grant from the CCC for this LCPA project in August 2016.

Wheeler North Reef Subsequent Environmental Impact Report (SEIR), California State Lands Commission, San Clemente, California. Served as environmental specialist, providing climate change and sea-level rise analysis to the Wheeler North Reef expansion project during the preparation of the SEIR for the San Onofre Nuclear Generating Station mitigation site.

Venice Local Costal Program (LCP) Update, City of Los Angeles, California. Served as coastal planner for the update of the City's Coastal Land Use Plan. Assisted with the development of the Venice-Specific Vulnerability Assessment, which builds on existing sea-level rise vulnerability studies to assess the potential significant physical impacts and their various externalities in order to better understand current and future local hazard conditions. Drafted policies and implementation measures regarding coastal hazards and shoreline development in accordance with CCC's 2015 Sea-Level Rise policy guidance and assisted with the development of public workshop information and materials. The City received a grant from the CCC for this LCP project in January 2014.

LCP Update, City of San Clemente, California. Served as coastal planner for the development of a new LCP for the City of San Clemente. Drafts new policies and implementation measures regarding environmentally sensitive habitat, water quality, scenic and historic resources, public access and recreation, coastal hazards and shoreline development, and land use in accordance with recent CCC policy guidance, including recent direction regarding sea-level rise. Analyzed policies for consistency with Chapter Three policies of the CCA, coordinated biological inventory mapping, and developed public workshop information and materials.

19th Street Bicycle Trail, City of Costa Mesa, California. Served as coastal planner responsible for processing a CDP for a multipurpose bicycle/pedestrian trail project along the Greenville-Banning Channel. The proposed project includes a trail 6,220 feet in length with 3,620 feet of Class I/Multipurpose trail and 2,600 feet of Class II bike trail to connect existing local city bike lanes to the local Santa Ana Multipurpose Trail. The project requires technical review of CCA issues such as site stability, coastal hazards, wetland impacts, and public access. Developed specific conditions of approval, including wetland impact mitigation provision, in order to find project consistent with the CCA.

LCP Update, City of Santa Monica, California. Served as coastal planner for the update of the City's Coastal Land Use Plan and development of a new Implementation Plan for the City of Santa Monica to allow transfer of CDP authority. Drafted new policies regarding coastal zone land use, parking policies and programs, environmentally sensitive habitat, water quality, visual resources, cultural and historic resources, public access and recreation, and coastal hazards and sea-level rise in accordance with recent CCC policy guidance, including recent direction regarding sea-level rise, and analyzes policies for consistency with Chapter Three policies of the CCA. Provided support for community outreach efforts and developed public workshop information and materials. The City received a grant from the CCC for this LCP project in November 2014.

Transportation

North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program, San Diego Association of Governments and California Department of Transportation (Caltrans), San Diego County, California. Served as a coastal planner, supporting the preparation and processing of amendments to the public works plan and associated approvals for a transportation improvement program in the Interstate 5 and Los Angeles–San Diego (LOSSAN) rail corridors in northern San Diego County. Program includes highway expansion, a number of bridge and interchange structure replacement and community enhancement projects, double-tracking and station improvements for the LOSSAN rail corridor, and development of a comprehensive coastal resource enhancement and mitigation program addressing project impacts to five coastal lagoons and other natural resources, including environmentally sensitive habitat areas, within the transportation corridor. Worked on implementation efforts for the first 10-year phase of improvements, including successful processing of a major Public Works Plan amendment and various CDPs and Notices of Impending Development with the CCC.

Water/Wastewater

Upper Newport Backbay, Metropolitan Water District of Southern California, Newport Beach, California. Served as coastal planner responsible for reviewing and assessing potential coastal site hazards and writing a sea-level rise analysis memo during the preparation of a CDP for structure upgrades, including development in wetlands, and a mitigation program.

On-Call California Environmental Quality Act/National Environmental Policy Act Services, ICF Jones & Stokes Inc., Santa Barbara, California. Served as coastal planner providing critical support to Caltrans headquarters staff in the development of a new Caltrans Coastal Program to implement the Interagency Agreement between Caltrans and CCC. The Coastal Program includes provision of guidance documentation regarding CCA and LCP policy interpretation, procedures, and permitting requirements, preparation and conduct of on demand trainings and informational materials, and delivery of an intensive two-day CCC training workshop for Caltrans' environmental staff throughout the state.

Relevant Previous Experience

Sea-Level Rise

CCC Statewide Sea-Level Rise Vulnerability Synthesis, San Francisco, California. Primary author to the CCC's Statewide Sea-Level Rise Vulnerability Assessment while serving as a California State Sea Grant Fellow at the CCC. Presented key statewide findings on vulnerability to inform sea-level rise planning and preparedness. Created county-level snapshots, which analyzed sea-level rise vulnerability at a county scale, tracked local planning efforts currently underway, and discussed CCA resource management priorities. The report aimed to enhance the ability of CCC and other decision-makers to make well-informed decisions about the long-term planning and management of critical resources along the coast as well as prioritize future Commission efforts in addressing hazards and vulnerabilities related to sea-level rise with a specific focus on CCA resources most at risk.

Development

Permit Analyst, CCC, San Francisco, California. Served as a coastal permit analyst for the North Central Coast District. Reviewed CDP applications for conformity with the CCA and prepared written recommendations to the Commission on permit applications.

Resource Management

Tracking Changes in Arctic Development, National Ocean Economics Program, Monterey, California. Researched and tracked the expansion of economic activity and assessed how this activity will impact the Arctic's already shifting natural environment. This data was relayed into an easily usable Web tool, aimed to serve the needs of decision-makers and the public by assisting with investment and management decisions that strive to balance conservation; preservation; and new, green, economic growth.

Arctic Marine Protected Areas Project, National Oceanic and Atmospheric Administration (NOAA), Washington, D.C. Began a discussion with various stakeholders in the Arctic surrounding Pan-Arctic Marine Protected Areas. Utilized conflict resolution and meeting facilitation to represent NOAA at multiple high-level meetings to engage individuals from various backgrounds and to find common interests to meet their needs while ensuring the protection of natural resources.

Specialized Training

- San Francisco Bay National Estuarine Research Reserve/Romberg Tiburon Center for Environmental Studies, Navigating the Environmental Compliance Process for Wetland Projects in San Francisco Bay and Outer Coast, 2017. Tiburon, California.
- Resilient Communities Initiative, Building Community Partnership and Effective Problem Solving Training and Certification, 2016. Oakland, California.
- U.S. Department of Energy, Developing Productive Government and Community Relations Training and Certification, 2015. Washington, D.C.

Publications

California Coastal Commission. 2017. "California Coastal Commission Statewide Sea-Level Rise Vulnerability Synthesis."

Wenzel, L., Gilbert, N., Goldsworthy, L., Tesar, C., McConnell, M., Spadone, A., Okter, M. 2016. "Polar Opposites? Marine Conservation Tools and Experiences in the Changing Arctic and Antarctic." *Aquatic Conservation Marine and Freshwater Systems*.

Conference Presentations

"New Products and Tools for Addressing Climate Change in the Coastal Commission's Planning and Regulatory Work", 2017. Poster presented at the California Climate Change Symposium Science to Safeguard California. Sacramento, California.

"New Products and Tools for Addressing Climate Change in the Coastal Commission's Planning and Regulatory Work", 2016. Webinar presented for the Nature Conservancy's California Coastal Resilience Network.

"Effects of the Pesticide Thiamethoxamon European Honey Bee's Flight Ability", 2013. Paper and poster presented at the University of California, San Diego Undergraduate Research Symposium. San Diego, California.

Vanessa Currie

Environmental Planner

Vanessa Currie is an environmental planner with 4 years' experience preparing environmental documentation for land use planning and infrastructure projects that are subject to compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Ms. Currie provides analytical support and management assistance on a variety of planning projects and environmental issues for both public and private entities. Her experience includes renewable energy, residential development, habitat restoration, and mixed-use development projects, as well as visual resources technical studies. Ms. Currie understands environmental policy and the regulatory process that surrounds the approval process.

Vanessa Currie

Education

Sonoma State University

BA, Environmental Studies and Planning, 2013

Professional Affiliations

Association of Environmental Professionals

Project Experience

Development

Emerald Ridge Residential Project, City of Jurupa Valley, California. Served as primary analyst for the following sections of the environmental impact report (EIR): Project Description, Aesthetics, Agricultural Resources, Biological Resources, Cultural Resources, Land Use and Planning, Population and Housing, Transportation and Traffic, and Alternatives.

Murrieta 180 Project, Bel Air Murrieta LLC, California. Prepared the Notice of Preparation (NOP) and the Notice of Completion (NOC) for this project and served as the environmental analyst for the following EIR sections: Project Description, Aesthetics, Cultural Resources, Hazards and Hazardous Materials.

North County Environmental Resources Recycling EIR, Hilltop Group Inc., Escondido, California. Served as analyst in the preparation, editing, and response to comments of EIR sections. Helped with the research of hazardous materials associated with the proposed development of a wood chipping and Construction, Demolition, and Inert (CDI) debris recycling facility.

Solana Highlands Multi-Family Development EIR, City of Solana Beach, California. Served as primary environmental analyst and was responsible for the preparation and response to comments of EIR sections for this project. Sections included: Executive Summary, Project Description, Environmental Setting, Aesthetics, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use Planning, Population and Housing, Public Services and Utilities, and Recreation.

South Palm Canyon Improvements–Phase III, Agua Caliente Band of Cahuilla Indians, Palm Springs, California. Completed the Environmental Review Checklist and Categorical Exclusion for the Indian Canyons Stormwater and Roadways Improvement project, in compliance with NEPA and the California Department of Transportation (Caltrans).

Otay Ranch Village Four Project, Otay Valley Quarry LLC, Chula Vista, California. Served as primary analyst for the preparation of the EIR for the master-planned residential community.

Yokohl Ranch EIR, Yokohl Ranch LLC, Tulare County, California. Completed the documentation of cumulative projects, visual simulation analysis, and updates to EIR sections; which included Project Description, Traffic, Cultural, Utilities, and Aesthetics; for the 36,219-acre master-planned community.

Air Resources Board (ARB) Consolidation Project, Department of General Services (DGS), Riverside, California. Served as environmental analyst. Completed the initial project research, the Cultural and Biological Resources Chapters for the EIR, and preparation of the cumulative projects list for the proposed relocation and upgrade of the ARB motor vehicle and emissions testing and research facility.

Rancho Santa Fe Step Down Housing, Shapouri and Associates, California. Served as analyst. Responsible for the preparation of various EIR sections (Project Description, Public Services, Utilities, Mineral Resources, Geology and Soils, Agriculture and Forest, Paleontological Resources, Transportation and Traffic) and drafted the Visual Technical Report.

Watermark Del Mar Specific Plan, City of Del Mar, California. Prepared the NOP and served as analyst, responsible for preparation of EIR sections for the Watermark Del Mar residential development project. Section included Project Description, Environmental Setting, Aesthetics, Hydrology and Water Quality, Cultural, Public Services and Utilities, Cumulative Impacts, and Other CEQA Considerations.

Scolinos Stadium Upgrades MND (Mitigated Negative Declaration), California State Polytechnic University, Pomona, California. Assisted in the preparation of the Initial Study (IS) for the MND of a college baseball facility renovation project. Responsible for sections including Population and Housing, Agriculture, Land Use, Hazards, Utilities and Service Systems, Geology and Soils, Recreation, and Mineral Resources.

Proctor Valley Villages 14, Jackson Pendo Development, Chula Vista, California. Assisted with the completion of the IS for the project and served as an analyst for the following EIR sections for the master-planned residential community: Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, Population and Housing, and Utilities and Service Systems.

Cannon Road Project and Agua Hedionda Specific Plan, Caruso Acquisition Co. II LLC, Carlsbad, California. Assisted with the preparation and completion of the General Plan consistency tables, and was responsible for the preparation of the following Environmental Analysis sections: Energy, Population and Housing, and Recreation. This Specific Plan proposed a mixed-use conservation and development plan for 85% Open Space conservation and agriculture preservation, and 15% pedestrian-oriented outdoor visitor-serving commercial, shopping, dining, and entertainment promenade.

Education

San Diego State University (SDSU) Engineering and Interdisciplinary Sciences Building, Gatzke, Dillon and Balance, California. Served as analyst for the Draft Visual Quality Technical Report, assessing existing and proposed visual quality.

Mary Fay Pendleton and San Onofre Schools Renovation, Roesling Nakamura Terada Architects, Fallbrook, California. Served as primary analyst for project documentation and assisted in project management.

Energy

Smoke Tree Environmental Services, Ogin Inc., Riverside, California. Served as primary environmental analyst for the project, assisting in ongoing tasks such as completing a variety of permit applications, Wind Energy Conversion System applications, waste and recycling plans, and decommissioning plans. Assisted in the preparation of the project IS and MND and served as a point of contact with the County of Riverside Planning Department and Ogin, Inc.

Ord Mountain Solar, NextEra Energy Resources, San Bernardino, California. Served as environmental analyst for the preparation of the Visual Resources Technical Report for the proposed solar facility and substation off State Route 247.

Resource Management

Foss Lake Vector Habitat Remediation, County of San Diego, California. Served as primary analyst in the preparation of an addendum to a previously certified Program Environmental Impact Report (PEIR) for the County's Vector Control Program.

Lagunitas Creek Winter Habitat and Floodplain Enhancement Project, Marin Municipal Water District, Marin County, California. Served as environmental analyst for the preparation of an Environmental Assessment (EA) under NEPA, for the modification of hydrology, and enhancement and restoration of existing floodplain and instream habitat at a number of locations in Lagunitas Creek.

San Jacinto Wildlife Area (SJWA) EIR, California Wildlife Foundation, Riverside County, California. Prepared the NOP/NOC and the NOP comment matrix, compiled existing SJWA information, and assisted in initial research for the preparation of an EIR for the SJWA Land Management Plan (LMP).

Adam Giacinto

Archaeologist

Adam Giacinto is an archaeologist with more than 10 years' experience preparing cultural resource reports, site records, and managing archaeological survey, evaluation, and data recovery-level investigations. His research interests include prehistoric hunter-gatherer cultures and contemporary conceptions of heritage. His current research focuses on the social, historical, archaeological, and political mechanisms surrounding heritage values. He has gained practical experience in archaeological and ethnographic field methods while conducting research in the Southwest, Mexico, and Eastern Europe.

Mr. Giacinto brings specialized experience in cultural resources information processing gained while working at the South Coastal Information Center. He has worked as part of a nonprofit collaboration in designing and managing a large-scale, preservation-oriented, standardized database and conducting site and impact predictive Geographic Information Systems (GIS) analysis of the cultural resources landscape surrounding ancient Lake Cahuilla. He provides experience in ethnographic and applied anthropological methods gained in urban and rural settings, both in the United States and internationally.

Adam Giacinto

Education

San Diego State University
MA, Anthropology, 2011

Santa Rosa Junior College
AA, Anthropology, 2004

Sonoma State University
BA, Anthropology/Linguistics, 2006

Professional Affiliations

Register of Professional Archaeologists

Society for California Archaeology
American Anthropological Association Institute of Archaeomythology

American Anthropological Association

Project Experience

Tribal

South Palm Canyon West Fork Flood Emergency Work, Agua Caliente Band of Cahuilla Indians, Palm Springs, California. As principal investigator, Mr. Giacinto worked with the Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Office to conduct archaeological monitoring on tribal lands of emergency repairs within Andreas Canyon National Register of Historic Places listed district. A monitoring report with a summary of findings and implemented mitigation activities, daily monitoring logs and photos, and confidential figures was provided to the tribe.

South Palm Canyon Improvements, Agua Caliente Band of Cahuilla Indians, Palm Springs, California. As principal investigator, Mr. Giacinto worked with the Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Office to conduct archaeological monitoring on tribal lands of facility improvements within Andreas Canyon National Register of Historic Places listed district. A monitoring report with a summary of findings and implemented mitigation activities, daily monitoring logs and photos, and confidential figures was provided to the tribe.

Shu'luuk Wind Project Cultural Resource Study Survey, Campo Environmental Protection Agency and Invenergy LLC, Campo Indian Reservation, California. As field director, Mr. Giacinto managed two teams of archaeologists, consisting of seven total practitioners, in conducting a survey of the 2,400-acre study area in a general inventory of potentially impacted cultural resources. Worked with Campo Environmental Protection Agency, of the Campo Kumeyaay Nation, in forming management objectives and integrating six Native American Monitors into daily survey activities.

Water/Wastewater

As Needed Planning and Environmental Contract, Recycled Wastewater Treatment Plant Secondary Process Upgrade Improvement Project, City of Auburn, California. As principal investigator, Mr. Giacinto managed the survey, archival searches, tribal correspondence, and reported mangement recommendations for a cultural resources inventory. Considerations included compliance under CEQA and Section 106 of the NHPA.

Recycled Water Pipeline Project, City of Woodland, California. As principal investigator, Mr. Giacinto managed the survey, archival searches, tribal correspondence, and reported mangement recommendations for a cultural resources inventory. Considerations included compliance under CEQA and Section 106 of the NHPA.

Carlsbad Desalination Third Addendum to EIR Biological Survey and Monitoring, Poseidon Water LLC, Carlsbad, California. As archaeological consultant, Mr. Giacinto conducted archaeological monitoring and consultation on an as-needed basis.

Old Mission Dam, City of San Diego, California. As principal investigator, Mr. Giacinto conducted an inventory, coordinated survey, and prepared recommendations for the maintenance of the National Register of Historic Places listed resource, Old Mission Dam.

Otay River Wetland Mitigation, Poseidon Water LLC, San Diego, California. As field director, Mr. Giacinto conducted a cultural resources survey of a mitigation property, managed by the U.S. Fish and Wildlife Service (USFWS), to be used for estuary restoration.

Vallecitos Water District Rock Springs Sewer, Infrastructure Engineering Corporation, San Diego, California. As principal investigator, Mr. Giacinto coordinated a SCIC records search, NAHC and Native American consultation, archaeological survey, and preparation of a negative technical letter report for this small residential development. The mitigation strategy did require additional archaeological monitoring based on the potential to encounter subsurface cultural resources. Recommendations were submitted to the Vallecitos Water District.

Shawn Shamlou, AICP

Principal

Shawn Shamlou is a principal with 20 years' experience preparing environmental documentation for land-use planning and infrastructure projects for public and private clients. He has prepared more than 200 reports complying with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and has served as project manager and primary author of many environmental review documents throughout San Diego County and California.

A specialist in infrastructure projects, Mr. Shamlou has overseen and managed a broad range of environmental documents for healthcare, transportation, aviation, rail, port, water, and energy infrastructure projects. He understands the environmental policy and regulatory process complexities that surround permitting projects through agencies like California Department of Transportation (Caltrans), Federal Highway Administration (FHWA), Federal Aviation Administration (FAA), and the California Coastal Commission (CCC) and expertly guides clients through the environmental approval process. He is also adept at managing private development projects for residential, mixed use, redevelopment, and office projects. Shawn has established himself as an effective project manager with robust interpersonal skills and a solid foundation in implementation of solutions for complex environmental issues. He is a results-oriented planning professional who is highly motivated with an ability to combine creative ideas and analytical decision-making. He has a strong presence with excellent written and presentation skills.

Shawn Shamlou

Education

Syracuse University
MA, Geography, 1995

San Diego State University
BA, Geography, 1993

Certifications

American Institute of Certified Planners

Professional Affiliations

Association of Environmental Professionals

Encinitas 101 Mainstreet Association - Vice President

Project Experience

Development

Environmental Planning for Undeveloped Coastal Property, The Copley Press Reserve Project, San Diego, California. As project manager, Mr. Shamlou is responsible for the preparation of an Environmental Impact Report (EIR). Project includes development of two residential estate lots on a rare hilltop setting in the community of La Jolla. Project required the following studies: forensic biological review, an archaeological resources report, water quality and drainage study, geological report, and EIR. Key environmental issue areas analyzed include aesthetics, biological resources, cultural resources, and land use compatibility. Dudek assisted with identification of the most feasible locations for development and prepared the following:

- Opportunities and Constraints Report
- Biological Reconnaissance Survey (includes Rare Plants Survey)
- Jurisdictional Wetland Delineation
- Forensic Biological Study

- Updated Biological Assessment Memorandum
- Archaeological Resources Study
- Hydrology and Water Quality Study

R-4 and R-5 Zone Change and Emergency Shelter Overlay Project EIR and CEQA Studies, City of Fontana, San Bernardino, California. Serves as project manager to prepare and process required CEQA documentation to include an Initial Study/Mitigated Negative Declaration (IS/MND) and Draft EIR for proposed R-4 and R-5 Zone Change and proposed Emergency Shelter Overlay project. The City of Fontana proposes to rezone various land parcels to multi-family medium-to-high density residential, multi-family high density residential, and create a new Emergency Shelter Overlay District to meet new state low-income housing requirements.

Mission Beach Residences Master EIR, McKellar McGowan, San Diego, California. Served as project manager for the preparation of a Master EIR for two adjacent residential developments on the site of a former school. The Mission Beach Residences and Santa Barbara Place Residences projects are located in the Mission Beach community of San Diego. Master EIR sections for this controversial project included visual resources, geology, historical and paleontological resources, energy, mineral resources, public services, and public utilities.

Inns at Buena Creek EIR, James Eleopoulus, San Diego, California. Served as project manager for the preparation of CEQA documents on behalf of the City of Oceanside. The documentation was for a proposed hotel project that included both an EIR and associated technical studies. Key issues within these documents include wetlands and coastal commission permitting, traffic impacts, and aesthetics.

Casa Mira View Multifamily Housing Project, City of San Diego, California. Served as project manager for a controversial 1,848-unit housing development in the Mira Mesa community of the City of San Diego. Key technical studies prepared by Dudek for the project were for biological resources on the property and a "shadow study". Also attended numerous community planning group meetings. This 41-acre project was proposed by Garden Communities and received unanimous approval from the City Council.

Pacific View Commons Specific Plan Amendment MND, City of Encinitas, California. Served as project manager for this controversial proposed specific plan amendment that would result in the conversion of a defunct elementary school (Pacific View Elementary) into a mixed-use project located at Third and E Street in downtown Encinitas. The project involved an amendment to the City of Encinitas' Downtown Specific Plan to rezone the former elementary school to a mixed-use area including multifamily housing and commercial office space. Managed the MND, and also hazardous materials and global climate change technical reports. Land use, aesthetics, parking, and traffic were key controversial issues that were evaluated as part of the CEQA document. Also coordinated closely with the school district, City of Encinitas, and general public as part of the public outreach process.

Bahlmann Tentative Map Project EIR, City of Encinitas, California. Served as project manager for this EIR and associated technical studies, public comment procedures, and presentations to the City of Encinitas in accordance with Encinitas' CEQA procedures for the controversial land development project. The EIR was one of the first in Encinitas that addressed greenhouse gas (GHG)-related issues. Key issues studied and evaluated included aesthetics, agricultural resources, air quality (including global climate change issues), cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, cumulative effects, growth inducement, and traffic circulation.

Fritz Tentative Map Project EIR, City of Encinitas, California. Served as project manager for this EIR and associated technical studies, public comment procedures, and presentations to the City of Encinitas in accordance with Encinitas' CEQA procedures for the land development project. The EIR was one of the first in Encinitas that addressed GHG-related issues. Key issues studied and evaluated included aesthetics, agricultural resources, air

quality (including global climate change issues), hazards and hazardous materials, hydrology and water quality, land use and planning, noise, cumulative effects, alternatives, and traffic circulation.

Sierra Lakes Specific Plan Amendment (SPA) No. 5 EIR (Home Depot Retail Center Project), City of Fontana, California. Project manager responsible for preparation of the Home Depot Retail Center project EIR proposed in the City of Fontana's rapidly developing northern section. The project, approximately 14 acres in size near State Route (SR) 210, would remove an existing community center and preschool. The proposed Sierra Lakes SPA included changing the existing land use from recreation facilities (P-R) to general commercial (C-3) and adding approximately 2.8-acres of land to the Specific Plan Area. Key issues evaluated included land use, hydrology, traffic, noise, and community character.

Sunshine Gardens Nursery IS, City of Encinitas, California. Served as project manager responsible for preparation of an IS in support of the Sunshine Gardens Nursery project. The project involved design review, a CUP, and a coastal development permit for the consolidation of existing operations at Sunshine Gardens Nursery, located along Encinitas Boulevard near the intersection with Quail Gardens Drive. The project involved the demolition of existing retail nursery structures and construction of new elements. The new consolidated nursery was proposed to be relocated to the corner of Quail Gardens Drive and Encinitas Boulevard, a developed lot formerly housing the Campbell Bros.' nursery and retail center. The nursery project involved two lots and proposed a new two-story 6,680-square-foot retail store to house indoor plants and offices. The project also proposed to use an existing 2,928-square-foot on-site florist structure. Key issues included hazardous materials, traffic, agriculture, and hydrology and water quality.

Ocean View Estates EIR, City of Encinitas, California. Project manager for a four-unit subdivision EIR in the Old Encinitas community in the City of Encinitas. While the project is small in scale, significant unmitigable noise impacts would result due to the project's orientation and proximity to Interstate (I-) 5, a designated scenic corridor in the City of Encinitas. The project is located on former greenhouse agricultural land. Key issues include biological resources, including wetlands; visual resources; and noise. Also prepared the project's visual resources technical report for the project, which included visual simulations as seen from freeway sensitive receptors.

Quail Meadows IS and Technical Reports, City of Encinitas, California. Project manager for a 34-unit subdivision project in the Leucadia community in the City of Encinitas. The project proposes to subdivide 11.9 acres into 34 single-family residential lots and 6 other lots for a total of 40 lots on former greenhouse agricultural land. Key issues include noise, traffic, aesthetics, air quality, agricultural resources, biological resources, hydrology and water quality, and hazardous materials.

Pacific Canyon IS and Technical Reports, City of Encinitas, California. Project manager for a 10-unit subdivision project in the New Encinitas community in the City of Encinitas. The project proposes to subdivide 5.3 acres into single-family residential lots on former greenhouse agricultural land and implement off-site improvements for the widening of El Camino Real to its ultimate right-of-way width. Key issues include biological resources, including sensitive species and wetlands impacts; hydrology and water quality; noise; traffic; aesthetics; and hazardous materials.

Encinitas Ranch SPA Program EIR, City of Encinitas, California. Project manager responsible for preparation of this highly controversial SPA program EIR. The proposed SPA would result in an amendment to the Encinitas Ranch Specific Plan to change the 68-acre East Saxony Planning Area's existing agricultural zoning to include two new land uses: a 2.5-acre public park and a maximum of 201 varying residential uses on 38 acres. The remaining 20 acres would remain in agriculture (greenhouses, which were proposed to be modernized as part of the SPA project). Was responsible for preparation of two screencheck EIRs in close coordination with the City for the project prior to a November 2005 ballot vote against the project. The screencheck EIR carefully addressed all of the concerns raised by the permitting agencies, environmental organizations, and the public for one of the last

large-scale residential housing proposals in the City of Encinitas. Key issues included loss of agriculture, community character, land use, traffic, noise, hazardous materials, historical resources, and hydrology.

Coral Cove Residential EIR, City of Encinitas, California. Project manager responsible for preparing the Coral Cove EIR for the City of Encinitas. The project is a residential infill project on approximately 10 acres. The project proposed to construct 30 single-family attached units and 39 single-family detached homes, for a total of 69 units, including 12 low-income housing units. The EIR for this controversial project addressed numerous public concerns related to alternatives, loss of agriculture, land use, aesthetics and community character, transportation and circulation (including parking), and water quality. The agricultural impact analysis was based on the Land Evaluation Site Assessment (LESA) model. Worked closely with the City of Encinitas in preparing the LESA model worksheets, including coordination with the Department of Conservation, the local water utility, the on-site greenhouse operator, and City geographic information system (GIS) staff to coordinate status of adjacent greenhouse/agriculture land uses. The EIR carefully addressed all of the concerns raised by the permitting agencies, environmental organizations, and the public. The EIR was certified by the Planning Commission in June 2006.

Queen of Angels Catholic Church, Roman Catholic Diocese of San Diego, Alpine, California. Project manager for a visual resources technical study prepared for the Roman Catholic Diocese of San Diego. The document addressed a proposed church project in eastern San Diego County, including seven visual simulations of the project. The diocese proposed a controversial 75-foot-high steeple adjacent to sensitive residential areas and within the viewshed of the nearby Viejas Mountains. The visual study conformed to the County's policy regarding the implementation of CEQA and included maps of surrounding land uses, public roads, and scenic highways from which the project would be visible. The report described the method of assessing aesthetic impacts, defined visual impact levels, analyzed key views, and recommended visual impact measures.

Poinsettia Properties Specific Plan EIR, City of Carlsbad, California. Environmental analyst responsible for preparation of the Specific Plan EIR for the redevelopment of 92 acres in southern coastal Carlsbad. Key topics addressed included agriculture, land use, traffic, air quality, noise, aesthetics, and biological resources. The Specific Plan proposed mixed land uses and jobs and housing near public transit (the North County Transit District (NCTD) Coaster commuter train station). The Specific Plan calls for a mixture of housing types, neighborhood shopping, and trails into a transit-oriented, pedestrian-friendly community. The site is also within walking distance to South Carlsbad State Beach.

Education

St. Jerome Catholic Church and School Project EIR, Roman Catholic Diocese of San Diego, Otay Mesa, California. Project manager for a proposed new 17-acre Catholic Church and school in Otay Mesa, California. This controversial project attempts to meet numerous public agency concerns related to alternatives and impacts to vernal pools, San Diego and Riverside fairy shrimp (*Branchinecta sandiegonensis* and *Streptocephalus woottoni*), transportation and circulation (including parking), and water quality. The EIR carefully addressed all of the concerns raised by the permitting agencies, environmental organizations, and the public. In addition to the EIR, managed several technical reports, including biological resources and noise. The project also required wetland permitting and Section 7 consultation to address impacts to federally listed fairy shrimp.

Campus Master Plan 2000 EIR Addendum for Proposed BioScience Center, San Diego State University (SDSU), San Diego, California. Project manager for the preparation of an addendum to the Campus Master Plan 2000 document addressing the project-level analysis for a research facility proposed by the university's Office of Facilities Planning and Management. The proposed building, to be located on the SDSU campus adjacent to the existing North Life Sciences Building, was originally addressed at the programmatic level in the Master Plan 2000 EIR. The addendum addressed three variations on the building's use and design, including the newly proposed use of biological and chemical agents for scientific testing purposes. The addendum included an explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 of the CEQA Guidelines.

El Corazon de Oceanside Vision Plan, City of Oceanside, California. Planning analyst for the project's original Vision Plan process in 1996, which guided the City of Oceanside in the preparation of a long-range plan for the site's proposed mix of land uses. Assisted with a detailed and sophisticated public outreach program, called the Visioning Phase, for the reuse of a 465-acre site in the heart of Oceanside. Attended public workshops and assisted with organizing public input, including written comments. As a result of the Visioning Phase process, 12 principles were identified for various land uses and considerations for the site.

Energy

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects EIR/Environmental Impact Statement (EIS), California Public Utilities Commission (CPUC) and Bureau of Land Management (BLM), San Diego County, California. Served as an analyst and prepared several sections of the EIR/EIS as required by the CPUC and BLM for San Diego Gas and Electric's (SDG&E's) East County Substation project, which includes a 500/230/138-kilovolt (kV) substation, approximately 14 miles of new 138 kV transmission line, and a rebuild of the Boulevard Substation. In addition to addressing the new substation project, the EIR/EIS also addresses as "connected actions" a 200-megawatt (MW) wind energy project encompassing approximately 15,000-acres and a generation tie-in required for a 500/230 kV transmission line to connect an approximately 1,200 MW wind energy project in Baja California, Mexico. Responsible for preparing impact analyses for traffic, agricultural, and forestry resources. The Draft EIR/EIS was prepared in December 2010.

Daggett Ridge Wind Energy Project EIS/EIR, BLM and County of San Bernardino, San Bernardino County, California. Responsible for preparation of the geology and soils, water resources, and environmental justice sections of the joint EIS/EIR for the proposed Daggett Ridge Wind Energy Project, which involves an 82.5 MW wind energy-generating facility on approximately 2,000-acres of federal and private lands in the Barstow/Daggett unincorporated area of San Bernardino County.

Central Valley Gas Storage Project IS/MND, CPUC, Colusa County, California. Served as environmental specialist for this CPUC CEQA document. Assisted with review of the Proponent's Environmental Assessment (PEA), scoping, and in preparing the agricultural resources evaluation of this proposed gas storage and transmission line project in Colusa County.

Sierra Pacific Power Company 625/650 Transmission Line Project EIR/EIS, CPUC, Placer County, California. Served as deputy project manager for this CPUC and U.S. Forest Service (USFS) EIR/EIS. Assisted with review of the PEA, scoping, and in preparing and managing several EIR/EIS sections of this large project located in the Lake Tahoe Basin.

Uptown Substation MND, CPUC, San Diego, California. Responsible for ensuring compliance with CPUC Government Order (GO) 131-D, including the preparation of necessary documentation with CEQA for this 3-acre 120 megavolt ampere (MVA) substation and associated 138 kV transmission line upgrade and tie-in located in the Grant Hill community of San Diego.

Healthcare

New Kaiser Central San Diego Medical Center Project EIR, Kaiser Permanente Foundation Health Plan, San Diego, California. Project manager for contract to provide an EIR and associated technical studies in accordance with the City's CEQA procedures for the proposed Kaiser Permanente facilities in the Kearny Mesa community. Key issues include aesthetics, air quality, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, cumulative effects, growth inducement, and traffic circulation. The project is being administered throughout the City's Expedited Review Program. Kaiser Permanente proposes to demolish the existing 337,564 square-foot County Annex building and construct a 450-bed hospital, hospital support building, energy center, and surface and structured parking. The development of the site will include roads, utilities, and landscaping for the entire acreage. Phase 1 occupancy is anticipated for 2017 with Phase II slated for completion in 2030.

Kaiser Permanente Murrieta Valley Medical Center Program Environmental Impact Report (PIER), City of Murrieta, California. Project manager for contract to provide a PEIR and associated technical studies in accordance with the City's CEQA procedures for a new proposed Kaiser Permanente facility immediately East of I-215. Key issues include biology, cultural resources, aesthetics, air quality, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, cumulative effects, growth inducement, and traffic circulation.

Riverside Community Hospital Expansion Specific Plan and EIR, City of Riverside, California. The City of Riverside contracted with Dudek to prepare a Specific Plan and EIR for the expansion of the Riverside Community Hospital's 22.5-acres downtown campus. The Specific Plan will cover the development plan for the site over the next 30 years and provide a framework for design guidelines governing future development on the campus. The EIR will provide a project and programmatic-level analysis for various aspects of the project. The project is being proposed in two phases, which will take the existing 373-bed facility to 600 beds. The project includes demolition of two buildings, which will be evaluated for their historic resource potential. The project includes construction of up to three new buildings, which will be several stories tall to accommodate the increase in beds. New parking and pedestrian-way finding are also proposed.

Scripps Memorial Hospital Encinitas Master Plan PEIR, City of Encinitas, California. Managed this highly controversial PEIR and associated technical studies, public comment procedures, and presentations to the City of Encinitas in accordance with Encinitas' CEQA procedures for the proposed Master Plan expansion of Scripps Memorial Hospital on Santa Fe Drive. The planning commission hearings were amongst the largest attended for any project in the City's history. Key issues studied and evaluated included aesthetics, agricultural resources, air quality (including global climate change), cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, cumulative effects, growth inducement, and traffic circulation. As part of the air quality section of the EIR, Dudek provided an extensive GHG emissions analysis of the hospital's current and proposed operations. The GHG evaluation was challenging because hospital facilities are required by state law to maintain a high level of air ventilation and are exempt from Title 24, a frequently used baseline for GHG analyses.

Scripps Memorial Hospital La Jolla Master Plan EIR, Childs Mascari Warner Architects , La Jolla, California. Project manager for CEQA documents for the proposed Scripps Memorial Hospital Master Plan Update, La Jolla, California. Lead agency for the project was the City of San Diego. Located on 41.4 acres at 8 Genesee Avenue in the University community of La Jolla (City of San Diego), the hospital provides care for more than 130,000 patients each year, with 312 licensed beds, and with more than 2,200 employees and 800+ physicians. Prepared technical studies for noise, air quality, and global climate change analysis, while analyzing technical studies provided by other subconsultants representing the applicant team for traffic impacts, historical (cultural and paleontological), water quality, drainage, and geotechnical. Dudek planners assessed related land-use issues in conformance with the San Diego General Plan and University Community Plan as well as the Airport Land Use Compatibility Plan (ALUCP) for Marine Corps Air Station (MCAS) Miramar, and analyzed aspects of the project's visibility, view corridors, and likelihood of project elements contrasting with existing visual quality and community character. Other topics addressed in the EIR included greenhouse gas emissions, hazardous materials, public facilities and services, water supply and quality issues, and cumulative effects.

Biology and Cultural Resources Review Opportunities and Constraints Memorandum for Land Purchase, Kaiser Foundation Health Plan, Inc., Murrieta, California. Project manager for preparation of an opportunities and constraints memorandum to the Kaiser Foundation Health Plan, Inc. for its land purchases for proposed new medical facility in south Riverside. The memo covered the topics of biological and cultural resources. Dudek's biology team previously managed preparation of the Western Riverside County Multiple Species Habitat Conservation Plan (WRCMSHCP), which includes Kaiser's proposed site. A records review indicated the need for reconnaissance surveys for vernal pools (fairy shrimp habitat), burrowing owls and various endemic plant species, including those associated with wetlands. The resulting report included mapping of vegetation communities and locations of special status species observed, and discussed required compliance with the WRCMSHCP as well as other permitting requirements involving the Federal Clean Water Act and California Fish and Wildlife (CDFW) Code.

Kaiser Medical Center Hospital Replacement Project EIR, City of Fontana, California. Lead environmental analyst for preparation of an IS/MND for improvements to the existing Kaiser Medical Center Hospital. The main component of the project involves demolition of the existing hospital building to provide space to construct a new full-service freestanding inpatient facility. The new hospital will support approximately 533,795 square feet of medical facility space and would accommodate up to 312 licensed beds. An additional 80 beds would remain within existing buildings on the campus that would not be modified; therefore, the renovated facility would house a total of up to 392 beds. An additional 40,320 square feet of mechanical and storage service buildings would also be constructed on the medical center site. The MND also addresses improvements to the local electrical infrastructure that currently supports the hospital. The MND was approved in late 2008.

Kaiser Healthcare Campus Wind Turbine Project Technical Studies, Kaiser Foundation Health Plan, Inc., Antelope Valley, California. Mr. Shamlou managed an array of technical studies, including visual resources, greenhouse gas emissions, noise, and biology for a proposed wind turbine on the Antelope Valley healthcare campus in Lancaster, California. Mr. Shamlou also peer reviewed an MND prepared for the project by the City of Lancaster. Kaiser is planning the state's first zero emissions hospital campus and is proposing one horizontal wind turbine on the site to help power campus operations.

Kaiser Medical Office Building CEQA Addendum, Kaiser Foundation Health Plan, Inc., Chino, California. Mr. Shamlou managed an MND for a proposed new medical office building proposed to replace a movie theater in Chino, California. Traffic and utilities were the main topics of focus.

Military

EIS for the Disposal and Reuse of MCAS El Toro, US Navy Southwest Division, Santa Ana, California. Environmental analyst for preparation of highly controversial draft EIS, public participation program, and noise, traffic, environmental justice, and air quality studies that addressed the disposal of MCAS El Toro for reuse as a civilian airport. As a result of the 1993 Defense Base Realignment and Closure (BRAC) process, MCAS El Toro was slated for closure by 1999. A community reuse plan formed the basis of the proposed action and alternatives analyzed in the EIS; the FAA acted as a cooperating agency for the EIS.

Tomahawk Missile Environmental Assessment (EA), US Navy Southwest Division, San Clemente Island, Los Angeles County, California. Environmental analyst for the EA in support of the Tomahawk Cruise Missile Program at San Clemente Island, California.

Marine Corps Base (MCB) Camp Pendleton Fire Training Burn Pits EA, U.S. Navy Southwest Division, San Diego County, California. Environmental analyst for an EA for repair of the fire training burn pits at MCB Camp Pendleton. Environmental documentation will be conducted in compliance with NEPA and all other applicable regulations and policies to ensure that all repairs and improvements are in compliance.

Land Attack Standard Missile Launches EA, U.S. Navy Southwest Division, San Clemente Island, Los Angeles County, California. Served as environmental analyst for all services required for an EA necessary for the test and evaluation phase of the Land Attack Standard Missile Program on San Clemente Island, California. The EA will be in compliance with NEPA and will support the need to conduct three demonstration Land Attack Standard Missile launches onto San Clemente Island from Naval surface ships.

EIS for Improved Ordnance Storage for MCAS Yuma, Arizona, US Navy Southwest Division, Yuma, Arizona. Environmental analyst for a draft EIS, a public participation program, and traffic and air quality studies that addressed increased ordnance storage for MCAS Yuma, Arizona. NEPA documentation of alternatives included evaluating the purchase and annexation of 1,600 acres of adjacent land and construction of new facilities at the nearby Barry M. Goldwater US Air Force Range.

Environmental Documentation and Permitting for the Regional Beach Sand Replenishment Project, U.S. Navy and San Diego Association of Governments (SANDAG), San Diego County, California. Principal environmental analyst for preparation of an EIR/EA in compliance with CEQA and NEPA for the largest sand replenishment project on the U.S. west coast. Issues of concern for this SANDAG/U.S. Navy project included impacts to fisheries, noise, coastal wetlands, sensitive marine resources, and threatened or endangered bird species that may use the receiver beaches. Analyzed geology/soils, land and water use, recreation, public safety and environmental health, traffic, public utilities, and cumulative impacts. Assisted in obtaining federal, state, and local permits needed for implementation of the project and during the numerous interagency coordination meetings with resource and regulatory agencies.

De Luz Housing EA, MCB Camp Pendleton, U.S. Navy Southwest Division, San Diego County, California. Environmental analyst and assistant project manager during the preparation of an EA for the proposed military housing site at De Luz, MCB Camp Pendleton, in compliance with NEPA. The EA evaluates the impacts associated with construction of up to 204 dwelling units on approximately 62 acres in the southwest portion of the base. The EA includes analysis of the preferred alternative, a higher-density alternative, and a no action alternative.

Wire Mountain Housing EA, U.S. Navy Southwest Division, MCB Camp Pendleton, San Diego County, California. Project manager and environmental analyst during the preparation of an EA for the proposed military housing site at Wire Mountain, MCB Camp Pendleton, in compliance with NEPA. The EA evaluates the impacts associated with construction of up to 385 dwelling units on approximately 62.6 acres in the southwest portion of the base. The EA includes analysis of the preferred alternative (385 units), a 314-unit alternative, and a no action alternative.

Municipal

Las Colinas Women's Detention Facility EIR for As Needed Environmental Services Contract, County of San Diego, Santee, California. Project manager of a highly controversial EIR for the proposed replacement of the San Diego County Las Colinas Women's Detention Facility that is designed to meet projected needs through 2020. This project proposed replacing the current overcrowded and deteriorating facility located on approximately 16 acres with a new open campus facility with multiple buildings on 45 acres. The new facility is designed as a 1,216-bed state-of-the-art multi-custody women's detention facility. The new facility would also include parking for 300–400 vehicles for staff members and visitors, administrative and training offices, a perimeter patrol road, and perimeter security fencing. It is anticipated that both off-site and on-site improvements may be necessary to complete this project including but not limited to roads and utilities. Key environmental topics include Alternatives, Aesthetics, Biological Resources, Cultural Resources, Noise, Traffic and Transportation, Land Use and Planning, and Water Quality/Hydrology/Drainage.

Resource Management

Encinitas Creek Channel Improvement Project MND, City of Encinitas, California. Project manager for a proposed flood storage and flood-flow capacity project located at El Camino Real and Leucadia Boulevard. Key issues included biological resources, wetlands, odor, traffic, aesthetics, and water quality. The project will create a new flood-flow conveyance channel through the removal of accumulated sediment, both in the flood plain and under the Leucadia Boulevard Bridge.

Tijuana and San Luis Rey River Wetlands Mitigation Banking Projects, San Diego County Water Authority, San Diego, California. CEQA project manager addressing two proposed wetlands mitigation banks in the Tijuana River Valley and in the San Luis Rey River Valley. The wetlands established would be used for the mitigation of the San Diego County Water Authority's (SDCWA's) ongoing and proposed water supply and storage facilities projects (particularly the raising of the San Vicente Reservoir) to increase the emergency water supply sources in its service area. Dudek provided overall coordination with SDCWA staff and associated resource agencies, coordination of all required permitting, and associated data/document management, managed an EIR and MND to address the two projects, and prepared agricultural resource evaluations to assess impacts relating to agricultural conversions.

First San Diego River Improvement Project, City of San Diego, California. Project manager for this MND project proposing to dredge a portion of the San Diego River between State Route 163 and Mission Center Road, in the effort to remove approximately 3,000 cubic yards of accumulated sediment. The area proposed for dredging activities would be approximately 318 feet by 110 feet. Key issues included biology, cultural resources, aesthetics, noise, and traffic. Also oversaw the City's required Public Project Submittal Requirements deliverables, including technical studies.

Fontana Park Acquisition Project MND, City of Fontana, California. Project manager responsible for preparation of an IS/MND for the acquisition of an approximately 17-acre future park site in the northern portion of Fontana. Key issues analyzed include cultural resources, including impacts to a potentially significant historical structure; biological resources, which included focused surveys and a trapping program for the federally endangered San Bernardino Merriam's kangaroo rat; mineral resources; and traffic.

Orange County Southern Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) EIS/EIR, U.S. Fish and Wildlife Service (USFWS) and County of Orange, California. Preparing the environmental documentation for this project, addressing the environmental effects to over 130,000 mostly undeveloped acres in southern Orange County, for the County of Orange and USFWS. Documentation includes a separately bound scoping report for this highly controversial effort, which was completed in 2006.

Section 227 Program Shoreline Erosion Protection Project, Army Corps of Engineers (ACOE), Encinitas and Carlsbad, California. Served as project manager, in association with Skelly Engineering, provided a preliminary environmental review and permitting analysis for the construction and monitoring of a proposed method for reducing local shoreline erosion and retaining beach nourishment for the ACOE Section 227 program. The proposed project is to use proven technology and materials in a unique, innovative, and cost-effective manner to prolong the life of nearshore nourishment in either Moonlight Beach or South Carlsbad State Beach. The project would also provide shore protection and reduce shoreline erosion during extreme events for shorter lengths of coastline. The design concept used both submerged breakwater and groin like structures to create what is called a nearshore nourishment cell (NNC). The NNC will allow a key section of shoreline to be nourished, and a wider beach retained, without adverse downdrift impacts. The study compared the anticipated effects of the project on key issue areas, including submerged reefs and sensitive species, and analyzed which federal, state, and local regulatory permits would be required for the project.

Transportation: Aviation

ALUCP Project, San Diego County Regional Airport Authority, San Diego County, California. Project manager for preparation of 15 MNDs to address off-site land use compatibility, population and housing, public safety, and public service issues for all public and military airports throughout the County, with the exception of the San Diego International Airport, for which a draft EIR was prepared. Also responsible for oversight of extensive GIS provided by Dudek for the project.

Ontario International ALUCP Project, Mead & Hunt, Inc., City of Ontario, California. Dudek teamed with Mead & Hunt, Inc. is providing project management for preparation of a CEQA document to address off-site land use compatibility, population and housing, public safety, and public services for Ontario International Airport. Also responsible for overseeing GIS provided by Dudek for the project.

Airport Expansion CEQA Project, Mead & Hunt, Inc. and San Bernardino International Airport Authority, California. Responsible for overseeing GIS provided by Dudek for project in relation to potential residential displacement impacts.

Brown Field Master Plan, City of San Diego, California. Currently overseeing preparation of an annotated IS and GIS services for the City's proposed Brown Field Master Plan, including development of various Airport Capital Improvement Projects (ACIP). Key issues include land use, traffic, noise, air quality, biology, and greenhouse gases.

Lana'i Airport Instrument for Landing System EA, FAA, Lanai City, Hawaii. Served as environmental analyst for the preparation of an EA evaluating environmental impacts resulting from the proposed installation and operation of an instrument landing system and medium-intensity approach lighting system with runway alignment indicator lights at the Lanai Airport Runway 03 approach in Lanai City, Hawaii. A coastal consistency determination was also prepared with the Hawaii Office of Planning.

MCAS El Toro Disposal and Reuse EIS, U.S. Navy Southwest Division, Santa Ana, California. Environmental analyst for preparation of highly controversial draft EIS; public participation program; and noise, traffic, environmental justice, and air quality studies that addressed the reuse and disposal of MCAS El Toro for use as a civilian airport. The 1993 Defense BRAC process caused the MCAS El Toro to be slated for closure by 1999. A community reuse plan formed the basis of the proposed action and alternatives analyzed in the EIS; the FAA acted as a cooperating agency for the EIS.

Transportation: Bridges

Ladd Canyon Bridge Replacement Project for On-Call Environmental Services Contract, County of Orange Public Works, Silverado, California. Served as project manager for the replacement of an existing bridge with a precast concrete bridge, located 2.2 miles east of Santiago Canyon Road in the Santiago Canyon area of Orange County, California. The project includes Caltrans involvement due to federal funding from Federal Highways Administration. NEPA requirements include preparation of a Preliminary Environmental Study (PES), and various technical studies.

College Boulevard Bridge Improvement Project EIR and General Plan Amendment (GPA), City of Oceanside, California. Mr. Shamlou is managing the environmental studies and EIR for the expansion of the College Boulevard Bridge in Oceanside from a four- to six-lane facility near Oceanside Boulevard. Mr. Shamlou is overseeing the preparation of various technical studies, and managing key sub consultants to examine preliminary engineering and detailed traffic assessments. He also assisted with the public outreach process for this controversial project.

College Boulevard Bridge Widening Environmental Studies, City of Oceanside, California. Mr. Shamlou managed the environmental studies for the expansion of the College Boulevard Bridge in Oceanside from a four- to six-lane facility. Dudek initially prepared a preliminary environmental study (PES) form to determine the type of NEPA document appropriate for the project. Mr. Shamlou managed preparation of an IS/MND to satisfy the requirements of CEQA, including several technical studies.

Murray Road Bridge Widening, City of Oceanside, California. Mr. Shamlou is assisting the City of Oceanside by preparing CEQA and NEPA environmental documentation and public outreach for a proposed bridge widening over the San Luis Rey River.

Coronado Bridge Toll Removal EIR, SANDAG, San Diego, California. Project manager for this highly controversial SANDAG project involving removal of a toll fare charge to westbound commuters on the Coronado Bridge. Key issues of concern included traffic and parking, public safety, noise, air quality, and land use.

Transportation: Port

San Diego Harbor Deepening EIS/EIR, ACOE and San Diego Unified Port District, San Diego, California. Project manager for project involving deepening of San Diego Harbor to accommodate fully loaded deep draft commercial vessels. Key environmental issues for this highly controversial joint federal/state document included biological resources because of dredging and disposal activities, noise, air quality, structures and utilities, and coastal access. The project involved dredging the central navigation channel of San Diego Bay from Naval Air Station North Island to the Tenth Avenue Marine Terminal to a depth of 42 feet mean lower low water.

Transportation: Rail

On-Call Environmental Services, NCTD, San Diego County, California. Manager for Dudek's provision of various environmental on-call services to NCTD. Key tasks conducted to date include biological mitigation monitoring and surveys, construction monitoring, revegetation services, and stormwater pollution prevention plan compliance.

Mid-Coast Corridor Transit Project, SANDAG, San Diego, California. Dudek (teamed with Parsons Brinckerhoff as part of an As-Needed Environmental Support Services for transit projects) worked with SANDAG to provide environmental support services on the Mid-Coast Corridor Transit project. This project will extend the San Diego Trolley 11 miles from Old Town Transit Center to the University City community, serving major activity and employment centers such as the University of California, San Diego campus and University Towne Centre shopping center. The trolley project is part of a comprehensive multi-modal transit network that also includes commuter rail and future bus rapid transit facilities in the Mid-Coast Corridor. It will improve access to growing employment, education, and residential areas. Mr. Shamlou is currently supervising biological and land use analysis on a number of alignment alternatives. Biological constraints being evaluated include wetlands, endangered species, and wildlife corridors.

SANDAG Coastal Rail Trail Permitting, Parsons and Brinckerhoff, Inc., Cities of Oceanside, Carlsbad, Encinitas and Solana Beach, San Diego County, California. Prepared necessary environmental permits for the northern 17 miles of the Coastal Rail Trail Project, a proposed multiuse pathway along railroad and road right-of-way from Oceanside to Solana Beach. Led a team of wetland experts and environmental analysts to prepare required permit applications, including those required from the CCC, ACOE, Regional Water Quality Control Board (RWQCB), and CDFW for each of the four affected municipalities, the Cities of Oceanside, Carlsbad, Encinitas, and Solana Beach.

Transportation: Roadway

Keller Road and I-215 Interchange Project, Jacobs Engineering and Caltrans, Murrieta, California. Serves as project manager on the new interchange project for the City of Murrieta. Mr Shamlou is overseeing preparation of the Caltrans required Preliminary Environmental Analysis Report (PEAR). The PEAR and its associated documents are in accordance with the Caltrans Project Development Procedures Manual (PDPM), environmental handbooks, Local Assistance Procedures Manual (LAPM), Standard Environmental Reference (SER), and the FHWA's Technical Advisory T6640.8A. A variety of technical studies are being prepared including biology, archaeology, noise, visual, community impacts and relocation impacts, and a growth study. Mr. Shamlou is also overseeing an MND to satisfy CEQA requirements for the project.

Dillon Road Widening Improvement Project, City of Coachella, California. Current project manager for preparation of required CEQA and NEPA documentation for the widening of Dillon Road from a two-lane to a four-lane street in the City of Coachella. Mr. Shamlou is working closely with the project design engineer and in-house biologists to provide environmental guidance during the design phase of the project. He has been responsible for preparation of an IS leading to an MND for meeting CEQA requirements. The MND will be coupled with the categorical exclusion under NEPA.

I-5 and Los Angeles-San Diego Corridor (LOSSAN) Public Works Plan (PWP), SANDAG and Caltrans, San Diego County, California. Task manager for synthesizing voluminous environmental data from various documents in support of the PWP, a programmatic vehicle that SANDAG and Caltrans are using to comply with the Coastal Act for the LOSSAN rail and I-5 corridor projects. The PWP addresses not only the mobility benefits created by these two projects but also opportunities to improve coastal access and natural resources in the corridor. The PWP outlines a comprehensive mitigation strategy that will address the natural resource impacts associated with the implementation of projects in this sensitive coastal corridor, which includes Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, and the City of San Diego.

El Camino Real Widening Project, City of Carlsbad, California. Project manager for the proposed widening of El Camino Real between Tamarack and Chestnut Avenues. Key environmental issues include impacts to off-site wetlands, coastal resources, and aesthetics. As part of the project, Mr. Shamlou is assisting with obtaining key permits from the CDFW, RWQCB, and ACOE and coordinating closely with the consultant engineering team (Bureau Veritas/Berryman & Henigar) to determine feasible alternatives while streamlining environmental permitting requirements and avoiding significant environmental impacts.

Rancho Santa Fe Road Widening Project, City of San Marcos, California. Project manager for NEPA EA addressing the widening of this road in the City of San Marcos in Northern San Diego County. Key issues included aesthetics, biological resources, and cultural resources for the relocation of a small cemetery. Also prepared Caltrans PES and FHWA forms as part of the effort.

Rancho Santa Fe Road Improvement Project, City of San Marcos, California. Project manager for various off-ramp and intersection improvements off Highway 78 in northern San Diego County. Prepared IS, negative declaration, and Caltrans PES forms for the City of San Marcos.

Manchester/I-5 Interchange Project EIS/EIR, FHWA and City of Encinitas, California. Project manager for a highly controversial redesign of the Manchester on- and off-ramps located adjacent to the highly sensitive San Elijo Lagoon in the Cardiff-by-the-Sea community of Encinitas. Prepared Caltrans documents including, project study report and related PES and preliminary environmental analysis report forms. Analyzed and assisted in formulating environmentally sensitive alternatives with the lead agencies (FHWA and City of Encinitas) to minimize impacts to wetlands and eight federally and state-listed species while improving traffic flow in the rapidly growing region.

SR 56 EIR, City of San Diego, California. Served as environmental analyst for the proposed construction of a 5-mile freeway to complete the connection between SR 56 West (I-5) and SR 56 East (I-15) in northern San Diego County. Documentation included an EIR evaluating two freeway alignments (northerly and central), with two possible configurations (six-lane freeway or four-lane expressway) at an equal level of detail.

Water/Wastewater

Vallecitos Water District Rock Springs Sewer MND, Infrastructure Engineering Corporation, San Diego, California. Project manager for this MND, the project included replacing over 3,000 feet of existing pipeline, installing new sewer pipeline connections between the houses and the new pipeline, relining a 330-foot segment of existing pipeline, and rerouting pipeline beneath existing residences.

Pacific Coast Highway 101 Sewer Pump Station and Sewer Force Main Improvements MND, City of Encinitas, California. Served as project manager for the preparation of CEQA documentation, and permits for the rehabilitation of the pump station and replacement and paralleling of the forcemain. To facilitate regulatory and permitting approvals of the project, Dudek proposed rehabilitation of the pump station rather than replacement. Dudek also proposed use of Horizontal Directional Drilling (HDD) for installation of the forcemain on a more direct alignment under Coast Highway 101, the San Elijo Lagoon inlet/outlet, and the NCTD train tracks to Dublin Drive, a lightly traveled residential street. The recommended HDD alignment avoided the alternative Coast Highway Bridge crossing with accompanying risk of seismic, vandalism, or corrosion failure in the immediate vicinity of the San Elijo Lagoon and Cardiff State Beach. Construction of the forcemain is targeted for late 2015 depending on permit acquisition.

San Juan Creek Ocean Outfall Junction MND, South Orange County Water Authority (SOCWA), Dana Point, California. Project manager for preparation of archaeology and biology technical studies for project at located at the Doheny State Beach. Permits from the CCC, ACOE, and RWQCB are being pursued and Dudek is providing peer reviewing. An MND is in preparation by the SOCWA staff.

Cañada Gobernadora Multipurpose Basin Project, Santa Margarita Water District, Unincorporated area of Orange County, California. Served as project manager for the Cañada Gobernadora Multipurpose Basin MND Project. The IS/MND addressed the biological and hydrological impacts associated with creating the multi-purpose basin.

Water Recycling Facility (WRF) MND, Padre Dam Municipal Water District, Santee, California. Environmental analyst for an MND addressing the proposed expansion of an existing water recycling facility. The existing water recycling facility converts wastewater generated in the service area into recycled water that can be used for customers within the Padre Dam Municipal Water District service area. The water recycling facility expansion is proposed to accommodate projected wastewater flows in the Padre Dam service area and provide additional recycled water supply to customers within the service area. Wastewater treated at the WRF is currently limited to the wastewater generated within the Padre Dam western service area. The additional flows that are not treated at the WRF are conveyed to the City of San Diego Metropolitan Wastewater Department's wastewater treatment facilities. Key issues included hazardous materials, noise, aesthetics, hydrology and water quality, and air quality.

J.B. Latham (JBL) Treatment Plant Expansion, SOCWA, Dana Point, California. Project manager overseeing preparation and processing of an MND addressing treatment plant expansion project. In order to enhance water supply reliability to its member agencies in accordance with existing agreements, SOCWA proposed to construct a 9-million-gallon-per-day (gpd) advanced wastewater treatment facility at the JBL Treatment Plant. With construction of the proposed advanced water treatment (AWT) facility, tertiary treatment would be made available to SOCWA's member agencies, providing a source for recycled water. Key issues included odor, noise, aesthetics, coastal issues, land use, and cumulative impacts. Also prepared the Coastal Development Permit application for review by the City of Dana Point.

Encina Water Pollution Control Facility Phase V Expansion, Encina Wastewater Authority, Carlsbad, California. Responsible for the preparation of environmental documentation in compliance with CEQA and State Revolving Funds for the Phase V expansion project. Major issues addressed included marine biology, oceanography, air quality, and growth inducement.

Wastewater Treatment Plant Expansion Project, Lee Lake Water District (LLWD), Riverside County, California. Responsible for preparing CEQA documentation MND for this 1.35 million gallon per day (mgd) expansion of the existing Lee Lake Wastewater Treatment Plant.

Wild Rose Business Park Regional Drainage Facility Project, County of Riverside Economic Development Agency, Corona, California. Project manager for an MND for a private applicant addressing the construction and operation of a proposed drainage facility in the Corona area of Riverside County. The CEQA lead agency was the County of Riverside Economic Development Agency, and Dudek also prepared and processed wetlands permit applications for CDFW Section 1601 requirements and RWQCB Section 401 requirements. The project would drain an approximate area of 1,100-acres. Key issues addressed in the MND included biological resources, wetlands, drainage, and cultural resources. Also oversaw construction monitoring and surveys for burrowing owl as part of the contract.

Wild Rose Reservoir II MND, LLWD, Corona, California. Project manager for an MND for LLWD addressing the construction and operation of a proposed water reservoir located adjacent to an existing reservoir in the Corona area of Riverside County. Key issues addressed in the MND and biological resources technical report included biological resources (including surveys for the coastal California gnatcatcher), wetlands, drainage, and aesthetics.

Buena Vista Creek Channel Maintenance Project, City of Carlsbad Engineering Division, Carlsbad and Oceanside, California. Assisted in preparation of the PIER for this long-term channel-maintenance project located on the border of the City of Oceanside and the City of Carlsbad. As part of his responsibility for the project, presented at public meetings to environmental organizations to convey the project's objectives and likely environmental effects.

Carlsbad Power and Desalination Plant EIR Project, City of Carlsbad, California. Environmental analyst for preparation of an EIR for the proposed Carlsbad Seawater Desalination Plant. The facility is planned for an approximately 50-million-gpd capacity. Prepared EIR sections for geology and soils and cultural resources, including paleontological resources, for approximately 16 miles of water conveyance pipelines proposed within the City of Carlsbad and City of Oceanside. Several significant archaeological sites were located in the project vicinity near Batiquitos Lagoon. Coordinated with the City team and cultural resource subconsultant, Gallegos & Associates, to avoid or minimize impacts to these resources.

Wastewater Master Plan Improvements Program EIR (PEIR), City of Vista, California. Project manager for a PEIR addressing a complex series of sewer improvements within five planning jurisdictions in San Diego's North County area. The City of Vista and Buena Sanitation District proposed upgrades to over 1,800 sewer lines, all requiring program-level environmental review and inclusion in a GIS database. Key issues included land use, biological resources, wetlands, and cumulative effects. An important goal of the GIS was to allow the City of Vista to view which of the 1,800 projects would require subsequent second-tier CEQA review.

Storm Drainage Master Plan Update PEIR, City of Vista, California. Project manager for a PEIR addressing a complex series of drainage improvements within five planning jurisdictions in San Diego's North County area. The City of Vista proposed upgrades to over 725 sewer lines, all requiring program-level environmental review and inclusion in a GIS database. Key issues included land use, biological resources, wetlands, and cumulative effects. An important goal of the GIS was to allow the City of Vista to view which of the 725 projects would require subsequent second-tier CEQA review.

Sewer and Water Master Plans Updates, City of Carlsbad, California. Provided CEQA review for two distinct master plans in coordination with Dudek's Engineering Division. The EIR addressed upgrades to numerous infrastructure facilities, including pump stations, sewer interceptors, storage reservoirs, and 20 main water lines. Key issues included coastal impacts, biological resources, wetlands, archaeology, and land use.

Rancho Bernardo Pipeline No. 2 MND, City of San Diego, California. Project manager in support of engineering services, construction, and operation of a new reclaimed water pipeline from the Miramar Water Treatment Plant to serve the Miramar Service Area. Key issues included biological resources, wetlands, traffic, noise, and cultural and paleontological resources.

San Timoteo Creek Reach 3B Flood Control Project EIS/EIR, ACOE and County of San Bernardino, California. Served as principal analyst for a high profile, controversial flood control project in San Bernardino, Redlands, and Loma Linda. Conducted land use, recreation, socioeconomic, environmental justice, and public health and safety analyses.

Escondido Creek Intermittent Wet Weather Discharge EIR, City of Escondido, California. Assisted with the preparation of an EIR addressing a City of Escondido proposal to discharge treated effluent into Escondido Creek. The EIR analyzed the potential environmental effects of the proposed discharge.

Pressure Control and Hydroelectric Facility EIR, SDCWA, San Diego County, California. Managed an EIR for the proposed construction of a highly controversial water-pressure control facility along Mercy Road in San Diego. Environmental documentation ensured that all construction and operation was conducted in compliance with CEQA and all other applicable regulations and policies.

San Juan Creek Watershed Baseline Conditions Report, ACOE, Orange County, California. Prepared land use and recreation analyses for a 176-square-mile watershed. Evaluated existing and historic development patterns, applicable general plan policies, and recreation facilities, focusing on areas adjacent to San Juan, Oso, and Trabuco Creeks.

Black Mountain Water Treatment Plant Land Acquisition EIR, City of San Diego, California. Environmental specialist for an EIR for a new 180 mgd water treatment plant to be located in Rancho Peñasquitos.

Miramar Water Treatment Plant Upgrade EIR, City of San Diego, California. Environmental specialist for an EIR for expansion of the Miramar Water Treatment Plant for the proposed upgrade to accommodate an ultimate capacity of 275 mgd. Key issues included biological resources, recreation, water quality, and traffic.

Rincon del Diablo IS/MND, Rincon del Diablo Municipal Water District, Escondido, California. Environmental specialist for project located in northern San Diego County. Responsible for leading client through public review process and responses to comments.

Brock Ortega

Principal, Senior Wildlife Biologist

Brock Ortega has more than 23 years' experience as a wildlife biologist. He brings extensive expertise to his project teams in many areas, including mitigation monitoring, permitting issues related to wetland resources and threatened or endangered species, wildlife biology and management, ecological assessment, environmental impact assessment and mitigation, habitat remediation, endangered species management plan authorship, and project management. Mr. Ortega has conducted over 20,000 hours of focused and general wildlife surveys during his professional career.

Mr. Ortega is a recognized qualified surveyor for a number of listed and rare amphibian and mammal species and has federal permits for several species. He is U.S. Fish and Wildlife Service (USFWS)–authorized as an arroyo toad (*Bufo californicus*) emergency handler; USFWS and California Department of Fish and Game (CDFG)–qualified to survey San Joaquin kit fox (*Vulpes macrotis mutica*) throughout its range; and USFWS and U.S. Forest Service (USFS)–qualified to survey arroyo toad, California red-legged frog (*Rana draytonii*), mountain yellow-legged frog (*Rana muscosa*), and Coachella Valley fringe-toed lizard (*Uma inornata*) throughout their ranges.

Brock Ortega

Education

Humboldt State University
BS, Wildlife Biology and Management, 1991

Certifications

USFWS Federal 10a Survey Permit No. TE-813545-5:

- *California Gnatcatcher Surveys*
- *Least Bell's Vireo Surveys/ Nest Monitoring*
- *Southwestern Willow Flycatcher Surveys*
- *Quino Checkerspot Butterfly Surveys*
- *Fairy Shrimp Surveys*
- *Mohave Ground Squirrel (Spermophilus (Xerospermophilus) mohavensis) Chief Survey Permit*

Professional Affiliations

American Ornithologists' Union
Association of Field Ornithologists
Cooper Ornithological Society
Wilson Ornithological Society
The Wildlife Society
Southern California Chapter of The Wildlife Society, Board Member

Project Experience

Development

Tejon Mountain Village, Tejon Mountain Village LLC, Kern County, California. Lead biologist and phase manager for wildlife corridor, ringtail cat (*Bassariscus astutus*), sensitive reptile and amphibian, and small mammal studies. Designed and implemented study design for wildlife corridor and ringtail cat studies.

For the wildlife corridor study, reviewed 20 crossing locations under and in the vicinity of Interstate 5 along a 10-mile stretch of highway; directed review and analysis of over 16,000 camera station photographs from undercrossings; directed game trail field work; directed implementation of a project-wide geographic information systems (GIS)-based permeability modeling effort to determine preferred wildlife usage and movement across the site and estimate post-project wildlife usage and movement across the site.

For the ringtail cat study, designed, sited, and directed implementation of a baited-station camera study that used a rotating group of 20 digital infrared/motion-sensing game cameras to determine the presence/absence of ringtail cat. Over 200 stations were run across the project area for a period of 16 days each. These camera stations were successful at capturing a variety of large, medium, and small mammals, along with a variety of avian species. Performed habitat assessments for sensitive amphibian and reptile species. Was responsible for designing and implementing both studies. Performed as a project biologist for this project, conducting focused surveys for arroyo toad, California red-legged frog, southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), yellow-billed cuckoo (*Coccyzus americanus*), sensitive butterflies, raptors, and general wildlife.

Master-Planned Community, Santa Barbara County, California. Supervisory biologist for environmental surveys. Conducted initial habitat assessments for vernal pools and special-status wildlife species, including California red-legged frog and tiger salamander (*Ambystoma tigrinum)*. Developed strategy for conducting vegetation mapping, jurisdictional wetland delineation, and focused surveys for special-status plants and animals on approximately 4,000 acres of land. The master-planned community project consists of a large development with several thousand homes with associated schools, professional offices, shopping areas, and safety facilities. Dudek is assisting with multiple environmental planning services to prepare an environmentally sensitive development.

Landmark Village Project, Newhall Land and Farming Company, Los Angeles County, California. Supervisory biologist for habitat assessments and focused surveys in 2007 for California gnatcatcher (*Polioptila californica*) and vernal pool surveys on 145 acres of land. Assisted in study design, focused surveys, and analysis.

Mission Village Project, Newhall Land and Farming Company, Los Angeles County, California. Supervisory biologist for habitat assessments and focused surveys in 2007 for vernal pool species and California gnatcatcher on 520 acres of land. Assisted in study design, focused surveys, and analysis.

High Country Project, Newhall Land and Farming Company, Los Angeles and Ventura Counties, California. Lead biologist for habitat assessments and focused wildlife surveys in 2005 for vernal pool species, large mammal usage, California gnatcatcher, southwestern pond turtle (*Actinemys marmorata*), arroyo toad, owls, and special-status birds and reptiles on 23,000 acres of land. Determined species survey methods and biologist coverage areas, and performed analysis on the data collected.

4S Kelwood/4S Ranch, Newland Communities, San Diego County, California. Served as primary wildlife biologist for this project. Conducted habitat assessments and surveys for least Bell's vireo, California gnatcatcher, clapper rail (*Rallus longirostris*), southwestern pond turtle, and Quino checkerspot butterfly (*Euphydryas editha quino*). In addition, conducted a wildlife movement analysis across the property and monitored construction and removal of vegetation.

Trabuco Canyon, The Planning Center, Orange County, California. Lead wildlife biologist for preparation of biological technical reports for California Environmental Quality Act (CEQA) documentation for the Trabuco Canyon Project, which encompasses over 1,110 acres. Managing and conducting a 2.5-year wildlife corridor study program, focused surveys for least Bell's vireo and southwestern willow flycatcher, focused surveys for arroyo toad, habitat assessments and focused surveys for burrowing owl (*Athene cunicularia*), focused California gnatcatcher surveys, nesting raptor surveys, California red-legged frog surveys, and fairy shrimp surveys.

Retrofit Project, Palm Springs Aerial Tramway, Riverside County, California. Managed the biological resources portion of this project, which proposed to install new larger trams. The new tram cars required rock and tree removal adjacent to the tram alignment to ensure safe usage. Initial tasks included conducting focused surveys for mountain yellow-legged frog and golden eagle (*Aquila chrysaetos*), vegetation mapping, reporting, and coordination with the resource agencies. Was later responsible for determining the best way to convey peninsular bighorn sheep (*Ovis canadensis cremnobates*) across the Tram Road and onto the adjacent alluvial fan. This required interviewing numerous state, federal, academic, and field bighorn sheep biologists, devising alternative methods to avoid impacts to sheep, determining likely sheep crossing points, determining potential habitat bridge locations, and submitting a synopsis report.

Yokohl Ranch, Yokohl Ranch LLC, Tulare County, California. Served as a lead wildlife biologist for the project to perform initial habitat assessments for pond turtles, ringtail cats, wildlife movement, and mammals. Dudek is preparing biological resources reports and an environmental impact report (EIR) for an approximately 4,800-acre site that will be developed within the 36,000-acre Yokohl Ranch located in Tulare County. The planned development area lies within valley, foothill, and Sierra Nevada mountain habitats.

Energy

Hazard Tree Removal Project, Southern California Edison (SCE), San Bernardino and San Jacinto Mountains, Riverside and San Bernardino Counties, California. Project manager responsible for SCE's Hazard Tree Removal Project in the San Bernardino National Forest and surroundings. Responsible for conducting biological surveys along all SCE circuits within the San Bernardino and San Jacinto Mountains prior to removal of bark beetle–infested trees, drought-stressed trees, and other damaged trees from the vicinity of its poles, lines, and other facilities. The project area encompasses 106 square miles, an estimated 62,000 acres of tree removal, 22,000+ power poles, and 538 linear miles of utility lines. Responsibilities include serving as project manager, obtaining weekly survey priorities, devising work schedules, coordinating with SCE personnel and USFS biologists regarding site-specific sensitivities, conducting biological surveys of all lines within San Bernardino National Forest, and writing biological assessments for the USFS.

Pole and Utilities Replacement Project, SCE, Riverside and San Bernardino Counties, California. Served as project manager and primary wildlife biologist. Responsibilities included conducting habitat assessments for sensitive wildlife species at multiple locations in Riverside and San Bernardino counties. These locations range from the Santa Ana Mountains and western valleys of Riverside County to San Jacinto Mountain, Palm Springs, Coachella Valley, the southern slopes of San Bernardino County, San Bernardino Mountains, and Apple Valley region of San Bernardino County.

Daggett Ridge Wind Farm EIR/EIS, AES Wind Generation (Daggett Ridge Wind Farm LLC), San Bernardino, California. Served as the lead biologist for the Daggett Ridge Wind Farm project responsible for coordination with the Bureau of Land Management (BLM) and survey design and reporting. Dudek was contracted by Daggett Ridge Wind Farm LLC, a subsidiary company of AES Wind Generation, to prepare required CEQA and National Environmental Policy Act (NEPA) documentation associated with the proposed Daggett Ridge Wind Farm located on public (BLM) and private land in San Bernardino County, California. Dudek initially worked with the County of San Bernardino (California lead agency) staff and the BLM (federal lead agency) to prepare a project management plan to produce a detailed project task schedule, detailed outline of the draft environmental impact report/environmental impact statement (EIR/EIS), a public outreach plan, and a mechanism for regular project updates. Dudek then prepared a combined Environmental Assessment/Initial Study (EA/IS) to focus the environmental analysis required for the EIR/EIS to critical resource areas.

Desert Renewables Energy Conservation Plan, California Energy Commission, Southern California. Served as a project biologist, providing analysis and coordination with species experts. Dudek was selected by the California Energy Commission and the California Natural Resources Agency (California Department of Fish and Game) to prepare the Natural Community Conservation Plan (NCCP) for the Desert Renewables Energy Conservation Plan (DRECP). The DRECP was established by Governor Schwarzenegger's Executive Order S-14-08, which identifies targets for increasing California's renewable energy portfolio. The DRECP, when completed, is expected to further these objectives and accelerate the processing of renewable projects in the California desert (Mojave and Colorado deserts), encompassing parts of six counties. The DRECP is an NCCP that will help provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. It will provide long-term endangered species permit assurances to renewable energy developers and provide a process for conservation funding to implement the DRECP. It will also serve as the basis for one or more habitat conservation plans under the federal Endangered Species Act.

San Diego Gas & Electric Cleveland National Forest Electric Safety and Reliability Project, California Public Utilities Commission, San Diego County, California. Serves as the lead biologist for the project. Responsible for coordination with the USFS, determination of species impacts, study design, and monitor management. Dudek was contracted by the California Public Utilities Commission (CPUC) to prepare environmental documents pursuant to CEQA and NEPA for the San Diego Gas & Electric (SDG&E) Cleveland National Forest Electric Safety and Reliability Project. SDG&E proposed to submit an application to the USFS for a Master Special Use Permit, which combined approximately 70 special-use permits and other approvals for various electric transmission and distribution facilities located throughout the Cleveland National Forest (CNF) into one master permit under one 20-year authorization. The project also proposed activities on non-CNF lands, including private lands that are near the CNF and fall under the jurisdiction of the CPUC and other federal lands not under the jurisdiction of the USFS. For activities on private lands, SDG&E submitted an application for a Permit to Construct in accordance with CPUC General Order 131-D.

The project will also include maintenance, replacement or relocation, and operation of existing, active 69-kilovolt (kV) transmission and 12 kV distribution lines; installation or removal of 12 kV distribution lines; maintenance, relocation, or construction of access roads; and maintenance or widening of existing rights-of-way (ROWs) or acquisition of ROWs. The power lines included in the project traverse CNF land, BLM land, California State Parks land, County of San Diego land, tribal land, and private land holdings.

Mountain View IV Wind Energy EIR/EIS Project, City of Palm Springs/Bureau of Land Management, Riverside, California. Served as lead project biologist for the project. Dudek prepared a joint EIR/EIS for the City of Palm Springs and the BLM. The project consists of two development options for a 1,659-acre site. The first development option consists of 49 1,000-kilowatt (kW) turbines. The second includes 58 850 kW turbines. Both alternatives involve the installation of support facilities, including gravel-surfaced access roads, an electrical substation, and an electrical transmission line to connect the turbines to the substation. The project also included a compatibility analysis with the recently adopted Coachella Valley Multi-Species Conservation Plan.

The project site is within the City of Palm Springs corporate boundaries; however, the western half of the project site is composed of BLM land, and the eastern half is private land under the management of the Coachella Valley Water District (CVWD). Consultation and coordination with both lead agencies (City of Palm Springs and BLM) and CVWD played a vital role in the planning process and ultimate certification of the EIR/EIS. The Final EIR/EIS was ultimately certified and adopted by the lead agencies in December 2008.

Borrego Solar Project Characterization Study, Confidential Client, San Diego, California. Served as lead project biologist for analysis. Dudek was contracted to provide environmental services for the 187-acre Borrego Springs Solar Project in San Diego County, California. Located on former agricultural lands, the project would include an interconnection to a 69 kV Borrego Substation located 1.3 miles away, along Borrego Valley Road.

The characterization study will be used to determine site constraints, affecting schedule and possible delays associated with development and environmental permitting. The study was presented showing methods used to determine site constraints, findings that discuss both engineering and environmental constraints, and a site constraints map using geographic information systems (GIS) mapping.

Solar Siting Studies and As-Needed Extension of Staff Services, Confidential Client, San Diego County, California. Lead project biologist for analysis. A solar developer contracted with Dudek to provide as-needed environmental services to assist in identifying sites for solar energy development throughout Southern California. An interactive process with the solar developer staff, the goal was to ensure that all potential environmental constraints were identified when selecting potential development sites based on siting parameters developed by the solar developer. Dudek's studies targeted identifying sites that met the selection criteria to secure options for solar development.

Solar Farm Initial Site Constraints and Fatal Flaw Analysis, Concentrix Solar Inc., San Diego County, California. Serves as lead project biologist for analysis. Dudek was contracted by Concentrix Solar Inc. to conduct an initial site constraints analysis for a proposed solar renewable energy development within the County of San Diego, near the unincorporated community of Boulevard. In addition to conducting a regulatory/environmental constraints survey for this project, Dudek's environmental scientists provided a comprehensive "fatal-flaw" environmental analysis that will allow Concentrix Solar to better make key decisions about developing other solar energy sites within the County of San Diego. To date, these projects include nearly 1,000 acres in San Diego County and involve a variety of resource issues.

Southern California Edison Demolition of Mohave Generating Station, Destrier Inc., Laughlin, Nevada. Served as project manager and lead biologist for project. Dudek subcontracted to Destrier Inc., of Irvine, California, to assist in the demolition process (i.e., providing quality assurance and technical support) for the demolition of Southern California Edison's (SCE's) Mohave Generating Station, located in Laughlin, Nevada, near the Colorado River. Dudek initially assisted Destrier Inc. in the Demolition Bid Review process, reviewing contractor bids regarding responsiveness, completeness, and technical approach. The review included bid compliance with state, federal, and local permits and regulations related to asbestos abatement, hazardous materials waste transportation and disposal, soil and samplings. Later, Dudek provided biological coordination regarding a variety of federally listed threatened and endangered species and other special-status species issues including desert tortoise (*Goperus agassizii*), Yuma clapper rail, bald eagle (*Haliaeetus leucocephalus*), golden eagle, burrowing owl, relict leopard frog (*Lithobates onca)*, gila monster (*Heloderma suspectum)*, razorback sucker (*Xyrauchen texanus)*, and bonytail chub (*Gila elegans)*. Dudek was requested to provide recommendations to avoid attractive nuisance habitat on site, to identify potential nesting issues related to the structure, and to coordinate with the USFWS regarding listed species – obtaining a Section 10 concurrence letter from the local USFWS office in less than 2 months.

Tule Wind Project As-Needed Environmental Services, Iberdrola Renewables Inc; San Diego County, California. Serves as lead biologist and task manager. Dudek was initially contracted to conduct a habitat assessment for Quino checkerspot butterfly at the Tule project site in McCain Valley, in southeastern San Diego County. According to USFWS guidelines, habitat assessments are required to identify suitable vegetation structure and determine the presence/absence of suitable host and nectar plant species used by the Quino. Areas identified as suitable habitat then required focused surveys, according to USFWS protocol, by Dudek's USFWS-permitted biologists. Dudek conducted Quino surveys within the Cuyapaipe, BLM, and state lands along approximately a 10-mile, 1,000-foot-wide corridor of proposed wind turbines and access roads, as well as two, 10-acre substation sites and a 100-foot-wide corridor for 10 miles in McCain Valley, proposed for overhead transmission lines. The survey results mapped and characterized the vegetation communities using GIS technology, and all suitable Quino habitat was mapped, identified, and described in a project report. The Quino survey work was later expanded to include approximately 400 additional acres located on Rough Acres Ranch north of McCain Road, and an additional 1,000-foot-wide corridor designated as an anticipated "action area" for wind turbine projects.

Tierra del Sol Project Biological Surveys, Invenergy Wind Development LLC, San Diego County, California. Serves as lead biologist and task manager. Dudek was contracted to conduct a biological constraints-level survey of the 150-acre Tierra del Sol parcel located in San Diego County. Vegetation communities were mapped in accordance to Holland nomenclature and County of San Diego requirements. A general inventory of plant and animal species was compiled as well as a determination of potential special-status species that could occur on the site. All data were compiled in GIS digital format and added to a Biological Resources Map. Also, specifically, a Quino checkerspot butterfly survey was conducted on the site, and Dudek biologists assessed the suitability of the site as habitat for this protected species. In general, Dudek's initial work on the project identified potential biological issues before the client submits any applications to proceed on the project to the County of San Diego.

Solar Power at Santee Lakes Recreational Preserve, Padre Dam Municipal Water District, San Diego County, California. Served as lead project biologist. The Padre Dam Municipal Water District (District) used an innovative approach to incorporate solar paneling into their Santee Lakes Recreational Preserve park. The District proposed to construct recreation vehicle (RV) ports over three RV parking areas to support solar paneling.

A feasibility study was conducted that indicated that solar panels would be cost effective through a "Power Purchase Agreement" and would benefit the District, park users, and the surrounding community by providing clean energy to the power grid. Dudek prepared an IS that determined that a negative declaration would be the appropriate environmental document for this project. A key factor of the project was that it would provide the District with renewable, clean energy into the power grid, which would help reduce the District's overall carbon emissions at the preserve. A key issue analyzed and determined to be less than significant was the visual charter and light and glare for the neighboring residences from the structures and solar paneling.

Municipal

As-Needed Biological and Cultural Resources Surveys and Monitoring, Department of Parks and Recreation, County of San Diego, California. Served as project manager, providing as-needed consulting services for biological and cultural resources. Services included conducting Phase I cultural resources surveys; baseline biological surveys; habitat, wildlife corridor, and sensitive plant and animal species monitoring; and habitat restoration. Prepared technical reports, developed vegetation management plans, and developed public access plans providing analysis and recommendations for potential multiple-use trails and staging areas. Responsible for oversight, wildlife survey design, and staffing for the following projects:

- Baseline Biodiversity and Cultural Survey for the Pascoe, Helix-Lambron, and Cielo Azul Parcel Additions to the Del Dios Highlands Preserve. This project included preparation of a vegetation management plan for the approximately 313-acre area in Escondido, California.
- Baseline Biodiversity and Cultural Survey for the Escondido Creek Preserve. This project included preparation of a vegetation management plan for the approximately 346-acre site in the Elfin Forest.
- Baseline Biodiversity and Cultural Survey for the San Luis Rey River Park. This project included preparation of a trails assessment and vegetation management plan for the approximately 460-acre site in the northern San Diego County area.
- Tijuana River Valley Regional Park Habitat Restoration Project. This 33-acre site is located in southern San Diego County.
- Lusardi Creek Perennial Invasive Vegetation Control and Coastal Sage Scrub Seed Imprinting Project. This project included preconstruction surveys for nesting birds. This approximately 2-acre site is located in the San Dieguito River Valley.
- Santa Ysabel West Perennial Invasive Vegetation Control Project. This approximately 0.26-acre area is a mitigation site in eastern San Diego County.
- Baseline Biodiversity and Cultural Survey for the Sycamore South and Hagey Portions of the Sycamore Canyon and Goodan Ranch Preserves. This project included preparation of a vegetation management plan for the entire preserve (2,300 acres) and an access plan. The survey site encompasses approximately 263 acres in the Santee/Poway area. This work is still in progress.
- Baseline Biodiversity and Cultural Survey for the Stoneridge Preserve. This project included preparation of a vegetation management plan and was conducted over an approximately 244-acre area in the South San Diego County area. This work is still in progress.
- Baseline Biodiversity and Cultural Survey for the Potrero/Mason Properties. This project included preparation of a vegetation management plan and access plan. The survey was conducted over an approximately 505-acre area in the Barratt Junction area. This work is still in progress.

Resource Management

LaBorde Canyon Off-Highway Vehicle Park Study, Riverside County, California. Served as the project manager and lead biologist for the 2,600-acre study. Was responsible for scheduling ten biologists and one subconsultant to conduct habitat mapping, sensitive plant surveys, Stephens' kangaroo rat (*Dipodomys stephensi*) and San Bernardino kangaroo rat (*Dipodomys merriami parvus*) habitat assessments and trapping, installation and implementation of 20 reptile trap arrays, raptor nest surveys, and general wildlife surveys.

San Luis Rey Bike Path, City of Oceanside, San Diego County, California. Served as project manager and primary wildlife biologist. This project was located at the western end of the San Luis Rey River, near Interstate 5. Conducted vegetation mapping and focused surveys for California gnatcatcher and a variety of sensitive plant species. Processed environmental studies in support of the City of Oceanside's Mitigated Negative Declaration and wrote the habitat restoration plans for the project.

Annual Gnatcatcher Surveys, Trump National Golf Club, City of Rancho Palos Verdes, California. Conducted gnatcatcher surveys over approximately 100 acres of restored coastal sage scrub and coastal bluff scrub habitat within and surrounding the golf course on the Palos Verdes Peninsula. The goal of the surveys was to determine the breeding status of paired birds, territory number, size and location, breeding success, and cowbird predation in accordance with the Ocean Trails Habitat Conservation Plan. Prepared annual monitoring reports that summarized population dynamics and identified threats to gnatcatchers.

Western Riverside County Multiple Species Habitat Conservation Plan (MSCHP), Riverside County Transportation and Land Management Agency, Riverside County, California. Served as one of the primary biologists for the Western Riverside MSHCP. Responsible for writing species accounts and coverage assessments for all of the covered reptiles, amphibians, insects, and crustaceans within the planning area. Also responsible for analyzing various wildlife crossing and corridor issues and determining potential methods for safely conveying wildlife across planned roadways. This involved extensive review of current state-of-the-art wildlife underpasses and overpasses within California, nationally, and globally. This also included visiting various sites, such as the Interstate 80 underpasses east of Sacramento. Also participated in implementation of the MSHCP, reviewing proposed projects for consistency with the MSHCP.

West Coyote Hills Field Closure and Development Project, Chevron USA Production Company and Chevron Pacific Coast Homes, City of Fullerton, Orange County, California. Assisted Chevron in obtaining a federal Section 4(d) permit to allow closure of the approximately 600-acre oil field. This field was home to over 46 pairs of California gnatcatchers. Managed environmental compliance regarding endangered species issues and included regular coordination with the USFWS, CDFG, U.S. Army Corps of Engineers, and California Division of Oil and Gas. Served as long-term 4(d) compliance monitor and coordinator for the field closure. Managed and conducted construction worker training seminars, and provided other training materials to educate workers regarding biological resources. Obtained regulatory agency approval of several project changes, including extension of work seasons and impact variances. Prepared and managed implementation of habitat restoration activities benefiting the California gnatcatcher. Prepared, and regularly coordinated with the regulatory agencies regarding, a federal Section 7 Biological Assessment to be included within the USFWS Biological Opinion regarding development of approximately half of the site. Acceptance of this assessment was reliant upon defensible analysis that through project modifications, project configuration, habitat restoration, and long-term management regimes, no net loss of California gnatcatchers would occur.

Stephens' Kangaroo Rat Habitat and Fire Management Plan, Riverside County Habitat Conservation Agency, Riverside County, California. Project manager responsible for preparing a Stephens' kangaroo rat Habitat and Fire Management Plan for the Riverside County Habitat Conservation Agency reserves in Lake Mathews and Steele Peak. Conducted interviews of habitat managers, species experts, and wildlife agency personnel. Coordinated expected fire behavior modeling for the reserve in order to develop a fire protection strategy and brush management plan.

Established a suite of monitoring protocols and measures to track population levels and contributed habitat statistics to use for future management decisions. Conducted live-trapping in eleven 90-meter by 90-meter grids that included 49 traps per grid. Established a series of stratified grids across the reserve and field-verified the sites. Tested surrogate burrow count methodologies and sampled vegetation using a modified relevé method.

Baseline Biological Surveys of the Otay Ranch Preserve – Salt Creek and San Ysidro Mountain Parcels, County of San Diego, California. Serving as project manager, staffed the project and attended preserve owner/manager meetings as needed. Provided direction on wildlife survey design and directed staff with regard to survey locations and various wildlife studies, including butterfly surveys, avian point-count stations, herp arrays, game camera locations, and small-mammal trapping, within an approximately 1,350-acre area located in Chula Vista, California.

Environmental Surveys of Simon and Mount Gower Preserves, County of San Diego, California. Served as senior wildlife biologist. Provided direction on wildlife survey design and directed staff with regard to survey locations and various wildlife studies, including avian point-count stations, herp arrays, game camera locations, and small mammal trapping, within the 617-acre Simon Preserve and the 1,522-acre Mount Gower Preserve located in Ramona, California.

Transportation

Stormwater Best Management Practice (BMP) Pilot Study and Statewide Wet Basin Projects, California Department of Transportation (Caltrans), Statewide, California. Served as project manager for this BMP pilot study that began in 1999 to account for potential endangered species issues related to implementation of BMPs in San Diego and Los Angeles counties. Initially evaluated all proposed structures to determine which had the potential to become attractive nuisances to sensitive wildlife species. Potentially sensitive BMPs were then monitored over a 2-year period to determine their true impact on sensitive species. During this timeframe, Worked with Caltrans, project engineers, scientists, regulatory agencies, and local conservation groups to modify maintenance and facility management regimes to avoid impacts to a wide variety of sensitive species. As a result of this project, it was determined that one type of BMP was at greater risk of becoming an attractive nuisance to threatened and endangered species. At Caltrans' request, formulated a project strategy and initiated discussions with the regulatory agencies to determine a strategy to permit installation of the BMPs on a statewide level. It was determined that the best method would be to employ the Safe Harbors Act or possibly pursue a habitat conservation plan under Section 7 or 10 of the Endangered Species Act. Currently studying potential BMP sites throughout the entire state and is in contact with the pertinent regulatory agencies and field offices toward devising an effective permitting strategy.

Oceanside to Escondido Rail Project, North County Transit District (NCTD), Cities of Oceanside, Vista, San Marcos, and Escondido and County of San Diego, California. Served as the primary wildlife biologist for the project, conducting habitat assessments and focused surveys for California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and arroyo toad along the entire project alignment. Wrote the least Bell's vireo and brown-headed cowbird (*Molothrus ater*) management plans for the project. Additionally, implemented and managed the brown-headed cowbird trapping program.

Mid-County Parkway, Riverside County Integrated Project, Riverside County, California. Lead biologist responsible for managing and conducting focused sensitive plant, burrowing owl, least Bell's vireo, southwestern willow flycatcher, and fairy shrimp surveys within the Mid-County Parkway study area, which includes a number of alternatives and ranges from approximately 1.7 kilometer (1.1 mile) to 6.5 kilometers (4 miles) in width and is approximately 52 kilometers (32 miles) in length. In addition, was responsible for devising a cost-effective helicopter survey method for potential fairy-shrimp-occupied pools after rain events, reducing potential survey time from days to 3 hours. Was also responsible for siting and design of at least 15 major and minor wildlife undercrossings and 3 wildlife overcrossings to accommodate reserves in western Riverside County.

Rancho Santa Fe Road Widening and Bridge Replacement Project, City of Carlsbad Public Works Department, San Diego County, California. Served as a primary wildlife biologist for the project and conducted focused surveys for California gnatcatcher.

Water/Wastewater

As-Needed Contract, City of San Diego Engineering and Capital Projects Department and Water Utilities Department, San Diego County, California. Completed environmental impact studies for several sewer and storm drain projects under the City of San Diego as-needed contract. Wrote several mitigation monitoring plans and processed documentation for CEQA compliance. Personally managed approximately 8 of the 80 projects.

As-Needed Biological Services 2000–2005, San Diego Metropolitan Wastewater Department, City of San Diego, California. Served as primary biologist. Responsibilities included conducting habitat assessments and focused surveys for arroyo toad, California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, fairy shrimp, and other species.

San Diego Pipeline No. 6, Metropolitan Water District (MWD) of Southern California, Riverside and San Diego Counties, California. The project consisted of a 30-mile-long, 9-foot-diameter water conveyance pipeline. Began work on this project as a project monitor, with responsibilities including conducting habitat assessments for at least 10 federally and state-listed plant and wildlife species, conducting biological studies, coordinating monitoring activities, and monitoring site investigations for the early project activities. Transitioned into project manager for the approximately $1.5-million contract, and was responsible for providing environmental support services to the MWD necessary to support revised environmental documents for the pipeline. All tasks for this contract met aggressive scheduling requirements and were within budget.

Tributary Areas 3 and 8 Environmental Monitoring, U.S. Marine Corps Base Camp Pendleton, San Diego County, California. Served as project manager and primary biologist. Implemented categorical exclusion permit requirements supporting installation of an upgraded sewer system over a portion of the base. This required writing a monitoring and compliance plan; initiating habitat assessments over portions of the system which had the potential to affect least Bell's vireo, California gnatcatcher, and arroyo toad; and monitoring activities on a regular basis in accordance with the monitoring plan.

Non-Potable Water Distribution System, Yucaipa Valley Water District, San Bernardino and Riverside Counties, California. Served as lead biologist for wildlife studies within San Timoteo Canyon. Responsibilities included scheduling personnel and conducting focused surveys for arroyo toad, least Bell's vireo, and southwestern willow flycatcher. Overall, 39 person-days were required to complete these focused surveys along the approximately 7-mile alignment.

As-Needed Contract, Eastern Municipal Water District, Riverside County, California. Served as monitoring biologist and primary biologist. These projects required Stephens' kangaroo rat, Quino checkerspot, and California gnatcatcher surveys and monitoring. These projects were situated throughout western Riverside County.

Multiple Projects, Riverside County Flood Control and Water Conservation District, Riverside County, California. Served as project manager for multiple projects. The projects ranged from multiple-acre detention basins to long and linear conveyance projects. Responsible for conducting biological studies, reporting, mitigation and monitoring plan writing, and wetland permitting. Recently completed two projects that involved widening existing channels in the Salt Creek and Perris Valley areas: 4- and 2-mile-long study areas, respectively. These projects involved conducting biological studies (i.e., vegetation mapping, wetland delineations, and focused surveys for California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, arroyo toad, Quino checkerspot, and sensitive plants), relocating burrowing owls, reporting, and assisting with resource agency permitting as required. Many of the projects required coordination with resource agencies.

Appendix B

Detailed Budget/Staff Hour Estimate

Detailed Budget/Staff Hour Estimate

Employee	Brock Ortega and Shawn Shamlou	Tricia L Wotipka	Patricia Schuyler	Tsutomu K Molioo	Adam R Giacinto	Melis Okter	Andrew W Greis	Michael J Williams	Vanessa L Currie	Janice Wondolleck	Shannon J Baer	Jay S Wolf	Daniel Kil	Olivia L Koziel	Labor Hours	Labor @ Billing Rates	Reimburseables Cost	Reimburseables Billing	Total
Billing Category	Project Director/ Environmental	Senior Specialist III	Senior Specialist I	Specialist V	Specialist V	Specialist III	GIS Specialist III	Specialist II	Specialist I	Analyst IV	Analyst III	Technician III	Publications Specialist II	Analyst I					
% Used on job	4%	11%	15%	18%	2%	12%	7%	2%	19%	5%				4%					
Phase	245.00	220.00	190.00	180.00	180.00	160.00	150.00	145.00	130.00	110.00	100.00	80.00	95.00	80.00					
A. Analysis of Wood Canyon Discharge at Coastal Treatment Plant Access Road																			
Task V. Biological Survey		2	4				2								8	1,500	150	150	1,650.00
Task VIII. Technical Memorandum		4	18				8								30	5,500		-	5,500.00
Subtotal															-	-		-	*7,150.00*
B. Permanent Repair at West 1 and 2 Sites																			
Task IV. Biological Reconnaissance Survey and Wetland Delineation				5			3								8	1,350	150	150	1,500.00
Task V. Focused California Gnatcatcher Survey	1	2		20			3						3		29	5,020	125	125	5,145.00
Task VIII. Biological Resources Technical Report		1		15			6			30	15		6	17	90	10,550		-	10,550.00
Task IX. Preparation of Cultural Resources Analysis		1			12		4	17				21			55	7,125	1,700	1,700	8,825.00
Task X. Initial Study	4								20				8		32	4,340		-	4,340.00
Task XII. Prepare Draft MND	8			6			25		150				15		204	27,715	1,000	1,000	28,715.00
Task XIII. Public Workshop	5								10				1		16	2,620		-	2,620.00
Task XIV. MND Processing	3								10				4		17	2,415	250	250	2,665.00
Task XV. Noticing and Distribution	2								10				4		16	2,170	250	250	2,420.00
Task XIX. Resource Agency Permitting		15	135				10			20	14		10	25	229	37,000	125	125	37,125.00
Task XX. Conceptual Wetlands Mitigation and Monitoring Plan		2		36			2						5		45	7,695		-	7,695.00
Task XXI. Coastal Development Permit Application						125					70				195	27,000		-	27,000.00
Subtotal															-	-		-	*138,600.00*
C. Aliso Creek Long-Term Repair Planning																			
Task I. Progress Meetings		8													8	1,760	150	150	1,910.00
Task V. Generic Biological Impact		4		16			5								25	4,510		-	4,510.00

Detailed Budget/Staff Hour Estimate

Employee	Brock Ortega and Shawn Shamlou	Tricia L Wotipka	Patricia Schuyler	Tsutomu K Molioo	Adam R Giacinto	Melis Okter	Andrew W Greis	Michael J Williams	Vanessa L Currie	Janice Wondolleck	Shannon J Baer	Jay S Wolf	Daniel Kil	Olivia L Koziel	Labor Hours	Labor @ Billing Rates	Reimburseables Cost	Reimburseables Billing	Total
Billing Category	Project Director/ Environmental	Senior Specialist III	Senior Specialist I	Specialist V	Specialist V	Specialist III	GIS Specialist III	Specialist II	Specialist I	Analyst IV	Analyst III	Technician III	Publications Specialist II	Analyst I					
% Used on job	4%	11%	15%	18%	2%	12%	7%	2%	19%	5%				4%					
Phase	245.00	220.00	190.00	180.00	180.00	160.00	150.00	145.00	130.00	110.00	100.00	80.00	95.00	80.00					
Task VI. Permit and Inspection Requirements		5													5	1,100		-	1,100.00
Task VII. Long Term Creek Impacts		10		10											20	4,000		-	4,000.00
Task VIII. Habitat Mitigation		10		30	10										50	9,400	250	250	9,650.00
Task IX. Additional Work Needed		5		15											20	3,800		-	3,800.00
Task X. Technical Memorandum	8	30		25			7								70	14,110		-	14,110.00
Task XI. Coordination with USFWS	15	20		15											50	10,775	145	145	10,920.00
Subtotal																			*50,000.00*
Total Hours	**46**	**119**	**157**	**193**	**22**	**125**	**75**	**17**	**200**	**50**				**42**	**1,046**	**174,555**			**178,850.00**
Total Billing	**11,270**	**26,180**	**29,830**	**34,740**	**3,960**	**20,000**	**11,250**	**2,465**	**26,000**	**5,500**				**3,360**		**174,555**	**4,295**	**4,295**	**$ 195,750.00**

Agenda Item

	Legal Counsel Review: No
	Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Brian Peck, Director of Engineering

SUBJECT: SOCWA 2020 Ten Year Capital Improvement Plan

Summary

The purpose of the *2020 Ten Year Capital Improvement Plan* is to identify projects needed for the rehabilitation or replacement of facilities owned and operated by SOCWA. This document is intended to allow the Authority, and its member agencies to more effectively plan and budget for capital projects. The Ten Year Plan identifies the location, fiscal year, need, and estimated cost for each proposed project.

The 2019 version of the Ten Year Capital Improvement Plan is the successor to the last Board approved Plan in 2010. The 2019 version varies from the prior 2010 version in the following ways:

- The list of assets has been significantly expanded
- The current version places more focus on the anticipated life of assets
- SOCWA instituted a program of 3rd party condition assessments in 2015 that impacts both planned projects and the future planning for projects
- The facilities are approximately ten years older than the previous version

The 2019 Ten Year Plan is similar to the 2010 version in that the projected plan cycle is actually fifteen years rather than the nominal ten-year span.

The 2019 Ten Year Plan was prepared in an Excel planning model that is intended to allow a more rigorous and yet simpler approach to future revisions of the plan. The intent is to update the Ten Year Plan on an annual basis based on studies, condition assessments, and project bids. The annual updates will be especially important in the coming years as SOCWA, and its member agencies consider potential changes as the existing Project Committee agreements draw closer to a conclusion.

The attached Exhibit A presents the projected, and inflated capital improvements costs annually by Project Committee. The attached Exhibit B presents the project and inflated capital improvement costs by member agency. A link to the electronic version of the comprehensive plan will be sent by e-mail by August 5, 2019.

The Ten Year Plan is generated by SOCWA staff with the participation of the SOCWA Engineering Committee and input from several consulting engineering firms.

Advisory Committee Review

The draft Ten Year Capital Improvement Plan for the Coastal Treatment Plant was submitted for review at the June 8, 2017, Engineering Committee meeting. Based on comments received a revised version of Coastal Plant Plan was presented at the October 12, 2017, Engineering Committee meeting. The draft Ten Year Plan for the Regional Treatment Plant was submitted for review at the August 9, 2018, Engineering Committee meeting. The draft Ten Year Plan for the J. B. Latham Treatment Plant was submitted for review at the June 13, 2019, Engineering Committee meeting. The overall SOCWA Ten Year Capital Improvement Plan was submitted for review at the July 18, 2019, Engineering Committee meeting.

Fiscal Impact

Refer to the *2020 Ten Year Capital Improvement Plan*.

Requested Action

The SOCWA *2020 Ten Year Capital Improvement Plan* is intended to be an active planning document that will be updated on an annual basis.

The following action is requested:

Receive and file the SOCWA *2020 Ten Year Capital Improvement Plan*.

Exhibit A
Ten Year Plan by Project Committee

Year	Fiscal Year	Project Committee (PC) 2			PC 2 Total	PC 5 Total
		Liquids	Common	Solids		
1	2019/20	$ 4,222,203	$ 1,188,671	$ 5,080,720	$ 10,491,594	$ 75,730
2	2020/21	$ 4,944,789	$ 1,267,467	$ 5,419,441	$ 11,631,697	$ 542,452
3	2021/22	$ 5,153,199	$ 588,150	$ 4,384,808	$ 10,126,157	
4	2022/23	$ 7,153,517	$ 292,562	$ 233,560	$ 7,679,638	$ 178,521
5	2023/24	$ 1,364,127	$ 324,316	$ 5,098,199	$ 6,786,642	$ 38,862
6	2024/25	$ 4,704,987	$ 6,923,709	$ 819,986	$ 12,448,682	$ 581,817
7	2025/26	$ 3,830,223	$ 2,356,608	$ 5,336,797	$ 11,523,628	$ 89,987
8	2026/27	$ 1,080,964	$ 850,499	$ 14,516,931	$ 16,448,394	
9	2027/28	$ 324,219	$ 3,530,173	$ 273,399	$ 4,127,791	$ 980,647
10	2028/29	$ 6,333,175	$ 292,770	$ 1,303,897	$ 7,929,842	
11	2029/30	$ 1,917,044	$ 2,253,063	$ 291,176	$ 4,461,282	
12	2030/31	$ 356,350	$ 311,807	$ 5,503,266	$ 6,171,423	
13	2031/32	$ 4,266,235	$ 321,784	$ 310,110	$ 4,898,129	
14	2032/33	$ 1,286,627	$ 332,081	$ 320,033	$ 1,938,741	
15	2033/34	$ 1,276,060	$ 2,015,781	$ 330,274	$ 3,622,115	
Grand Total		**$ 48,213,717**	**$ 22,849,441**	**$ 49,222,597**	**$ 120,285,754**	**$ 2,488,017**
Ten Year Total		**$ 39,111,401**	**$ 17,614,924**	**$ 42,467,738**	**$ 99,194,064**	**$ 2,488,017**

Exhibit A
Ten Year Plan by Project Committee

Year	Fiscal Year	Project Committee (PC) 15		PC 15 Total	Project Committee (PC) 17				PC 17 Total
		Liquids	AWT		Liquids	Common	Solids	AWT	
1	2019/20	$ 12,321,354	$ 40,000	$ 12,361,354	$ 6,793,536	$ 472,696	$ 1,974,150	$ 35,000	$ 9,275,382
2	2020/21	$ 8,009,250		$ 8,009,250	$ 3,461,126	$ 1,176,499	$ 338,365	$ 36,120	$ 5,012,110
3	2021/22	$ 4,529,961	$ 67,080	$ 4,597,041	$ 6,048,675	$ 2,407,712	$ 3,290,374	$ 37,276	$ 11,784,037
4	2022/23	$ 1,421,171	$ 69,227	$ 1,490,397	$ 2,057,164	$ 2,069,208	$ 437,060	$ 38,469	$ 4,601,901
5	2023/24	$ 3,809,157	$ 71,442	$ 3,880,599	$ 590,783	$ 5,712,336	$ 577,245	$ 39,700	$ 6,920,064
6	2024/25	$ 3,474,072	$ 325,719	$ 3,799,791	$ 3,532,789	$ 193,145	$ 16,341,074	$ 40,970	$ 20,107,977
7	2025/26	$ 3,200,572	$ 76,087	$ 3,276,659	$ 7,741,809	$ 4,112,880	$ 1,210,933	$ 42,281	$ 13,107,903
8	2026/27	$ 3,109,914	$ 1,633,681	$ 4,743,595	$ 8,851,925	$ 4,175,561	$ 274,271	$ 43,634	$ 13,345,392
9	2027/28	$ 3,252,251	$ 81,035	$ 3,333,286	$ 4,979,468	$ 929,274	$ 2,649,158	$ 45,030	$ 8,602,930
10	2028/29	$ 6,095,564	$ 83,628	$ 6,179,192	$ 5,152,375	$ 4,103,821	$ 292,106	$ 46,471	$ 9,594,772
11	2029/30	$ 4,375,676	$ 3,296,310	$ 7,671,987	$ 6,100,802	$ 226,090	$ 742,204	$ 47,958	$ 7,117,054
12	2030/31	$ 3,065,020	$ 89,066	$ 3,154,085	$ 1,552,143	$ 233,325	$ 21,779,768	$ 49,493	$ 23,614,729
13	2031/32	$ 5,197,902	$ 91,916	$ 5,289,818	$ 1,511,419	$ 240,791	$ 1,518,651	$ 51,077	$ 3,321,938
14	2032/33	$ 3,345,682	$ 94,857	$ 3,440,539	$ 7,446,574	$ 248,496	$ 331,328	$ 52,711	$ 8,079,110
15	2033/34	$ 5,828,674	$ 517,352	$ 6,346,026	$ 1,520,128	$ 4,052,521	$ 341,931	$ 54,398	$ 5,968,978
	Grand Total	**$ 71,036,221**	**$ 6,537,400**	**$ 77,573,620**	**$ 67,340,716**	**$ 30,354,354**	**$ 52,098,617**	**$ 660,589**	**$ 150,454,277**
	Ten Year Total	**$ 49,223,267**	**$ 2,447,898**	**$ 51,671,165**	**$ 49,209,650**	**$ 25,353,131**	**$ 27,384,735**	**$ 404,951**	**$ 102,352,468**

Exhibit A
Ten Year Plan by Project Committee

Year	Fiscal Year	PC 21 B/C/D	PC 21 E	PC 21 Total	PC 24 Total	**Grand Total**
1	2019/20	$ 226,011	$ 103,673	$ 329,684	$ 106,253	**$ 32,639,997**
2	2020/21	$ 172,324	$ 105,699	$ 278,023	$ 50,703	**$ 25,524,236**
3	2021/22	$ 966,610		$ 966,610		**$ 27,473,845**
4	2022/23				$ 66,945	**$ 14,017,403**
5	2023/24	$ 342,500		$ 342,500		**$ 17,968,667**
6	2024/25	$ 1,771,090		$ 1,771,090	$ 173,071	**$ 38,882,428**
7	2025/26	$ 419,939	$ 401,942	$ 821,881	$ 2,431	**$ 28,822,490**
8	2026/27	$ 2,917,539		$ 2,917,539	$ 590,894	**$ 38,045,814**
9	2027/28	$ 286,349		$ 286,349		**$ 17,331,003**
10	2028/29	$ 2,697,819		$ 2,697,819	$ 7,896,056	**$ 34,297,681**
11	2029/30					**$ 19,250,323**
12	2030/31					**$ 32,940,236**
13	2031/32					**$ 13,509,885**
14	2032/33					**$ 13,458,391**
15	2033/34				$ 152,853	**$ 16,089,973**
	Grand Total	**$ 9,800,181**	**$ 611,314**	**$ 10,411,495**	**$ 9,039,205**	**$ 370,252,369**
	Ten Year Total	**$ 9,800,181**	**$ 611,314**	**$ 10,411,495**	**$ 8,886,352**	**$ 275,003,561**

Exhibit B
Ten Year Plan by Member Agency

Year	Fiscal Year	El Toro Water District	Emerald Bay Service District	Irvine Ranch Water District	City of Laguna Beach	Moulton Niguel Water District	City of San Clemente
1	2019/20	$605,893	$381,838	$153,896	$4,933,906	$14,415,767	$12,586
2	2020/21	$308,813	$245,356	$118,770	$3,153,651	$9,717,443	$90,156
3	2021/22	$1,401,902	$162,581	$483,305	$2,237,472	$13,496,369	$0
4	2022/23	$312,417	$52,352	$10,551	$724,914	$6,208,852	$29,670
5	2023/24	$875,151	$135,963	$171,250	$1,866,999	$8,042,959	$6,459
6	2024/25	$4,268,785	$202,103	$912,821	$3,181,653	$17,329,367	$96,698
7	2025/26	$973,111	$116,275	$303,965	$1,607,363	$15,440,230	$14,956
8	2026/27	$2,039,477	$112,840	$1,551,894	$1,536,562	$17,066,418	$0
9	2027/28	$779,211	$115,779	$143,174	$1,588,444	$9,335,171	$162,984
10	2028/29	$3,116,637	$258,812	$2,593,328	$3,469,506	$15,631,400	$0
11	2029/30	$174,681	$135,742	$0	$1,756,290	$9,050,910	$0
12	2030/31	$4,469,190	$220,764	$0	$3,620,282	$16,833,239	$0
13	2031/32	$334,662	$164,916	$0	$2,156,038	$5,287,958	$0
14	2032/33	$93,120	$102,646	$0	$1,321,119	$9,307,386	$0
15	2033/34	$510,492	$190,573	$24,090	$2,518,948	$7,530,379	$0
	Total	$20,263,540	$2,598,541	$6,467,044	$35,673,145	$174,693,848	$413,508
	Ten Year Total	$14,681,397	$1,783,900	$6,442,955	$24,300,468	$126,683,977	$413,508

Exhibit B
Ten Year Plan by Member Agency

Year	Fiscal Year	City of San Juan Capistrano	Santa Margarita Water District	South Coast Water District	Total
1	2019/20	$3,192,919	$2,477,684	$6,465,507	$32,639,997
2	2020/21	$3,592,525	$2,923,721	$5,373,801	$25,524,236
3	2021/22	$3,079,749	$2,270,589	$4,341,878	$27,473,845
4	2022/23	$2,379,824	$1,450,339	$2,848,484	$14,017,403
5	2023/24	$2,052,039	$1,774,193	$3,043,654	$17,968,667
6	2024/25	$3,861,892	$2,886,470	$6,142,639	$38,882,428
7	2025/26	$3,505,586	$2,755,623	$4,105,381	$28,822,490
8	2026/27	$4,946,104	$4,501,039	$6,291,480	$38,045,814
9	2027/28	$1,363,064	$1,374,722	$2,468,453	$17,331,003
10	2028/29	$2,428,795	$1,533,029	$5,266,173	$34,297,681
11	2029/30	$1,361,797	$929,095	$5,841,809	$19,250,323
12	2030/31	$1,855,367	$1,694,640	$4,246,755	$32,940,236
13	2031/32	$1,503,494	$899,896	$3,162,921	$13,509,885
14	2032/33	$592,797	$389,363	$1,651,960	$13,458,391
15	2033/34	$1,104,203	$775,049	$3,436,240	$16,089,973
	Total	$36,820,156	$28,635,451	$64,687,135	$370,252,369
	Ten Year Total	$30,402,498	$23,947,409	$46,347,449	$275,003,561

Agenda Item

	Legal Counsel Review: No
	Meeting Date: August 8, 2019

TO: SOCWA Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Dina Ash, Human Resources Administrator

SUBJECT: Resolution No. 2019-03 Commendation for Mike Harper

Summary

Mike Harper has been employed by SOCWA for 11 years and will retire on August 13, 2019. Resolution No. 2019-03 commends Mr. Harper for his services to SOCWA.

Fiscal impact

None.

Recommendation

Staff recommends the Board approve Resolution No. 2019-03 and authorize Chairman Ferons to sign the Commendation for Mr. Harper on behalf of the Board of Directors of the South Orange County Wastewater Authority.

attachment(s) Resolution No. 2019-03

RESOLUTION OF COMMENDATION
Resolution No. 2019-03
ADOPTED BY THE BOARD OF DIRECTORS
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
August 8, 2019

COMMENDATION TO MIKE HARPER FOR PROVIDING DEDICATED SERVICE TO THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY AND THE RESIDENTS OF SOUTHERN ORANGE COUNTY FOR THE PERIOD OF FEBRUARY 2008 TO AUGUST 2019

WHEREAS: South Orange County Wastewater Authority (SOCWA) facilitates and manages the collection, transmission, treatment, reuse, and disposal of wastewater for more than 500,000 homes and businesses across South Orange County.

WHEREAS: Mike Harper began his 11-year tenure in 2008 as an Electrical Instrumentation Technician for SOCWA. During his career, Mike Harper was continually improving himself and demonstrating his value to the organization. He was promoted to Senior Electrician/SCADA Technician in 2011.

WHEREAS: During his career with SOCWA Mike Harper oversaw the complex electrical and SCADA systems that monitor and control the daily operations of the SOCWA treatment plants. His expertise, along with his historical knowledge of the SOCWA facilities, will be missed.

WHEREAS: Mike Harper is well regarded by his fellow employees as a leader and mentor. Also, because Mike was very good with both electrical and SCADA issues, he was relied upon as a first responder to treatment plant equipment issues.

WHEREAS: The work performed by Mike Harper helped protect public health and the environment by making sure SOCWA's equipment and infrastructure was well maintained. This is the same environment Mike also enjoyed while riding his bike to work in Dana Point during the summer months.

WHEREAS: Mike plans to enjoy retirement by spending time with family and new grandchild, playing chess, and continuing to train service dogs.

THEREFORE, BE IT RESOLVED: That the Board of Directors of the South Orange County Wastewater Authority and on behalf of the member agencies of SOCWA does hereby commend Mike Harper for his dedicated service and commitment to the mission of the South Orange County Wastewater Authority.

PASSED AND ADOPTED by the Board of Directors of the SOUTH ORANGE COUNTY WASTEWATER AUTHORITY, County of Orange, the State of California on the 8th day of August 2019.

_____
Daniel R. Ferons, Chairman

(Seal)

_____
Betty Burnett, General Manager and Board Secretary

Agenda Item

Board of Directors Meeting
Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Mary Carey, Finance Controller

SUBJECT: Annual Financial Statements Audit FY 2018-19 – Progress Update

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Summary/Discussion

FY 2018-19 Annual Financial Statements Audit began on July 23, 2019, for the interim field-work; the final field-work will be completed the week of September 16th.

The Final Draft Report is scheduled for Finance Committee Review on November 12th and presentation to the Board on December 5, 2019.

Staff has recorded the change in the Net Pension Liability, and the Balance Sheet impact is:

Summary of Balances

	Fiscal year ending	
	6/30/2018	6/30/2019
■ Measurement date	6/30/2017	6/30/2018
■ Total pension liability	$ (49,973,230)	$ (52,230,824)
■ Fiduciary net position	36,562,793	39,044,508
■ Net pension (liability)/asset	(13,410,437)	(13,186,316)
■ Deferred (inflows) of resources	(798,038)	(1,078,306)
■ Deferred outflows of resources	4,069,991	3,475,719
■ Net balance sheet impact	(10,138,484)	(10,788,903)

The Distribution of the Net Pension Liability and Deferred Inflows and Outflows by Project Committee and Member Agency was based on the Board Approved Methodology, Historical Labor Distribution, updated with FY 2017-18 actuals.

Recommended Action

Information Item

Net Pension Liability Distribution by Member Agencies and the Allocation Percentages for FY 2018-19 are:

	PC2	PC3A	PC5	PC8	PC12	PC15	PC17	PC24	Total	Allocation %'s
	Net Pension Liability Net Pension Liability Reported 2018 Measurement Date 2017									
CLB	-	-	-	27,119	-	1,049,582	283,760	40,082	1,400,543	10.62%
CSC	-	-	52,930	35,574	-	-	-	-	88,504	0.67%
CSJC	1,274,909	-	49,714	36,565	1,037	-	-	-	1,362,226	10.33%
EBSD	-	-	-	1,891	-	46,314	11,063	1,537	60,806	0.46%
ETWD	-	-	-	21,930	971	-	373,139	74,886	470,926	3.57%
IRWD	-	-	-	37,706	1,347	-	-	62,500	101,553	0.77%
MNWD	690,685	1,301,854	35,367	78,879	4,532	127,547	3,648,654	81,739	5,969,257	45.27%
SCWD	999,858	-	34,304	59,197	1,373	1,111,038	200,397	14,989	2,421,155	18.36%
SMWD	883,000	255,636	94,195	73,793	3,367	-	-	-	1,309,990	9.93%
TCWD	-	-	-	-	1,355	-	-	-	1,355	0.01%
	-	-	-	-	-	-	-	-	-	0.00%
Total	3,848,452	1,557,489	266,510	372,654	13,984	2,334,481	4,517,013	275,733	13,186,316	100.00%

The Authority's proportionate share of the net pension liability decreased by roughly $224K from last year. The biggest factor was actuarial experience for the year. This would have increased SOCWA's NPL for the year, but it was offset by reductions from small investment gains (earnings for the year were 1.25% higher than assumed) and changes in actuarial assumptions. (The Full Actuary Report is attached.)

Recommendation

Receive and file the GASB 68, Net Pension Liability, Reporting Information Report.

DRAFT

South Orange County Wastewater Authority
CalPERS Miscellaneous Pension Plans

June 30, 2019
Consolidated GASB 68 Reporting Information
CalPERS Risk Pools
Preliminary Results

Mary Beth Redding
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July 17, 2019

Contents

Applicable Dates and Periods

	June 30, 2019 Employer Fiscal Year
■ Measurement date (MD)	June 30, 2018
■ Measurement period	July 1, 2017 to June 30, 2018
■ Actuarial valuation date	June 30, 2017

Basis of Report

This report presents employer-specific amounts for reporting in accordance with Governmental Accounting Standards Board Statement No. 68 (GASB 68) for CalPERS public agency cost-sharing plans. Our calculations are based on information provided in actuarial valuation reports prepared by CalPERS and on the "Schedules of Employer Allocations for Components of Net Pension Liability and Schedule of Collective Pension Amounts", prepared by CalPERS and audited by KPMG. We have followed the methodology described in that report and in other CalPERS publications including the GASB 68 Guide for Public Agency Cost-Sharing Multiple-Employer Defined Benefit Pension Plans. It was not part of the scope of this project, nor was information available, to review the census data, actuarial calculations or the actuarial assumptions used to prepare those reports. CalPERS reports used for our calculations are available at: https://www.calpers.ca.gov/page/employers/actuarial-services/gasb
Additional information to be presented in each agency's Notes and RSI can be found on CalPERS website in the CalPERS Risk Pool reports as of the June 30, 2018 Measurement Date and CalPERS CAFR:

https://www.calpers.ca.gov/docs/forms-publications/gasb-68-accounting-valuation-miscellaneous-risk-pool-2018.pdf

https://www.calpers.ca.gov/docs/forms-publications/gasb-68-accounting-valuation-safety-risk-pool-2018.pdf

https://www.calpers.ca.gov/docs/forms-publications/cafr-2018.pdf

Net Pension Liability

Proportionate Share of Net Pension Liability/(Asset)

	Fiscal Year Ending	
	June 30, 2019	June 30, 2018
■ Total	$ 13,186,316	$ 13,410,437

See page 14 for supporting detail.

Note Disclosures

Proportionate Share of Net Pension Liability/(Asset)

	Percentage Share of Plan		Change: Increase/ (Decrease)
■ **Fiscal Year End**	**6/30/2019**	**6/30/2018**	
■ Measurement Date	6/30/2018	6/30/2017	
■ Percentage of Plan (PERF C) NPL	0.13684%	0.13522%	0.00162%

See page 14 for supporting detail.

Sensitivity of Proportionate Share of Net Pension Liability (Asset) to Changes in the Discount Rate

	Discount Rate		
	6.15% (1% Decrease)	7.15% (Current Rate)	8.15% (1% Increase)
■ Measurement Date	6/30/2018		
■ Fiscal Year End	6/30/2019		
■ Net Pension Liability	$ 20,251,641	$ 13,186,316	$ 7,354,006

See page 15 for supporting detail.

Pension Expense (Income) for Fiscal Year

	2018/19
■ Total pension expense (income) for fiscal year	$ 1,947,765

See page 25 for supporting detail.

Deferred Outflows/Inflows Balances at June 30, 2019

	Deferred Outflows of Resources	Deferred Inflows of Resources
■ Differences between expected and actual experience *	$ 505,936	$ (172,167)
■ Changes of assumptions *	1,503,279	(368,425)
■ Net differences between projected and actual earnings on plan investments *	65,190	-
■ Change in employer's proportion **	103,968	(54,862)
■ Differences between the employer's contributions and the employer's proportionate share of contributions***	-	(482,852)
■ Pension contributions subsequent to measurement date	1,297,346	-
■ Total	3,475,719	(1,078,306)

* Supporting detail on page 17.
** Supporting detail on page 20.
*** Supporting detail on page 23.

Recognition of Deferred Outflows and Inflows of Resources in Future Pension Expense

	Deferred Outflows/(Inflows) of Resources
■ **Fiscal Year Ending June 30:**	
● 2020	$ 1,138,700
● 2021	571,613
● 2022	(491,643)
● 2023	(118,603)
● 2024	-
● Thereafter	-

Supporting detail on page 24.

Schedule of Authority's Proportionate Share of the Plan's (PERF C) Net Pension Liability

	Fiscal Year End	
	6/30/19	6/30/18
■ Measurement Date	6/30/18	6/30/17
■ Authority's proportion of the net pension liability	0.13684%	0.13522%
■ Authority's proportionate share of the net pension liability	$ 13,186,316	$ 13,410,437
■ Authority's covered-employee payroll *	6,083,399	5,784,596
■ Authority's proportionate share of the net pension liability as a percentage of covered-employee payroll	216.76%	231.83%
■ Plan's fiduciary net position as a percentage of the plan's total pension liability **	75.26%	73.31%

* For the year ending on the measurement date.
** Supporting detail on page 11.

Schedule of the Authority's Contributions

Contributions for the fiscal year ending:	6/30/19	6/30/18
■ Actuarially determined contribution	$ 1,297,346	$ 1,094,606
■ Contributions in relation to the actuarially determined contribution	1,297,346	1,094,606
■ Contribution deficiency (Excess)	-	-
■ Authority's covered-employee payroll *	6,331,043	6,083,399
■ Contributions as a percentage of covered-employee payroll	20.49%	17.99%

* For the fiscal year ending on the date shown.

Data as of 6/30/18 Measurement Date

		Miscellaneous Risk Pool	Safety Risk Pool	Total
■ **Employer Allocation Basis***				
	Total Pension Liability	0.30922%	N/A	N/A
	Fiduciary Net Postion	0.29754%	N/A	N/A
■ **Data from Risk Pool Reports for Measurement Date June, 30 2018**				
	Total Pension Liability	$ 16,891,153,209	$ 22,053,702,155	$ 38,944,855,364
(1)	Fiduciary Net Postion	13,122,440,092	16,186,149,467	29,308,589,559
	Net Pension Liability	3,768,713,117	5,867,552,688	9,636,265,805
	Funded Percentage	N/A	N/A	75.26%
■ **Sensitivity**				
(2)	NPL @ 6.15% discount rate	6,053,599,297	8,907,796,860	
(1) + (2)	TPL @ 6.15% discount rate	19,176,039,389	25,093,946,327	
(3)	NPL @ 8.15% discount rate	1,882,577,074	3,376,616,970	
(1) + (3)	TPL @ 8.15% discount rate	15,005,017,166	19,562,766,437	
■ **Collective Pension Expense**		584,881,668	979,582,204	

■ **Deferred Outflows (Inflows) Balances at June 30, 2018 Measurement Date (MD)**				
MD				
2016	Differences between expected and actual experience	(719,949)	(478,255)	N/A
2017	Differences between expected and actual experience	(48,486,159)	39,697,202	N/A
2018	Differences between expected and actual experience	144,598,868	86,376,714	N/A
2017	Change in Assumptions	429,644,509	575,709,251	N/A
2018	Change in Assumptions	(105,297,568)	(77,673,473)	N/A
2015	Differences between projected and actual earnings on plan investments	114,295,501	149,612,057	N/A
2016	Differences between projected and actual earnings on plan investments	309,147,108	395,448,940	N/A
2017	Differences between projected and actual earnings on plan investments	(269,221,669)	(342,768,439)	N/A
2018	Differences between projected and actual earnings on plan investments	(135,589,390)	(162,566,478)	N/A
■ **Other**				N/A
	Aggregate Employer Contributions	499,847,617	682,838,026	N/A
	Expected Average Remaining Service Lifetime (EARSL)		N/A	3.8
	Future Recognition of Deferred Amounts			
	Measurement Date			
	2019	370,302,019	536,961,280	N/A
	2020	214,375,541	319,448,983	N/A
	2021	(112,408,963)	(152,411,126)	N/A
	2022	(33,897,346)	(40,641,618)	N/A

*From the report: https://www.calpers.ca.gov/docs/forms-publications/gasb-68-public-agency-schedules-2018.pdf

Supporting Calculations

Employer Contributions during Year

	Fiscal Year Paid:	
	2018/19	**2017/18**
■ Misc Tier 1	$ 1,001,702	$ 862,885
■ Misc Tier 2	104,325	87,986
■ Misc PEPRA	191,319	143,735
■ Total	1,297,346	1,094,606

Supporting Calculations

Proportionate Share of Net Pension (Liability)/Asset

	Fiscal Year Ending 6/30/2019		
	Measurement Date 6/30/2018		
	Total Pension Liability	Fiduciary Net Position	Net Pension Liability
■ Authority % *	0.30922%	0.29754%	
■ Total Misc Risk Pool *	$ 16,891,153,209	$ 13,122,440,092	N/A
■ Authority's Proportionate Share	52,230,824	39,044,508	$ 13,186,316
■ Total PERF-C NPL *	N/A	N/A	9,636,265,805
■ Authority's Proportionate Share of	N/A	N/A	0.13684%

* Supporting detail on page 11.

Sensitivity of Proportionate Share of Net Pension Liability (Asset) to Changes in the Discount Rate

	Discount Rate		
	6.15%	7.15%	8.15%
■ Measurement Date	6/30/2018		
■ Fiscal Year End	6/30/2019		
■ Miscellaneous			
Risk Pool Total Pension Liability *	$ 19,176,039,389	$ 16,891,153,209	$ 15,005,017,166
Employer's TPL Proportion	0.30922%	0.30922%	0.30922%
Proportionate share of TPL	$ 59,296,149	$ 52,230,824	$ 46,398,514
Less: Proportionate share of FNP **	39,044,508	39,044,508	39,044,508
Net Pension Liability	20,251,641	13,186,316	7,354,006

* Supporting detail on page 11.
** Supporting detail on page 14.

Allocation Factor for Deferred Inflows and Outflows

	Miscellaneous
(1) Total Misc Risk Pool Net Pension Liability*	$ 3,768,713,117
(2) Authority's Proportionate Share of Net Pension Liability **	13,186,316
(3) Authority's Deferred Outflows/Inflows of Resources Allocation Basis	0.34989%

* Supporting detail on page 11.

** Supporting detail on page 14.

*** Deferred Outflows/Inflows of resources allocated based on the employer's share of the Miscellaneous Risk Pool net pension liability, per CalPERS' guidance in the 6/30/2018 Schedules of Employer Allocations for Components of Net Pension Liability and Schedule of Collective Pension Amounts.

Total Risk Pool Deferred Outflows/(Inflows)

Measurement Date	Item	Misc Risk Pool*	Employer Amount (0.349889%)**	Employer Deferred Outflow	Employer Deferred (Inflow)
Differences between Actual and Expected Experience					
2016		$ (719,949)	$ (2,519)	$ -	(2,519)
2017		(48,486,159)	(169,648)	-	(169,648)
2018		144,598,868	505,936	505,936	-
Actual and Expected Experience			333,769	505,936	(172,167)
Changes of assumptions					
2017		429,644,509	1,503,279	1,503,279	-
2018		(105,297,568)	(368,425)	-	(368,425)
Total Assumptions Change			1,134,854	1,503,279	(368,425)
Net Difference between Projected and Actual Return on Investments					
2015 to 2018		18,631,550	65,190	65,190	-

* Supporting detail on page 12. ** Supporting detail on page 16.

Change in Proportion Calculation

	Unrecognized Differences between Expected and Actual Experience	Unrecognized Changes in Assumptions	Unrecognized Net Difference Between Projected and Actual Earnings on Investments	Total Pension Liability	Fiduciary Net Position	Total
■ Miscellaneous Risk Pool						
Net deferral at 6/30/2017 MD	$ (71,784,872)	$617,374,651	$151,150,027	$(16,016,547,402)	$12,074,499,781	
Employer proportion at 6/30/2018 MD*	0.34989%	0.34989%	0.34989%	0.30922%	0.29754%	
Employer amount using 6/30/2018 basis	(251,167)	2,160,127	528,857	(49,526,368)	35,926,467	(11,162,084)
Employer balances at 6/30/2017 MD	(223,976)	1,926,271	471,603	(49,973,230)	36,562,793	(11,236,539)
Difference	27,191	(233,856)	(57,254)	(446,862)	636,326	(74,455)

* Supporting details on pages 11 and 16.

Change in Proportion

Calculation at June 30, 2019 financial statement date

	2015 Measurement Date	2016 Measurement Date	2017 Measurement Date	2018 Measurement Date	Total
Balance reported at June 30, 2018	$ 190,533	$ 137,535	$ 73,633	$ (74,455) *	
Remaining Amortization Years	0.8 years	1.7 years	2.8 years	3.8 years	
Current Year Amortization	(190,533)	(80,902)	(26,298)	19,593	(278,140)
Balance reported at June 30, 2019	-	56,633	47,335	(54,862)	49,106

* Balance at July 1, 2018, after 6/30/18 reporting date.

Recognition Schedule for Deferred Outflows/Inflows at June 30, 2019 Employer-Specific Deferral: Change in Proportions

	Initial Recognition Period				Total
	2015/16	2016/17	2017/18	2018/19	
■ Measurement Period	2014/15	2015/16	2016/17	2017/18	
■ Initial amount	$ 905,028	$ 299,339	$ 99,931	$ (74,455)	
■ Initial recognition period	3.8 years	3.7 years	3.8 years	3.8 years	
■ Amount recognized in FY pension expense					
● 2015/16 (3rd prior year)	238,165	N/A	N/A	N/A	238,165
● 2016/17 (2nd prior year)	238,165	80,902	N/A	N/A	319,067
● 2017/18 (Prior year)	238,165	80,902	26,298	N/A	345,365
● 2018/19 (Current year)	190,533	80,902	26,298	(19,593)	278,140
● 2019/20	-	56,633	26,298	(19,593)	63,338
● 2020/21	-	-	21,037	(19,593)	1,444
● 2021/22	-	-	-	(15,676)	(15,676)
● Total	905,028	299,339	99,931	(74,455)	1,229,843
■ Deferred Outflows at FYE 6/30/2019	-	56,633	47,335	-	103,968
■ Deferred Inflows at FYE 6/30/2019	-	-	-	(54,862)	(54,862)

Difference in Actual Contribution and Proportionate Share of Contribution Calculation

	Miscellaneous
(1) Aggregate Risk Pool employer contributions for MP 2017/18*	$ 499,847,617
(2) Employer proportion (FNP %)**	0.29754%
(3) Proportionate share of aggregate Employer contribution (1) * (2)	1,487,247
(4) Actual Contribution for Measurement Period 2017/2018	1,094,606
(5) Difference (4) - (3)	(392,641)

* Supporting detail on page 12.
** Supporting detail on page 11.

Difference in Actual Contributions and Proportionate Share of Contributions

Calculation at June 30, 2019 financial statement date

	2015 Measurement Date	2016 Measurement Date	2017 Measurement Date	2018 Measurement Date	Total
Balance reported at June 30, 2018	(78,657)	(51,562)	(268,033)	(392,641) *	(790,893)
Remaining Amortization Years	0.8 years	1.7 years	2.8 years	3.8 years	
Current Year Amortization	78,657	30,331	95,726	103,327	308,041
Balance reported at June 30, 2019	-	(21,231)	(172,307)	(289,314)	(482,852)

* Balance at July 1, 2018, after 6/30/18 reporting date.

Recognition Schedule for Deferred Outflows/Inflows at June 30, 2019 Employer-Specific Deferral: Difference Between Actual & Proportionate Share of Employer Contributions

	Initial Recognition Period				Total
	2015/16	2016/17	2017/18	2018/19	
■ Measurement Period	2014/15	2015/16	2016/17	2017/18	
■ Initial amount	$ (373,623)	$ (112,224)	$ (363,759)	$ (392,641)	
■ Initial recognition period	3.8 years	3.7 years	3.8 years	3.8 years	
■ Amount recognized in FY pension expense					
● 2015/16 (3rd prior year)	(98,322)	N/A	N/A	N/A	(98,322)
● 2016/17 (2nd prior year)	(98,322)	(30,331)	N/A	N/A	(128,653)
● 2017/18 (Prior year)	(98,322)	(30,331)	(95,726)	N/A	(224,379)
● 2018/19 (Current year)	(78,657)	(30,331)	(95,726)	(103,327)	(308,041)
● 2019/20	-	(21,231)	(95,726)	(103,327)	(220,284)
● 2020/21	-	-	(76,581)	(103,327)	(179,908)
● 2021/22	-	-	-	(82,660)	(82,660)
● Total	(373,623)	(112,224)	(363,759)	(392,641)	(1,242,247)
■ Deferred Outflows at FYE 6/30/2019	-	-	-	-	-
■ Deferred Inflows at FYE 6/30/2019	-	(21,231)	(172,307)	(289,314)	(482,852)

Recognition of Deferrals in Future Pension Expense

		Miscellaneous Risk Pool Amount			Employer Specific Amounts		
Measurement Period Ending June 30:	Fiscal Year Ending June 30:	Risk Pool Amount*	Applicable Percentage**	Authority's Proportionate Share	Change in Proportion***	Difference Between Actual and Proportionate Share of Contributions ****	Total
■ 2019	■ 2020	$370,302,019	0.34989%	$ 1,295,646	$ 63,338	$ (220,284)	$ 1,138,700
■ 2020	■ 2021	214,375,541	0.34989%	750,077	1,444	(179,908)	571,613
■ 2021	■ 2022	(112,408,963)	0.34989%	(393,307)	(15,676)	(82,660)	(491,643)
■ 2022	■ 2023	(33,897,346)	0.34989%	(118,603)	-	-	(118,603)
■ 2023	■ 2024	-	0.34989%	-	-	-	-
■ Thereafter	■ Thereafter	-	0.34989%	-	-	-	-

* See page 12. ** See page 16. *** See page 20. **** See page 23.

GASB 68 Balance Equation for Pension Expense Calculation

	Fiscal year ending		Change
	6/30/2018	6/30/2019	
■ Measurement date	6/30/2017	6/30/2018	
■ Total pension liability	$ 49,973,230	$ 52,230,824	$ 2,257,594
■ Fiduciary net position	36,562,793	39,044,508	2,481,715
■ Net pension liability/(asset)	13,410,437	13,186,316	(224,121)
■ Deferred inflows of resources	798,038	1,078,306	280,268
■ Deferred (outflows) of resources *	(2,975,385)	(2,178,373)	797,012
■ Contributions in the measurement period	-	1,094,606	1,094,606
■ Net balance sheet impact	11,233,090	13,180,855	1,947,765
■ Pension Expense (Income)			1,947,765

* The deferral for contributions after the measurement date is excluded.

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Beginning Balances

Following summarizes the beginning balances from the 2017 measurement date *

	Debit	Credit
Differences between expected and actual experience	$ 16,806	$ (240,782)
Changes of assumptions	2,085,275	(159,004)
Net differences between projected and actual earnings on plan investments	471,603	-
Change in employer's proportion	401,701	-
Differences between the employer's contributions and the employer's proportionate share of contributions	-	(398,252)
Pension contributions subsequent to measurement date	1,094,606	-
Net Pension Liability	-	(13,410,437)
Net Impact	10,138,484	-
Check	*14,208,475*	*(14,208,475)*

* Recorded at 6/30/18 fiscal year end.

Employer Contributions

Following records the impact of employer contributions, assuming employer contributions were recorded as pension expense when paid.

	Debit	Credit
Net pension liability	$ 1,094,606	
Deferred Outflow - FY 2018 contributions		$ (1,094,606)
Deferred Outflow - FY 2019 contributions	1,297,346	
Pension Expense		(1,297,346)
Check	*2,391,952*	*(2,391,952)*

Summary Journal Entries - Pension Expense

Following records the impact of current year pension expense

	Debit	Credit
Deferred Outflows	$ 489,130	$ (1,286,142)
Deferred Inflows	68,615	(348,883)
Pension Expense (Income)	1,947,765	-
Net pension liability	-	(870,485)
Check	*2,505,510*	*(2,505,510)*

See pages 32 and 31 ("Subtotal" row) for details.

Ending Balances at June 30, 2019

	Debit	Credit
Differences between expected and actual experience	$ 505,936	$ (172,167)
Changes of assumptions	1,503,279	(368,425)
Net differences between projected and actual earnings on plan investments	65,190	-
Change in employer's proportion	103,968	(54,862)
Differences between the employer's contributions and the employer's proportionate share of contributions	-	(482,852)
Pension contributions subsequent to measurement date	1,297,346	-
Net Pension Liability (NPL)	-	(13,186,316)
Net Impact	10,788,903	-
Check	*14,264,622*	*(14,264,622)*
Total pension expense (income) for FYE 2019	1,947,765	-

Reconciliation of Deferred Outflows

(Detail for page 29)

Deferred Outflows	Opening Balance Debit	Journal Entry- Debit	Journal Entry - (Credit)	Ending Balance Debit
Differences between actual and expected experience	$ 16,806	$ 489,130	$ -	$ 505,936
Change in assumptions	2,085,275	-	(581,996)	1,503,279
Differences between projected and actual earnings on plan investments	471,603	-	(406,413)	65,190
Employer Specific				
Change in employer's proportion	401,701	-	(297,733)	103,968
Differences between the employer's contributions and the employer's proportionate share of contributions	-	-	-	-
Subtotal	2,975,385	489,130	(1,286,142)	2,178,373
Contributions after the Measurement Date	1,094,606	1,297,346	(1,094,606)	1,297,346
Total Deferred Outflows	4,069,991	1,786,476	(2,380,748)	3,475,719

Note "Changes" for Risk Pool deferrals equals total change from prior year to current year. "Changes" for employer-specific deferrals includes recognition of previous deferral or establishment of new deferral.

Reconciliation of Deferred Inflows

(Detail for page 29)

Deferred Inflows	Opening Balance (Credit)	Journal Entry- (Credit)	Journal Entry - Debit	Ending Balance (Credit)
Differences between actual and expected experience	$ (240,782)	$ -	$ 68,615	$ (172,167)
Change in assumptions	(159,004)	(209,421)	-	(368,425)
Differences between projected and actual earnings on plan investments	-	-	-	-
Employer Specific				
Change in employer's proportion	-	(54,862)	-	(54,862)
Differences between the employer's contributions and the employer's proportionate share of contributions	(398,252)	(84,600)	-	(482,852)
Total Deferred Inflows	(798,038)	(348,883)	68,615	(1,078,306)

Note "Changes" for Risk Pool deferrals equals total change from prior year to current year. "Changes" for employer-specific deferrals includes recognition of previous deferral or establishment of new deferral.

Reconciliation of Deferred Outflows/(Inflows)

Summary of Balances

	Fiscal year ending	
	6/30/2018	6/30/2019
■ Measurement date	6/30/2017	6/30/2018
■ Total pension liability	$ (49,973,230)	$ (52,230,824)
■ Fiduciary net position	36,562,793	39,044,508
■ Net pension (liability)/asset	(13,410,437)	(13,186,316)
■ Deferred (inflows) of resources	(798,038)	(1,078,306)
■ Deferred outflows of resources	4,069,991	3,475,719
■ Net balance sheet impact	(10,138,484)	(10,788,903)

Deferred Outflows includes contributions after the measurement date.

Agenda Item

Board of Directors Meeting
Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Mary Carey, Finance Controller

SUBJECT: Request to Extend the PUN Group, Financial Audit Firm, Contract (for an additional two [2] years; a total of five [5] years consistent with the recommendation from the State Auditors)

Summary/Discussion

Staff recommends to the Board to extend The PUN Group agreement/contract from three (3) years to five (5) years. The request is consistent with the recommendation from the State:

"To reduce future audit costs, SOCWA should amend its policy on professional service procurements to specify that it should enter into agreements of at least five years with its competitively procured external audit firms. It should also develop a policy to rotate its external auditor when state law requires."

SOCWA agrees with the recommendation and would like to continue the continuity with the Firm. The State requires the rotation of Audit Firms every six (6) years.

The PUN Group has consistently rotated its Audit Manager each year, and with Board approval of the extension, the Audit partner will be rotated for FY 2019-20 Audit.

Recommendation

Staff recommends to the Board of Directors to approve an extension of The PUN Group contract adding two (2) additional years.

Agenda Item

Board of Directors Meeting
Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Sean Peacher, Environmental Compliance Safety Risk Manager

SUBJECT: Resolution 2019-04, A Resolution of SOCWA Approving and Adopting of the Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan for 2018

Summary

Staff recommends the SOCWA Board of Directors adopt by resolution (attached) the 2018 Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan.

***Please note, due to the size of the Plan, it has been posted on the Municipal Water District of Orange County (MWDOC) website at https://www.mwdoc.com/your-water/emergency-management/emergency-management-resources/ electronically and a copy is available at (the SOCWA JBL Treatment Plant) for review.

Discussion

The South Orange County Wastewater Authority (SOCWA) and 18 other participating water and wastewater utilities (see full list below) are updating the Orange County Regional Water and Wastewater Multi-jurisdictional Hazard Mitigation Plan, which was last approved in 2012. Hazard mitigation plans form the foundation for a community's long-term strategy to identify vulnerability to natural and man-made hazards. The plans also aim to reduce disaster losses by breaking the cycle of disaster damage, reconstruction, and repetitive damage. According to the federal Disaster Mitigation Act of 2000, State and local governments are required to develop hazard mitigation plans and update them every five years as a condition for receiving certain types of nonemergency disaster assistance, including grant funding for mitigation projects.

The plan is structured to have a base plan and appendixes that reflect information that is generic to all participating agencies, such as the planning process, risk assessment, mitigation strategy and plan maintenance. In addition, there are Annexes that are specific to each agency, including a description of physical infrastructure assets, potential disaster impacts, and the mitigation goals and actions for each participating agency.

SOCWA in coordination with the Water Emergency Response Organization of Orange County (WEROC), has worked with a consultant to lead the process to update the plan. The process included five planning meetings, individual agency meetings for assistance, public outreach, and plan approval. Public outreach is an essential element in the process, which included inviting the public to review the plan via the SOCWA website. The plan was approved by the California Office of Emergency Services, and tentatively approved (pending governing body approval) by the Federal Emergency Management Agency (FEMA). Before FEMA can give final approval, each participating agencies' governing body must approve the plan by resolution or

approval. Once approved by the governing body, the plan will be resubmitted to FEMA for final approval.

Participating Water and Wastewater Utilities:

- Municipal Water District of Orange County
- Orange County Water District
- Orange County Sanitation District
- South Orange County Wastewater Authority
- City of Buena Park (Utilities Division)
- El Toro Water District
- City of Garden Grove (Water Division and Wastewater Division)
- City of La Habra (Water Division and Wastewater Division)
- Laguna Beach County Water District
- Mesa Water District
- Moulton Niguel Water District
- City of Newport Beach (Utilities Department)
- City of Orange (Water and Wastewater Division)
- Santa Margarita Water District
- Serrano Water District
- South Coast Water District
- Trabuco Canyon Water District
- City of Westminster (Water Division)
- Yorba Linda Water District

Detailed Report

Background on Local Hazard Mitigation Plans

Beginning in 2004 FEMA began restricting grant applications for pre- and post-disaster hazard mitigation funds for any agencies not covered by an approved Hazard Mitigation Plan. FEMA funds are available for the purpose of mitigating damage to public facilities due to a natural disaster – fire, flood, earthquakes, landslides, etc. For example, a structural retrofit of a water treatment plant to protect against earthquakes would be eligible, but only if a Hazard Mitigation Plan has been previously prepared that identified earthquakes as a risk and the need to evaluate facilities for seismic safety and therefore retrofit. The plans are extensive documents that require a significant amount of staff time to prepare and update. The benefits of completing a plan include:

- Preparation of these plans ultimately helps an Agency to save money through grants and by preparing to protect assets rather than waiting for disasters to strike and then repeatedly rebuilding assets.

- Qualifies agencies to submit for Hazard Mitigation Implementation Grants. FEMA allocates funding every year for these types of grants.

- During disaster recovery efforts, Hazard Mitigation elements can be added into the recovery work and can be submitted for funding by FEMA. Without the plan, disaster recovery is limited to what was already there.

- Going through the process of reviewing the water and wastewater system operations and impacts from natural hazards is good business and allows an agency to anticipate what might happen in the future to be better prepared.

Background on OC Water and Wastewater Mitigation Plan

In 2005, WEROC started to work with its member agencies, CalOES and FEMA to fund the first multi-jurisdictional plan through a Hazard Mitigation Planning Grant. In 2007, with the assistance of the Mitigation Grant, the Municipal Water District of Orange County (MWDOC) along with 19-member agencies prepared a Multi-Jurisdictional Hazard Mitigation Plan (HMP or Plan) that identified critical water and wastewater facilities in the county, and mitigation actions in the form of projects and programs to reduce the impact of natural and manmade hazards on these facilities. The vision of a plan that takes into consideration regional and local infrastructure and how it works together while building it stronger, supported other planning efforts such as the South Orange County Reliability Study and later the Orange County Reliability Study.

This plan builds on the original 2007 Plan and a previous update approved in 2012. MWDOC was joined in this current update by 18 participating water and wastewater utilities. The Plan was prepared with input from county residents, orange county emergency managers, and with the support of the California Governor's Office of Emergency Services (Cal OES) and the Federal Emergency Management Agency (FEMA).

Several sections of the 2018 Plan update have been modified and reorganized from the original 2007 Plan and 2012 Plan update, including the use of annexes for each of the participating jurisdictions. Changes made to specific sections of the Plan are summarized on Page 14. Here are some of the major modifications:

- *Section One:* Section One has been significantly modified to move profile information specific to each participating jurisdiction to the Jurisdictional Annexes. Text has also been modified to clarify the multi-jurisdictional involvement and why OC water utilities felt it was important to participate in a joint planning process.

- *Section Two:* Section Two now documents the Planning Process.

- *Section Three:* Section Three now comprises the Risk Assessment. The hazards have been updated to reflect hazards that affect the planning area, as determined by the Planning Team.

- *Section Four:* Section Four now documents the Mitigation Strategy. This section was renamed and includes overarching hazard mitigation goals for the planning area. It was determined through the Planning Team meetings that some mitigation goals are similar for all participating jurisdictions and therefore one set of regional goals were developed.

- *Section Five:* Section Five now documents the Plan Maintenance process.

- *Section Six:* Section Six now documents the Plan references and has been updated to reflect references used in preparation of the 2018 Plan update.

- *Jurisdictional Annexes:* The Jurisdictional Annexes are new to the Plan update. An annex is provided for each Agency and includes updated components of the hazard mitigation plan that are specific to each jurisdiction.

- *Appendices:* The Appendices have been completely updated to include 2018 Plan update materials.

Risk Assessment

Risk Assessment requires the collection and analysis of hazard-related data to enable local jurisdictions to identify and prioritize appropriate mitigation actions that will reduce losses from potential hazards. The Planning Team went through a 4-step process for Risk Assessment:

1. Hazard Identification
2. Hazard Prioritization
3. Hazard Profile
4. Vulnerability Assessment

The Risk Assessment process is conducted on both a Regional and Agency level. The Regional Assessment is reflected in Section 3 of the Plan, and the Agency specific assessment is reflected in each Agency's respective Annex.

Hazard Identification

The Planning Team reviewed the list of FEMA-identified hazards, the 2012 Plan, as well as other relevant information to determine the extent of hazards with potential to affect the planning area. A discussion of potential hazards during the first Planning Team meeting resulted in the identification of the natural and human-induced hazards that pose a potential risk to all or a portion of the County and individual Agency. This discussion resulted in the removal of tornados and extreme heat (included in the 2012 plan) and the addition of power outage and climate change into this Plan. Additionally, for this plan update, some of the hazards were reorganized or combined under a primary heading, such as Geologic Hazards, which includes expansive soils and land subsidence and Seismic Hazards, which include fault rupture, ground shaking and liquefaction.

Hazard Prioritization

The Planning Team used a Microsoft Excel-based tool to prioritize the identified hazards by assigning each hazard a ranking based on probability of occurrence and the potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with each Agency's vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)
- Maximum Probable Extent (intensity of damage)
- Secondary Impacts (severity of impacts to community)

(Consider adjusting to your Agency specific rankings)

Regional Hazard Rankings

Hazard Type	Hazard Planning Consideration
Power Outage	High
Wildfire	High
Seismic Hazards – Ground Shaking	High
Seismic Hazards – Liquefaction	High
High Winds/Santa Ana Winds	Medium
Drought	Medium
Dam/Reservoir Failure	Medium
Flood	Medium
Earthquake Fault Rupture	Medium
Landslide/Mudflow	Medium
Contamination	Low
Human Cause Hazards – Terrorism	Low
Human Caused Hazards – Hazardous Materials	Low
Urban Fire	Low
Geological Hazards – Land Subsidence	Low
Geological Hazards – Expansive Soils	Low
Tsunami	Low

Hazard Profile

Each hazard profile addresses the following:

- *Description (Nature) of the Hazard:* Describes the hazard and its characteristics.

- *History/Past Occurrences:* Provides a history of the hazard and identifies previous occurrences. Where an occurrence is specific to an Agency, this information is provided.

- *Location/Geographic Extent:* Describes the location (geographic) area affected by the hazard. If the hazard affects the entire planning area, it is noted. For geographically specific hazards, the specific Agency's affected by the hazard are identified and discussed further in the Jurisdictional Annexes.

- *Magnitude/Severity:* Describes the extent (magnitude or severity) of each hazard. If a hazard has a uniform extent for all the Agencies, it is noted. For geographically specific hazards, mapping is provided that illustrates the extent of the hazard for the entire planning area. Mapping for applicable hazards specific to an Agency are provided in the Jurisdictional Annexes.

- *Probability of Future Occurrences:* Provides a discussion of the probability of future occurrences of the hazard based on the history of past occurrence, location, and severity. If the likelihood of occurrence is the same for all jurisdictions or varies amongst the jurisdictions, it is noted.

Hazard Vulnerability

In preparation of the 2018 Plan update, infrastructure mapping for each of the Agency's was completed. An independent consultant working directly with MWDOC (who coordinated with all of the WEROC Member Agencies), updated water and wastewater infrastructure information for each Agency. As part of the 2018 Plan update, these critical facilities were overlaid with mapped hazard areas to determine which physical infrastructure assets are in each hazard area and to assess overall vulnerabilities.

Mitigation Strategy

The mitigation strategy and actions were developed by the Planning Team based upon in-depth review of the vulnerabilities and capabilities described in the Plan. The mitigation actions described in the Jurisdictional Annexes represent each Agency's risk-based approach for reducing and/or eliminating the potential losses as identified in the Risk Assessment. Additionally, it was determined that there are some overarching regional mitigation goals that are the same for all of the Agency's:

1. Minimize vulnerabilities of critical facilities and infrastructure to minimize damages and loss of life and injury to human life caused by hazards.

2. Minimize security risks to water and wastewater infrastructure.

3. Minimize interruption to water and wastewater utilities.

4. Improve public outreach, awareness, education, and preparedness for hazards in order to increase the community resilience.

5. Eliminate or minimize wastewater spills and overflows (Wastewater agencies).

6. Protect water quality and supply, critical aquatic resources and habitat to ensure a safe water supply.

7. Strengthen Emergency Response Services to insure preparedness, response, and recovery during any major or multi-hazard event.

Ongoing Mitigation Planning

The Plan is a working document that will grow and change as our communities and the participating agencies do. This means at times participating agencies may identify a higher priority than noted in this Plan, or a redirection of goals based on current information or updated decisions. In consideration of this concept, there may be projects or policies that need to be considered that were not included in this document. These changes will be documented during the Plan implementation and formal updates to the Plan will be made every five years as required.

Staff Recommendation

Staff recommends the SOCWA Board of Directors adopt by Resolution (attached) the 2018 Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan.

A RESOLUTION OF THE SOCWA BOARD OF DIRECTORS APPROVING AND ADOPTING THE ORANGE COUNTY REGIONAL WATER AND WASTEWATER HAZARD MITIGATION PLAN

RESOLUTION NO. 2019-04

WHEREAS, the United States Congress passed the Disaster Mitigation Act of 2000 emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act of 2000 requires all cities, counties and special districts to develop and adopt a Hazard Mitigation Plan (HMP) to be eligible to receive federal grants pertaining to disaster preparedness; and

WHEREAS, SOCWA recognizes that the threat from natural hazards poses a risk to water and wastewater utilities and the individuals they serve, and impacts can result in regional economic and public health consequences; and

WHEREAS, by planning for natural and manmade hazards and implementing projects that mitigate risk, utilities can reduce costly damage and improve the reliability of service following a disaster; and

WHEREAS, the Municipal Water District of Orange County, SOCWA and 18-other member agencies participated in development of the HMP in conjunction with a consultant; and

WHEREAS, the resources and information within the HMP will allow SOCWA and the member agencies to identify and prioritize future mitigation projects, meet the requirements of federal assistance programs and grant applications, and encourage coordination and collaboration in meeting mitigation goals; and

WHEREAS, a Planning Team was formed to participate in the FEMA-prescribed mitigation planning process to prepare the HMP; and

WHEREAS, a public outreach strategy was employed as a required component of developing the HMP, including posting information on member agency websites, email and social media distribution, community survey, and presentations at the Orange County Business Council and Orange County Emergency Management Organization meetings; and

WHEREAS, the HMP was made available for public review from August 10, 2018 to September 10, 2018, and

WHEREAS, on October 15, 2018 the HMP was provided to the California Department of Emergency Services (CalOES) for review; and

WHEREAS, the HMP was revised based on CalOES feedback and was submitted to the Federal Emergency Management Agency (FEMA) for review on February 20, 2019; and

WHEREAS, the HMP received FEMA Approval Pending Adoption in July 2019 subject to the member agencies adopting resolutions approving and adopting the HMP; and

WHEREAS, the SOCWA Board of Directors has reviewed the HMP; and

WHEREAS, the HMP identifies and assesses hazards most likely to affect SOCWA and provides actions to mitigate them.

NOW, THEREFORE BE IT RESOLVED by the SOCWA BOARD OF DIRECTORS that the ORANGE COUNTY REGIONAL WATER AND WASTEWATER HAZARD MITIGATION PLAN is hereby approved and adopted by SOCWA.

_____
Daniel R. Ferons, Chairman

(Seal)

_____
Betty Burnett, General Manager/Secretary

Agenda Item

	Legal Counsel Review: No
	Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

SUBJECT: Revised SOCWA Policy Establishing Guidelines for Travel and Expense Reimbursement; Request to Approve Director Reimbursement of Travel to Fairfield Suisun District

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Summary

Attached is a revised document for the SOCWA *Policy Establishing Guidelines for Travel and Expense Reimbursement* with changes shown in underline and ~~strikethrough~~ text. The current version of the Policy was approved in June 2011 and allowed for both employee and Director attendance at authorized activities, which include meetings with other wastewater agencies as well as attendance at conferences and seminars. The existing Policy is dated, and the suggested changes will bring the Policy forward to currently anticipated costs as well as allow for traveling with work-related equipment such as laptops, tablets, and cell phones.

Discussion

Additionally, in May 2019, staff received a *Travel Reimbursement Request* for Director Erdman to visit a biosolids innovation project at the Fairfield Suisun District in the Bay area. The project is relevant to SOCWA's consideration of alternative biosolids disposal opportunities and would be allowable under the existing policy as an agency interaction on a matter of interest to SOCWA. All expenses submitted to SOCWA were within allowable reimbursements under the existing Policy. Director Erdman will provide a short summary of the trip at the August 8, 2019, Board Meeting.

SOCWA provided reimbursement for a portion of the costs of the visit in the amount of $790. Pursuant to the to policy, the Board may ratify the expense reimbursement for Director Erdman.

Prior Related Project Committee or Board Action(s)

Approval of June 2, 2011, Resolution No. 2011-04, SOCWA *Policy Establishing Guidelines for Travel and Expense Reimbursement.*

Recommendation

1) Discussion and Comment

2) Approve the August 2019 revision to the SOCWA *Policy Establishing Guidelines for Travel and Expense Reimbursement*

3) Rescind prior Policy, SOCWA Resolution No. 2011-04 SOCWA *Policy Establishing Guidelines for Travel and Expense Reimbursement*

4) Ratify the reimbursement for Director Erdman in the amount of $790

attachment(s) Revised SOCWA Travel and Reimbursement Policy

Policy Establishing Guidelines for Travel and Expense Reimbursement

~~June 2011~~

August, 2019

TABLE OF CONTENTS

1. PURPOSE OF POLICY

The purpose of this travel and expense policy is to set forth the procedures governing reimbursement for reasonable and necessary travel expenses and to establish certain procedures concerning travel authorization, documentation, and accounting.

2. GENERAL POLICY

To advance training, professionalism and further the interests of the South Orange County Wastewater Authority ("SOCWA"), the SOCWA Board of Directors authorizes attendance at "authorized activities" such as seminars and conferences by its Directors and employees. In addition, Directors and employees are sometimes required to travel both in and outside the State to conduct official SOCWA business. SOCWA's objectives are to allow participation in authorized activities and official SOCWA business that: 1) are moderate, reasonable and necessary; 2) provide uniform travel and expense treatment among Directors, and among employees; and, 3) require that Directors receive authorization from the Board of Directors for ~~prior to~~ travel expenses related to their performance of official duties and the outside activities described; and 4) provide that employees receive authorization from the General Manager for travel and expenses.

2. DEFINITIONS

Authorized Activities - Meetings with other wastewater, recycled water, desalination, agencies or cities, counties, or their staff; with community groups with wastewater/recycled/desalination interests, or their staff; with administrative or regulatory agencies, or their staff; with legislators, or their staff; and conferences and seminars.

Conference – Any organized function (including training classes, professional organization meeting, ethics training and other business meetings) that employees may attend that would benefit SOCWA in some manner as determined by the Board of Directors or the General Manager.

Seminar - A small group of professionals engaged in study, dialogue or original research meeting regularly to exchange information and hold discussions.

3. GENERAL POLICY GUIDELINES

A. Decisions as to funding available for conferences and seminars are generally made through the budget approval process. Prior to reimbursing Director expenses, the Board of Directors must ~~pre-~~authorize a Director's reimbursement for authorized activities, including conferences and seminars.

B. Directors who have any travel expenses paid or reimbursed by SOCWA are required to provide a brief report of the authorized activity or official SOCWA

business at ~~the next~~ a regular SOCWA Board meeting.

C. Directors and employees are expected to exercise good judgment and a proper regard for economy when incurring travel expenses.

D. Whenever possible, SOCWA will prepay airfares. lodging costs and conference registration fees. The Board of Directors or the General Manager, depending on the participant making such request in advance of any travel. must approve all such payment requests. Prepaid travel expenses may be made with a SOCWA credit card ~~or a SOCWA check~~.

E. When traveling on official SOCWA business or for authorized activities, Directors and employees are encouraged to utilize their personal credit cards and/or cash for all expenses other than those mentioned in paragraph D and then to request reimbursement for such expense. However, in circumstances where the use of such credit cards and/or cash is deemed impractical, and where the total expense is expected to exceed fifty dollars ($50.00), SOCWA may provide an advance of funds. Such advance shall not exceed one hundred percent (100%) of the total estimated expense as determined by the General Manager.

F. Within twenty (20) working days after completion of a trip, a travel expense report must be submitted to SOCWA's Finance Department along with original receipts documenting lodging, rail or air fare, meals. conference registration fees, and any other expense for which reimbursement is requested. Adequate detail will be provided for the receipts to explain all expenses.

G. A companion may accompany the Director or employee on an official trip, provided that his/her presence does not detract from the Director or employee's performance of duty. SOCWA will not reimburse any expenses attributable to any companion.

H. In any situation where extraordinary travel expenses are expected to be incurred, or where this policy does not adequately cover the situation or would work an undue hardship, the Board of Directors must authorize an exception, in accordance with all legal restrictions.

I. Any Director receiving expense reimbursement or payment pursuant to this policy shall provide evidence of ethics training required under Government Code Section 33234 *et seq.*

4. TRANSPORTATION GUIDELINES

A. A Director or employee may use any mode of transportation including airline, railroad, bus or automobile. Reimbursement will be based on the parameters outlined in Sections 5B-5F. Notwithstanding any other term in this Policy, the total daily transportation rate shall not exceed $700 unless approved by the General Manager.

~~B.~~ Travel shall be by the most direct route. If an indirect route is used, any

additional costs shall be at the employee's personal expense. Whenever air travel is used, advance notice shall be provided in order to receive the most cost-effective ticket price. ~~If 'government" and/or "group" rates are available for transportation costs they shall be utilized.~~

C. Air travel reimbursement shall be limited to "coach" or "tourist" fares where such service is available. Travel to and from airports shall be by a reasonable and cost-effective method for the location of travel.

D. Reimbursement for the use of private cars shall be at the rate established by the Internal Revenue Service (IRS) if the round trip does not exceed 200 miles. For trips longer than 200 miles, including trips by employees that receive a SOCWA car allowance, reimbursement shall be limited to the IRS rate. ~~or coach fare for air travel.~~ Employees assigned and driving a company vehicle may not be reimbursed for mileage. No reimbursement other than mileage reimbursement shall be made for expenses incurred in route to/from the authorized activity or official SOCWA business. other than tolls or parking, whenever a personal vehicle is used.

E. Reimbursement for use of rental cars will be allowed only when such use has been approved in advance by the Board of Directors or General Manager, as deemed necessary to conduct assigned SOCWA business or authorized activities. SOCWA will pay only for the equivalent of a compact to full size model and all other upgrades will be at the Director's or employee's expense.

F. Travel in SOCWA vehicles by employees may be approved when circumstances warrant it. Directors are not authorized to travel to authorized activities or official SOCWA business in SOCWA vehicles. When traveling in a SOCWA vehicle, SOCWA credit cards shall be used for the purchase of gas, oil, and other supplies necessary in route. These receipts shall note the license number of the vehicle used. If emergency repairs are necessary, every attempt shall be made to have the repairs charged to a SOCWA credit card. Whenever this is not possible, the employee to whom the car is assigned should pay for repairs and seek reimbursement from SOCWA.

6. LODGING GUIDELINES

A. It is expected that hotel and motel reservations will be made in advance whenever possible. Lodging will be secured at a published "group" or "conference "rate for the event. "Government rates", or comparable commercial rates, shall be requested at hotels and motels offering these discounts in the event no "group" or "conference" rate is available. Notwithstanding any other terms in this Policy, the daily lodging rate shall not exceed $375.

B. Reimbursement for lodging shall be limited to the minimum number of nights required to conduct the assigned SOCWA business or for the authorized activity. If an early morning activity or business meeting would require travel the night before, in order to be there on time, the Director or employee may be reimbursed for lodging at or near the activity or business meeting location. If the activity or business extends beyond a time on the last day that would allow the Director or

employee to arrive home at a reasonable time, lodging at or near the activity or business location will be reimbursed in accordance with these guidelines. If a Director or employee chooses for personal reasons to arrive earlier or stay later when traveling to/from an authorized activity or business meeting, the additional lodging and all other expenses related to this arrangement will be at the Director or employee's personal expense. Generally, a Director or employee will not use lodging unless the destination is more than 50 miles from SOCWA's Administration Office, or the employee's or Director's home (whichever is closer).

C. If the Director's or employee's spouse or other family members share the Director's or employee's lodging, reimbursement will be limited to the lowest cost rate for the room occupied. In no event will SOCWA incur any additional expense due to a companion's travel with the employee or Director.

D. Any room service charges appearing on the lodging bill other than those covered under Section 6F, Section 7 and Section 8A.6, shall be the responsibility of the Director or employee and shall be paid directly to the hotel or reimbursed to SOCWA.

E. Where the employee has been issued SOCWA computing equipment or provided a cell phone or tablet (iPad) (or other computing device) those devices shall be used for communication and the employee may incur reimbursable internet connection charges reasonable to the period of the hotel stay. Local and long-distance telephone charges made by land line will be covered only when such calls are made in conducting official SOCWA business or for one personal phone call per day.

7. MEAL REIMBURSEMENT GUIDELINES

A. When meals are associated with Director or employee travel, the following policies and procedures will apply:

1. Reimbursement for breakfast and dinner meals shall not apply to trips that do not require an overnight stay, except under the following circumstances: (a) a breakfast or dinner meeting is arranged prior to or just after the conference or meeting to conduct SOCWA business or discuss SOCWA related matters; and (b) the meeting or conference requires travel before 7:30 a.m. or runs late requiring the Director or employee to travel earlier or later than a usual travel day. Maximum daily allowances to cover such meals. not including meal tips will be $25.00 for breakfast, $45.00 for lunch and $65.00 for dinner, not to exceed $135.00 per day whenever an overnight stay is not required. No reimbursement shall be made for alcohol.

2. For travel that requires more than a full day, meals reimbursements shall be limited to a maximum of $135.00 per day not including meal tips or room service fees, with no single meal exceeding $65.00. If a receipt is to be split between two or more Directors or employees then the names of each, along with their respective charges, is to be noted on the original detailed receipt before copies are made. No reimbursement shall be provided for meals hosted by others or through conference attendance. Room service charges are a reimbursable expense. No reimbursement shall be made for alcohol.

8. MISCELLANEOUS EXPENSE GUIDELINES

A. For miscellaneous expenses associated with travel, Directors and employees will be reimbursed for all receipted business expenses necessary to conduct the assigned SOCWA business or authorized activity. Examples include:

- Airport parking charges when air transportation is used.
- Parking charges at the destination hotel or garage when transportation is by private car.
- Airport bus charges or taxi fares where airport bus service is not available.
- Conference registration fees.
- Local transportation (only as required for official SOCWA business).
- A reasonable amount will is allowed for laundry and dry cleaning for Directors or employees attending a conference of five days or more in length.
- No reimbursement will be made for personal expenses such as newspapers, magazines, haircuts, shoeshine, personal land-line telephone calls in excess of one per day, alcohol, in-room movie fees, and other incidental personal expenses

B. Although original receipts are desired for all reimbursable expenses, SOCWA realizes that there are some charges where receipts are not provided. The following is a list of expenses where receipts are not generally provided and where reimbursement, not to exceed $15.00 per incident, will be made: ~~for employees, only (not Directors)~~.

a. Sky cap or bellmen fees
b. Room Service Tips
c. Courtesy Shuttle Tips
d. Taxi driver tips
e. Subway fares
f. Non-attended Toll Booths
g. Parking Meter Expenses

9. POLICY REVISIONS

This document will be maintained and revised by the SOCWA management staff in consultation with the SOCWA's legal counsel and upon approval by the SOCWA's Board of Directors. Revisions will occur whenever applicable Federal, State or local regulations change, or otherwise as the Board directs.

~~9.1 Policy approval and adoption~~

~~This policy has been reviewed by the SOCWA Board of Directors and adopted by Resolution No.2011-04 on June 2, 2011.~~

Agenda Item

	Legal Counsel Review: No
	Meeting Date: August 8, 2019

TO: SOCWA Board of Directors

FROM: Betty Burnett, General Manager

SUBJECT: General Manager's Status Report

Environmental Compliance Department Update

Environmental Laboratory Accreditation Program (ELAP) Update

On July 29, 2019, staff presented on the components of the California Quality Management System (CA QMS) to members of the Southern California Association of POTWs (SCAP) and the California Association of Sanitation Agencies (CASA) for Southern California laboratory personnel. SOCWA staff presentation was based on the history of ELAP and the components of the CA QMS. Additional presentations at the SCAP/CASA workshop included a comparison and contrast between the CA QMS and the proposed accreditation standard (the NELAC Institute [TNI]) by ELAP. The final presentation was the incorporation of TNI in a large laboratory and the administrative requirement duplication. The workshops are a result of the Summit Partner letter committing to public workshops of the CA QMS.

Staff is continuing to work with CASA and SCAP on the engagement with State Water Board members and staff on the need to incorporate the State system (CA QMS). Staff had multiple conversations with State Water Board members and staff on the request for the incorporation of the CA QMS into the 3rd draft regulations. State Water Board staff indicated that they were delaying the release of the 3rd draft regulations until the work of the CA QMS is complete. SOCWA staff will be presenting the components of the CA QMS to the Association of Clean Water Association (ACWA) Water Quality Committee. The Northern California CA QMS workshop will be hosted by CASA and the Central Valley Clean Water Association (CVCWA).

PFAS SCAP Workshop

The State Water Resources Control Board (SWRCB) had a workshop on March 6, 2019, on the group of chemicals known as per- and polyfluoroalkyl substances (PFAS). PFAS is a group of greater than 1,000 fluorotelomer chemicals with a hydrophobic tail and a hydrophilic head. An outcome of the SWRCB workshop was the issuance of Investigative Orders under California Water Code §13267. The SWRCB has designated wastewater treatment works as industrial facilities under the Phase 2 that was slated for investigation in the Fall of 2019 which may be pressed into Winter 2020.

At this time, there is no Federal or State approved methodology for PFAS group of chemicals for wastewater. There are a handful of laboratories that can analyze wastewater samples through the Department of Defense (DoD) non-promulgated method analysis gained through reciprocity under contract with DoD. The ASTM 8327 method and EPA methods 821-R-11-07 and 53112 are best used as screening tools due to limitations from matrix interferences with samples that contain high suspended solids. All methods used are based on EPA approved method 537.1, which is used to analyze drinking water. Staff is working with industry partners on coordinated sampling and analysis in preparation for the investigative orders.

A growing concern is the misalignment of toxicological risk assessment and the PFAS group of chemicals. The PFAS organic chemicals bind to lipids (fats) and move through protein-based systems in the human body (i.e., liver and kidneys). The bioaccumulation and transport pathways in humans are in contrast with the EPA's risk assessment models that base risk on cancer-causing agents through dose-response models. For example, EPA risk guidance for PFOA (Perfluorooctanoic acid) is between 2 and 20ng/kg/day while Cyanide is 600ng/kg-day. Staff will continue to track this quickly evolving issue.

Operations & Maintenance Department

O&M June Safety Projects

In June 2019, staff completed several important safety projects identified by SOCWA's Safety Committee. Here are photos of some of the projects:

Asbestos removed from fume-hoods At CTP (by contractor).

Ballards were installed to protect temporary digester gas pipe.

New skylights were installed at JBL that include fall protection Screens over the skylights.

Shades were installed over the new gas skids to prevent overheating.

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Other O&M Projects from May and June 2019

The foul air scrubbers at each plant were tuned up for the anticipated hot summer. Below are some photos from those efforts.

Staff replaced a recirculation pump at JBL, the Director of Engineering also lent a helping hand.

Media was replaced at CTP. This picture shows the buildup of calcium on the media over the past ten years that blocks the scrubber effectiveness over time.

During a recent bypass operation for the CIP project to reline the 9-side Headworks Grit Basins, two areas of the plant became available for inspection. O&M staff mobilized its confined space entry teams and inspected both the Raw Sewage Wetwell and the Primary Influent Channel. O&M staff took advantage of this opportunity because these areas of the plant are rarely available to inspect. Below are some of the photos from the inspection. The photos and observations were forwarded to SOCWA's Engineering Department to be used for future CIP projects.

This is the wetwell for the influent pumps. The coating system needs some spot repairs near the influent pipe.

This is the Primary Influent Channel; the coating in the influent channel has completely failed. The channel needs to be relined near Primary Tanks #4 thru #6. The abandoned and collapsed pipe in the photo was removed.

O&M staff cleaned and inspected the Dissolved Air Flotation Tanks at RTP. Below is a photo of the staff cleaning out the debris at the bottom of the tank.

SCE Renewable Natural Gas Request for Information Conference Call

O&M staff had a conference call with the representatives from SCE regarding their recent Renewable Natural Gas Request for Information. SCE is looking for new (untapped) sources of renewable natural gas to create energy locally. Because SOCWA is already reusing all its digester gas and participating in the SGIP program, SOCWA would not be eligible for SCE's upcoming Renewable Natural Gas grant program.

SCE staff was referred to CASA's Greg Kester to get a better understanding of the wastewater industry and potential future opportunities at wastewater treatment plants.

Aliso Creek Watershed Coalition Meeting

O&M staff attended the recent Aliso Creek Watershed Coalition Meeting in Laguna Hills on July 18, 2019. The meeting was well attended by Non-Governmental Organizations (NGO). There were also representatives from MNWD and SCWD that have infrastructure in the watershed. The first meeting focused on introductions, meeting rules and expectations, and to solicit ideas for the watershed to be discussed at future meetings.

SOCWA staff will continue to attend the meetings as the effort progresses and report issues back to the SOCWA Board of Directors.

Update Regional Treatment Plant Co-Gen Engine Project

Over the past 18 months, O&M staff has been troubleshooting the new engine system at RTP. The gas cleaning equipment is failing when continuously ran for more than two weeks straight. O&M staff has tested four (4) different types of media to get longer run times. Staff is working with equipment to determine the cause. In addition, the engine's emission control selective catalytic reducer (SCR) is not consistently reducing NOX below permitted levels. There may be warping of the unit that allows emissions to blow by the SCR media. A verbal update on the RTP engine systems will also be provided at the August meeting.

Agenda Item

Meeting Date: August 8, 2019

TO: Board of Directors

FROM: Betty Burnett, General Manager

SUBJECT: Monthly Progress Report on State Audit Recommendations

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Attached are staff updates for the State Audit Response Schedule.

Recommendation

Information item.

SOCWA State Audit Response Schedule

Page	Recommendations	Supplemental Actions to Implement Recommendations	Preparation Schedule/Responsible Staff	Filing Date
	Annual Report to State Auditor on Progress			Filed on March 21, 2019 (Remaining Open Item – Consideration of Revision to SOCWA JPA to assign method/% of Member Agency Obligations for Unfunded Liabilities)
16	Finish Investigating difference in available cash balances per audited financial statements	(a) Complete investigation of differences in available cash balances to audited financial statements. (b) Develop a method that is agreeable to members for allocating additional cash to the credit of members: (i) Consider allocating to members based on existing proportion to available cash (ii) Implement improved procedures to account for member cash	(a) Prepare results of investigation report, and discuss with Finance Committee and Board (b)Cash Roll Forward results discussed Finance Committee and Board of Directors April, 2018 (i) Board to review by June, 2018 (ii) Procedures in Place	(a)To be completed: September, 2018 – Submitted to State 9/20/18 for 6 mo. compliance (b)(i)To be Completed: September, 2018 – FCM directed staff to provide alternative methods to allocate and to meet with Agency Finance Officers to review, meeting pending early October 2018 – completed. Board to review and determine final distribution option by 4/4/19. Completed. (ii) 2015-16 Cash Roll Forward was distributed to Board April, 2018; 2016-17 to be reviewed by Finance Committee May, 2018 – Completed. Page 1

Next Page	Recommendation	Supplements to Recommendation	Preparation/Schedule/ Responsible Staff	Filing Date
		(iii) Provide Monthly reports of available cash balances to members	(iii) 12/6/18 Board adjusted reporting of available cash to Quarterly Responsible: Finance Officer	(iii)Complete '17-18 update and implement quarterly updates 12/6/18; Fin Com reviewed Jan. 2019. Quarterly review 5/23/19 & 6/6/19.
19	SOCWA and Members should amend the current JPA to expressly state whether members will be responsible for SOCWA retirement benefits	SOCWA should inform plan participants.	Begin consideration of JPA Revisions with assistance of SOCWA Counsel by July, 2018 Submit to Agencies for approval, July, 2019 Responsible: GM/SOCWA Counsel	To be Completed: September, 2019. Plan presented by Procopio to SOCWA Executive Committee on 12/6/18 for review and comment. ExCom directed proceeding with meeting of agency attorneys to review – meeting held 2/14/18. Flow input from agencies requested 1/23/19, due 2/28/19. Response from IRWD & SJC received. Agency Managers Meeting held 5/13/19; continue 8/27/19.
28	Develop and follow a timeline with specific deadlines for completing each of its planned year-end tasks	i. Prepare a policy requiring correction of future internal control deficiencies within six months of identifying by external auditor ii. Develop accounting procedures including step-by-step instructions	(i) Counsel to develop by May 2018 Board meeting. Responsible: GM/SOCWA Counsel (ii)Underway. Responsible: Finance Controller (iii) Counsel to develop by May 2018 Board meeting.	(i)Completed, reported to State Auditor 5/10/18 (ii) Procedures & Schedule for Year End to review with Finance Committee August, 10 2018. Submitted to State

28 Cont.		iii. Amend policy on procurements to specify that SOCWA should enter into agreements of at least 5 years with competitively procured external audit firms. iv. Adopt policy to rotate external auditor when state law requires.	Responsible: GM/SOCWA Counsel. (iv) Counsel to develop by May 2018 Board meeting. Responsible: GM/SOCWA Counsel.	9/20/18 with 6-month compliance update. Completed. (iii)and(iv) completed and submitted to State Auditor with initial 60-day compliance 5/11/18.
34	Assure full compliance with the Public Records Act	(i) Update policy on PRA at least annually to track any changes in laws. (ii) Develop more detailed procedures to ensure that SOCWA responds to requests for records in compliance with PRA. (iii) Establish a policy to retain accurate records and supporting documentation to demonstrate full compliance with all PRA requirements.	(i) April 2018 Board Meeting (ii) May 2018, Procedures/Staff Training Responsible: GM/SOCWA Counsel (iii) April 2018 Board Meeting	(i) Adopted April 2018 Board Meeting (ii) Pending (9/2018) (iii) Adopted April 2018 Board Meeting (iv) Submitted to State Auditor with initial 60- day report on 5/10/18