AGENDA
REGULAR MEETING BOARD OF DIRECTORS
ORANGE COUNTY WATER DISTRICT
18700 Ward Street, Fountain Valley, CA (714) 378-3200
Wednesday, January 16, 2019 – 5:30 p.m.

PLEDGE OF ALLEGIANCE

ROLL CALL

- **EMPLOYEE OF THE QUARTER AWARD TO THUY LAM, SR. PROGRAMMER/ ANALYST**

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

RECOMMENDATION: Adopt resolution determining need to take immediate action on item(s) and that the need for action came to the attention of the District subsequent to the posting of the Agenda (requires two-thirds vote of the Board members present, or, if less than two-thirds of the members are present, a unanimous vote of those members present.)

VISITOR PARTICIPATION

Time has been reserved at this point in the agenda for persons wishing to comment for up to three minutes to the Board of Directors on any item that is not listed on the agenda, but within the subject matter jurisdiction of the District. By law, the Board of Directors is prohibited from taking action on such public comments. As appropriate, matters raised in these public comments will be referred to District staff or placed on the agenda of an upcoming Board meeting.

At this time, members of the public may also offer public comment for up to three minutes on any item on the Consent Calendar. While members of the public may not remove an item from the Consent Calendar for separate discussion, a Director may do so at the request of a member of the public.

1. PUBLIC HEARING TO CONSIDER INCREASING DIRECTORS' COMPENSATION

RECOMMENDATION: Adopt Ordinance increasing the Directors' compensation from $288 to $300 per day of service, up to a maximum of ten days per month, commencing 60 days from the adoption of the ordinance (March 18, 2019)

CONSENT CALENDAR (ITEMS NO. 2 - 17)

All matters on the Consent Calendar are to be approved by one motion, without separate discussion on these items, unless a Board member or District staff request that specific items be removed from the Consent Calendar for separate consideration.

2. APPROVAL OF CASH DISBURSEMENTS

RECOMMENDATION: Ratify/authorize payment of bills

3. APPROVAL OF MINUTES OF BOARD OF DIRECTORS MEETING HELD DECEMBER 5, 2018

RECOMMENDATION: Approve minutes as presented

4. AMENDMENT NO. 1 TO GRANT FUNDING CONTRACT FOR PRADO SEDIMENT MANAGEMENT DEMONSTRATION PROJECT WITH SANTA ANA WATERSHED PROJECT AUTHORITY

RECOMMENDATION: Approve and authorize execution of Amendment No. 1 to Proposition 84 Integrated Regional Water Management Round 2 Implementation Grant Funding Contract with Santa Ana Watershed Project Authority

5. CONSULTANT SUPPORT FOR SMITH BASIN IMPROVEMENT PROJECT

RECOMMENDATION: Authorize issuance of Work Order to SageCrest Planning+Environmental for an amount not to exceed $29,125 to prepare environmental documentation for the Smith Basin Improvement Project

ITEMS RECOMMENDED FOR APPROVAL AT WATER ISSUES COMMITTEE MEETING HELD JANUARY 9, 2019 (ITEMS NO. 6 - 11)

6. LIMITED TERM EMPLOYMENT AGREEMENT WITH JAMES KALINOWSKI FOR TECHNICAL SUPPORT SERVICES

RECOMMENDATION: Authorize execution of a Limited Term Employment Agreement with James Kalinowski for an amount not to exceed $125,000 for technical consulting services for the period of March 4, 2019 to March 4, 2020

7. AMENDMENT TO AGREEMENT TO CONTECH SERVICES FOR REPAIR OF CONCRETE CRACKS IN THE GREEN ACRES PROJECT TREATMENT BUILDING

RECOMMENDATION: Authorize issuance of Amendment No. 1 to Agreement No. 1328 with Contech Services, Inc. for an amount not to exceed $5,975 for additional epoxy injection repairs

8. CONTRACT NO. GAP-2019-2, 2019 GREEN ACRES PROJECT (GAP) APPURTENANCE REHABILITATION – CATEGORICAL EXEMPTION AND NOTICE INVITING BIDS

RECOMMENDATION:

1) Authorize filing of a Categorical Exemption for the replacement of existing Green Acres Project appurtenances in compliance with the California Environmental Quality Act (CEQA) guidelines; and

2) Authorize publication of Notice Inviting Bids for Contract No. GAP-2019-2, Green Acres Project (GAP) Appurtenance Rehabilitation

9. MID-BASIN INJECTION: CENTENNIAL PARK – AUTHORIZE AMENDMENTS TO BUTIER CONSTRUCTION MANAGERS AND GEOTECHNICAL CONSULTANTS, INC. AND RATIFY CONSTRUCTION CHANGE ORDERS 4 AND 5 TO CONTRACT MBI-2017-1

RECOMMENDATION:

1) Authorize issuance of Amendment No. 1 to Agreement No. 1168 with Butier Construction Managers for an amount not to exceed $90,000 for additional civil construction management;

2) Authorize issuance of Amendment No. 2 to Agreement No. 1164 with Geotechnical Consultants, Inc. for an amount not to exceed $23,700 for additional well construction management; and

3) Ratify issuance of Change Orders No. 4 and 5 to Contract MBI-2017-1 for a net total of $91,668.03 and no time extension for use of native soil for backfill, conflicts with existing utilities, structure cripple walls, additional well drilling and development, and other changes

10. AGREEMENT WITH DDB ENGINEERING FOR THE PREPARATION OF 2018 GWRS ANNUAL REPORT

RECOMMENDATION: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed $52,000 to provide consulting services for the preparation of the calendar year 2018 GWRS Annual Report

11. ALAMITOS SEAWATER BARRIER 2019-20 OPERATIONS AND MAINTENANCE BUDGET

RECOMMENDATION:

1) Approve the Alamitos Barrier 2019-20 total O&M budget in the amount of $2,465,000, and authorize payment of the District's share not to exceed $1,102,500 payable to the Los Angeles County Department of Public Works after receipt and review of invoices; and

2) Appoint Gary Yoshiba as an OCWD alternate member of the Alamitos Barrier Joint Management Committee

ITEMS RECOMMENDED FOR APPROVAL AT ADMINISTRATION AND FINANCE ISSUES COMMITTEE MEETING HELD JANUARY 10, 2019 (ITEMS NO. 12 – 17)

12. MONTHLY CASH CONTROL REPORT

RECOMMENDATION: Receive and file Summary Cash and Cash Equivalents Control Reports dated December 31, 2018

13. INVESTMENT PORTFOLIO HOLDINGS REPORTS

RECOMMENDATION: Receive and file the Investment Portfolio Holdings Reports dated December 31, 2018

14. SURPLUS OF EQUIPMENT, VEHICLES, MISCELLANEOUS FURNITURE AND COMPUTER HARDWARE

RECOMMENDATION: Declare items on Surplus List as of 12/31/18, surplus and authorize the sale and disposal thereof

15. AMENDMENT THREE TO LICENSE AGREEMENT WITH PUB CONSTRUCTION FOR STORING OF CONSTRUCTION EQUIPMENT LOCATED AT UPPER FIVE COVES BASIN, ANAHEIM

RECOMMENDATION: Approve and authorize execution of Amendment Three to License Agreement with PUB Construction to extend the License expiration date to February 28, 2019, with an additional license fee of $1,148, with all other Agreement terms to remain the same

16. AMENDMENT THREE TO LICENSE AGREEMENT WITH T.E. ROBERTS FOR STORING OF CONSTRUCTION EQUIPMENT LOCATED AT HUCKLEBERRY POND, ANAHEIM

RECOMMENDATION: Approve and authorize execution of Amendment Three to License Agreement with T.E. Roberts, Inc. to extend the License expiration date to June 30, 2019, with a license fee of $500 per month, with all other Agreement terms to remain the same

17. BASIN PRODUCTION PERCENTAGE AND REPLENISHMENT ASSESSMENT ESTIMATES FOR FISCAL YEAR 2019-20

RECOMMENDATION: Provide the Fiscal Year 2019-20 Replenishment Assessment and Basin Production Percentage estimates to the Groundwater Producers along with any additional Board comments

MATTER FOR CONSIDERATION

18. CONSIDERATION OF AGREEMENT WITH MOULTON NIGUEL WATER DISTRICT

RECOMMENDATION: Authorize: (1) execution of the attached Agreement with the Moulton Niguel Water District and (2) issuance of the two attached requests for proposals

END OF CONSENT CALENDAR

INFORMATIONAL ITEMS

19. ACWA/JPIA H.R. LABOUNTY SAFETY AWARDS TO LABORATORY STAFF

20. STATE WETLAND DEFINITION AND PROCEDURES FOR DISCHARGES OF FILL MATERIALS TO WATERS OF THE STATE

21. GROUNDWATER REMEDIATION STATUS UPDATE

22. WATER RESOURCES SUMMARY – DECEMBER 2018

23. COMMITTEE/CONFERENCE/MEETING REPORTS

- January 9 - Water Issues Committee - (Chair Green)
- January 10 - Administration and Finance Issues Committee – (Vice Chair Whitaker)
- January 14 - GWRS Steering Committee (Chair Yoh)

- Reports on Committees/Conferences/Meetings Attended at District Expense

24. **VERBAL REPORTS**

- PRESIDENT'S REPORT
  - Ratify updated Committee and Outside Agency Assignments
- GENERAL MANAGER'S REPORT
- DIRECTORS' REPORTS
- GENERAL COUNSEL REPORT

ADJOURNMENT TO CLOSED SESSION

- **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – [Government Code Section 54956.9(a)]** – One case:
  OCWD v. Unocal Corporation, et al (MTBE Litigation) Superior Court Case No. 03CC00176

- **CONFERENCE WITH REAL PROPERTY NEGOTIATOR** [Government Code Section 54956.8]
  Real property located at: 1200 and 1204 South Phoenix Club Drive, Anaheim, CA 92806
  Parcels (4) - APNs 253-473-01, 253-631-32 – 1200, 253-631-39 and 375-221-09
  OCWD negotiator: Michael Markus
  Negotiating party: North Basin Land, LLC (H&S Ventures, LLC)
  Under negotiation: Price and Terms

RECONVENE IN OPEN SESSION

ADJOURNMENT

Agenda Posting: In accordance with the requirements of California Government Code Section 54954.2, this agenda has been posted in the main lobby of the Orange County Water District, 18700 Ward Street, Fountain Valley, CA and on the OCWD website: www.ocwd.com not less than 72 hours prior to the meeting date and time above. All written materials relating to each agenda item are available for public inspection in the office of the Assistant District Secretary. Backup material for the Agenda is available at the District offices for public review and can be viewed online at the District's website: www.ocwd.com.

Accommodations to the Disabled: Pursuant to the Americans with Disabilities Act, persons with a disability who require a disability-related modification or accommodation in order to participate in a meeting, including auxiliary aids or services, may request such modification or accommodation from the District Secretary at (714)378-3233, by email at jdurant@ocwd.com by fax at (714) 378-3373. Notification 24 hours prior to the meeting will enable District staff to make reasonable arrangements to assure accessibility to the meeting.

Availability of Agenda Material: As a general rule, agenda reports or other written documentation that has been prepared or organized with respect to each item of business listed on the agenda can be reviewed at www.ocwd.com. Copies of these materials and other disclosable public records distributed to all or a majority of the members of the Board of Directors in connection with an open session agenda item are also on file with and available for inspection at the Office of the District Secretary, 18700 Ward Street, Fountain Valley, California, during regular business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday. If such writings are distributed to members of the Board of Directors on the day of a Board meeting, the writings will be available at the entrance to the Board of Directors meeting room at the Orange County Water District office.

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Michael R. Markus

Staff Contact: John Kennedy

Budgeted: No
Funding Source: General Fund
Program/Line Item No.: N/A
Cost Estimate: Approx. $14,000 annually
General Counsel Approval: N/A
Engineers Report Approved: N/A
CEQA Compliance: N/A

Subject: PUBLIC HEARING TO CONSIDER INCREASING DIRECTORS' COMPENSATION

SUMMARY

In December 2018 the Board of Directors set a public hearing for January 16, 2019 to consider an increase in compensation. The attached ordinance, if approved, would increase the Directors' compensation from $288 to $300 per day of service, up to a maximum of ten days per month.

Attachment: Draft Ordinance

RECOMMENDATION

Adopt Ordinance increasing the Directors' compensation from $288 to $300 per day of service, up to a maximum of ten days per month, commencing 60 days from the adoption of the ordinance (March 18, 2019).

DISCUSSION/ANALYSIS

In accordance with the provisions of the California Water Code Section 20200, *et seq.*, water districts, including OCWD, are authorized to enact ordinances to increase the amount of compensation that may be received by members of the Board of Directors for each day of attendance at meetings of the Board and for each day of service rendered as a member of and by the request of the Board. The increase amount cannot exceed five percent (5%) for each calendar year following the operative date of the last adjustment of compensation, for up to ten (10) days in any calendar month. A public hearing must be held to consider adoption of an ordinance increasing the Directors' compensation. Any increase would go into effect sixty (60) days from the date of passage of the ordinance by the Board, which would be March 18, 2019.

Below is an informal survey of director stipends paid by other water districts:

BOARD OF DIRECTORS PER DIEM SURVEY

(as of January 16, 2019)

AGENCY	PER DIEM MEETING	EFFECTIVE DATE	MAXIMUM MEETINGS PER MONTH
El Toro Water District	$219.00	March 2018	10
Inland Empire Utilities Agency	$247.50	July 2017	10
Irvine Ranch Water District	$286.00	January 2019	10
Mesa Water District	$264.00	July 2017	10
Moulton Niguel Water District	$220.00	September 2016	10
Municipal Water of Orange County	$311.84	January 2019	10
Orange County Water District	$288.00	April 2018	10
Santa Margarita Water District	$210.00	February 2009	10
South Coast Water District	$190.00	January 2006	10
Yorba Linda Water District	$247.50	July 2017	10

PRIOR RELEVANT BOARD ACTION(S)

02/07/18 O18-1 - Increase Director compensation to $288 per meeting
02/01/17 O17-1 - Increase Director compensation to $275 per meeting
07/15/15 O15-01 - Increase Director compensation to $250 per meeting
10/17/01 O01-10-1 Increase Director compensation to $165 per meeting
04/07/99 O99-4-7 - Increase Director compensation to $150 per meeting
01/17/90 O90-1-1 – Increase Director compensation to $125 per meeting

ORDINANCE NO. 2018-01
AN ORDINANCE OF THE ORANGE COUNTY WATER DISTRICT ESTABLISHING COMPENSATION FOR DIRECTORS OF THE DISTRICT

WHEREAS, since April, 2018, the compensation authorized to be paid to a District Director has been fixed at $288 for attendance at meetings of the Board of Directors and for each day's service rendered as a member of the Board of Directors; and

WHEREAS, California Water Code section 20200, *et seq.*, provide that water agency governing boards may authorize increases in the rate of compensation for directors, in amount not to exceed 5% for each calendar year following the operative date of the last compensation adjustment, if the action is taken by ordinance following the conduct of a public hearing; and

WHEREAS, on December 19, 2018, the Board authorized publication of a notice of public hearing as required by Water Code section 20203 and Government Code section 6066, to be held on February 7, 2018 to consider increasing District Directors' compensation from $288 to $300 for attendance at meetings of the Board of Directors and for each day of service on behalf of the District; and

WHEREAS, on January 16, 2019, the Board of Directors conducted the duly noticed public hearing for the proposed Directors' compensation adjustment and considered all the evidence and testimony presented at that public hearing.

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby ordain as follows:

Section 1: Each member of the Board of Directors of the District is hereby authorized to receive compensation in the amount of $300 for each meeting of the Board of Directors attended by that Director, and for each day of service rendered as a Director of the District, other than attending meetings of the Board of Directors, that is authorized, directed and approved by the Board of Directors.

Section 2: Each member of the Board of Directors of the District is hereby authorized to receive compensation for no more than a total of ten (10) days in any calendar month,

Section 3: Pursuant to Water Code section 20204, this ordinance shall become effective on March 18, 2019, which is the 60th day from the date of final passage of this ordinance.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Orange County Water District held on January 16, 2019, by the following roll call vote:

DIRECTORS: YES: _____

DIRECTORS: NO: _____

DIRECTORS: ABSTAIN: _____

DIRECTORS: ABSENT: _____

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: M. Ochoa

Budgeted: N/A
Budgeted Amount:
Cost Estimate $14,135,792.72
Funding Source: N/A
Program/Line Item No. N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: APPROVAL OF CASH DISBURSEMENTS

SUMMARY

For the period December 13, 2018 through January 9, 2019 including manual checks and wire transfers, staff is presenting cash disbursements totaling $14,135,792.72 disbursed for each period as follows.

Accounts Payable:	
12/13/2018 to 12/19/2018	$ 646,499.27
12/20/2018 to 12/26/2018	$ 951,701.61
12/27/2018 to 01/02/2019	$ 2,994,659.50
01/03/2019 to 01/09/2019	$ 7,429,029.60
Payroll:	$ 2,113,902.74
Total Disbursements	$ 14,135,792.72

RECOMMENDATION

Ratify/Authorize payment of bills

PRIOR RELEVANT BOARD ACTION(S)

Semi-monthly

Orange County Water District

Check Register

Begin Date: 12/13/2018 **End Date:** 12/19/2018

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
802124	12/19/2018	ALTA FOODCRAFT	Inv# 51824612	BPO COFFEE SERVICE	$992.61		
	Total for Check:	802124				$992.61	$6,981.71
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 0404987	LABORATORY SUPPLIES	$82.75		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 0404989	LABORATORY SUPPLIES	$1,662.41		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 0404989	LABORATORY SUPPLIES	$221.65		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 0404995	LABORATORY SUPPLIES	$110.82		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 1252257	LABORATORY SUPPLIES	$332.48		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 1870420	Generated by reorder 10/24/18	$773.22		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 1870421	Generated by reorder 11/19/18	$301.37		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 1870421	Shipping-Fuel Surcharge	$4.95		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 2023238	LABORATORY SUPPLIES	$359.60		
802125	12/19/2018	FISHER SCIENTIFIC CO.	Inv# 2023238	LABORATORY SUPPLIES	$244.63		
	Total for Check:	802125				$4,093.88	$81,801.62
802126	12/19/2018	SPEX CERTIPREP, LLC	Inv# 374725	LABORATORY SUPPLIES	$73.60		
802126	12/19/2018	SPEX CERTIPREP, LLC	Inv# 374725	LABORATORY SUPPLIES	$73.60		
802126	12/19/2018	SPEX CERTIPREP, LLC	Inv# 374725	LABORATORY SUPPLIES	$57.60		
	Total for Check:	802126				$204.80	$5,744.80
802127	12/19/2018	WESTAIR GASES & EQUIPMENT	Inv# 10782765	Recharge-welding supplies	$15.47		
	Total for Check:	802127				$15.47	$27,512.66
Run Date:	***12/19/2018***				**$5,306.76**	**$5,306.76**	

Orange County Water District

Check Register

Begin Date: 12/13/2018 **End Date:** 12/19/2018

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89475	12/12/2018	LOS ANGELES DEPT OF WATER & POWER	Inv# GA426222	LADWP File P-86836	($3,436.15)		
	Total for Check:	89475				($3,436.15)	$3,436.15
89528	12/19/2018	ACCUSTANDARD, INC.	Inv# 888865	LABORATORY SUPPLIES	$475.00		
89528	12/19/2018	ACCUSTANDARD, INC.	Inv# 888865	SHIPPING	$73.97		
89528	12/19/2018	ACCUSTANDARD, INC.	Inv# 888865	HANDLING	$7.00		
89528	12/19/2018	ACCUSTANDARD, INC.	Inv# 888865	COLD-PAK	$5.00		
89528	12/19/2018	ACCUSTANDARD, INC.	Inv# 889055	LABORATORY SUPPLIES	$1,200.00		
89528	12/19/2018	ACCUSTANDARD, INC.	Inv# 889055	shipping	$21.09		
	Total for Check:	89528				$1,782.06	$11,616.44
89529	12/19/2018	AECOM TECHNICAL SERVICES, INC.	Inv# 2000122069	8/6-10/5 Prado Range Plnning	$3,160.00		
89529	12/19/2018	AECOM TECHNICAL SERVICES, INC.	Inv# 2000123029A	9/1-28 No.Basin RI-FS T1,T2,T6	$6,247.50		
89529	12/19/2018	AECOM TECHNICAL SERVICES, INC.	Inv# 2000123029B	9/1-28 No.Basin RI-FS T3	$85,460.28		
89529	12/19/2018	AECOM TECHNICAL SERVICES, INC.	Inv# 2000134172	10/6-11/2 Prado Range Planning	$290.00		
	Total for Check:	89529				$95,157.78	$179,040.08
89530	12/19/2018	AGILENT TECHNOLOGIES, INC.	Inv# 506678	LABORATORY SUPPLIES	$299.06		
	Total for Check:	89530				$299.06	$2,684.74
89531	12/19/2018	ALLISON MECHANICAL, INC.	Inv# 71045	HVAC PM Service	$703.00		
	Total for Check:	89531				$703.00	$703.00
89532	12/19/2018	ALS TRIBOLOGY	Inv# WC300626	Generated by reorder 11/19/18	$4,300.00		
89532	12/19/2018	ALS TRIBOLOGY	Inv# WC300626	Shipping and Handling	$63.50		
	Total for Check:	89532				$4,363.50	$4,363.50
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0127464300NOV18	11/8-12/10HCF211	$608.24		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0127602300NOV18	11/8-12/10HCF68	$250.93		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0127603000NOV18	11/8-12/10KWH0	$51.57		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0127704000NOV18	11/8-12/10KWH2680	$523.79		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128276000NOV18	11/8-12/10KWH4309	$747.67		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128277000NOV18	11/8-12/10KWH8448	$1,468.65		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128279000NOV18	11/8-12/10KWH5017.60	$1,450.26		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128280300NOV18	11/8-12/11HCF0	$65.23		

Orange County Water District

Check Register

Begin Date: 12/13/2018 **End Date:** 12/19/2018

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128282300NOV18	11/8-12/11HCF78	$241.97		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128283000NOV18	11/8-12/10KWH838.08	$1,196.31		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128284000NOV18	11/8-12/10KWH717	$152.71		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0128660002NOV18	11/9-12/11KWH2916	$567.88		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0131487000NOV18	11/8-12/11KWH178.6	$50.80		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0132538000NOV18	11/8-12/11KWH1924.65	$379.18		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 013414400NOV18	11/8-12/11KWH402.4	$92.78		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0134145000NOV18	11/8-12/10KWH160.96	$46.89		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0134965000NOV18	11/8-12/10KWH269	$67.50		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0138802000NOV18	11/8-12/11KWH0	$17.16		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0139824000NOV18	11/8-12/11KWH830.71	$170.09		
89534	12/19/2018	ANAHEIM, CITY OF	Inv# 0145552000NOV18	11/8-12/11KWH26	$22.07		
	Total for Check:	89534				$8,171.68	$107,535.98
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 1450406804	UNIFORM SERVICES	$34.05		
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 1450418651	UNIFORM SERVICES	$44.05		
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 533835305	UNIFORM SERVICES	$212.91		
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 533852475	UNIFORM SERVICES	$3.92		
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 533852477	UNIFORM SERVICES	$150.99		
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 533852478	UNIFORM SERVICES	$364.57		
89535	12/19/2018	ARAMARK UNIFORM SERVICES	Inv# 533852479	UNIFORM SERVICES	$199.94		
	Total for Check:	89535				$1,010.43	$25,004.07
89536	12/19/2018	AT & T	Inv# 339 259-6949DEC18	12/7-1/6	$69.28		
	Total for Check:	89536				$69.28	$20,954.64
89537	12/19/2018	AT & T	Inv# 335 253-2206DEC18	12/7-1/6	$85.86		
	Total for Check:	89537				$85.86	$20,954.64
89538	12/19/2018	AT & T	Inv# 714 630-4323DEC18	12/4-1/3	$1,867.62		
	Total for Check:	89538				$1,867.62	$20,954.64
89539	12/19/2018	AT & T	Inv# 714 630-3232DEC18	12/4-1/3	$251.14		
	Total for Check:	89539				$251.14	$20,954.64
89540	12/19/2018	AT & T	Inv# 714 974-3616DEC18	12/11-1/10	$69.29		
	Total for Check:	89540				$69.29	$20,954.64
89541	12/19/2018	ATLAS COPCO COMPRESSORS, LLC	Inv# 196830	Fan Assembly GA15 Atlas Copco	$2,581.40		

Orange County Water District

Check Register

Begin Date: 12/13/2018 **End Date:** 12/19/2018

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89541	12/19/2018	ATLAS COPCO COMPRESSORS, LLC	Inv# 196830	SHIPPING & HANDLING	$165.33		
	Total for Check:	89541				$2,746.73	$2,746.73
89542	12/19/2018	BC WIRE ROPE & RIGGING	Inv# 0308820-IN	Small Chain fall Hoists	$883.06		
89542	12/19/2018	BC WIRE ROPE & RIGGING	Inv# 0308820-IN	Small Chain fall Hoists	$622.70		
89542	12/19/2018	BC WIRE ROPE & RIGGING	Inv# 0308820-IN	FREIGHT	$18.70		
	Total for Check:	89542				$1,524.46	$1,524.46
89543	12/19/2018	BEE BUSTERS	Inv# 113861	BPO BEE REMOVAL	$150.00		
	Total for Check:	89543				$150.00	$450.00
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902174	12/12 43880 lbs H.Peroxide	$9,543.90		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902174	Discount	($286.32)		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902455	R&D CHEMICALS	$506.78		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902455	drum deposits(4)	$100.00		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902455	drum deposits(4)	$100.00		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902455	R&D CHEMICALS	$75.00		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902455	drum deposits(4)	($100.00)		
89544	12/19/2018	BRENNTAG PACIFIC INC.	Inv# BPI902455	Discount	($13.64)		
	Total for Check:	89544				$9,925.72	$471,106.28
89545	12/19/2018	BUTIER ENGINEERING, INC.	Inv# 006 OCWD 1309	Oct18 const.mgmt/5 Coves Reha	$28,945.00		
	Total for Check:	89545				$28,945.00	$445,712.00
89546	12/19/2018	Bilodeau, Denis	Inv# 11/26 & 11/28/18 TRAVEL ACWA Confer	11/26-28 San Diego	$209.91		
89546	12/19/2018	Bilodeau, Denis	Inv# NOVEMBER 2018 TRAVEL Meetings	Nov18 OCWD Various	$162.45		
	Total for Check:	89546				$372.36	$6,555.90
89547	12/19/2018	CALIFORNIA BARRICADE RENTALS, INC.	Inv# 60101	BPO TRAFFIC CONTROL SERVICE	$940.00		
	Total for Check:	89547				$940.00	$4,700.00
89548	12/19/2018	CALIFORNIA STATE UNIVERSITY LONG BEACH	Inv# 109597	BURRIS FISH STUDY6/16-09/30/19	$40,000.00		
	Total for Check:	89548				$40,000.00	$40,000.00
89549	12/19/2018	CDW-G	Inv# PMM6567	Replace Printer forl Library	$258.61		
	Total for Check:	89549				$258.61	$20,486.54

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89550	12/19/2018	CONNOR, FLETCHER & HEDENKAMP LLC	Inv# 13918 NORTHROP	Oct18 legal/Northrop	$2,307.50		
89550	12/19/2018	CONNOR, FLETCHER & HEDENKAMP LLC	Inv# 13919 SABIC	Oct18 legal/Sabic	$15,439.93		
89550	12/19/2018	CONNOR, FLETCHER & HEDENKAMP LLC	Inv# 13920 SOUTH BASIN APPEALS Basin Appeal	Oct18 legal/South	$1,800.00		
	Total for Check:	89550				$19,547.43	$176,615.06
89551	12/19/2018	CONSOLIDATED OFFICE SYSTEMS	Inv# 29268	OFFICE FURNITURE	$2,088.00		
89551	12/19/2018	CONSOLIDATED OFFICE SYSTEMS	Inv# 29268	OFFICE FURNITURE	$957.00		
89551	12/19/2018	CONSOLIDATED OFFICE SYSTEMS	Inv# 29268	OFFICE FURNITURE	$515.00		
	Total for Check:	89551				$3,560.00	$3,560.00
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36351	JANICE KOVACEVIC	$9,735.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36351	JANICE KOVACEVIC	$1,200.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36351	JANICE KOVACEVIC	$180.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36388	JANICE KOVACEVIC	$9,735.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36388	JANICE KOVACEVIC	$1,200.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36388	JANICE KOVACEVIC	$180.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36404	MF FLOOR CLEANING	$580.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36404	MF FLOOR CLEANING	$90.00		
89552	12/19/2018	CORPORATE IMAGE MAINTENANCE	Inv# 36405	MF EAST CARPET CLEANING	$285.00		
	Total for Check:	89552				$23,185.00	$77,719.00
89553	12/19/2018	CULLIGAN OF SANTA ANA	Inv# 1115090	12/01-12/31 WATER SOFTNER SERV	$179.27		
	Total for Check:	89553				$179.27	$1,429.89
89554	12/19/2018	CWEA	Inv# CERTIF. RENEWAL	Certification Renewal	$285.00		
	Total for Check:	89554				$285.00	$1,986.00
89555	12/19/2018	CWEA	Inv# ID#000353013I	D.SIMALA	$188.00		
	Total for Check:	89555				$188.00	$1,986.00

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89556	12/19/2018	FIRELINE BROADBAND	Inv# 55056	BPO Internet for Prado	$699.00		
	Total for Check:	89556				$699.00	$4,194.00
89557	12/19/2018	FRONTIER COMMUNICATIONS	Inv# 213-002-8985DEC18	12/7-1/6	$48.19		
	Total for Check:	89557				$48.19	$21,662.73
89558	12/19/2018	FRONTIER COMMUNICATIONS	Inv# 714-274-0393DEC18	12/7-1/6	$907.23		
	Total for Check:	89558				$907.23	$21,662.73
89559	12/19/2018	FRONTIERS MEDIA SA	Inv# 218-0159676-0	Publishing Research in Journal	$750.00		
	Total for Check:	89559				$750.00	$750.00
89560	12/19/2018	FRY'S ELECTRONICS	Inv# 22650659	BPO ELECTRONIC SUPPLIES	$32.61		
89560	12/19/2018	FRY'S ELECTRONICS	Inv# 22651632	BPO ELECTRONIC SUPPLIES	$271.81		
	Total for Check:	89560				$304.42	$1,041.88
89561	12/19/2018	Field, David M.	Inv# 11/7-12/6/18 STIPEND	11/7-12/6/18 phone stipend	$40.00		
	Total for Check:	89561				$40.00	$286.01
89563	12/19/2018	GRAINGER INC.	Inv# 9955745964	LABORATORY SUPPLIES	$27.61		
89563	12/19/2018	GRAINGER INC.	Inv# 9958262256	BPO INDUSTRIAL SUPPLIES	$78.91		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$49.33		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$49.03		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$22.38		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$22.02		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$12.86		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$10.57		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440985	Dedicated Sample Pump Parts	$5.10		
89563	12/19/2018	GRAINGER INC.	Inv# 9958440993	BPO INDUSTRIAL SUPPLIES	$101.10		
89563	12/19/2018	GRAINGER INC.	Inv# 9958441009	Dedicated Sample Pump Parts	$667.32		
89563	12/19/2018	GRAINGER INC.	Inv# 9960283738	DWYER FlowTech Flow Switch	$317.76		
	Total for Check:	89563				$1,363.99	$63,891.30
89564	12/19/2018	GREAT WESTERN SANITARY SUPPLIES	Inv# 294972	Generated by reorder 10/24/18	$135.76		
89564	12/19/2018	GREAT WESTERN SANITARY SUPPLIES	Inv# 294972	Discount	($1.36)		
	Total for Check:	89564				$134.40	$1,660.29
89565	12/19/2018	Green, Catherine T.	Inv# 11/16/18 TRAVEL	11/16 SACTO ACWA Board	$866.88		

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89565	12/19/2018	Green, Catherine T.	Inv# 11/27-29/18 TRAVEL Confer	11/27-29 San Diego ACWA	$952.13		
89565	12/19/2018	Green, Catherine T.	Inv# NOVEMBER 2018 TRAVEL Meetings	Nov18 OCWD Various	$56.72		
	Total for Check:	89565				$1,875.73	$3,947.53
89566	12/19/2018	HACH COMPANY	Inv# 11228188	Chlorine Reagent Pillows	$70.79		
89566	12/19/2018	HACH COMPANY	Inv# 11228188	Freight	$19.74		
	Total for Check:	89566				$90.53	$16,990.15
89567	12/19/2018	HAMILTON COMPANY	Inv# 01338855	LABORATORY SUPPLIES	$924.37		
89567	12/19/2018	HAMILTON COMPANY	Inv# 01338855	LABORATORY SUPPLIES	$217.50		
89567	12/19/2018	HAMILTON COMPANY	Inv# 01338855	LABORATORY SUPPLIES	$35.89		
89567	12/19/2018	HAMILTON COMPANY	Inv# 01338855	Frt UPS	$13.98		
	Total for Check:	89567				$1,191.74	$1,191.74
89568	12/19/2018	HOLE PRODUCTS	Inv# SI-4008249	Equip. for Monitoring Wells	$2,714.62		
89568	12/19/2018	HOLE PRODUCTS	Inv# SI-4008249	Equip. for Monitoring Wells	$223.66		
89568	12/19/2018	HOLE PRODUCTS	Inv# SI-4008249	Equip. for Monitoring Wells	$138.01		
89568	12/19/2018	HOLE PRODUCTS	Inv# SI-4008249	Equip. for Monitoring Wells	$199.83		
	Total for Check:	89568				$3,276.12	$3,454.68
89569	12/19/2018	HOLLAND & KNIGHT LLP	Inv# 5753030	Nov18 legis.support/D.C.	$7,500.00		
	Total for Check:	89569				$7,500.00	$52,500.00
89570	12/19/2018	HOME DEPOT, INC.	Inv# 2383120	BPO INDUSTRIAL SUPPLIES	$2.54		
89570	12/19/2018	HOME DEPOT, INC.	Inv# 5023388	BPO INDUSTRIAL SUPPLIES	$14.48		
	Total for Check:	89570				$17.02	$10,780.62
89571	12/19/2018	Hutchinson, Adam	Inv# 12/13/18 CERTFICATION REN hydrogeologist licens	12/13/18	$67.50		
89571	12/19/2018	Hutchinson, Adam	Inv# 12/13/18 CERTIFIC.RENEWAL license	12/13/18 geologist	$270.00		
	Total for Check:	89571				$337.50	$747.88
89572	12/19/2018	INSTITUTE FOR ENVIRONMENTAL HEALTH INC	Inv# 181940	BPO FOR WQ ANALYSES	$360.00		
	Total for Check:	89572				$360.00	$3,785.00
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 897785	Victaulic Gaskets 1"	$322.81		
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 897785	Victaulic Gaskets 1"	$63.53		
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 897785	Incoming Freight	$20.10		

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89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 897785	Shipping Charges	$10.16		
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 897785	Discount	($8.33)		
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 898823	Generated by reorder 11/2/18 9	$18.43		
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 898823	Shipping	$7.90		
89573	12/19/2018	IRVINE PIPE & SUPPLY	Inv# 898823	Discount	($0.53)		
	Total for Check:	89573				$434.07	$22,814.39
89574	12/19/2018	LHOIST NORTH AMERICA	Inv# 1180235932A	11/13 25.34 tons lime	$6,005.58		
89574	12/19/2018	LHOIST NORTH AMERICA	Inv# 1180235932B	11/15 25.21 tons lime	$5,974.77		
89574	12/19/2018	LHOIST NORTH AMERICA	Inv# 1180235932C	11/18 25.97 tons lime	$6,154.89		
	Total for Check:	89574				$18,135.24	$355,097.11
89575	12/19/2018	MAGNOLIA BIRD FARMS	Inv# 24195	BPO BIRD SEED & SUPPLIES	$267.53		
	Total for Check:	89575				$267.53	$572.58
89576	12/19/2018	MAIL DELIVERY SERVICE CO.	Inv# 17065	BPO MAIL DELIVERY	$334.09		
89576	12/19/2018	MAIL DELIVERY SERVICE CO.	Inv# 17065	BPO MAIL DELIVERY	$29.69		
89576	12/19/2018	MAIL DELIVERY SERVICE CO.	Inv# 17065	BPO MAIL DELIVERY	$3.72		
89576	12/19/2018	MAIL DELIVERY SERVICE CO.	Inv# 17131	BPO MAIL DELIVERY	$285.03		
89576	12/19/2018	MAIL DELIVERY SERVICE CO.	Inv# 17131	BPO MAIL DELIVERY	$82.25		
89576	12/19/2018	MAIL DELIVERY SERVICE CO.	Inv# 17131	BPO MAIL DELIVERY	$0.22		
	Total for Check:	89576				$735.00	$2,205.00
89577	12/19/2018	MCCONNELL, JAMES F.	Inv# NOVEMBER 30, 2018	Nov18 legis.support/D.C.	$7,500.00		
	Total for Check:	89577				$7,500.00	$45,015.00
89578	12/19/2018	MCFADDEN-DALE HARDWARE CO.	Inv# 353496/5	BPO INDUSTRIAL SUPPLIES	$28.45		
89578	12/19/2018	MCFADDEN-DALE HARDWARE CO.	Inv# 353496/5	Discount	($0.79)		
	Total for Check:	89578				$27.66	$3,594.23
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$64.85		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$41.96		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$40.56		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$32.82		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$28.50		

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89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$26.10		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Shipping	$20.36		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$17.32		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$17.22		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$14.70		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$13.26		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Maintenance Cart Tool Box Part	$10.74		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80625117	Discount	($6.16)		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80640100	Auto Drain Line Replacement	$53.70		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80640100	Auto Drain Line Replacement	$40.98		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80640100	Auto Drain Line Replacement	$36.43		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80640100	Auto Drain Line Replacement	$17.01		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80640100	Shipping	$6.78		
89580	12/19/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 80640100	Discount	($2.96)		
	Total for Check:	89580				$474.17	$18,941.17
89581	12/19/2018	MENDOCINO FARMS	Inv# 38797	BPO CATERING SERVICES	$220.89		
89581	12/19/2018	MENDOCINO FARMS	Inv# 38797	Delivery Fee	$25.00		
	Total for Check:	89581				$245.89	$3,443.38
89582	12/19/2018	MILLER & AXLINE	Inv# 11305R SOUTH BASIN	10/11/18 legal/South Basin	$29,272.37		
	Total for Check:	89582				$29,272.37	$444,458.20
89583	12/19/2018	MOODY'S INVESTORS SERVICE	Inv# C2047534-000 DEC18-NOV19	CP(B)LC ANNUAL FEE	$11,000.00		
	Total for Check:	89583				$11,000.00	$35,500.00

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89584	12/19/2018	Mudd, Rebecca	Inv# 10/14-11/13/18 STIPEND stipend	10/14-11/13/18 phone	$40.00		
89584	12/19/2018	Mudd, Rebecca	Inv# 11/14-12/13/18 STIPEND stipend	11/14-12/13/18 phone	$40.00		
89584	12/19/2018	Mudd, Rebecca	Inv# 6/14-7/13/18 STIPEND	6/14-7/13/18 phone stipend	$40.00		
89584	12/19/2018	Mudd, Rebecca	Inv# 7/14-8/13/18 STIPEND	7/14-8/13/18 phone stipend	$40.00		
89584	12/19/2018	Mudd, Rebecca	Inv# 8/14-9/13/18 STIPEND	8/14-9/13/18 phone stipend	$40.00		
89584	12/19/2018	Mudd, Rebecca	Inv# 9/14-10/13/18 STIPEND stipend	9/14-10/13/18 phone	$40.00		
	Total for Check:	89584				$240.00	$520.00
89585	12/19/2018	NORTHWEST MOSQUITO AND VECTOR	Inv# 1446	MOSQUITO CONTROL OCTOBER	$94.51		
89585	12/19/2018	NORTHWEST MOSQUITO AND VECTOR	Inv# 1445	MOSQUITO CONTROL OCTOBER	$19,096.58		
	Total for Check:	89585				$19,191.09	$49,884.13
89586	12/19/2018	Nguyen, Dina	Inv# NOVEMBER 2018 TRAVEL Meetings	Nov18 OCWD Various	$7.63		
	Total for Check:	89586				$7.63	$137.34
89587	12/19/2018	OFFICE DEPOT	Inv# 233162908001	OFFICE SUPPLIES	$39.04		
	Total for Check:	89587				$39.04	$636.41
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2603289	11/19 4856 gal s.hypochlorite	$3,345.78		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2603290	11/19 4826 gal s.hypochlorite	$3,325.11		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2603291	11/19 4844 gal s.hypochlorite	$3,337.52		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2603989	11/20 4834 gal s.hypochlorite	$3,330.63		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2603990	11/20 4920 gal s.hypochlorite	$3,389.88		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2603991	11/20 4950 gal s.hypochlorite	$3,410.55		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2604712	11/21 4620 gal s.hypochlorite	$3,183.18		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2604713	11/21 4946 gal s.hypochlorite	$3,407.79		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2604714	11/21 4904 gal s.hypochlorite	$3,378.86		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2605401	11/23 4676 gal s.hypochlorite	$3,221.76		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2605402	11/23 4892 gal s.hypochlorite	$3,370.59		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2605403	11/23 4910 gal s.hypochlorite	$3,382.99		
89589	12/19/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2605404	11/23 4858 gal s.hypochlorite	$3,347.16		
	Total for Check:	89589				$43,431.80	$928,804.56

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89590	12/19/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6022059.001	OCAL 3/4 inch Electriical Cond	$81.53		
89590	12/19/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6022059.001	OCAL 3/4 inch Electriical Cond	$60.85		
89590	12/19/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6022059.001	OCAL 3/4 inch Electriical Cond	$60.85		
89590	12/19/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6022059.001	Discount	($1.87)		
	Total for Check:	89590				$201.36	$82,375.64
89591	12/19/2018	PETE'S ROAD SERVICE, INC.	Inv# 282426-00	T-156 Maintenance	$266.36		
	Total for Check:	89591				$266.36	$521.79
89592	12/19/2018	PHENOMENEX	Inv# CIUS-18082542	LABORATORY SUPPLIES	$2,675.25		
89592	12/19/2018	PHENOMENEX	Inv# CIUS-18082542	LABORATORY SUPPLIES	$2,001.00		
89592	12/19/2018	PHENOMENEX	Inv# CIUS-18082542	Discount	($86.00)		
89592	12/19/2018	PHENOMENEX	Inv# CIUS-18082544	LABORATORY SUPPLIES	$4,458.75		
89592	12/19/2018	PHENOMENEX	Inv# CIUS-18082544	Discount	($82.00)		
	Total for Check:	89592				$8,967.00	$28,933.99
89593	12/19/2018	PIKE, JAMES EDWIN	Inv# 232	Sept-Dec18 Prado vireo	$2,629.50		
89593	12/19/2018	PIKE, JAMES EDWIN	Inv# 232	Sept-Dec18 Prado vireo	$0.50		
	Total for Check:	89593				$2,630.00	$35,897.50
89594	12/19/2018	PREMIER FITNESS SERVICE	Inv# 49626	BPO FITNESS CENTER MAINT	$150.00		
	Total for Check:	89594				$150.00	$300.00
89595	12/19/2018	Patel, Mehul	Inv# 10/23-11/22/18 STIPEND	10/23-11/22/18 phone stipend	$40.00		
	Total for Check:	89595				$40.00	$1,972.98
89596	12/19/2018	Pinnick, Diane	Inv# 11/15/18 TRAVEL	11/15 Santa Ana Madison Elemen	$9.81		
89596	12/19/2018	Pinnick, Diane	Inv# 11/5/18 TRAVEL	11/5 Costa Mesa MWD HR Panel	$8.72		
	Total for Check:	89596				$18.53	$161.51
89597	12/19/2018	QUINN COMPANY	Inv# 07850201	65' Lift Rental	$2,609.25		
89597	12/19/2018	QUINN COMPANY	Inv# 07850201	65' Lift Rental	$200.00		
89597	12/19/2018	QUINN COMPANY	Inv# 07850201	65' Lift Rental	$154.56		
89597	12/19/2018	QUINN COMPANY	Inv# 07850201	65' Lift Rental	$39.17		
	Total for Check:	89597				$3,002.98	$63,018.17
89598	12/19/2018	QUINN COMPANY	Inv# PCA00092471	BPO EQUIPMENT & SUPPLIES	$103.98		
	Total for Check:	89598				$103.98	$2,109.70
89599	12/19/2018	RAIN FOR RENT	Inv# 1278436	Pump Rental - 6"	$1,736.42		

Orange County Water District

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Begin Date: 12/13/2018 **End Date:** 12/19/2018

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89599	12/19/2018	RAIN FOR RENT	Inv# 1278436	Pump Rental - 6"	$851.81		
89599	12/19/2018	RAIN FOR RENT	Inv# 1281128	Pump Rental - 6"	$892.27		
	Total for Check:	89599				$3,480.50	$3,869.32
89600	12/19/2018	RED WING SHOE STORE	Inv# 20181122022395	BPO FOR RED WING	$189.09		
89600	12/19/2018	RED WING SHOE STORE	Inv# 408-1-34457	BPO FOR RED WING	$150.30		
	Total for Check:	89600				$339.39	$6,720.80
89601	12/19/2018	SANTA ANA WATERSHED PROJECT AUTHORITY	Inv# 62593	Project No. 381 ROCK	$46,000.00		
	Total for Check:	89601				$46,000.00	$441,595.00
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$602.71		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$480.27		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$461.98		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$414.91		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$227.75		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$199.43		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$67.41		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$40.77		
89602	12/19/2018	SC FUELS	Inv# 0045797	BPO UNLEADED FUEL FOR VEHICLES	$35.44		
	Total for Check:	89602				$2,530.67	$82,900.69
89603	12/19/2018	SMART & FINAL STORES CORP.	Inv# 052508	BPO FOOD & SUPPLIES	$18.16		
89603	12/19/2018	SMART & FINAL STORES CORP.	Inv# 056588	BPO FOOD & SUPPLIES	$140.99		
	Total for Check:	89603				$159.15	$875.55
89604	12/19/2018	SOLTIS AND COMPANY, INC.	Inv# 116059	IRRIGATION REPAIRS @ WARNER	$1,227.00		
	Total for Check:	89604				$1,227.00	$40,754.40
89605	12/19/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-017-7474-01DEC18	11/13-12/13kwh36	$29.26		
89605	12/19/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-017-9360-14DEC18	11/1412/14kwh58	$32.36		
89605	12/19/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-023-2096-60DEC18	11/9-12/12KWH379	$81.69		
89605	12/19/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-044-7967-96DEC18	11/9-12/12KWH293	$114.85		
89605	12/19/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-017-9140-39NOV18	11/7-12/10KWH33	$31.23		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
Total for Check:	89605					$289.39	$2,864,892.43
89606	12/19/2018	STAPLES	Inv# 3396959552	Generated by reorder 11/7/18 2	$62.38		
89606	12/19/2018	STAPLES	Inv# 3396959552	Generated by reorder 11/7/18 2	$20.81		
Total for Check:	89606					$83.19	$22,770.68
89607	12/19/2018	STATE WATER RESOURCES CONTROL BOARD	Inv# WD-0142651	07/01-06/30/19	$2,268.00		
89607	12/19/2018	STATE WATER RESOURCES CONTROL BOARD	Inv# WD-0143204	07/01-06/30/19	$2,669.00		
Total for Check:	89607					$4,937.00	$19,535.84
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	MF Banded Hose with Cam Lock	$184.74		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	MF Banded Hose with Cam Lock	$82.90		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	MF Banded Hose with Cam Lock	$80.47		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	MF Banded Hose with Cam Lock	$55.19		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	MF Banded Hose with Cam Lock	$43.77		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	MF Banded Hose with Cam Lock	$37.69		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	Incoming Freight	$18.39		
89608	12/19/2018	SUNSET INDUSTRIAL PARTS	Inv# 700681	Discount	($10.07)		
Total for Check:	89608					$493.08	$9,321.49
89609	12/19/2018	Sarmiento, Vincent	Inv# NOVEMBER 2018 TRAVEL	Nov18 OCWD Various Meetings	$22.89		
Total for Check:	89609					$22.89	$156.96
89610	12/19/2018	TREE OF LIFE NURSERY	Inv# 65893	BPO LANDSCAPE SUPPLIES	$230.59		
Total for Check:	89610					$230.59	$230.59
89611	12/19/2018	Torres, Eleanor	Inv# 11/14/18 TRAVEL	11/14 Fullerton EPA N.Basin Co	$15.15		
89611	12/19/2018	Torres, Eleanor	Inv# 11/21/18 TRAVEL	11/21 Pasadean Mtg w/Dick Jone	$26.60		
89611	12/19/2018	Torres, Eleanor	Inv# 11/26/18 TRAVEL	11/26 Westminster Mtg w/Dir.Ta	$5.34		
Total for Check:	89611					$47.09	$167.13
89612	12/19/2018	Tri Ta	Inv# NOVEMBER 2018 TRAVEL	Nov18 OCWD Various Meetings	$68.67		
Total for Check:	89612					$68.67	$921.64
89613	12/19/2018	U.S. BANK CORPORATE PAYMENT SYSTEM	Inv# NOVEMBER 2018 CC	Nov18 credit card charges	$74,773.55		
Total for Check:	89613					$74,773.55	$259,515.99

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89614	12/19/2018	UNITED PARCEL SERVICE INC	Inv# 0000X81601498	UPS	$142.51		
	Total for Check:	89614				$142.51	$1,464.23
89615	12/19/2018	UNIVAR USA	Inv# LA691681	12/12 25.82 tons sulfuric acid	$3,743.90		
89615	12/19/2018	UNIVAR USA	Inv# LA691681	Discount	($74.88)		
89615	12/19/2018	UNIVAR USA	Inv# LA691683	12/11 25.87 tons sulfuric acid	$3,751.15		
89615	12/19/2018	UNIVAR USA	Inv# LA691683	Discount	($75.02)		
	Total for Check:	89615				$7,345.15	$134,957.93
89616	12/19/2018	UTILIQUEST LLC	Inv# 269507-Q 9908	11/11-17 screen/mark pipes	$101.50		
89616	12/19/2018	UTILIQUEST LLC	Inv# 269507-Q 9911	11/11-17 screen/mark pipes	$1,419.59		
89616	12/19/2018	UTILIQUEST LLC	Inv# 269507-Q 9922	11/11-17 screen/mark pipes	$828.10		
89616	12/19/2018	UTILIQUEST LLC	Inv# 269507-Q 9932	11/11-17 screen/mark pipes	$16.80		
	Total for Check:	89616				$2,365.99	$51,388.37
89617	12/19/2018	VWR INTERNATIONAL, INC.	Inv# 8084153589	Generated by reorder 10/15/18	$143.55		
89617	12/19/2018	VWR INTERNATIONAL, INC.	Inv# 8084153589	Generated by reorder 10/15/18	$138.27		
89617	12/19/2018	VWR INTERNATIONAL, INC.	Inv# 8084556881	Generated by reorder 10/29/18	$1,022.25		
89617	12/19/2018	VWR INTERNATIONAL, INC.	Inv# 8084556881	Generated by reorder 10/29/18	$204.45		
89617	12/19/2018	VWR INTERNATIONAL, INC.	Inv# 8084556881	Discount	($12.27)		
	Total for Check:	89617				$1,496.25	$61,654.14
89618	12/19/2018	WASTE MANAGEMENT INLAND EMPIRE	Inv# 0632237-0161-4	12/01-12/31/18	$162.03		
	Total for Check:	89618				$162.03	$1,281.90
89619	12/19/2018	WEST COAST VALVE SERVICES	Inv# 16333	8" Muessco Check Valve Repair	$2,173.45		
89619	12/19/2018	WEST COAST VALVE SERVICES	Inv# 16333	discount	($43.47)		
	Total for Check:	89619				$2,129.98	$2,129.98
89620	12/19/2018	Whitaker, Bruce	Inv# 11/27-29/18 TRAVEL Confer	11/27-29 San Diego ACWA	$851.50		
89620	12/19/2018	Whitaker, Bruce	Inv# DEDUCT GUEST REGISTRATION regist & meal	Deduct: guest	($160.00)		
89620	12/19/2018	Whitaker, Bruce	Inv# NOVEMBER 2018 TRAVEL Meetings	Nov18 OCWD Various	$102.46		
	Total for Check:	89620				$793.96	$1,485.03
89621	12/19/2018	Woodside, Greg	Inv# 11/27-29/18 TRAVEL Confer	11/27-29 San Diego ACWA	$548.68		

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89621	12/19/2018	Woodside, Greg	Inv# 12/11/18 CERTFICAT'N REN1 license	12/11/18 Geologist	$270.00		
89621	12/19/2018	Woodside, Greg	Inv# 12/11/18 CERTFICAT'N REN2 hydrogeologist licens	12/11/18	$67.50		
	Total for Check:	89621				$886.18	$3,022.38
89622	12/19/2018	Yoh, Roger	Inv# NOVEMBER 2018 TRAVEL Meetings	Nov18 OCWD Various	$30.52		
	Total for Check:	89622				$30.52	$493.77
976662	12/13/2018	U.S. BANK TRUST	Inv# COMMERCIAL PAPER (68427) Interest Payment	(68427MNG4)	$17,038.08		
	Total for Check:	976662				$17,038.08	$4,503,612.84
976663	12/13/2018	U.S. BANK TRUST	Inv# COMMERCIAL PAPER (68428)		$66,640.00		
	Total for Check:	976663				$66,640.00	$4,503,612.84
976664	12/18/2018	WELLS FARGO BANK	Inv# DECEMBER 19,18 #6527	Dec.19,18 PR#26 #6527	$46,113.99		
	Total for Check:	976664				$46,113.99	$10,475,301.41
976665	12/18/2018	WELLS FARGO BANK	Inv# DECEMBER 19,18 #6911 #6911	Dec.19,18 PR3#25	$739,659.71		
	Total for Check:	976665				$739,659.71	$10,475,301.41
976666	12/18/2018	WELLS FARGO BANK	Inv# DECEMBER 19,18 GARNABF GarnABF	Dec.19,18 PR#26	$1,760.75		
	Total for Check:	976666				$1,760.75	$10,475,301.41
976667	12/19/2018	PRUDENTIAL RETIREMENT SERVICE	Inv# DECEMBER 19,2018	Dec.19,18 PR#26 401a	$203,080.51		
	Total for Check:	976667				$203,080.51	$2,801,223.31
976668	12/19/2018	PRUDENTIAL RETIRMENT	Inv# DECEMBER 19,2018	Dec.19,18 PR#26 457b	$46,183.90		
	Total for Check:	976668				$46,183.90	$728,633.41
Run Date:	***12/18/2018***				**$1,677,991.37**	**$1,677,991.37**	

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
802141	12/26/2018	ALTA FOODCRAFT	Inv# 51823403	GM Office	$92.29		
	Total for Check:	802141				$92.29	$7,074.00
802142	12/26/2018	FEDERAL EXPRESS CORPORATION	Inv# 6-364-34377	PackageDelivery	$179.81		
802142	12/26/2018	FEDERAL EXPRESS CORPORATION	Inv# 6-384-68994	Package Delivery	$217.48		
	Total for Check:	802142				$397.29	$10,478.45
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$1,145.94		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$328.16		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$113.40		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$113.40		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$113.40		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$58.69		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$56.70		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$56.70		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$56.70		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291876	LABORATORY SUPPLIES	$56.70		
802144	12/26/2018	FISHER SCIENTIFIC CO.	Inv# 2291877	LABORATORY SUPPLIES	$487.69		
	Total for Check:	802144				$2,644.18	$84,445.80
802145	12/26/2018	IRON MOUNTAIN	Inv# 201753534	BPO Archival Services	$509.08		
802145	12/26/2018	IRON MOUNTAIN	Inv# AJKK414	BPO Archival Services	$2,862.87		
	Total for Check:	802145				$3,371.95	$20,596.79
802146	12/26/2018	RUTAN & TUCKER	Inv# 824598	Thru 11/26 legal/General Matte	$3,366.00		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824599	Thru 11/26 legal/Water Resourc	$1,567.50		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824600	Thru 11/26 legal/Personnel Iss	$11,244.00		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824601	Thru 11/26 legal/Property Mgmt	$199.50		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824602	Thru 11/26 legal/MTBE Litig.Mo	$1,681.50		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824603	Thru 11/26 legal/Irvine Desalt	$1,909.50		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824604	Thru 11/26 legal/Admin.Matters	$3,904.50		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824605	Thru 11/26 legal/SBGPP	$142.50		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824606	Thru 11/26 legal/Reclaim.Wtr.B	$12,885.75		
802146	12/26/2018	RUTAN & TUCKER	Inv# 824607	Thru 11/26 legal/Ball Rd Basin	$4,360.50		

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	Total for Check:	802146				$41,261.25	$273,691.08
802147	12/26/2018	SIGMA-ALDRICH INC.	Inv# 546406834	LABORATORY SUPPLIES	$545.93		
802147	12/26/2018	SIGMA-ALDRICH INC.	Inv# 546406834	LABORATORY SUPPLIES	$415.43		
802147	12/26/2018	SIGMA-ALDRICH INC.	Inv# 546406834	LABORATORY SUPPLIES	$328.43		
802147	12/26/2018	SIGMA-ALDRICH INC.	Inv# 546406834	DISCOUNT	$77.15		
	Total for Check:	802147				$1,366.94	$12,930.83
802148	12/26/2018	WECK LABORATORIES, INC.	Inv# W8K1607-OCWD	BPO FOR WQ ANALYSES	$100.00		
	Total for Check:	802148				$100.00	$13,719.50
802149	12/26/2018	WESTAIR GASES & EQUIPMENT	Inv# 10785409	Lab-helium,nitrogen	$983.32		
802149	12/26/2018	WESTAIR GASES & EQUIPMENT	Inv# 10785409	freight	$29.91		
802149	12/26/2018	WESTAIR GASES & EQUIPMENT	Inv# 10785409	hazardous material	$10.76		
802149	12/26/2018	WESTAIR GASES & EQUIPMENT	Inv# 80224537	Nov18 cylinder rental-Wtr.Prod	$97.50		
802149	12/26/2018	WESTAIR GASES & EQUIPMENT	Inv# 80224539	Nov18 cylinder rental-Recharg	$225.00		
802149	12/26/2018	WESTAIR GASES & EQUIPMENT	Inv# 80224540	Nov18 cylinder rental-Lab	$254.38		
	Total for Check:	802149				$1,600.87	$29,113.53
Run Date:	***12/27/2018***				**$50,834.77**	**$50,834.77**	

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89623	12/26/2018	ORACLE AMERICA, INC	Inv# 43899603	Dan Cohen	$17,555.77		
89623	12/26/2018	ORACLE AMERICA INC	Inv# 44073782	Renew Oracle DB SE2 Support	$1,068.70		
	Total for Check:	89623				$18,624.47	$39,836.63
89625	12/26/2018	XEROX CORPORATION	Inv# 095159504	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095159505	BPO XEROX COPIER MAINTENANCE	$25.29		
89625	12/26/2018	XEROX CORPORATION	Inv# 095159506	BPO XEROX COPIER MAINTENANCE	$34.59		
89625	12/26/2018	XEROX CORPORATION	Inv# 095159507	BPO XEROX COPIER MAINTENANCE	$73.54		
89625	12/26/2018	XEROX CORPORATION	Inv# 095159508	BPO XEROX EQUIPMENT LEASE	$548.73		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338179	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338180	BPO XEROX EQUIPMENT LEASE	$877.74		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338181	BPO XEROX EQUIPMENT LEASE	$179.77		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338182	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338183	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338184	BPO PLOTTER MAINTENANCE	$20.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338185	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338186	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338187	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338188	BPO XEROX COPIER MAINTENANCE	$10.00		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338189	BPO XEROX EQUIPMENT LEASE	$119.48		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338190	BPO XEROX COPIER MAINTENANCE	$58.20		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338191	BPO XEROX COPIER MAINTENANCE	$24.03		
89625	12/26/2018	XEROX CORPORATION	Inv# 095338192	BPO SCANNER MAINTENANCE	$309.52		
89625	12/26/2018	XEROX CORPORATION	Inv# 095402835	BPO PLOTTER MAINTENANCE	$43.00		
	Total for Check:	89625				$2,393.89	$20,097.25
89626	12/26/2018	AB SCIEX LLC	Inv# 210112773	LABORATORY SUPPLIES	$2,030.09		
89626	12/26/2018	AB SCIEX LLC	Inv# 210112773	SHIPPING AND HANDLING	$59.92		
89626	12/26/2018	AB SCIEX LLC	Inv# 210112859	LABORATORY SUPPLIES	$2,436.00		
89626	12/26/2018	AB SCIEX LLC	Inv# 210112859	LABORATORY SUPPLIES	$383.85		
89626	12/26/2018	AB SCIEX LLC	Inv# 210112859	SHIPPING AND HANDLING	$73.28		
89626	12/26/2018	AB SCIEX LLC	Inv# 210112860	LABORATORY SUPPLIES	$5,172.74		
89626	12/26/2018	AB SCIEX LLC	Inv# 210112860	SHIPPING AND HANDLING	$129.30		
	Total for Check:	89626				$10,285.18	$54,894.08

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89627	12/26/2018	ACE LAWN MOWER & SAW	Inv# 206817	BPO EQUIPMENT REPAIR	$56.27		
	Total for Check:	89627				$56.27	$1,081.60
89628	12/26/2018	ACT ENVIRO	Inv# 210173A	BPO WASTE DISPOSAL	$6,866.24		
	Total for Check:	89628				$6,866.24	$8,550.62
89629	12/26/2018	AGILENT TECHNOLOGIES, INC.	Inv# 507121	LABORATORY SUPPLIES	$98.53		
89629	12/26/2018	AGILENT TECHNOLOGIES, INC.	Inv# 507121	LABORATORY SUPPLIES	$96.89		
	Total for Check:	89629				$195.42	$2,880.16
89630	12/26/2018	AGILENT TECHNOLOGIES, INC.	Inv# 116219763	LABORATORY SUPPLIES	$901.63		
89630	12/26/2018	AGILENT TECHNOLOGIES, INC.	Inv# 116219763	LABORATORY SUPPLIES	$854.61		
89630	12/26/2018	AGILENT TECHNOLOGIES, INC.	Inv# 116219763	SHIPPING & HANDLING	$8.69		
	Total for Check:	89630				$1,764.93	$127,351.60
89631	12/26/2018	ALLEN TIRE COMPANY	Inv# 23-6469	Golf Cart Tires (RT-55)	$224.12		
89631	12/26/2018	ALLEN TIRE COMPANY	Inv# 23-6469	Golf Cart Tires (RT-55)	$7.54		
	Total for Check:	89631				$231.66	$2,438.10
89632	12/26/2018	AMERICAN WATER CHEMICAL, INC	Inv# 05-18965/01	11/27 40620 lbs antiscalant	$32,089.80		
	Total for Check:	89632				$32,089.80	$289,637.60
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0110196000DEC18	11/13-12/13KWH0	$28.57		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0110198000DEC18	11/13-12/13KWH710	$200.33		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0110199000DEC18	11/14-12/13KWH32700	$7,508.26		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0110452300DEC18	11/15-12/13hcf14	$210.55		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0110561300DEC18	11/15-12/13HCF297	$842.36		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0110562000DEC18	11/15-12/13KWH2805	$2,201.82		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0111128000DEC18	11/15-12/14KWH381	$245.45		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0118602000DEC18	11/15-12/13KWH6	$15.69		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0129051000DEC18	11/13-12/13KWH0	$15.60		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0137310300DEC18	11/15-12/14HCF2	$23.04		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0140776000DEC18	11/15-12/13KWH291	$48.59		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0145085300DEC18	11/15-12/13	$33.47		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0145086300DEC18	11/15-12/13HCF0	$16.91		
89634	12/26/2018	ANAHEIM, CITY OF	Inv# 0147092000DEC18	11/15-12/13KWH480	$105.30		
	Total for Check:	89634				$11,495.94	$119,031.92
89635	12/26/2018	ARAMARK UNIFORM SERVICES	Inv# 000533559576 CONTRACT	BUILDING SANITATION	$32.63		

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89635	12/26/2018	ARAMARK UNIFORM SERVICES	Inv# 533766526	BUILDING SANITATION CONTRACT	$32.63		
89635	12/26/2018	ARAMARK UNIFORM SERVICES	Inv# 533870116	UNIFORM SERVICES	$3.92		
89635	12/26/2018	ARAMARK UNIFORM SERVICES	Inv# 533870118	UNIFORM SERVICES	$150.99		
89635	12/26/2018	ARAMARK UNIFORM SERVICES	Inv# 533870119	UNIFORM SERVICES	$246.05		
89635	12/26/2018	ARAMARK UNIFORM SERVICES	Inv# 533870120	UNIFORM SERVICES	$197.44		
	Total for Check:	89635				$663.66	$25,667.73
89636	12/26/2018	AT & T	Inv# 714 632-9206DEC18	12/17-1/13	$326.40		
	Total for Check:	89636				$326.40	$21,415.05
89637	12/26/2018	AT & T	Inv# 714 632-1928DEC18	12/14-1/13	$134.01		
	Total for Check:	89637				$134.01	$21,415.05
89638	12/26/2018	Almario, Fernando	Inv# 10/20-11/19/18 STIPEND	10/20-11/19/18 phone stipend	$40.00		
	Total for Check:	89638				$40.00	$240.00
89639	12/26/2018	BATTERY SYSTEMS	Inv# 4680725		$97.31		
89639	12/26/2018	BATTERY SYSTEMS	Inv# 4680725 INV		$97.31		
89639	12/26/2018	BATTERY SYSTEMS	Inv# 4717226	CREDIT INV4680725- NO TAX	($97.31)		
89639	12/26/2018	BATTERY SYSTEMS	Inv# 4717226 REV		($97.31)		
89639	12/26/2018	BATTERY SYSTEMS	Inv# 4717237	BPO BATTERIES	$104.85		
89639	12/26/2018	BATTERY SYSTEMS	Inv# 4717237	BATTERY FEE	$1.00		
	Total for Check:	89639				$105.85	$1,862.78
89640	12/26/2018	BEARCOM	Inv# 4759833	Motorola Hand Held Radios	$4,404.27		
89640	12/26/2018	BEARCOM	Inv# 4759833	Motorola Hand Held Radios	$489.37		
89640	12/26/2018	BEARCOM	Inv# 4759833	SHIPPING & HANDLING	$66.14		
	Total for Check:	89640				$4,959.78	$6,386.81
89641	12/26/2018	BENRICH SERVICE COMPANY, INC.	Inv# MOC27301	WATER TREATMENT SERVICE	$135.00		
	Total for Check:	89641				$135.00	$1,550.94
89642	12/26/2018	BRENNTAG PACIFIC INC.	Inv# BPI288567	deposit credit(4)-ref#874123	($100.00)		
89642	12/26/2018	BRENNTAG PACIFIC INC.	Inv# BPI903287	SUPPLY CAUSTIC SODA	$8,161.63		
89642	12/26/2018	BRENNTAG PACIFIC INC.	Inv# BPI903287		($163.23)		
	Total for Check:	89642				$7,898.40	$479,004.68
89643	12/26/2018	BUTIER ENGINEERING, INC.	Inv# 020 OCWD1168	Nov18 const.mgmt/Cent.Park	$38,281.00		
	Total for Check:	89643				$38,281.00	$483,993.00
89644	12/26/2018	CARL MARKHAM SIGNS	Inv# 18-267	REPLACE PRADO SIGN	$1,826.36		

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	Total for Check:	89644				$1,826.36	$6,678.30
89645	12/26/2018	CARMENITA TRUCK CENTER	Inv# 33.50	BPO FORD PARTS	$33.50		
89645	12/26/2018	CARMENITA TRUCK CENTER	Inv# 68710	BPO FORD PARTS	$412.45		
89645	12/26/2018	CARMENITA TRUCK CENTER	Inv# 68772	BPO FORD PARTS	$30.17		
89645	12/26/2018	CARMENITA TRUCK CENTER	Inv# 68844	BPO FORD PARTS	$27.33		
	Total for Check:	89645				$503.45	$2,634.11
89646	12/26/2018	CDW-G	Inv# QFM2032	Creative Cloud for Ops	$398.82		
	Total for Check:	89646				$398.82	$20,885.36
89647	12/26/2018	CERIDIAN HCM, INC.	Inv# IN204925	Dec18 payroll svc	$4,214.26		
	Total for Check:	89647				$4,214.26	$25,961.94
89648	12/26/2018	CITIBANK NA-CCC Account	Inv# 03A FAC/LC FEE 10/1-1/2 #40784524	03A FAC/LC FEE,	$112,450.09		
	Total for Check:	89648				$112,450.09	$222,481.90
89649	12/26/2018	CITY OF ORANGE	Inv# 00030145DEC18	10/23-12/13USAGE0	$117.83		
89649	12/26/2018	CITY OF ORANGE	Inv# 00038354DEC18	10/23-12/13HCFusage64	$256.07		
	Total for Check:	89649				$373.90	$4,320.56
89650	12/26/2018	COLE-PARMER INSTRUMENT CO.	Inv# 1697526	R&D Supplies	$192.49		
89650	12/26/2018	COLE-PARMER INSTRUMENT CO.	Inv# 1697526	R&D Supplies	$28.82		
89650	12/26/2018	COLE-PARMER INSTRUMENT CO.	Inv# 1697526	FREIGHT	$18.25		
	Total for Check:	89650				$239.56	$1,273.57
89651	12/26/2018	CPI INTERNATIONAL	Inv# 20040748	LABORATORY SUPPLIES	$42.41		
89651	12/26/2018	CPI INTERNATIONAL	Inv# 20040748	DISCOUNT	($0.84)		
	Total for Check:	89651				$41.57	$2,047.39
89652	12/26/2018	DEPARTMENT OF TOXIC SUBSTANCES	Inv# 18SM3858	NORTH BASIN DTSC AGMT	$1,600.13		
	Total for Check:	89652				$1,600.13	$6,191.00
89653	12/26/2018	DIAMOND ENVIRONMENTAL SERVICES	Inv# 0001805992	BPO PORTA POTTY SERVICE	$249.70		
	Total for Check:	89653				$249.70	$1,730.58
89654	12/26/2018	ENS RESOURCES, INC.	Inv# 2341	Nov18 legis.support/D.C.	$7,500.00		
	Total for Check:	89654				$7,500.00	$46,226.92
89655	12/26/2018	EVANTEC LAB SUPPLY	Inv# 185176	LABORATORY SUPPLIES	$86.79		
89655	12/26/2018	EVANTEC LAB SUPPLY	Inv# 185176	HAZMAT FEE	$32.50		

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89655	12/26/2018	EVANTEC LAB SUPPLY	Inv# 185176	SHIPPING	$12.92		
89655	12/26/2018	EVANTEC LAB SUPPLY	Inv# 185176	DISCOUNT	($1.32)		
	Total for Check:	89655				$130.89	$1,265.81
89656	12/26/2018	FOUNTAIN VALLEY, CITY OF	Inv# 8157-238000DEC18	10/21-12/16usage187	$492.60		
89656	12/26/2018	FOUNTAIN VALLEY, CITY OF	Inv# 8157-238500DEC18	10/21-12/16usage80	$286.16		
89656	12/26/2018	FOUNTAIN VALLEY, CITY OF	Inv# 8166-100000DEC18	10/21-12/16usage2431	$2,567.06		
89656	12/26/2018	FOUNTAIN VALLEY, CITY OF	Inv# 8166-300500DEC18	10/21-12/16USAGE26357	$7,122.88		
	Total for Check:	89656				$10,468.70	$37,489.39
89657	12/26/2018	FRONTIER COMMUNICATIONS	Inv# 209-150-2229DEC18	12/16-1/15	$85.39		
	Total for Check:	89657				$85.39	$21,748.12
89658	12/26/2018	GEOTECH ENVIRONMENTAL EQUIPMENT, INC.	Inv# 573782	SAMPLE PUMPS FOR MONITOR WELLS	$6,982.20		
89658	12/26/2018	GEOTECH ENVIRONMENTAL EQUIPMENT, INC.	Inv# 573782	SAMPLE PUMPS FOR MONITOR WELLS	$5,074.90		
89658	12/26/2018	GEOTECH ENVIRONMENTAL EQUIPMENT, INC.	Inv# 573782	SAMPLE PUMPS FOR MONITOR WELLS	$2,648.06		
89658	12/26/2018	GEOTECH ENVIRONMENTAL EQUIPMENT, INC.	Inv# 573782	Shipping/Handling	$417.71		
89658	12/26/2018	GEOTECH ENVIRONMENTAL EQUIPMENT, INC.	Inv# 573782	SAMPLE PUMPS FOR MONITOR WELLS	$200.63		
89658	12/26/2018	GEOTECH ENVIRONMENTAL EQUIPMENT, INC.	Inv# 573782	Discount	($138.34)		
	Total for Check:	89658				$15,185.16	$19,419.01
89660	12/26/2018	GRAINGER INC.	Inv# 9002562370	OPERATING SUPPLIES	$84.31		
89660	12/26/2018	GRAINGER INC.	Inv# 9004833159	Genie Kit GEN 5 Coil Cord	$147.01		
89660	12/26/2018	GRAINGER INC.	Inv# 9005373338	BPO INDUSTRIAL SUPPLIES	$10.24		
89660	12/26/2018	GRAINGER INC.	Inv# 9005507711	Generated by reorder 11/14/18	$91.35		
89660	12/26/2018	GRAINGER INC.	Inv# 9005507711	Generated by reorder 11/14/18	$67.54		
89660	12/26/2018	GRAINGER INC.	Inv# 9005627519	BPO INDUSTRIAL SUPPLIES	$242.52		
89660	12/26/2018	GRAINGER INC.	Inv# 9005958450	Generated by reorder 11/14/18	$135.77		
89660	12/26/2018	GRAINGER INC.	Inv# 9007522049	Motors for Admin Building Fans	$345.87		
89660	12/26/2018	GRAINGER INC.	Inv# 9007794465	Pressure Regulators	$172.39		
89660	12/26/2018	GRAINGER INC.	Inv# 9007794473	Safet;y Harness	$442.30		
89660	12/26/2018	GRAINGER INC.	Inv# 9007794473	Safet;y Harness	$169.13		

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89660	12/26/2018	GRAINGER INC.	Inv# 9007794473	Safet;y Harness	$4.03		
89660	12/26/2018	GRAINGER INC.	Inv# 9925194244	BPO INDUSTRIAL SUPPLIES	$370.74		
89660	12/26/2018	GRAINGER INC.	Inv# 9007794465	Pressure Regulators	$172.39		
	Total for Check:	89660				$2,455.59	$66,346.89
89661	12/26/2018	GREEN THUMB, LLC	Inv# 20182092	BPO INDOOR PLANT CARE	$265.66		
89661	12/26/2018	GREEN THUMB, LLC	Inv# 20182092	BPO INDOOR PLANT CARE	$93.34		
	Total for Check:	89661				$359.00	$2,154.00
89662	12/26/2018	GROUNDWATER RESOURCES ASSOC.	Inv# 8296	Webcast 1/19/19	$75.00		
	Total for Check:	89662				$75.00	$800.00
89663	12/26/2018	HABITAT WEST	Inv# 89424 WO#4	Nov18 wo#4 Burris Basin,Boat	$15,327.38		
	Total for Check:	89663				$15,327.38	$102,361.14
89664	12/26/2018	HACH COMPANY	Inv# 11242101	LABORATORY SUPPLIES	$33.49		
89664	12/26/2018	HACH COMPANY	Inv# 11242101	Freight	$13.04		
	Total for Check:	89664				$46.53	$17,036.68
89665	12/26/2018	HDR ENGINEERING, INC.	Inv# 1200158631	10/28-11/24 Prado Basin SMDP	$1,418.08		
	Total for Check:	89665				$1,418.08	$1,418.08
89666	12/26/2018	HOPKINS TECHNICAL PRODUCTS,	Inv# 3618301293	Generated by reorder 11/19/18	$354.53		
89666	12/26/2018	HOPKINS TECHNICAL PRODUCTS,	Inv# 3618301293		$15.11		
	Total for Check:	89666				$369.64	$369.64
89667	12/26/2018	INSTITUTE FOR ENVIRONMENTAL HEALTH INC	Inv# 181985	MS-2 & SOM Coliphage Analysis	$250.00		
89667	12/26/2018	INSTITUTE FOR ENVIRONMENTAL HEALTH INC	Inv# 181985	MS-2 & SOM Coliphage Analysis	$65.00		
89667	12/26/2018	INSTITUTE FOR ENVIRONMENTAL HEALTH INC	Inv# 182043	BPO FOR WQ ANALYSES	$360.00		
	Total for Check:	89667				$675.00	$4,460.00
89668	12/26/2018	INTEGRATED MEDIA SYSTEMS	Inv# 45760	RF TRANSMITTER	$516.56		
89668	12/26/2018	INTEGRATED MEDIA SYSTEMS	Inv# 45760	RF TRANSMITTER	$75.00		
	Total for Check:	89668				$591.56	$30,747.03
89669	12/26/2018	IRVINE PIPE & SUPPLY	Inv# 899571	BPO PIPE & SUPPLIES	$142.35		
89669	12/26/2018	IRVINE PIPE & SUPPLY	Inv# 899571	Discount	($2.85)		
	Total for Check:	89669				$139.50	$22,953.89
89670	12/26/2018	ISDOC	Inv# MEMBERSHIP2019	ISDOC Membrshp 2019	$50.00		

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	Total for Check:	89670				$50.00	$67.00
89671	12/26/2018	JiG CONSULTANTS	Inv# 1201	11/5-12/2 Talbert Seawtr.Intru	$17,295.00		
	Total for Check:	89671				$17,295.00	$32,126.19
89672	12/26/2018	KELLY SERVICES	Inv# 27012613	TempLabor1038	$1,056.00		
89672	12/26/2018	KELLY SERVICES	Inv# 28019677	TempLabor1038	$1,320.00		
89672	12/26/2018	KELLY SERVICES	Inv# 39023765	TempLabor1038	$1,320.00		
	Total for Check:	89672				$3,696.00	$25,674.00
89673	12/26/2018	KONICA MINOLTA BUSINESS SOLUTIONS USA IN	Inv# 255549921	COPY CHARGES	$16.85		
	Total for Check:	89673				$16.85	$149.40
89674	12/26/2018	Kalinowski, James J.	Inv# 11/9-12/8/18 STIPEND	11/9-12/8/18 phone stipend	$40.00		
89674	12/26/2018	Kalinowski, James J.	Inv# 12/11/18 TRAVEL w/Rechar	12/11 Anaheim Meeting	$20.17		
89674	12/26/2018	Kalinowski, James J.	Inv# 12/18/18 TRAVEL w/Rechar	12/18 Anaheim Meeting	$20.17		
	Total for Check:	89674				$80.34	$790.14
89675	12/26/2018	Kathryn Demesa	Inv# 11/23-12/22/18 STIPEND	11/23-12/22/18 phone stipend	$40.00		
	Total for Check:	89675				$40.00	$1,025.74
89676	12/26/2018	LAYNE CHRISTENSEN COMPANY	Inv# 92093911	Prog.Pmt#6 (TAL-2018-1)	$36,479.52		
	Total for Check:	89676				$36,479.52	$291,315.60
89677	12/26/2018	LHOIST NORTH AMERICA	Inv# 1180236268A	11/20 25.14 tons lime	$5,958.18		
89677	12/26/2018	LHOIST NORTH AMERICA	Inv# 1180236268B	11/25 25.29 tons lime	$5,993.73		
89677	12/26/2018	LHOIST NORTH AMERICA	Inv# 1180237179	11/27 24.77 tons lime	$5,870.49		
89677	12/26/2018	LHOIST NORTH AMERICA	Inv# 1180237180	11/29 24.66 tons lime	$5,844.42		
	Total for Check:	89677				$23,666.82	$378,763.93
89678	12/26/2018	LIFECOM	Inv# 2084212-IN	SCBA Repair	$113.14		
89678	12/26/2018	LIFECOM	Inv# 2084212-IN	SCBA Repair	$37.50		
	Total for Check:	89678				$150.64	$150.64
89679	12/26/2018	LUCCI'S DELI BAKERY	Inv# 12898COMLEG	BPO FOR LUCCI'S	$94.50		
89679	12/26/2018	LUCCI'S DELI BAKERY	Inv# 12898COMLEG	DELIVERY	$20.00		
89679	12/26/2018	LUCCI'S DELI BAKERY	Inv# 12900 WACO	BPO FOR LUCCI'S	$405.00		
89679	12/26/2018	LUCCI'S DELI BAKERY	Inv# 12900 WACO	Delivery	$20.00		
89679	12/26/2018	LUCCI'S DELI BAKERY	Inv# 12903WIC	BPO FOR LUCCI'S	$94.50		

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89679	12/26/2018	LUCCI'S DELI BAKERY	Inv# 12903WIC	DELIVERY	$20.00		
	Total for Check:	89679				$654.00	$5,165.25
89680	12/26/2018	MAKAI SOLUTIONS	Inv# 2228	REPAIR ROTARY LIFT JACK	$1,586.97		
89680	12/26/2018	MAKAI SOLUTIONS	Inv# 2228	REPAIR ROTARY LIFT JACK	$1,187.85		
	Total for Check:	89680				$2,774.82	$2,774.82
89681	12/26/2018	MARTIN REINHARD	Inv# NOVEMBER 21, 2018	Professional Services	$6,000.00		
	Total for Check:	89681				$6,000.00	$6,000.00
89682	12/26/2018	MCFADDEN-DALE HARDWARE CO.	Inv# 354432/5	BPO INDUSTRIAL SUPPLIES	$49.78		
89682	12/26/2018	MCFADDEN-DALE HARDWARE CO.	Inv# 354432/5	Discount	($1.39)		
	Total for Check:	89682				$48.39	$3,642.62
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	OPERATING SUPPLIES	$47.25		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	OPERATING SUPPLIES	$22.32		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	Shipping	$20.52		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	OPERATING SUPPLIES	$16.96		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	OPERATING SUPPLIES	$15.67		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	OPERATING SUPPLIES	$14.71		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	OPERATING SUPPLIES	$12.92		
89683	12/26/2018	MCMASTER-CARR SUPPLY COMPANY	Inv# 81978376	Discount	($2.60)		
	Total for Check:	89683				$147.75	$19,088.92
89684	12/26/2018	MCR TECHNOLOGIES, INC.	Inv# 37680	MCR KPSI 720 Pressuer Level	$804.75		
89684	12/26/2018	MCR TECHNOLOGIES, INC.	Inv# 37680	Shipping/Handling/Insurance	$31.27		
	Total for Check:	89684				$836.02	$1,810.78
89685	12/26/2018	MOTION INDUSTRIES, INC.	Inv# CA11-691628	Generated by reorder 10/30/18	$1,879.72		
89685	12/26/2018	MOTION INDUSTRIES, INC.	Inv# CA11-691628	Discount	($17.28)		
89685	12/26/2018	MOTION INDUSTRIES, INC.	Inv# CA11-691628	Freight	$62.13		
	Total for Check:	89685				$1,924.57	$3,078.35
89686	12/26/2018	Markus, Michael R.	Inv# 10/8/18 TRAVEL	10/8 SACTO State Brd/CALEPA	$62.50		

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89686	12/26/2018	Markus, Michael R.	Inv# 12/6-7/18 TRAVEL Resea	12/6-7 Houston, TX Water	$610.33		
89686	12/26/2018	Markus, Michael R.	Inv# 9/20/18 TRAVEL	9/20 Los Angeles AWWA Roundta	$10.00		
	Total for Check:	89686				$682.83	$8,936.77
89687	12/26/2018	NEW LINE FIRE	Inv# 11292018-01	New Line Fire State Elwevator	$212.50		
	Total for Check:	89687				$212.50	$212.50
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2606107	11/26 4812 gal s.hypochlorite	$3,315.47		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2606108	11/26 4718 gal s.hypochlorite	$3,250.70		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2606109	11/26 4906 gal s.hypochlorite	$3,380.23		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2606865	11/27 4964 gal s.hypochlorite	$3,420.20		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2606866	11/27 4974 gal s.hypochlorite	$3,427.09		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2606867	11/27 4904 gal s.hypochlorite	$3,378.86		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2607553	11/28 4808 gal s.hypochlorite	$3,312.71		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2608222	11/29 4960 gal s.hypochlorite	$3,417.44		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2608223	11/29 4960 gal s.hypochlorite	$3,417.44		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2608868	11/30 4924 gal s.hypochlorite	$3,392.64		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2608869	11/30 4910 gal s.hypochlorite	$3,382.99		
89689	12/26/2018	OLIN CHLOR ALKALI PRODUCTS	Inv# 2608870	11/30 4958 gal s.hypochlorite	$3,416.06		
	Total for Check:	89689				$40,511.83	$969,316.39
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S5985147.001	Generated by reorder 12/17/18	$282.71		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S5985147.001	Discount	($2.60)		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6025382.001	1606-XLP30B Power Supply	$414.99		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6025382.001	S&H	$9.24		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6025382.001	Discount	($3.82)		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6030029.001	Generated by reorder 12/12/18	$393.59		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6030029.001	S&H	$9.24		
89690	12/26/2018	ONESOURCE DISTRIBUTORS INC.	Inv# S6030029.001	Discount	($3.62)		
	Total for Check:	89690				$1,099.73	$83,475.37
89691	12/26/2018	ORANGE COUNTY CONSERVATION CORPS	Inv# 12012018-OCWDADOPT removal	Nov18 graffiti/trash	$1,547.00		
89691	12/26/2018	ORANGE COUNTY CONSERVATION CORPS	Inv# 12012018-OCWDADOPT removal	Nov18 graffiti/trash	$1.00		
	Total for Check:	89691				$1,548.00	$9,288.00

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89692	12/26/2018	ORANGE COUNTY EMPLOYEE ASSOCIATION	Inv# DECEMBER 2018	OCEADues Dec2018	$2,841.30		
Total for Check:		89692				$2,841.30	$18,979.86
89693	12/26/2018	PARTS R US	Inv# 744	TL-38 Track Rollers	$904.78		
Total for Check:		89693				$904.78	$6,627.39
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-1.	ShipleyPondGauge BRN	$23.66		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-10	MaintSupplies REP	$20.45		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-11	UCI Parking 11/1,8 JANA	$20.00		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-12	CarWashTip A72 TBA	$2.00		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-13	Maint.Supplies GDL	$37.55		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-14	SchoolPresentation CN	$58.28		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-15	TrailerHitch JMJ	$43.46		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-16	CarWashTip A76 TBA	$2.00		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-17	SafetyReviewTeam PAB	$50.75		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-18	BarrierSupplies WesH	$27.73		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-19	Keys,Lockout/Tagout GDL	$5.98		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-2	Fasteners WesH	$9.16		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-20	1stAidTraining BL	$22.98		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-21	1stAidTraining BL	$22.98		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-22	Keys MRD	$12.93		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-23	CarWashTip A74 ALE	$2.00		

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89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-3	SupervisorTrain.Mtg PAB	$19.87		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-4	GWATourBusDriverTip CN	$150.00		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-5	CarWashTip A74 TJP	$2.00		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-6	CarWashTipA75 ALE	$2.00		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-7	ConfRoomControlApp CMF	$99.99		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-8	ForkLiftClass BL	$33.97		
89696	12/26/2018	PIKE, DONNA R./PETTY CASH CUSTODIAN	Inv# OCT.12-DEC.10,18-9	ForkLiftClass BL	$33.97		
	Total for Check:	89696				$703.71	$3,393.77
89697	12/26/2018	POLYDYNE INC.	Inv# 1305254	PLANT CHEMICAL	$2,401.20		
	Total for Check:	89697				$2,401.20	$14,407.20
89698	12/26/2018	PRUDENTIAL RETIREMENT SERVICE	Inv# NOVEMBER 29, 2018	Expense acct pymt 7/1-9/30	$115.48		
	Total for Check:	89698				$115.48	$3,015,038.34
89699	12/26/2018	QUINN COMPANY	Inv# PC830366987	BPO EQUIPMENT & SUPPLIES	$232.09		
89699	12/26/2018	QUINN COMPANY	Inv# PC830366988	BPO EQUIPMENT & SUPPLIES	$1,500.00		
89699	12/26/2018	QUINN COMPANY	Inv# PC830367062	BPO EQUIPMENT & SUPPLIES	$216.74		
89699	12/26/2018	QUINN COMPANY	Inv# PCA00092470	BPO EQUIPMENT & SUPPLIES	$464.08		
89699	12/26/2018	QUINN COMPANY	Inv# PC830366989	BPO EQUIPMENT & SUPPLIES	$254.94		
	Total for Check:	89699				$2,667.85	$4,777.55
89700	12/26/2018	RED WING SHOE STORE	Inv# 20181129022395	BPO FOR RED WING	$200.00		
	Total for Check:	89700				$200.00	$6,920.80
89701	12/26/2018	RESILIENT COMMUNICATIONS INC	Inv# 802230	Smartnet Renewal	$4,752.00		
89701	12/26/2018	RESILIENT COMMUNICATIONS INC	Inv# 802230	Smartnet Renewal	$4,002.44		
89701	12/26/2018	RESILIENT COMMUNICATIONS INC	Inv# 802230	Smartnet Renewal	$2,849.00		
	Total for Check:	89701				$11,603.44	$48,456.34
89702	12/26/2018	RESTEK CORPORATION	Inv# 1611164	SUPPLIES	$143.61		
89702	12/26/2018	RESTEK CORPORATION	Inv# 1611164	SUPPLIES	$143.61		
89702	12/26/2018	RESTEK CORPORATION	Inv# 1611164	FREIGHT/HANDLING FEE	$4.33		

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89702	12/26/2018	RESTEK CORPORATION	Inv# 1611164	DISCOUNT	($5.83)		
	Total for Check:	89702				$285.72	$8,864.81
89703	12/26/2018	Rowe, Kelly	Inv# IPAD REIMBURSEMENT FY19	reimb/on-line Board Agenda	$702.00		
	Total for Check:	89703				$702.00	$702.00
89704	12/26/2018	SAGECREST PLANNING AND ENVIRONMENTAL	Inv# 1270 WO#18	Nov18 wo#18 monitor.well@OCC	$7,800.00		
	Total for Check:	89704				$7,800.00	$45,372.95
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$922.07		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$562.34		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$556.97		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$408.45		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$311.11		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$185.18		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$152.22		
89705	12/26/2018	SC FUELS	Inv# 0052010	BPO UNLEADED FUEL FOR VEHICLES	$124.76		
89705	12/26/2018	SC FUELS	Inv# 331715A-IN	BPO BULK RED DIESEL FUEL	$1,962.60		
89705	12/26/2018	SC FUELS	Inv# 331715A-IN	DISCOUNT	($18.17)		
	Total for Check:	89705				$5,167.53	$88,068.22
89706	12/26/2018	SCOTT A. SOMMER, ESQ.	Inv# TAKATA 289 (NOV18)	Nov18 NBGPP NCP compliance	$1,050.00		
	Total for Check:	89706				$1,050.00	$1,050.00
89707	12/26/2018	SEAL ANALYTICAL	Inv# 38668	LABORATORY SUPPLIES	$44.04		
89707	12/26/2018	SEAL ANALYTICAL	Inv# 38668	SHIPPING	$14.45		
	Total for Check:	89707				$58.49	$5,145.59
89708	12/26/2018	SECURITAS SECURITY SERVICES USA, INC.	Inv# W6259549	Nov18 security guard service	$6,458.72		
	Total for Check:	89708				$6,458.72	$39,518.34
89709	12/26/2018	SIERRA SPRINGS/DS WATERS	Inv# 507-6 O.C.W.D 11/27 SERVICE	BPO BOTTLED WATER	$117.00		
	Total for Check:	89709				$117.00	$963.50
89710	12/26/2018	SITEONE LANDSCAPE SUPPLY	Inv# 88316960-001	BPO LANDSCAPE SUPPLIES	$256.45		
89710	12/26/2018	SITEONE LANDSCAPE SUPPLY	Inv# 88316960-001	DISCOUNT	($4.76)		
	Total for Check:	89710				$251.69	$926.97

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89711	12/26/2018	SOLTIS AND COMPANY, INC.	Inv# 116151	DEC 2018 LANDSCAPE MAINTENANCE	$3,000.00		
89711	12/26/2018	SOLTIS AND COMPANY, INC.	Inv# 116152	LANDSCAPE FIELD HQ DEC2018	$4,503.00		
	Total for Check:	89711				$7,503.00	$48,257.40
89712	12/26/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-021-9405-46DEC18	11/8-12/11KWH3923	$3,800.27		
89712	12/26/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-027-0770-76DEC18	11/15-12/17KWH3008	$353.49		
89712	12/26/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-033-3618-73DEC18	11/19-12/20KWH200	$53.15		
89712	12/26/2018	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-043-7407-25DEC18	11/19-12/20KWH1452	$4,772.65		
	Total for Check:	89712				$8,979.56	$2,873,871.99
89713	12/26/2018	SOUTHERN CALIFORNIA SALINITY COALITION	Inv# 2018-1863	FY18-19 Southern Cal Salinity	$10,000.00		
	Total for Check:	89713				$10,000.00	$10,000.00
89714	12/26/2018	SPARKLETTS	Inv# 4076005 111518	BPO BOTTLED WATER	$628.76		
89714	12/26/2018	SPARKLETTS	Inv# 4076005 111518	BPO BOTTLED WATER	$272.83		
89714	12/26/2018	SPARKLETTS	Inv# 4076005 111518	BPO BOTTLED WATER	$95.32		
89714	12/26/2018	SPARKLETTS	Inv# 6144555 113018	BPO BOTTLED WATER	$10.00		
	Total for Check:	89714				$1,006.91	$4,622.28
89715	12/26/2018	STAPLES	Inv# 3396959553	Generated by reorder 11/7/18 2	$156.58		
89715	12/26/2018	STAPLES	Inv# 3397668585	Generated by reorder 11/28/18	$336.00		
89715	12/26/2018	STAPLES	Inv# 3398148164	OFFICE SUPPLIES	$72.19		
89715	12/26/2018	STAPLES	Inv# 3398148164	OFFICE SUPPLIES	$32.31		
89715	12/26/2018	STAPLES	Inv# 3398148164	OFFICE SUPPLIES	$19.35		
89715	12/26/2018	STAPLES	Inv# 3398148164	OFFICE SUPPLIES	$12.70		
	Total for Check:	89715				$629.13	$23,399.81
89716	12/26/2018	THE GROUNDWATER FOUNDATION	Inv# MEMBERSHIP2019	M.Markus	$100.00		
	Total for Check:	89716				$100.00	$100.00
89717	12/26/2018	THE REGENTS OF UNIVERSITY OF CALIFORNIA	Inv# 8782CA0011	STUDY SCOPE 10/01-10/31/18	$26,906.19		
	Total for Check:	89717				$26,906.19	$136,343.27
89718	12/26/2018	TROPICAL PLAZA NURSERY, INC.	Inv# M59866	ANNUAL LANDSCAPE MAINT	$3,398.01		
	Total for Check:	89718				$3,398.01	$26,172.63

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89719	12/26/2018	TRUCPARCO	Inv# 411623	BPO TRUCK PARTS	$38.66		
89719	12/26/2018	TRUCPARCO	Inv# 411623	Fuel Surcharge	$1.08		
89719	12/26/2018	TRUCPARCO	Inv# 411655	BPO TRUCK PARTS	$17.04		
89719	12/26/2018	TRUCPARCO	Inv# 411655	FUEL SURCHARGE	$1.07		
89719	12/26/2018	TRUCPARCO	Inv# 411778	BPO TRUCK PARTS	$41.27		
89719	12/26/2018	TRUCPARCO	Inv# 411778	FUEL SURCHARGE	$1.08		
	Total for Check:	89719				$100.20	$4,606.38
89720	12/26/2018	U-LINE	Inv# 103680422	MAILING TUBES	$237.07		
89720	12/26/2018	U-LINE	Inv# 103680422	FREIGHT	$51.79		
	Total for Check:	89720				$288.86	$9,580.28
89721	12/26/2018	UNDERGROUND SERVICE ALERT	Inv# 1120180478	NEW TICKET CHARGES	$755.80		
	Total for Check:	89721				$755.80	$5,282.25
89722	12/26/2018	UNION BANK	Inv# 1127479		$1,093.67		
	Total for Check:	89722				$1,093.67	$12,786.69
89723	12/26/2018	UNITED PARCEL SERVICE INC	Inv# 0000X81601508	UPS	$25.71		
	Total for Check:	89723				$25.71	$1,489.94
89724	12/26/2018	UNIVAR USA	Inv# LA692401	BPO SODIUM BISULFITE 25%	$1,037.48		
89724	12/26/2018	UNIVAR USA	Inv# LA692401		($19.08)		
	Total for Check:	89724				$1,018.40	$135,976.33
89725	12/26/2018	UNIVERSAL BACKGROUND SCREENING INC	Inv# 201811008258	BPO BACKGROUND CHECK	$239.80		
	Total for Check:	89725				$239.80	$1,633.85
89726	12/26/2018	UTILIQUEST LLC	Inv# 269760-Q 9908	11/18-24 screen/mark pipes	$51.60		
89726	12/26/2018	UTILIQUEST LLC	Inv# 269760-Q 9911	11/18-24 screen/mark pipes	$721.67		
89726	12/26/2018	UTILIQUEST LLC	Inv# 269760-Q 9922	11/18-24 screen/mark pipes	$420.97		
89726	12/26/2018	UTILIQUEST LLC	Inv# 269760-Q 9932	11/18-24 screen/mark pipes	$8.54		
	Total for Check:	89726				$1,202.78	$52,591.15
89727	12/26/2018	VERIZON WIRELESS	Inv# 9820486983	11/17-12/16	$3,340.08		
	Total for Check:	89727				$3,340.08	$19,252.58
89728	12/26/2018	VICTAULIC BERMAD TECHNOLOGIES	Inv# 65506926	2" Throttling V-Port	$3,888.00		
89728	12/26/2018	VICTAULIC BERMAD TECHNOLOGIES	Inv# 65506926	SHIPPING & HANDLING	$18.97		

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	Total for Check:	89728				$3,906.97	$4,259.57
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084665139	LABORATORY SUPPLIES	$125.67		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084665139	LABORATORY SUPPLIES	$101.04		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084665139	LABORATORY SUPPLIES	$84.37		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084665139	DISCOUNT	($3.11)		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084687265	Generated by reorder 12/7/18 2	$19.14		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084687265	DISCOUNT	($0.19)		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084687266	LABORATORY SUPPLIES	$95.07		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084687266	DISCOUNT	($0.95)		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084697468	Generated by reorder 12/7/18 2	$518.25		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084697468	Generated by reorder 12/7/18 2	$133.97		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084697468	Generated by reorder 12/7/18 2	$121.13		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084697468	Generated by reorder 12/7/18 2	$106.93		
89730	12/26/2018	VWR INTERNATIONAL, INC.	Inv# 8084697468	DISCOUNT	($8.80)		
	Total for Check:	89730				$1,292.52	$62,946.66
89731	12/26/2018	WALTERS WHOLESALE ELECTRIC COMPANY	Inv# S112006751.001	BPO ELECTRONIC SUPPLIES	$208.95		
89731	12/26/2018	WALTERS WHOLESALE ELECTRIC COMPANY	Inv# S112006751.001	DISCOUNT	($3.87)		
	Total for Check:	89731				$205.08	$3,844.10
89732	12/26/2018	WATERS CORPORATION	Inv# 230082998	LABORATORY SUPPLIES	$5,813.78		
89732	12/26/2018	WATERS CORPORATION	Inv# 230082998	FREIGHT	$59.09		
89732	12/26/2018	WATERS CORPORATION	Inv# 230084675	LABORATORY SUPPLIES	$125.06		
89732	12/26/2018	WATERS CORPORATION	Inv# 230084675	freight	$18.56		
	Total for Check:	89732				$6,016.49	$18,387.94
89733	12/26/2018	WESTERN EXTERMINATOR COMPANY	Inv# 6633184	PEST & RODENT CONTROL NOV18	$398.00		
	Total for Check:	89733				$398.00	$2,786.00
976669	12/20/2018	U.S. BANK N.A. MINNESOTA-PARS	Inv# PARS Q2 OCT-DEC2018 Oct-Dec18	OPEB Contrib. Q2	$325,983.00		
	Total for Check:	976669				$325,983.00	$651,966.00
976670	12/20/2018	CALIFORNIA DEPARTMENT OF TAX & FEE ADMIN	Inv# 24792532 Q4 PP#2	UseTax Q4 PP#2	$1,959.00		
	Total for Check:	976670				$1,959.00	$15,405.00

Orange County Water District

Check Register

Begin Date: 12/20/2018 **End Date:** 12/26/2018

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
979670	12/20/2018	CALIFORNIA DEPARTMENT OF TAX & FEE ADMIN	Inv# 24792532 Q4 PP#2	UseTax Q4 PP#2	$1,959.00		
979670	12/20/2018	CALIFORNIA DEPARTMENT OF TAX & FEE ADMIN	Inv# 24792532 Q4 PP#2	UseTax Q4 PP#2	($1,959.00)		
	Total for Check:	979670				$0.00	$15,405.00
Run Date:	***12/31/2018***				**$900,866.84**	**$900,866.84**	

Orange County Water District

Check Register

Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
802150	01/02/2019	ALTA FOODCRAFT	Inv# 51824061	GM Office	$526.06		
802150	01/02/2019	ALTA FOODCRAFT	Inv# 51824175	GM Office	$95.40		
	Total for Check:	802150				$621.46	$7,695.46
802151	01/02/2019	EUROFINS EATON ANALYTICAL INC	Inv# L0425769	BPO WATER SAMPLE ANALYSIS	$4,000.00		
	Total for Check:	802151				$4,000.00	$37,000.00
802152	01/02/2019	FEDERAL EXPRESS CORPORATION	Inv# 6-371-51245	Package Delivery	$354.63		
	Total for Check:	802152				$354.63	$10,833.08
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 2823691	LABORATORY SUPPLIES	$202.11		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 2823691	LABORATORY SUPPLIES	$30.45		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 2823691	SHIPPING-FUEL SURCHARGE	$4.95		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343185	LABORATORY SUPPLIES	$770.82		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343185	LABORATORY SUPPLIES	$497.21		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343185	LABORATORY SUPPLIES	$418.99		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343185	LABORATORY SUPPLIES	$268.41		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343185	LABORATORY SUPPLIES	$95.54		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343188	LABORATORY SUPPLIES	$84.80		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343188	LABORATORY SUPPLIES	$80.79		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 3343188	SHIPPING-FUEL SURCHARGE	$5.20		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 4013505	LABORATORY SUPPLIES	$27.62		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 4013507	LABORATORY SUPPLIES	$867.48		
802154	01/02/2019	FISHER SCIENTIFIC CO.	Inv# 4013507	LABORATORY SUPPLIES	$40.57		
	Total for Check:	802154				$3,394.94	$87,840.74
802155	01/02/2019	GOPHER PATROL	Inv# 319549	BPO PEST CONTROL	$185.00		
802155	01/02/2019	GOPHER PATROL	Inv# 320301	BPO PEST CONTROL	$525.00		
	Total for Check:	802155				$710.00	$4,760.00
802156	01/02/2019	SIGMA-ALDRICH INC.	Inv# 546449914	LABORATORY SUPPLIES	$3,572.44		
802156	01/02/2019	SIGMA-ALDRICH INC.	Inv# 546449914	TRANS/HANDLING	$17.10		
	Total for Check:	802156				$3,589.54	$16,520.37
802157	01/02/2019	WECK LABORATORIES, INC.	Inv# W8L0285-OCWD	BPO FOR WQ ANALYSES	$300.00		
802157	01/02/2019	WECK LABORATORIES, INC.	Inv# W8L0286-OCWD	BPO FOR WQ ANALYSES	$500.00		
802157	01/02/2019	WECK LABORATORIES, INC.	Inv# W8L0287-OCWD	BPO FOR WQ ANALYSES	$500.00		

Orange County Water District

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Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
Total for Check:	802157					$1,300.00	$15,019.50
802158	01/02/2019	WESTAIR GASES & EQUIPMENT	Inv# 10789199	Lab-nitrogen	$71.78		
802158	01/02/2019	WESTAIR GASES & EQUIPMENT	Inv# 10789199	freight	$29.91		
802158	01/02/2019	WESTAIR GASES & EQUIPMENT	Inv# 10789199	hazardous material	$10.76		
Total for Check:	802158					$112.45	$29,225.98
Run Date:	***1/3/2019***				**$14,083.02**	**$14,083.02**	

Orange County Water District

Check Register

Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89734	01/02/2019	AIRESPRING INC.	Inv# 1349549DEC18	12/1-12/31	$564.39		
	Total for Check:	89734				$564.39	$4,029.25
89735	01/02/2019	ACWA/JPIA	Inv# 0587619 JAN2019	HealthInsurance Jan2019	$437,006.36		
	Total for Check:	89735				$437,006.36	$3,000,833.55
89736	01/02/2019	AGILENT TECHNOLOGIES, INC.	Inv# 507286	LABORATORY SUPPLIES	$320.81		
89736	01/02/2019	AGILENT TECHNOLOGIES, INC.	Inv# 507393	LABORATORY SUPPLIES	$878.26		
89736	01/02/2019	AGILENT TECHNOLOGIES, INC.	Inv# 507393	LABORATORY SUPPLIES	$337.13		
	Total for Check:	89736				$1,536.20	$4,416.36
89737	01/02/2019	AGILENT TECHNOLOGIES, INC.	Inv# 116350926	SHIPPING AND HANDLING	$8.70		
	Total for Check:	89737				$8.70	$127,360.30
89738	01/02/2019	ALLEN TIRE COMPANY	Inv# 23-6265	RO: T-127 SMEAL TRUCK TIRES	$1,261.54		
89738	01/02/2019	ALLEN TIRE COMPANY	Inv# 23-6265	RO: T-127 SMEAL TRUCK TIRES	$240.00		
89738	01/02/2019	ALLEN TIRE COMPANY	Inv# 23-6265	RO: T-127 SMEAL TRUCK TIRES	$81.56		
89738	01/02/2019	ALLEN TIRE COMPANY	Inv# 23-6265	RO: T-127 SMEAL TRUCK TIRES	$28.93		
89738	01/02/2019	ALLEN TIRE COMPANY	Inv# 23-6265	RO: T-127 SMEAL TRUCK TIRES	$10.50		
89738	01/02/2019	ALLEN TIRE COMPANY	Inv# 23-6265	F.E.T REVERSAL	($26.64)		
	Total for Check:	89738				$1,595.89	$4,033.99
89739	01/02/2019	AMERICAN MEMBRANE TECHNOLOGY ASSOC.	Inv# 9690-008	INV#9690-008 J.SAFARIK	$800.00		
	Total for Check:	89739				$800.00	$1,625.00
89740	01/02/2019	ASBURY ENVIRONMENTAL SERVICES	Inv# I500-00394469	BPO USED OIL	$35.00		
	Total for Check:	89740				$35.00	$164.00
89741	01/02/2019	AT & T	Inv# 951 273-9586DEC18	12/20-1/19	$488.69		
	Total for Check:	89741				$488.69	$21,903.74
89742	01/02/2019	ATLAS COPCO COMPRESSORS, LLC	Inv# 205905	Generated by reorder 12/5/18 8	$1,272.70		
89742	01/02/2019	ATLAS COPCO COMPRESSORS, LLC	Inv# 205905	Shipping and Handling	$12.83		
	Total for Check:	89742				$1,285.53	$4,032.26
89743	01/02/2019	AVANTPAGE	Inv# IN-X-28002	TRANSLATION SERVICES	$60.00		
89743	01/02/2019	AVANTPAGE	Inv# IN-X-33765	TRANSLATION SERVICES	$316.60		
	Total for Check:	89743				$376.60	$376.60
89744	01/02/2019	BEKS ACQUISITION, INC. dba	Inv# 18-24235.4	Prog.Pmt#6 (GBM-2018-2)	$107,664.21		

Orange County Water District

Check Register

Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
Total for Check:	89744					$107,664.21	$557,035.97
89745	01/02/2019	BLACK & VEATCH	Inv# 1284477	Thru 11/23 GWRS F.Expansion de	$296,603.35		
89745	01/02/2019	BLACK & VEATCH	Inv# 1284477	Thru 11/23 GWRS F.Expansion de	$132,139.95		
Total for Check:	89745					$428,743.30	$3,635,743.90
89746	01/02/2019	BOOT BARN INC.	Inv# IVC0160462	BPO SAFETY SHOES	$886.74		
89746	01/02/2019	BOOT BARN INC.	Inv# IVC0160462	EMPLOYEE PAID/DISCOUNT	($15.49)		
Total for Check:	89746					$871.25	$2,818.13
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI904478	12/20 22.335 tons citric acid	$20,888.81		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI904478	Discount	($626.66)		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI904699	12/19 43700 lbs H.Peroxide	$9,504.75		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI904699	Discount	($285.14)		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI905110	12/21 12.3924 tons caustic sod	$8,220.80		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI905110	Discount	($164.42)		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI905235	12/26 43740 lbs H.Peroxide	$7,915.95		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI905235	12/26 43740 lbs H.Peroxide	$1,597.50		
89747	01/02/2019	BRENNTAG PACIFIC INC.	Inv# BPI905235	Discount	($285.40)		
Total for Check:	89747					$46,766.19	$525,770.87
89748	01/02/2019	CALGON CARBON CORPORATION	Inv# 90071514	BPO CARBON TRANSPORT	$483.75		
Total for Check:	89748					$483.75	$8,466.15
89749	01/02/2019	CALIFORNIA BARRICADE RENTALS, INC.	Inv# 60288	BPO TRAFFIC CONTROL SERVICE	$940.00		
Total for Check:	89749					$940.00	$5,640.00
89750	01/02/2019	CALTROL, INC	Inv# CD99063190	SS Mounting Kit for 2" Keyston	$978.75		
89750	01/02/2019	CALTROL, INC	Inv# CD99063190	Shipping and Handling	$26.69		
Total for Check:	89750					$1,005.44	$89,343.89
89751	01/02/2019	CDW-G	Inv# QFS3268	Port Replicator for M Markus	$240.54		
89751	01/02/2019	CDW-G	Inv# QGF7560	Creative Cloud for Alexander K	$398.82		
Total for Check:	89751					$639.36	$21,524.72
89752	01/02/2019	CITIGROUP GLOBAL MARKETS	Inv# 01AREMC152570088_20190101 FEE 10/01-1/1	03A REMKTG	$24,540.37		
89752	01/02/2019	CITIGROUP GLOBAL MARKETS	Inv# 01AREMC152920002_20190101 FEE, 10/01-01/01	CP (A) REMKT	$2,441.09		
89752	01/02/2019	CITIGROUP GLOBAL MARKETS	Inv# 01AREMC180920002_20190101 FEE 10/01-OVOI	CP(B) REMKT	$6,805.48		

Orange County Water District

Check Register

Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
	Total for Check:	89752				$33,786.94	$101,774.39
89753	01/02/2019	CITY OF HUNTINGTON BEACH	Inv# 5386189DEC18	11/21-12/24USAGE4	$36.87		
	Total for Check:	89753				$36.87	$235.38
89754	01/02/2019	CLARIS STRATEGY INC.	Inv# 13180100-06	Nov18 Emergency Response Plan	$3,260.00		
	Total for Check:	89754				$3,260.00	$33,780.00
89755	01/02/2019	COMMUNICATIONS SUPPLY CORP.	Inv# 356473	La Jolla UPS	$666.70		
89755	01/02/2019	COMMUNICATIONS SUPPLY CORP.	Inv# 356473	Trans Charged to Customer DS	$18.34		
	Total for Check:	89755				$685.04	$685.04
89756	01/02/2019	CONSTELLATION NEWENERGY INC.	Inv# 13683755901	11/1-12/4KWH13840380	$739,137.45		
89756	01/02/2019	CONSTELLATION NEWENERGY INC.	Inv# 13692486001	11/19-12/20KWH7680	$632.10		
	Total for Check:	89756				$739,769.55	$3,707,655.73
89757	01/02/2019	CONTECH SERVICES, INC.	Inv# 1812279	CONSTRUCTION SERVICES	$48,650.00		
	Total for Check:	89757				$48,650.00	$51,150.00
89758	01/02/2019	CORNER BAKERY CAFE	Inv# 760441	BPO CATERING SERVICES	$84.00		
89758	01/02/2019	CORNER BAKERY CAFE	Inv# 760441	DELIVERY FEE	$8.40		
89758	01/02/2019	CORNER BAKERY CAFE	Inv# 760441	GRATUITY	$6.00		
	Total for Check:	89758				$98.40	$1,151.93
89759	01/02/2019	DDB ENGINEERING, INC.	Inv# IN201850	10/27-11/30 GWRSFE permitting	$9,353.00		
	Total for Check:	89759				$9,353.00	$49,424.00
89760	01/02/2019	Dewane, Shawn	Inv# DECEMBER 2018 TRAVEL Meetings	Dec18 OCWD Various	$10.36		
89760	01/02/2019	Dewane, Shawn	Inv# NOVEMBER 2018 TRAVEL Meetings	Nov18 OCWD Various	$20.72		
	Total for Check:	89760				$31.08	$331.52
89761	01/02/2019	EDELSTEIN GILBERT ROBSON AND SMITH	Inv# 24	Nov18 legis.support/SACTO	$7,500.00		
	Total for Check:	89761				$7,500.00	$45,000.00
89762	01/02/2019	ESRI, INC.	Inv# 93559651	Renew ESRI SW Maintenance	$27,600.00		
	Total for Check:	89762				$27,600.00	$27,600.00
89763	01/02/2019	FAST START SAFETY, INC.	Inv# 18-969	CPR training	$846.00		
	Total for Check:	89763				$846.00	$846.00
89764	01/02/2019	FIRELINE BROADBAND	Inv# 55597	BPO Internet for Prado	$699.00		

Orange County Water District

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Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
	Total for Check:	89764				$699.00	$4,893.00
89765	01/02/2019	FRONTIER COMMUNICATIONS	Inv# 714-964-1492JAN19	12/28-1/27	$51.78		
	Total for Check:	89765				$51.78	$24,305.06
89766	01/02/2019	FRONTIER COMMUNICATIONS	Inv# 714-935-1308DEC18	12/22-1/21	$155.34		
	Total for Check:	89766				$155.34	$24,305.06
89767	01/02/2019	FRONTIER COMMUNICATIONS	Inv# 714-378-3200JAN19	12/28-1/27	$2,349.82		
	Total for Check:	89767				$2,349.82	$24,305.06
89768	01/02/2019	FRY'S ELECTRONICS	Inv# 22657719	BPO ELECTRONIC SUPPLIES	$65.21		
	Total for Check:	89768				$65.21	$1,107.09
89769	01/02/2019	GEOSCIENCE SUPPORT SERVICES, INC.	Inv# 13018-13-47	Nov18 Alamitos hydrogeo	$4,645.00		
	Total for Check:	89769				$4,645.00	$252,330.95
89770	01/02/2019	GEOTECHNICAL CONSULTANTS, INC.	Inv# 12213	10/27-11/30 Mid Basin SAR-12	$19,728.00		
89770	01/02/2019	GEOTECHNICAL CONSULTANTS, INC.	Inv# 12215	10/27-11/30 Sunset GAP Seawtr.	$39,710.90		
89770	01/02/2019	GEOTECHNICAL CONSULTANTS, INC.	Inv# 12215	10/27-11/30 Sunset GAP Seawtr.	$687.50		
	Total for Check:	89770				$60,126.40	$243,710.00
89772	01/02/2019	GRAINGER INC.	Inv# 9009700601	Air Compressor Filters, hose c	$144.57		
89772	01/02/2019	GRAINGER INC.	Inv# 9009700601	Air Compressor Filters, hose c	$41.47		
89772	01/02/2019	GRAINGER INC.	Inv# 9009700601	Air Compressor Filters, hose c	$26.32		
89772	01/02/2019	GRAINGER INC.	Inv# 9009700601	Air Compressor Filters, hose c	$24.60		
89772	01/02/2019	GRAINGER INC.	Inv# 9009700601	Air Compressor Filters, hose c	$24.32		
89772	01/02/2019	GRAINGER INC.	Inv# 9009700601	Air Compressor Filters, hose c	$18.89		
89772	01/02/2019	GRAINGER INC.	Inv# 9009783458	RO Pilot #1 Booster Pump	$783.87		
89772	01/02/2019	GRAINGER INC.	Inv# 9010334069	Generated by reorder 11/6/18 3	$181.50		
89772	01/02/2019	GRAINGER INC.	Inv# 9010935576	Generated by reorder 10/26/18	$1,632.55		
89772	01/02/2019	GRAINGER INC.	Inv# 9010935576	Generated by reorder 10/26/18	$240.13		
89772	01/02/2019	GRAINGER INC.	Inv# 9010935576	Generated by reorder 10/26/18	$150.85		
89772	01/02/2019	GRAINGER INC.	Inv# 9010935576	Generated by reorder 10/26/18	$122.56		
89772	01/02/2019	GRAINGER INC.	Inv# 9010935584	Generated by reorder 11/19/18	$235.56		
	Total for Check:	89772				$3,627.19	$69,974.08
89773	01/02/2019	HACH COMPANY	Inv# 11226223	Annual Hach particle counter f	$1,165.00		

Orange County Water District

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Begin Date: 12/27/2018 **End Date:** 01/02/2019

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89773	01/02/2019	HACH COMPANY	Inv# 11251074	Generated by reorder 11/6/18 3	$155.51		
89773	01/02/2019	HACH COMPANY	Inv# 11251074	Freight	$61.47		
	Total for Check:	89773				$1,381.98	$18,418.66
89774	01/02/2019	INDUSTRIAL METAL SUPPLY CO.	Inv# 2407366	Industrial Metal Supply Co. fo	$560.93		
	Total for Check:	89774				$560.93	$560.93
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$231.40		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$218.26		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$163.56		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$123.28		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$94.13		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$82.95		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$70.08		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$64.82		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$60.12		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$60.12		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$59.78		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$53.88		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$52.50		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$48.10		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$43.38		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$43.38		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$31.97		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$29.54		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	MF E08 Final Expansion CPVC Pa	$13.40		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899433	Discount	($30.89)		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899944	BPO PIPE & SUPPLIES	$139.93		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899944		$10.72		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899944	Discount	($3.01)		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899974	BPO PIPE & SUPPLIES	$15.49		
89777	01/02/2019	IRVINE PIPE & SUPPLY	Inv# 899974	Discount	($0.31)		
	Total for Check:	89777				$1,676.58	$24,630.47
89778	01/02/2019	LARSON O'BRIEN LLP	Inv# 4973 NBGPP NCP	Oct18 legal/NBGPP NCP	$424.60		

Orange County Water District

Check Register

Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
	Total for Check:	89778				$424.60	$10,739.21
89779	01/02/2019	LAWSON PRODUCTS, INC.	Inv# 9306367948	Generated by reorder 11/2/18 8	$168.80		
	Total for Check:	89779				$168.80	$168.80
89780	01/02/2019	LHOIST NORTH AMERICA	Inv# 1180237469	12/2 25.34 tons lime	$6,005.58		
89780	01/02/2019	LHOIST NORTH AMERICA	Inv# 1180237892A	12/4 25.11 tons lime	$5,951.07		
89780	01/02/2019	LHOIST NORTH AMERICA	Inv# 1180237892B	12/6 24.68 tons lime	$5,849.16		
	Total for Check:	89780				$17,805.81	$396,569.74
89781	01/02/2019	LUCCI'S DELI BAKERY	Inv# 12904ADM/FIN	BPO FOR LUCCI'S	$94.50		
89781	01/02/2019	LUCCI'S DELI BAKERY	Inv# 12904ADM/FIN	DELIVERY FEE	$20.00		
	Total for Check:	89781				$114.50	$5,279.75
89782	01/02/2019	MAILFINANCE	Inv# N7464769	RAE KRAUSE	$956.39		
	Total for Check:	89782				$956.39	$2,869.17
89783	01/02/2019	MATTHEW W BECKER PH.D	Inv# INV2018DEC4	Dr. Becker LaPalma FODTS Proj.	$600.00		
	Total for Check:	89783				$600.00	$600.00
89784	01/02/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82403428	Flow Meter for RO CIP Pump	$308.64		
89784	01/02/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82403428	Flow Meter for RO CIP Pump	$153.01		
89784	01/02/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82403428	Flow Meter for RO CIP Pump	$100.81		
89784	01/02/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82403428	Flow Meter for RO CIP Pump	$26.91		
89784	01/02/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82403428	Shipping	$22.14		
89784	01/02/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82403428	Discount	($11.79)		
	Total for Check:	89784				$599.72	$19,688.64
89785	01/02/2019	MESA VERDE COUNTRY CLUB	Inv# DEPOSIT 12/12/2019 HolidayLunchDeposit12/12/19		$1,000.00		
	Total for Check:	89785				$1,000.00	$9,764.48
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2609758	12/3 4882 gal s.hypochlorite	$3,363.70		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2609759	12/3 4956 gal s.hypochlorite	$3,414.68		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2609760	12/3 4958 gal s.hypochlorite	$3,416.06		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2610453	12/4 4952 gal s.hypochlorite	$3,411.93		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2610454	12/4 4204 gal s.hypochlorite	$2,896.56		

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89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2610455	12/4 4958 gal s.hypochlorite	$3,416.06		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2611385	12/6 4972 gal s.hypochlorite	$3,425.71		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2611386	12/6 4734 gal s.hypochlorite	$3,261.73		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2611387	12/6 5006 gal s.hypochlorite	$3,449.13		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2611926	12/7 4910 gal s.hypochlorite	$3,382.99		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2611927	12/7 4910 gal s.hypochlorite	$3,382.99		
89787	01/02/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2611928	12/7 4510 gal s.hypochlorite	$3,107.39		
	Total for Check:	89787				$39,928.93	$1,009,245.32
89788	01/02/2019	ONESOURCE DISTRIBUTORS INC.	Inv# S6028419.001	Generated by reorder 12/21/18	$84.32		
89788	01/02/2019	ONESOURCE DISTRIBUTORS INC.	Inv# S6028419.001	S&H	$9.25		
89788	01/02/2019	ONESOURCE DISTRIBUTORS INC.	Inv# S6028419.001	Discount	($0.78)		
	Total for Check:	89788				$92.79	$83,568.16
89789	01/02/2019	ORACLE AMERICA INC	Inv# 44115068	Renew Oracle Crystal Ball Supp	$69.51		
	Total for Check:	89789				$69.51	$39,906.14
89790	01/02/2019	ORANGE COUNTY TRANSPORTATION AUTHORITY	Inv# OCTA UA216010	PipelineReloctnSpencerFV	$122,684.00		
	Total for Check:	89790				$122,684.00	$122,684.00
89791	01/02/2019	ORANGE COUNTY TREASURER-TAX COLLECTOR	Inv# JANUARY 2019	SARParcelE01-706.1 Jan2019	$1,665.00		
	Total for Check:	89791				$1,665.00	$68,246.51
89792	01/02/2019	PENDERGRAFT, REX	Inv# JANUARY 2019	RetireeCashMedical Jan2019	$548.24		
	Total for Check:	89792				$548.24	$3,808.82
89793	01/02/2019	POLYDYNE INC.	Inv# 1305255	PLANT CHEMICALS	$2,401.20		
	Total for Check:	89793				$2,401.20	$16,808.40
89794	01/02/2019	PRIMO POWDER COATING	Inv# 83591	Powder Coat Truck Bumper	$250.00		
	Total for Check:	89794				$250.00	$1,975.00
89795	01/02/2019	QUINN COMPANY	Inv# PCA00093308	BPO EQUIPMENT & SUPPLIES	$232.75		
	Total for Check:	89795				$232.75	$5,010.30
89796	01/02/2019	RESILIENT COMMUNICATIONS INC	Inv# 802260	WallMount IP Phones	$282.75		
89796	01/02/2019	RESILIENT COMMUNICATIONS INC	Inv# 802260	WallMount IP Phones	$11.22		
	Total for Check:	89796				$293.97	$48,750.31
89797	01/02/2019	SAME LOS ANGELES POST	Inv# WOODSIDE 1/11/19 SAMEAnnlBrkfst1/11/19GDW	TRAVEL	$55.00		

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	Total for Check:	89797				$55.00	$55.00
89798	01/02/2019	SCHEEVEL ENGINEERING	Inv# 1248	11/26-30 Prado Basin FS	$1,250.00		
	Total for Check:	89798				$1,250.00	$6,531.25
89799	01/02/2019	SCHENCK PROCESS, LLC	Inv# 116033610	Generated by reorder 12/4/18 8	$10,511.78		
89799	01/02/2019	SCHENCK PROCESS, LLC	Inv# 116033610	Freight Prepaid	$2,948.88		
	Total for Check:	89799				$13,460.66	$13,460.66
89800	01/02/2019	SCW CONTRACTING CORPORATION	Inv# 11282 #4	Prog.Pmt#4 (SAR-2018-1)	$423,023.12		
	Total for Check:	89800				$423,023.12	$2,074,443.75
89801	01/02/2019	SEPARATION PROCESSES, INC.	Inv# 9234	Nov18 Ops Support	$1,792.00		
89801	01/02/2019	SEPARATION PROCESSES, INC.	Inv# 9235	Nov18 GWRS F.Expansion	$6,410.75		
89801	01/02/2019	SEPARATION PROCESSES, INC.	Inv# 9238	Nov18 Ops Support	$5,615.69		
	Total for Check:	89801				$13,818.44	$79,869.45
89802	01/02/2019	SHEAKLEY WORKFORCE MGMT SVCS, LLC.	Inv# FLEX00011562	FSA Fees Nov2018	$182.20		
	Total for Check:	89802				$182.20	$1,253.20
89803	01/02/2019	SMBC C/O CITIBANK, NA NEW YORK	Inv# CP LC FEE #382199 12/31 10/1-12/31	CP LC FEE, #382199,	$57,146.78		
	Total for Check:	89803				$57,146.78	$171,725.70
89804	01/02/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-023-7877-22DEC18	11/27-12/27KWH442	$86.27		
89804	01/02/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-023-7877-42DEC18	11/27-12/27KWH181	$49.67		
89804	01/02/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-026-3567-06DEC18	11/27-12/27KWH2842	$340.94		
89804	01/02/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-033-3659-92DEC18	11/21-12/24KWH123	$43.90		
	Total for Check:	89804				$520.78	$2,874,392.77
89805	01/02/2019	STANTEC CONSULTING INC.	Inv# 1443476	Nov18 GAP syst.hydraulic model	$5,391.00		
	Total for Check:	89805				$5,391.00	$46,079.44
89807	01/02/2019	STAPLES	Inv# 3398447669	OFFICE SUPPLIES	$97.74		
89807	01/02/2019	STAPLES	Inv# 3398447669	OFFICE SUPPLIES	$39.15		
89807	01/02/2019	STAPLES	Inv# 3398447669	OFFICE SUPPLIES	$32.61		
89807	01/02/2019	STAPLES	Inv# 3398447669	OFFICE SUPPLIES	$31.94		
89807	01/02/2019	STAPLES	Inv# 3398447669	OFFICE SUPPLIES	$19.21		

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89807	01/02/2019	STAPLES	Inv# 3398798567	D. Park's Office Supples	$54.37		
89807	01/02/2019	STAPLES	Inv# 3398798567	D. Park's Office Supples	$20.00		
89807	01/02/2019	STAPLES	Inv# 3398798567	D. Park's Office Supples	$6.07		
89807	01/02/2019	STAPLES	Inv# 3398798567	D. Park's Office Supples	$1.07		
89807	01/02/2019	STAPLES	Inv# 3398914407	OFFICE SUPPLIES	$45.66		
89807	01/02/2019	STAPLES	Inv# 3398914408	Generated by reorder 9/13/18 1	$77.61		
	Total for Check:	89807				$425.43	$23,825.24
89808	01/02/2019	STERIS CORPORATION	Inv# 501889314	EQUIP. SERVICE	$1,462.34		
89808	01/02/2019	STERIS CORPORATION	Inv# 501889314	EQUIP. SERVICE	$887.06		
89808	01/02/2019	STERIS CORPORATION	Inv# 501889314	EQUIP. SERVICE	$887.06		
	Total for Check:	89808				$3,236.46	$9,520.86
89809	01/02/2019	SUNSET INDUSTRIAL PARTS	Inv# 700819	Memsap Replacement Motor, spar	$1,016.74		
89809	01/02/2019	SUNSET INDUSTRIAL PARTS	Inv# 700819	Memsap Replacement Motor, spar	$24.99		
89809	01/02/2019	SUNSET INDUSTRIAL PARTS	Inv# 700819	DISCOUNT	($20.83)		
	Total for Check:	89809				$1,020.90	$10,342.39
89810	01/02/2019	SWRCB	Inv# SW-0163225	10/1/18-9/30/19 Annual Permit	$820.00		
	Total for Check:	89810				$820.00	$24,782.40
89811	01/02/2019	Smith, Benjamin	Inv# 11/27-12/26/18 STIPEND	11/27-12/26/18 phone stipend	$40.00		
89811	01/02/2019	Smith, Benjamin	Inv# 3/17-19/19 TRAVEL WateReuse	3/17-19 Garden Grove	$450.00		
	Total for Check:	89811				$490.00	$3,410.00
89812	01/02/2019	Sparks, Luke	Inv# 10/17-11/16/18 STIPEND	10/17-11/16/18 phone stipend	$40.00		
89812	01/02/2019	Sparks, Luke	Inv# 11/17-12/16/18 STIPEND	11/17-12/16/18 phone stipend	$40.00		
89812	01/02/2019	Sparks, Luke	Inv# 7/17-8/16/18 STIPEND	7/17-8/16/18 phone stipend	$40.00		
89812	01/02/2019	Sparks, Luke	Inv# 8/17-9/16/18 STIPEND	8/17-9/16/18 phone stipend	$40.00		
89812	01/02/2019	Sparks, Luke	Inv# 9/17-10/16/18 STIPEND	9/17-10/16/18 phone stipend	$40.00		
	Total for Check:	89812				$200.00	$320.00
89813	01/02/2019	TELEDYNE INSTRUMENTS, INC.	Inv# S020294152	Replacement Parts for Sampler	$185.96		
89813	01/02/2019	TELEDYNE INSTRUMENTS, INC.	Inv# S020294152	Replacement Parts for Sampler	$127.24		
89813	01/02/2019	TELEDYNE INSTRUMENTS, INC.	Inv# S020294152	Shipping and Handling	$25.01		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
	Total for Check:	89813				$338.21	$338.21
89814	01/02/2019	TIME WARNER COMMUNICATIONS	Inv# 0410454121218	BPO CABLE TV SERVICE	$116.44		
	Total for Check:	89814				$116.44	$8,909.14
89815	01/02/2019	TOP HAT PRODUCTIONS	Inv# 94698	BPO CATERING SERVICES	$213.53		
	Total for Check:	89815				$213.53	$2,949.79
89816	01/02/2019	TROEMNER, LLC	Inv# 00925286	CALIBRATION	$585.00		
89816	01/02/2019	TROEMNER, LLC	Inv# 00925286	CALIBRATION	$32.00		
89816	01/02/2019	TROEMNER, LLC	Inv# 00925286	FREIGHT	$26.10		
	Total for Check:	89816				$643.10	$643.10
89817	01/02/2019	TROPICAL PLAZA NURSERY, INC.	Inv# M59875	Remove Fallen Tree	$500.00		
	Total for Check:	89817				$500.00	$26,672.63
89818	01/02/2019	TRUCPARCO	Inv# 411918	BPO TRUCK PARTS	$55.51		
89818	01/02/2019	TRUCPARCO	Inv# 411918	FUEL SURCHARGE	$1.08		
89818	01/02/2019	TRUCPARCO	Inv# 412060	BPO TRUCK PARTS	$8.99		
89818	01/02/2019	TRUCPARCO	Inv# 412060	FUEL SURCHARGE	$1.07		
	Total for Check:	89818				$66.65	$4,673.03
89819	01/02/2019	U.S. BANK	Inv# 5224109	CPA ADM FEE, 12/01-2/28	$1,776.00		
89819	01/02/2019	U.S. BANK	Inv# 5224111	CP B-TAX ADM FEE,12/1/18-11/30	$6,600.00		
	Total for Check:	89819				$8,376.00	$11,888.00
89820	01/02/2019	U.S. HEALTHWORKS	Inv# 3439269-CA	BPO MEDICAL SERVICES	$148.00		
89820	01/02/2019	U.S. HEALTHWORKS	Inv# 3443264-CA	BPO MEDICAL SERVICES	$30.00		
	Total for Check:	89820				$178.00	$1,927.00
89821	01/02/2019	U.S. TELEPACIFIC CORP	Inv# 110870575-0	INTERNET SERVICES	$1,867.21		
	Total for Check:	89821				$1,867.21	$12,591.68
89822	01/02/2019	UNITED PARCEL SERVICE INC	Inv# 0000X81601518	ups	$161.68		
	Total for Check:	89822				$161.68	$1,651.62
89823	01/02/2019	UNITED RENTALS	Inv# 163910186-001	35' lift Rental - Prado	$403.98		
89823	01/02/2019	UNITED RENTALS	Inv# 163910186-001	Delivery Charge	$283.06		
89823	01/02/2019	UNITED RENTALS	Inv# 163910186-001	Fuel	$12.15		
	Total for Check:	89823				$699.19	$1,281.12
89824	01/02/2019	UNIVAR USA	Inv# LA693929	12/19 25.32 tons sulfuric acid	$3,671.40		
89824	01/02/2019	UNIVAR USA	Inv# LA693929	Discount	($73.43)		
89824	01/02/2019	UNIVAR USA	Inv# LA693930	12/19 25.32 tons sulfuric acid	$3,671.40		

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89824	01/02/2019	UNIVAR USA	Inv# LA693930	Discount	($73.43)		
	Total for Check:	89824				$7,195.94	$143,172.27
89825	01/02/2019	UNIVERSITY OF CALIFORNIA, IRVINE	Inv# 2270263	Sample Analysis Facility Charg	$600.00		
	Total for Check:	89825				$600.00	$672.00
89826	01/02/2019	USA BLUEBOOK	Inv# 756775	Generated by reorder 11/14/18	$69.49		
89826	01/02/2019	USA BLUEBOOK	Inv# 756775	FREIGHT	$20.75		
89826	01/02/2019	USA BLUEBOOK	Inv# 756776	Generated by reorder 11/14/18	$69.49		
89826	01/02/2019	USA BLUEBOOK	Inv# 756776	SHIPPING & HANDLING	$20.75		
	Total for Check:	89826				$180.48	$180.48
89827	01/02/2019	UTILIQUEST LLC	Inv# 270006-Q 9908	11/25-12/1 screen/mark pipes	$70.89		
89827	01/02/2019	UTILIQUEST LLC	Inv# 270006-Q 9911	11/25-12/1 screen/mark pipes	$991.47		
89827	01/02/2019	UTILIQUEST LLC	Inv# 270006-Q 9922	11/25-12/1 screen/mark pipes	$578.35		
89827	01/02/2019	UTILIQUEST LLC	Inv# 270006-Q 9932	11/25-12/1 screen/mark pipes	$11.73		
	Total for Check:	89827				$1,652.44	$54,243.59
89828	01/02/2019	VWR INTERNATIONAL, INC.	Inv# 8084714708	LABORATORY SUPPLIES	$185.16		
89828	01/02/2019	VWR INTERNATIONAL, INC.	Inv# 8084714708	DISCOUNT	($1.85)		
89828	01/02/2019	VWR INTERNATIONAL, INC.	Inv# 8084744289	LABORATORY SUPPLIES	$124.49		
89828	01/02/2019	VWR INTERNATIONAL, INC.	Inv# 8084744289	DISCOUNT	($1.24)		
89828	01/02/2019	VWR INTERNATIONAL, INC.	Inv# 8084752648	LABORATORY SUPPLIES	$220.33		
89828	01/02/2019	VWR INTERNATIONAL, INC.	Inv# 8084752648	DISCOUNT	($2.20)		
	Total for Check:	89828				$524.69	$63,471.35
89829	01/02/2019	Villarreal, Leticia	Inv# 11/9-12/11/18 supplies(Xmas)	SUPPLIES 11/9-12/11/18	$61.30		
	Total for Check:	89829				$61.30	$61.30
89830	01/02/2019	WATEREUSE ASSOCIATION	Inv# 2018 WATEREUSE CALIF. Conf.	WateReuse CA. Annual	$5,500.00		
	Total for Check:	89830				$5,500.00	$16,146.50
89831	01/02/2019	XYLEM INC.	Inv# 3556A40288	Anaheim Pump Control Wiring	$4,224.00		
89831	01/02/2019	XYLEM INC.	Inv# 3556A40288	Anaheim Pump Control Wiring	$489.02		
	Total for Check:	89831				$4,713.02	$25,977.02
89832	01/02/2019	YSI INCORPORATED	Inv# 761655	Bubbler Water Level Sensor	$3,916.71		
89832	01/02/2019	YSI INCORPORATED	Inv# 761655	Shipping/Handling	$13.11		

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89832	01/02/2019	YSI INCORPORATED	Inv# 762126	Amazon Bubbler Water Level	$3,916.71		
89832	01/02/2019	YSI INCORPORATED	Inv# 762126	Shipping/Handling	$13.11		
	Total for Check:	89832				$7,859.64	$22,901.13
89833	01/02/2019	ZCATER	Inv# 166692	ERP Breakfast	$292.16		
89833	01/02/2019	ZCATER	Inv# 166692	Delivery	$10.00		
	Total for Check:	89833				$302.16	$2,291.06
89834	01/02/2019	ZOHO CORP	Inv# 2210900	AD Audit Software Renewal	$1,228.00		
89834	01/02/2019	ZOHO CORP	Inv# 2210900	AD Audit Software Renewal	$495.00		
	Total for Check:	89834				$1,723.00	$1,723.00
976671	12/27/2018	CITIBANK NA NEW YORK, ABA	Inv# OCWD 2005A SWAP PAY 12/27 Pay11/26-12/27	ocwd 2005A Swap	$88,031.62		
	Total for Check:	976671				$88,031.62	$789,520.88
976672	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2,19 #6911	Jan.2,19 DPR#01 #6911	$10,181.68		
976672	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2,19 #6911	Jan.2,19 DPR#01 #6911	($10,181.68)		
	Total for Check:	976672				$0.00	$11,278,484.44
976673	01/02/2019	PRUDENTIAL RETIREMENT SERVICE	Inv# JANUARY 2, 2019	Jan.02,19 DPR#01 401a	$2,702.91		
	Total for Check:	976673				$2,702.91	$3,015,038.34
976674	01/02/2019	PRUDENTIAL RETIRMENT	Inv# JANUARY 2, 2019	Jan.2,19 DPR#01 457b	$1,000.00		
	Total for Check:	976674				$1,000.00	$787,240.28
976675	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 #6527	Jan.2,19 PR#01 #6527	$47,324.48		
976675	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 #6527	Jan.2,19 PR#01 #6527	($47,324.48)		
	Total for Check:	976675				$0.00	$11,278,484.44
976676	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 #6911	Jan.2,19 PR#01 #6911	$743,916.12		
976676	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 #6911	Jan.2,19 PR#01 #6911	($743,916.12)		
	Total for Check:	976676				$0.00	$11,278,484.44
976677	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 GARNABF GarnABF	Jan.2,19 PR#01	$1,760.75		
976677	12/28/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 GARNABF GarnABF	Jan.2,19 PR#01	($1,760.75)		
	Total for Check:	976677				$0.00	$11,278,484.44
976678	01/02/2019	PRUDENTIAL RETIREMENT SERVICE	Inv# JANUARY 2, 2019 401A	Jan.2,19 PR#01 401a	$210,996.64		
	Total for Check:	976678				$210,996.64	$3,015,038.34

Orange County Water District

Check Register

Begin Date: 12/27/2018 **End Date:** 01/02/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
976679	01/02/2019	PRUDENTIAL RETIRMENT	Inv# JANUARY 2, 2019 457B	Jan 2,19 PR#01 457b	$57,606.87		
	Total for Check:	976679				$57,606.87	$787,240.28
976680	12/31/2018	UNION BANK OF CALIFORNIA	Inv# COP 2003A INT 12/28	COP 2003A INTERESTS	$130,945.03		
	Total for Check:	976680				$130,945.03	$5,270,711.60
976681	12/31/2018	WELLS FARGO BANK	Inv# JANUARY 2,19 #6911	Jan.2,19 DPR#01 #6911	$10,181.68		
	Total for Check:	976681				$10,181.68	$11,278,484.44
976682	12/31/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 #6527	Jan.2,19 PR#01 #6527	$47,324.48		
	Total for Check:	976682				$47,324.48	$11,278,484.44
976683	12/31/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 #6911	Jan.2,19 PR#01 #6911	$743,916.12		
	Total for Check:	976683				$743,916.12	$11,278,484.44
976684	12/31/2018	WELLS FARGO BANK	Inv# JANUARY 2, 19 GARNABF GarnABF	Jan.2,19 PR#01	$1,760.75		
	Total for Check:	976684				$1,760.75	$11,278,484.44
976685	01/02/2019	CITIBANK NA NEW YORK, ABA	Inv# OCWD 2007B SWAP PAY 1/02 SwapPay12/05-1/2/19	ocwd 2007B	$29,483.20		
	Total for Check:	976685				$29,483.20	$789,520.88
Run Date:	***1/3/2019***				**$4,056,065.93**	**$4,056,065.93**	

Orange County Water District

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Begin Date: 01/03/2019 **End Date:** 01/09/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
802159	01/09/2019	ALTA FOODCRAFT	Inv# 11831860	BPO FIRST AID CABINETS	$207.84		
	Total for Check:	802159				$207.84	$7,903.30
802160	01/09/2019	EUROFINS EATON ANALYTICAL INC	Inv# L0426520	BPO WATER SAMPLE ANALYSIS	$400.00		
	Total for Check:	802160				$400.00	$37,400.00
802161	01/09/2019	EVOQUA WATER TECHNOLOGIES LLC	Inv# 903808549	Membrane Demo Cell	$132,392.25		
	Total for Check:	802161				$132,392.25	$150,355.91
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 4512875	Generated by reorder 10/24/18	$220.33		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 4776401	LABORATORY SUPPLIES	$48.02		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 4776401	LABORATORY SUPPLIES	$27.88		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 5057371	Return See CM# 6977602	$67.62		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 5057376	LABORATORY SUPPLIES	$43.56		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 5057376	DIRECT SHIP TRANS CHARGE	$14.00		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 5057376	SHIPPING-FUEL SURCHARGE	$5.20		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 5553689	LABORATORY SUPPLIES	$1,108.15		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 5553689	DIRECT SHIP TRANS CHARGE	$112.05		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 6977602	CM ref#: 5057371	($67.62)		
802163	01/09/2019	FISHER SCIENTIFIC CO.	Inv# 8591394	LABORATORY SUPPLIES	$82.53		
	Total for Check:	802163				$1,661.72	$89,502.46
802164	01/09/2019	SIGMA-ALDRICH INC.	Inv# 546537368	LABORATORY SUPPLIES	$489.39		
802164	01/09/2019	SIGMA-ALDRICH INC.	Inv# 546537368	LABORATORY SUPPLIES	$131.58		
802164	01/09/2019	SIGMA-ALDRICH INC.	Inv# 546537368	TRANS/HANDLING	$32.13		
	Total for Check:	802164				$653.10	$17,173.47
802165	01/09/2019	THERMO ELECTRON NORTH AMERICAL LLC	Inv# 9020858679	LABORATORY SUPPLIES	$1,492.59		
802165	01/09/2019	THERMO ELECTRON NORTH AMERICAL LLC	Inv# 9020858679	SHIPPING/HANDLING	$10.88		
	Total for Check:	802165				$1,503.47	$94,629.95
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 10792717	Lab-argon	$946.13		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 10792717	Freight	$29.90		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 10792717	Hazardous material	$10.77		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 10792744	Lab-helium, CO2, nitrogen	$985.12		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 10792744	Freight	$29.90		

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Begin Date: 01/03/2019 **End Date:** 01/09/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 10792744	Hazardous material	$10.76		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 80224538A	Nov18 cylinder rental-Lab	$603.13		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 80224538B	Nov18 cylinder rental-Wtr.Prod	$204.67		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 80224538B	Nov18 cylinder rental-Hydrogeo	$15.00		
802166	01/09/2019	WESTAIR GASES & EQUIPMENT	Inv# 80224538C	Nov18 cylinder rental-Recharge	$7.50		
	Total for Check:	802166				$2,842.88	$32,068.86
Run Date:	***1/8/2019***				**$139,661.26**	**$139,661.26**	

Orange County Water District

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Begin Date: 01/03/2019 **End Date:** 01/09/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89519	12/12/2018	UNI REFRIGERATION	Inv# PO 504708	SERVICE BPO	($2,470.00)		
	Total for Check:	89519				($2,470.00)	$4,230.75
89835	01/09/2019	AB SCIEX LLC	Inv# 210112594	SERVICE PARTS	$295.42		
89835	01/09/2019	AB SCIEX LLC	Inv# 210112594	SHIPPING & HANDLING	$25.43		
89835	01/09/2019	AB SCIEX LLC	Inv# 210112595	SERVICE PARTS	$1,185.33		
89835	01/09/2019	AB SCIEX LLC	Inv# 210112595	SHIPPING & HANDLING	$27.55		
	Total for Check:	89835				$1,533.73	$56,427.81
89836	01/09/2019	ACCURATE MEASUREMENT SYSTEMS	Inv# V121118DP4	United Electric Controls Vacuu	$142.46		
89836	01/09/2019	ACCURATE MEASUREMENT SYSTEMS	Inv# V121118DP4	SHIPPING	$21.14		
	Total for Check:	89836				$163.60	$49,347.07
89837	01/09/2019	AGILENT TECHNOLOGIES, INC.	Inv# 116350926	LABORATORY SUPPLIES	$1,427.06		
	Total for Check:	89837				$1,427.06	$128,787.36
89838	01/09/2019	AMERICAN WATER CHEMICAL, INC	Inv# 05-181016/1	BILL DUNIVIN	$32,010.80		
89838	01/09/2019	AMERICAN WATER CHEMICAL, INC	Inv# 05-18992/01	PLANT CHEMICAL	$11,771.10		
	Total for Check:	89838				$43,781.90	$333,419.50
89839	01/09/2019	ANAHEIM HILLS PATROL	Inv# OC396	November SECURITY PATROL	$20,880.00		
	Total for Check:	89839				$20,880.00	$127,124.00
89840	01/09/2019	AQUILOGIC, INC.	Inv# 002-04-44 SBGPP NCP data mgm	10/27-11/30 SBGPP NCP	$2,915.12		
	Total for Check:	89840				$2,915.12	$26,000.46
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533818126	UNIFORM SERVICES	$133.23		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533818126	UNIFORM SERVICES	$83.23		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533818126	UNIFORM SERVICES	$67.15		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533852476	UNIFORM SERVICES	$215.32		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533852476	UNIFORM SERVICES	$67.15		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533870117	UNIFORM SERVICES	$215.32		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533870117	UNIFORM SERVICES	$67.15		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533887263	UNIFORM SERVICES	$3.92		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533887264	UNIFORM SERVICES	$215.32		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533887264	UNIFORM SERVICES	$67.15		
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533887265	UNIFORM SERVICES	$150.99		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89842	01/09/2019	ARAMARK UNIFORM SERVICES	Inv# 533887266	UNIFORM SERVICES	$243.30		
	Total for Check:	89842				$1,529.23	$27,196.96
89843	01/09/2019	AUXILIARY SERVICE CORP (ASC)	Inv# 5584	Resource info M43R Project	$150.00		
	Total for Check:	89843				$150.00	$150.00
89844	01/09/2019	BC WIRE ROPE & RIGGING	Inv# 0309423-IN	5/16 Cable for the Fork Lift W	$95.36		
	Total for Check:	89844				$95.36	$1,619.82
89845	01/09/2019	BEKS ACQUISITION, INC. dba	Inv# 18-24235.5	Prog.Pmt#7 (GBM-2018-2)	$75,834.89		
89845	01/09/2019	BEKS ACQUISITION, INC. dba	Inv# 18-24235.5	Prog.Pmt#7 (GBM-2018-2)	$63,472.02		
	Total for Check:	89845				$139,306.91	$696,342.88
89846	01/09/2019	BORCHARD SURVEYING & MAPPING, INC.	Inv# UR-120118-1 A	SURVEYING SERVICES	$1,520.00		
89846	01/09/2019	BORCHARD SURVEYING & MAPPING, INC.	Inv# UR-120118-1 B	SURVEYING SERVICES	$3,040.00		
	Total for Check:	89846				$4,560.00	$4,560.00
89847	01/09/2019	Buis, Matt T.	Inv# 11/4-12/3/18 STIPEND	11/4-12/3/18 phone stipend	$40.00		
89847	01/09/2019	Buis, Matt T.	Inv# 12/4/18-1/3/19 STIPEND	12/4/18-1/3/19 phone stipend	$40.00		
89847	01/09/2019	Buis, Matt T.	Inv# 6/4-7/3/18 STIPEND	6/4-7/3/18 phone stipend	$40.00		
89847	01/09/2019	Buis, Matt T.	Inv# 7/4-8/3/18 STIPEND	7/4-8/3/18 phone stipend	$40.00		
89847	01/09/2019	Buis, Matt T.	Inv# 8/4-9/3/18 STIPEND	8/4-9/3/18 phone stipend	$40.00		
89847	01/09/2019	Buis, Matt T.	Inv# 9/4-10/3/18 STIPEND	9/4-10/3/18 phone stipend	$40.00		
89847	01/09/2019	Buis, Matt T.	Inv# 10/4-11/3/18 STIPEND	10/4-11/3/18 phone stipend	$40.00		
	Total for Check:	89847				$280.00	$520.00
89848	01/09/2019	CALIFORNIA GROUNDWATER COALITION	Inv# 2019 CATEGORY 3 DUES 1/19	G.WOODSIDE	$9,500.00		
	Total for Check:	89848				$9,500.00	$9,500.00
89849	01/09/2019	CALTROL, INC	Inv# CD99063592	Vibratioin Testing-November 20	$2,760.00		
	Total for Check:	89849				$2,760.00	$92,103.89
89850	01/09/2019	CAMBRIDGE ISOTOPE LABORATORIES	Inv# 01158014	LABORATORY SUPPLIES	$380.63		
89850	01/09/2019	CAMBRIDGE ISOTOPE LABORATORIES	Inv# 01158014	TRANSPORTATION	$8.05		
	Total for Check:	89850				$388.68	$2,529.11
89851	01/09/2019	CHARLES P. CROWLEY CO,	Inv# 25438	Generated by reorder 10/2/18 9	$2,289.19		

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Begin Date: 01/03/2019 **End Date:** 01/09/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89851	01/09/2019	CHARLES P. CROWLEY CO,	Inv# 25438	FREIGHT	$39.57		
	Total for Check:	89851				$2,328.76	$11,044.14
89852	01/09/2019	CHROMALOX, INC.	Inv# 2395986 SO	In Line Imersion Heater, 20KW,	$6,935.00		
	Total for Check:	89852				$6,935.00	$13,433.61
89853	01/09/2019	COAST COMPRESSOR COMPANY	Inv# 181228	EQUIP. SERVICE	$1,909.93		
89853	01/09/2019	COAST COMPRESSOR COMPANY	Inv# 181228	EQUIP. SERVICE	$1,385.00		
89853	01/09/2019	COAST COMPRESSOR COMPANY	Inv# 181254	EQUIP. SERVICE	$260.00		
	Total for Check:	89853				$3,554.93	$3,554.93
89854	01/09/2019	COLE-PARMER INSTRUMENT CO.	Inv# 1716038	Free Chlorine Test Kit Reagent	$23.76		
89854	01/09/2019	COLE-PARMER INSTRUMENT CO.	Inv# 1716038	FREIGHT	$10.11		
	Total for Check:	89854				$33.87	$1,307.44
89855	01/09/2019	CORPORATE IMAGE MAINTENANCE	Inv# 36416	DEC 2018	$9,735.00		
89855	01/09/2019	CORPORATE IMAGE MAINTENANCE	Inv# 36416	DEC 2018	$1,200.00		
89855	01/09/2019	CORPORATE IMAGE MAINTENANCE	Inv# 36416	DEC 2018	$180.00		
	Total for Check:	89855				$11,115.00	$88,834.00
89856	01/09/2019	CORTECH ENGINEERING, A DXP COMPANY	Inv# 49991800	BJM 10hp SS Sump Pump	$16,432.13		
89856	01/09/2019	CORTECH ENGINEERING, A DXP COMPANY	Inv# 49991800	discount	($328.64)		
89856	01/09/2019	CORTECH ENGINEERING, A DXP COMPANY	Inv# 50000663	7 1/2hp Sump Pump	$14,872.65		
89856	01/09/2019	CORTECH ENGINEERING, A DXP COMPANY	Inv# 50000663	FREIGHT	$82.70		
89856	01/09/2019	CORTECH ENGINEERING, A DXP COMPANY	Inv# 50000663	DISCOUNT	($299.10)		
	Total for Check:	89856				$30,759.74	$30,759.74
89857	01/09/2019	CPI INTERNATIONAL	Inv# 20040921	LABORATORY SUPPLIES	$189.23		
89857	01/09/2019	CPI INTERNATIONAL	Inv# 20040921	DISCOUNT	($3.78)		
	Total for Check:	89857				$185.45	$2,232.84
89858	01/09/2019	CWEA	Inv# ID#000004044I 1/31/19	Cert Renewal P.LEWIS	$188.00		
	Total for Check:	89858				$188.00	$2,454.00
89859	01/09/2019	CWEA	Inv# ID#000036740I 1/31/19	Cert Renewal R.Valdez	$280.00		

Orange County Water District

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Begin Date: 01/03/2019 **End Date:** 01/09/2019

Accounts Payable Check Register Presented for Board Ratification and/or Approval

Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
	Total for Check:	89859				$280.00	$2,454.00
89860	01/09/2019	DLT SOLUTIONS, LLC	Inv# SI413215	Civil 3D for Engineering	$1,974.94		
	Total for Check:	89860				$1,974.94	$5,649.94
89861	01/09/2019	Dosier, Bruce	Inv# 7/24-8/23/18 DSL reimbursement	7/24-8/23/18 DSL	$83.98		
89861	01/09/2019	Dosier, Bruce	Inv# 8/24-9/23/18 DSL reimbursement	8/24-9/23/18 DSL	$83.98		
89861	01/09/2019	Dosier, Bruce	Inv# 9/24-10/23/18 DSL reimbursemen	9/24-10/23/18 DSL	$83.98		
	Total for Check:	89861				$251.94	$587.86
89862	01/09/2019	Dunkin, Alicia	Inv# 1/10/19 TRAVEL electe	1/10 Anaheim ACC-OC new	$30.00		
89862	01/09/2019	Dunkin, Alicia	Inv# 2/26-28/19 TRAVEL Conf	2/26-28 D.C. ACWA DC 2019	$793.80		
	Total for Check:	89862				$823.80	$3,495.59
89863	01/09/2019	ENDRESS + HAUSER, INC.	Inv# 6002020415	Generated by reorder 11/8/18 7	$2,438.73		
89863	01/09/2019	ENDRESS + HAUSER, INC.	Inv# 6002020415	SHIPPING & HANDLING	$40.23		
	Total for Check:	89863				$2,478.96	$2,478.96
89864	01/09/2019	ENGINEERING NEWS-RECORD	Inv# EN019825	ENR SUBSCRIPTION RENEWAL	$174.00		
	Total for Check:	89864				$174.00	$174.00
89865	01/09/2019	EXCELSIOR ELEVATOR	Inv# 22829	ELEVATOR SERVICE	$561.00		
89865	01/09/2019	EXCELSIOR ELEVATOR	Inv# 22829	DISCOUNT	($16.83)		
	Total for Check:	89865				$544.17	$3,265.02
89866	01/09/2019	GOLD COAST AWARDS	Inv# 14527	PLAQUE FOR WACO CHAIRMAN	$78.60		
	Total for Check:	89866				$78.60	$1,543.57
89867	01/09/2019	GRAINGER INC.	Inv# 9015761555	BPO INDUSTRIAL SUPPLIES	$64.99		
	Total for Check:	89867				$64.99	$70,039.07
89868	01/09/2019	HARGIS + ASSOCIATES, INC.	Inv# 812831 SBGPP NCP conting.compli	Nov18 SBGPP NCP	$11,882.50		
	Total for Check:	89868				$11,882.50	$115,605.00
89870	01/09/2019	HOME DEPOT, INC.	Inv# 1021215	BPO INDUSTRIAL SUPPLIES	$27.98		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 3284090	BPO INDUSTRIAL SUPPLIES	$50.01		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 3634889	BPO INDUSTRIAL SUPPLIES	$143.81		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 4125396	BPO INDUSTRIAL SUPPLIES	$23.19		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89870	01/09/2019	HOME DEPOT, INC.	Inv# 4281207	BPO INDUSTRIAL SUPPLIES	$107.64		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 4633440	BPO INDUSTRIAL SUPPLIES	$98.46		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 5110679	BPO INDUSTRIAL SUPPLIES	$32.30		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 5120577	BPO INDUSTRIAL SUPPLIES	$36.59		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 5223779	Return see CM:5120577	($27.99)		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 7630497	BPO INDUSTRIAL SUPPLIES	$224.08		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 8383908	BPO INDUSTRIAL SUPPLIES	$59.15		
89870	01/09/2019	HOME DEPOT, INC.	Inv# 9514303	BPO INDUSTRIAL SUPPLIES	$80.46		
	Total for Check:	89870				$855.68	$11,636.30
89871	01/09/2019	HUITT-ZOLLARS, INC.	Inv# 3089770106	Thru 11/30 Smith Basin Rehab	$79,095.00		
	Total for Check:	89871				$79,095.00	$147,592.50
89873	01/09/2019	Hunt, William	Inv# 10/16/18 TRAVEL	10/16 Century City SB Mediatio	$43.24		
89873	01/09/2019	Hunt, William	Inv# 10/9-11/8/18 STIPEND	10/9-11/8/18 phone stipend	$32.44		
89873	01/09/2019	Hunt, William	Inv# 10/9/18 TRAVEL	10/9 Santa Ana MTBE Court Hear	$5.00		
89873	01/09/2019	Hunt, William	Inv# 11/12/18 TRAVEL	11/12 Century City NB Mediatio	$50.31		
89873	01/09/2019	Hunt, William	Inv# 11/29/18 TRAVEL	11/29 Century City NB Mediatio	$43.44		
89873	01/09/2019	Hunt, William	Inv# 11/9-12/8/18 STIPEND	11/9-12/8/18 phone stipend	$32.44		
89873	01/09/2019	Hunt, William	Inv# 11/9/18 TRAVEL	11/9 Century City SB Mediation	$16.91		
89873	01/09/2019	Hunt, William	Inv# 12/10/18 TRAVEL	12/10 San Diego SB Appell.Cour	$33.00		
89873	01/09/2019	Hunt, William	Inv# 12/13/18 TRAVEL	12/13 Oakland MTBE Mediation	$308.39		
89873	01/09/2019	Hunt, William	Inv# 12/18/18 TRAVEL-1 Meeting	12/18 Riverside RWQCB	$2.00		
89873	01/09/2019	Hunt, William	Inv# 12/18/18 TRAVEL-2 Hea	12/18 Santa Ana MTBE Court	$4.00		
89873	01/09/2019	Hunt, William	Inv# 9/9-10/8/18 STIPEND	9/9-10/8/18 phone stipend	$32.44		
89873	01/09/2019	Hunt, William	Inv# 10/29/18 TRAVEL	10/29 L.A. Meeting NB w/T.Gall	$17.50		
89873	01/09/2019	Hunt, William	Inv# 10/18/18 TRAVEL Hearg	10/18 Santa Ana NB Court	$10.00		
	Total for Check:	89873				$631.11	$1,233.76
89874	01/09/2019	INTERA, INC.	Inv# 11-18-20	9/1-11/30 Alamitos GAP grndwtr	$26,705.00		
	Total for Check:	89874				$26,705.00	$58,580.00
89875	01/09/2019	IRVINE PIPE & SUPPLY	Inv# 897363-1	HP Tank Adapter	$107.53		
89875	01/09/2019	IRVINE PIPE & SUPPLY	Inv# 897363-1	Shipping Charges	$9.42		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89875	01/09/2019	IRVINE PIPE & SUPPLY	Inv# 897363-1	Discount	($2.34)		
	Total for Check:	89875				$114.61	$24,745.08
89876	01/09/2019	LHOIST NORTH AMERICA	Inv# 1180238728A	12/9 lime 25.02 tons	$5,929.74		
89876	01/09/2019	LHOIST NORTH AMERICA	Inv# 1180238728B	12/11 lime 25.07 tons	$5,941.59		
89876	01/09/2019	LHOIST NORTH AMERICA	Inv# 1180238728C	12/13 lime 25.22 tons	$5,977.14		
	Total for Check:	89876				$17,848.47	$414,418.21
89877	01/09/2019	LILLESTRAND LEADERSHIP CONSULTING	Inv# 7124	12/12 leadership consulting	$1,292.74		
	Total for Check:	89877				$1,292.74	$22,423.83
89878	01/09/2019	LONG BEACH WATER DEPARTMENT	Inv# 45099	Nov18 Alamitos 199.1 af@$1,020	$228,367.70		
	Total for Check:	89878				$228,367.70	$1,018,016.30
89879	01/09/2019	Lam, Thuy	Inv# 2018-2019-06	EducationReimb. TTL	$1,672.20		
	Total for Check:	89879				$1,672.20	$3,344.40
89880	01/09/2019	MAIL DELIVERY SERVICE CO.	Inv# 17251	BPO MAIL DELIVERY	$329.61		
89880	01/09/2019	MAIL DELIVERY SERVICE CO.	Inv# 17251	BPO MAIL DELIVERY	$33.55		
89880	01/09/2019	MAIL DELIVERY SERVICE CO.	Inv# 17251	BPO MAIL DELIVERY	$4.34		
	Total for Check:	89880				$367.50	$2,572.50
89881	01/09/2019	MARS ENVIRONMENTAL, INC.	Inv# 109918	EHC for GTY	$4,874.58		
	Total for Check:	89881				$4,874.58	$26,650.68
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	FIELD PARTS	$33.47		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	FIELD PARTS	$29.42		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	FIELD PARTS	$17.80		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	FIELD PARTS	$13.01		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	FIELD PARTS	$12.92		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	SHIPPING	$6.79		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	DISCOUNT	($2.47)		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82905256	Flow Meter for RO CIP Pump	$141.38		

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89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82905256	Shipping	$6.43		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82905256	Discount	($2.83)		
89883	01/09/2019	MCMASTER-CARR SUPPLY COMPANY	Inv# 82653545	FIELD PARTS	$16.96		
	Total for Check:	89883				$272.88	$19,961.52
89884	01/09/2019	MILLER & AXLINE	Inv# 11306 (MTBE)	11/29/18 legal/MTBE	$383,348.67		
	Total for Check:	89884				$383,348.67	$827,806.87
89885	01/09/2019	MUNICIPAL WATER DISTRICT OF OC	Inv# 9713A	Nov18 water purchases	$6,077,844.50		
89885	01/09/2019	MUNICIPAL WATER DISTRICT OF OC	Inv# 9713B	Nov18 water purchases	$239,324.35		
89885	01/09/2019	MUNICIPAL WATER DISTRICT OF OC	Inv# 9713C	Nov18 water purchases	$80,416.07		
89885	01/09/2019	MUNICIPAL WATER DISTRICT OF OC	Inv# 9713D	Nov18 water purchases	($1,031,174.10)		
	Total for Check:	89885				$5,366,410.82	$37,892,127.56
89886	01/09/2019	Marshall, Erin	Inv# 2018-2019-03	EducationReimb EJM	$2,182.71		
	Total for Check:	89886				$2,182.71	$2,182.71
89887	01/09/2019	Murphy, Patrick	Inv# 2018-2019-04	EducationalReim Prog	$2,658.28		
	Total for Check:	89887				$2,658.28	$2,658.28
89888	01/09/2019	NATURAL HISTORY MUSEUM OF LOS ANGELES	Inv# VP181231A	Records Check Santiago Basin	$290.00		
	Total for Check:	89888				$290.00	$580.00
89889	01/09/2019	NWRI	Inv# 2018-1858	SAR Panel 4/16/18-11/30/18	$25,554.53		
	Total for Check:	89889				$25,554.53	$35,554.53
89890	01/09/2019	Nguyen, Viethuong T.	Inv# INTERNET REIMB JAN19	InternetReimb.VTN	$65.99		
	Total for Check:	89890				$65.99	$406.93
89891	01/09/2019	OFFICE SOLUTIONS BUSINESS PRODUCTS	Inv# I-01483677	Generated by reorder 11/7/18 2	$582.68		
89891	01/09/2019	OFFICE SOLUTIONS BUSINESS PRODUCTS	Inv# I-01489960	Generated by reorder 11/30/18	$692.96		
89891	01/09/2019	OFFICE SOLUTIONS BUSINESS PRODUCTS	Inv# I-01489961	Generated by reorder 11/30/18	$739.50		
	Total for Check:	89891				$2,015.14	$5,987.89

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89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2612764	12/10 4592 gal s.hypochlorite	$3,163.89		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2612765	12/10 4938 gal s.hypochlorite	$3,402.28		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2612766	12/10 4548 gal s.hypochlorite	$3,133.57		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2613402	12/11 4820 gal s.hypochlorite	$3,320.98		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2613403	12/11 4812 gal s.hypochlorite	$3,315.47		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2613404	12/11 4922 gal s.hypochlorite	$3,391.26		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2614597	12/13 4808 gal s.hypochlorite	$3,312.71		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2614598	12/13 4908 gal s.hypochlorite	$3,381.61		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2614599	12/13 4912 gal s.hypochlorite	$3,384.37		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2615227	12/14 4660 gal s.hypochlorite	$3,210.74		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2615228	12/14 4898 gal s.hypochlorite	$3,374.72		
89893	01/09/2019	OLIN CHLOR ALKALI PRODUCTS	Inv# 2615229	12/14 4996 gal s.hypochlorite	$3,442.24		
	Total for Check:	89893				$39,833.84	$1,049,079.16
89894	01/09/2019	ONESOURCE DISTRIBUTORS INC.	Inv# S6028419.002	Generated by reorder 12/21/18	$421.65		
89894	01/09/2019	ONESOURCE DISTRIBUTORS INC.	Inv# S6028419.002	Discount	($3.88)		
	Total for Check:	89894				$417.77	$83,985.93
89895	01/09/2019	ORANGE COUNTY TREASURER-TAX COLLECTOR	Inv# PW190376	2011-00096,00097	$7,637.95		
	Total for Check:	89895				$7,637.95	$75,884.46
89896	01/09/2019	PACIFIC HYDROTECH CORPORATION	Inv# 15 (MBI-2017-)	Prog.Pmt#15 (MBI-2017-1)	$694,969.54		
89896	01/09/2019	PACIFIC HYDROTECH CORPORATION	Inv# 15 (MBI-2017-)	Prog.Pmt#15 (MBI-2017-1)	$4,824.02		
	Total for Check:	89896				$699,793.56	$8,633,902.15
89897	01/09/2019	PACIFIC HYDROTECH CORPORATION	Inv# ESC1001737517 RET#15 MBI-2017-1	Ret#15 (P.Hydro	$36,577.34		
89897	01/09/2019	PACIFIC HYDROTECH CORPORATION	Inv# ESC1001737517 RET#15 MBI-2017-1	Ret#15 (P.Hydro	$253.90		
	Total for Check:	89897				$36,831.24	$454,415.92
89898	01/09/2019	PACIFIC OFFICE AUTOMATION	Inv# 644611	BPO KONICA SERVICE AGREEMENT	$224.34		
89898	01/09/2019	PACIFIC OFFICE AUTOMATION	Inv# 751910	BPO KONICA SERVICE AGREEMENT	$260.90		
	Total for Check:	89898				$485.24	$2,026.79
89899	01/09/2019	PETE'S ROAD SERVICE, INC.	Inv# 287107-00	BPO TIRE & SUPPLIES	$142.21		
	Total for Check:	89899				$142.21	$664.00

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89900	01/09/2019	PLATINUM COMPUTER SUPPORT	Inv# 24036	Generated by reorder 12/12/18	$295.80		
	Total for Check:	89900				$295.80	$15,242.40
89901	01/09/2019	QUINN COMPANY	Inv# PC830367303	BPO EQUIPMENT & SUPPLIES	$155.12		
	Total for Check:	89901				$155.12	$5,165.42
89902	01/09/2019	RAINBOW ENVIRONMENTAL / REPUBLIC SERVICE	Inv# 0605-000554013	01/01-01/31 TRASH SERVICE	$4,344.10		
	Total for Check:	89902				$4,344.10	$31,468.64
89903	01/09/2019	RED WING SHOE STORE	Inv# 3-1-49569	BPO FOR RED WING	$200.00		
89903	01/09/2019	RED WING SHOE STORE	Inv# 407-1-25334	BPO FOR RED WING	$172.39		
89903	01/09/2019	RED WING SHOE STORE	Inv# 413-1-27819	BPO FOR RED WING	$189.09		
89903	01/09/2019	RED WING SHOE STORE	Inv# 413-1-27910	BPO FOR RED WING	$172.39		
89903	01/09/2019	RED WING SHOE STORE	Inv# 417-1-38506	BPO FOR RED WING	$187.04		
	Total for Check:	89903				$920.91	$7,841.71
89904	01/09/2019	SANTA ANA WATERSHED ASSOC.	Inv# 2018-107	NATURAL RESOURCE SERV.	$3,012.28		
89904	01/09/2019	SANTA ANA WATERSHED ASSOC.	Inv# 2018-107	NATURAL RESOURCE SERV.	$345.98		
	Total for Check:	89904				$3,358.26	$115,722.24
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$513.79		
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$466.50		
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$278.66		
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$206.66		
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$175.56		
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$167.93		
89905	01/09/2019	SC FUELS	Inv# 0056237	BPO UNLEADED FUEL FOR VEHICLES	$24.62		
	Total for Check:	89905				$1,833.72	$89,901.94
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-000-2056-42DEC18	11/28-12/28KWH712	$113.14		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-001-3969-92DEC18	10/31-12/3KWH58	$34.74		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-001-3969-93DEC18	11/28-12/28KWH0	$25.98		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-001-3969-94DEC18	11/28-12/28KWH650	$109.05		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-005-6085-64DEC18	11/28-12/28KWH77	$35.01		

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89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-012-1700-45DEC18	11/30/18-1/2/19KWH256	$62.51		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-015-7214-86DEC18	12/1/18-1/1/19	$3,900.00		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-018-4099-58DEC18	12/4/18-1/4/19KWH315	$69.09		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-024-0896-29DEC18	12/1/18-1/1/19	$9,486.85		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-029-4040-48DEC18	11/28-12/28KWH273	$67.79		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-029-4040-50DEC18	11/28-12/28KWH209	$56.54		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-033-1467-28DEC18	11/30/18-1/2-19KWH4069	$938.64		
89907	01/09/2019	SOUTHERN CALIFORNIA EDISON CO.	Inv# 3-047-1053-09DEC18	12/4/18-1/4/19KWH24662	$2,069.02		
	Total for Check:	89907				$16,968.36	$2,891,361.13
89910	01/09/2019	STAPLES	Inv# 3399081825	OFFICE SUPPLIES	$28.69		
89910	01/09/2019	STAPLES	Inv# 3399081826	OFFICE SUPPLIES	$65.23		
89910	01/09/2019	STAPLES	Inv# 3399384495	OFFICE SUPPLIES	$98.95		
89910	01/09/2019	STAPLES	Inv# 3399384495	OFFICE SUPPLIES	$95.68		
89910	01/09/2019	STAPLES	Inv# 3399384495	OFFICE SUPPLIES	$88.28		
89910	01/09/2019	STAPLES	Inv# 3399384495	OFFICE SUPPLIES	$28.26		
89910	01/09/2019	STAPLES	Inv# 3399384495	OFFICE SUPPLIES	$24.33		
89910	01/09/2019	STAPLES	Inv# 3399384503	OFFICE SUPPLIES	$31.11		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$43.87		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$43.48		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$39.13		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$36.87		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$34.78		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$33.70		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$32.62		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$32.62		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$31.52		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$29.35		

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89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$28.27		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$27.18		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$27.15		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$21.74		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$20.61		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$18.43		
89910	01/09/2019	STAPLES	Inv# 3399513080	P-Touch Labels	$18.43		
	Total for Check:	89910				$980.28	$24,805.52
89911	01/09/2019	STATE OF CALIFORNIA	Inv# 12-ORA057-0010-02 JAN/19 12-ORA057-0010-02	lease no:	$736.00		
	Total for Check:	89911				$736.00	$4,416.00
89912	01/09/2019	SUPERIOR SWEEPING LTD.	Inv# 377-1218	BPO STREET SWEEPING	$450.00		
	Total for Check:	89912				$450.00	$3,150.00
89913	01/09/2019	TETRA TECH, INC.	Inv# 51378635	Thru 10/27 Mid-Basin Cent.Park	$414.00		
	Total for Check:	89913				$414.00	$55,339.75
89914	01/09/2019	TOTAL FUNDS BY HASLER	Inv# 7900 0110 0247 2424/ 1/19 POSTAGE	BPO PRE-PAID	$3,000.00		
	Total for Check:	89914				$3,000.00	$6,000.00
89915	01/09/2019	TRC SOLUTIONS, INC.	Inv# 58377	Thru 10/31 video monitoring	$3,721.58		
	Total for Check:	89915				$3,721.58	$27,872.50
89916	01/09/2019	TRI-TEK BURGLAR ALARM CO.	Inv# 127786	01/01-03/31 ALARM MONITORING	$618.00		
	Total for Check:	89916				$618.00	$4,472.40
89917	01/09/2019	TRUCPARCO	Inv# 412222	BPO TRUCK PARTS	$14.69		
89917	01/09/2019	TRUCPARCO	Inv# 412222	FUEL CHARGE	$1.07		
	Total for Check:	89917				$15.76	$4,688.79
89918	01/09/2019	Tan, Lo	Inv# 12/13/18 TRAVEL	12/13 Riverside SAWPA Wtr.Use	$34.34		
	Total for Check:	89918				$34.34	$2,195.86
89919	01/09/2019	U-LINE	Inv# 103952143	SPILL KIT	$102.22		
89919	01/09/2019	U-LINE	Inv# 103952143	FREIGHT	$12.37		
	Total for Check:	89919				$114.59	$9,694.87
89920	01/09/2019	U.S. HEALTHWORKS	Inv# 3444901-CA	BPO MEDICAL SERVICES	$215.00		
	Total for Check:	89920				$215.00	$2,142.00
89921	01/09/2019	UCT LLC	Inv# IN76342	LABORATORY SUPPLIES	$4,730.63		

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89921	01/09/2019	UCT LLC	Inv# IN77107	LABORATORY SUPPLIES	$445.88		
89921	01/09/2019	UCT LLC	Inv# IN77420	LABORATORY SUPPLIES	$5,342.34		
Total for Check:		89921				$10,518.85	$18,582.67
89922	01/09/2019	UNI REFRIGERATION	Inv# PO 504708/JAN19	SERVICE BPO	$748.75		
Total for Check:		89922				$748.75	$4,230.75
89923	01/09/2019	UNITED PARCEL SERVICE INC	Inv# 0000X81601019	UPS	$11.70		
89923	01/09/2019	UNITED PARCEL SERVICE INC	Inv# 0000X81601528	UPS	$15.01		
Total for Check:		89923				$26.71	$1,678.33
89924	01/09/2019	UNITED RENTALS	Inv# 164127302-001	Forklift Rental for MF Victaul	$614.10		
89924	01/09/2019	UNITED RENTALS	Inv# 164127302-001	Forklift Rental for MF Victaul	$163.13		
89924	01/09/2019	UNITED RENTALS	Inv# 164127302-001	Forklift Rental for MF Victaul	$150.00		
89924	01/09/2019	UNITED RENTALS	Inv# 164127302-001	Forklift Rental for MF Victaul	$49.02		
Total for Check:		89924				$976.25	$1,223.54
89925	01/09/2019	UTILIQUEST LLC	Inv# 270330-Q 9908	12/2-8 screen/mark pipes	$84.29		
89925	01/09/2019	UTILIQUEST LLC	Inv# 270330-Q 9911	12/2-8 screen/mark pipes	$1,178.89		
89925	01/09/2019	UTILIQUEST LLC	Inv# 270330-Q 9922	12/2-8 screen/mark pipes	$687.68		
89925	01/09/2019	UTILIQUEST LLC	Inv# 270330-Q 9932	12/2-8 screen/mark pipes	$13.95		
Total for Check:		89925				$1,964.81	$56,208.40
89926	01/09/2019	VICTAULIC BERMAD TECHNOLOGIES	Inv# 65507075	3" V-Port Throttling Plug	$3,392.00		
89926	01/09/2019	VICTAULIC BERMAD TECHNOLOGIES	Inv# 65507075	3" V-Port Throttling Plug	$315.00		
89926	01/09/2019	VICTAULIC BERMAD TECHNOLOGIES	Inv# 65507075	3" V-Port Throttling Plug	$100.00		
89926	01/09/2019	VICTAULIC BERMAD TECHNOLOGIES	Inv# 65507075	SHIPPING & HANDLING	$21.41		
Total for Check:		89926				$3,828.41	$8,087.98
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084256210/8084762073 10/5/18 1	Generated by reorder	$625.31		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084256210/8084762073 10/5/18 1	Generated by reorder	$62.54		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084256210/8084762073	DISCOUNT	($8.37)		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084684240	LABORATORY SUPPLIES	$220.33		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084684240	DISCOUNT	($2.20)		

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Check No.	Date	Vendor Name	Invoice #	Purpose	Invoice Amount	Check Amount	FYTD
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084788405	Generated by reorder 12/28/18	$157.06		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084788405	Generated by reorder 12/28/18	$104.70		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084788405	freight	$40.84		
89927	01/09/2019	VWR INTERNATIONAL, INC.	Inv# 8084788405	DISCOUNT	($3.02)		
	Total for Check:	89927				$1,197.19	$64,668.54
89928	01/09/2019	WALTERS WHOLESALE ELECTRIC COMPANY	Inv# S112197413.001	BPO ELECTRONIC SUPPLIES	$64.94		
89928	01/09/2019	WALTERS WHOLESALE ELECTRIC COMPANY	Inv# S112197413.001	DISCOUNT	($1.20)		
	Total for Check:	89928				$63.74	$3,907.84
89929	01/09/2019	WATERS CORPORATION	Inv# 230091509	SAMPLE ANALYSIS	$678.52		
89929	01/09/2019	WATERS CORPORATION	Inv# 230091509	SAMPLE ANALYSIS	$589.50		
89929	01/09/2019	WATERS CORPORATION	Inv# 230091509	FREIGHT	$10.13		
	Total for Check:	89929				$1,278.15	$19,666.09
89930	01/09/2019	WHITE NELSON DIEHL EVANS LLP	Inv# 187562	Final-fed. grant single audit	$368.00		
	Total for Check:	89930				$368.00	$42,748.00
976686	01/09/2019	WELLS FARGO BANK	Inv# JANUARY 9,19 #6911	Jan.9,19 DPR#01-1 #6911	$981.50		
976686	01/09/2019	WELLS FARGO BANK	Inv# JANUARY 9,19 #6911	Jan.9,19 DPR#01-1 #6911	($981.50)		
	Total for Check:	976686				$0.00	$11,279,465.94
976687	01/09/2019	PRUDENTIAL RETIREMENT SERVICE	Inv# JANUARY 9,2019	Jan 9, 19 DPR#01-1 401a	$291.18		
	Total for Check:	976687				$291.18	$3,015,329.52
976688	01/09/2019	PRUDENTIAL RETIRMENT	Inv# JANUARY 9, 2019	Jan.9,2019 DPR#01-1 457b	$341.75		
	Total for Check:	976688				$341.75	$787,582.03
976689	01/08/2019	WELLS FARGO BANK	Inv# JANUARY 9,19 #6911	Jan.9,19 DPR#01-1 #6911	$981.50		
	Total for Check:	976689				$981.50	$11,279,465.94
Run Date:	***1/9/2019***				**$7,290,982.77**	**$7,290,982.77**	

MINUTES OF REGULAR MEETING
BOARD OF DIRECTORS, ORANGE COUNTY WATER DISTRICT
December 5, 2018, 5:30 p.m.

President Bilodeau called to order the December 5, 2018 regular meeting of the Orange County Water District Board of Directors at 5:30 p.m. in the Boardroom at the District office. Following the Pledge of Allegiance to the Flag, the District Secretary called the roll and reported a quorum as follows.

Directors		Staff
Denis Bilodeau		Michael Markus, General Manager
Shawn Dewane		Joel Kuperberg, General Counsel
Cathy Green		Janice Durant, District Secretary
Dina Nguyen	(arrived 5:49 p.m.)	
Vicente Sarmiento		
Stephen Sheldon		
Tri Ta		
James Vanderbilt		
Bruce Whitaker		
Roger Yoh	(arrived 5:49 p.m.)	

1. Employee Service Awards

The Board presented the following service awards: 30 years: Michael Markus, Roy Herndon, Tim Sovich, Donna Pike; 20 years: Laura Liang

VISITOR PARTICIPATION

There were no visitors wishing to address the Board at tonight's meeting.

CONSENT CALENDAR

The Consent Calendar was approved upon motion by Director Green, seconded by Director Sarmiento and carried [8-0] as follows:
Ayes: Bilodeau, Dewane, Green, Sarmiento, Sheldon, Ta, Vanderbilt, Whitaker
Absent: Nguyen, Yoh

2. Approval of Cash Disbursements

MOTION NO. 18-130
APPROVING CASH DISBURSEMENTS

Payment of bills for the period November 1, 2018 through November 28, 2018 in the total amount of $12,280,107.39 is ratified and approved.

3. Approval of Minutes of Board Meeting

MOTION NO. 18-131
APPROVING MINUTES OF BOARD MEETING

The minutes of the Board of Directors meetings held October 17 and November 7, 2018 are approved as presented.

4. Resolution Honoring Tim Quinn upon the Occasion of His Retirement from ACWA

RESOLUTION NO. 18-12-162
IN HONOR OF THE RETIREMENT OF TIMOTHY (TIM) H. QUINN AND HIS SIGNIFICANT CONTRIBUTIONS TO CALIFORNIA'S WATER

WHEREAS, Timothy (Tim) H. Quinn, who for the past 11 years has led the Association of California Water Agencies (ACWA) with distinction and honor as its Executive Director, is retiring at the end of 2018; and

WHEREAS, he rallied ACWA member agencies to oppose any new tax on water that was proposed by the 2018 California Legislature, which resulted in a stop to all the various efforts for a new tax on water. Tim visited numerous member agencies to educate them on the importance of opposing a tax on water and ensured ACWA provided action alerts to member agencies; and

WHEREAS, Tim successfully oversaw and coordinated ACWA's leadership within the water community during a severe drought period, substantially assisting ACWA members through unprecedented environmental, logistical and regulatory challenges; and his outstanding work in directing ACWA initiatives on drought preparedness and long-term conservation policy have further established ACWA's place as a leading voice in California water; and

WHEREAS, he played a critical role in raising public awareness of the nexus between drought response and water infrastructure investment, which was a key factor in the passage of Proposition 1, overwhelmingly approved by California voters in 2014. He also advocated for passage of Proposition 68 and Proposition 3; and

WHEREAS, Tim led efforts to develop ACWA groundwater policy, which provided the template for the Sustainable Groundwater Management Act, which is widely acknowledged as a significant milestone in California water history; and

WHEREAS, during his career at ACWA, Tim led efforts to raise $6 million and implement the "California Water: A Crisis We Can't Ignore" educational campaign, which contributed greatly to enhanced public awareness of the urgent need to address California's unique water challenges; and

WHEREAS, Tim helped negotiate the 2009 legislation that adopted the policy of coequal goals as a foundational policy principle of Bay-Delta collaborative efforts and set first-ever conservation standards. His leadership in this area continued when he spearheaded the development of ACWA's Bay-Delta flows policy, which emphasizes the essential need for comprehensive, integrated ecosystem management plans that link flows to specific functions and biological objectives; and

WHEREAS, he led development of ACWA's Statewide Water Action Plan and helped trigger development of the California Water Action Plan, which was adopted by the Brown Administration in 2014 and continues to guide statewide water policy; and

WHEREAS, he is a recognized and accomplished water leader in California and the nation through his participation and leadership with multiple nonprofit organizations and coalitions within the water community, including the Water Education Foundation, National Water Resources Association, California Forest Watershed Alliance, Public Policy Institute of California, and Clean Water and Jobs for California;

NOW, THEREFORE, BE IT RESOLVED that the Orange County Water District, commends and congratulates Tim Quinn on his extraordinary accomplishments and distinguished career and extends appreciation for his many and significant contributions to the water industry and to the people of California. The Orange County Water District extends its best wishes to Tim and his wife Vivien for a happy, rewarding, meaningful and well-deserved retirement.

ITEMS RECOMMENDED FOR APPROVAL AT COMMUNICATION AND LEGISLATIVE LIAISON COMMITTEE MEETING HELD NOVEMBER 8, 2018

5. 50th Anniversary of The Santa Ana River Judgments

MOTION NO. 18-132
APPROVING EVENT TO COMMEMORATE 50TH ANNIVERSARY OF 1969 ORANGE COUNTY AND WESTERN-SAN BERNARDINO JUDGMENTS

The following action in connection with commemoration of the 50th Anniversary of the 1969 Orange County and Western-San Bernardino Judgments is hereby authorized: Approval of up to $8,000 to co-host an event with the Santa Ana River Watermasters and create a booklet, video and pin.

ITEMS RECOMMENDED FOR APPROVAL AT WATER ISSUES COMMITTEE MEETING HELD NOVEMBER 14, 2018

6. Alamitos Barrier Project: Revised Recycled Water Service Agreement with the Los Angeles County Department of Public Works and Water Replenishment District

RESOLUTION NO. 18-12-163
APPROVING REVISED RECYCLED WATER SERVICE AGREEMENT WITH LOS ANGELES COUNTY FLOOD CONTROL DISTRICT AND WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

WHEREAS, pursuant to Resolution No. 03-6-84 adopted June 18, 2003, as subsequently amended, OCWD entered into an Agreement with the Water Replenishment District of Southern California, and the Los Angeles County Flood Control District Regarding Reclaimed Water Service to the Alamitos Barrier Project to reduce the Barrier's reliance on imported water;

WHEREAS, the Water Issues Committee of this Board has presented and recommended approval of a revised 10-year Agreement which replaces the above-referenced agreement and redefines the rights and responsibilities for each of the three agencies responsible for the operation of the Alamitos Seawater Barrier;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the revised Agreement as outlined herein; and, upon approval as to form by District General Counsel, its execution by the District officers is authorized.

7. Establish Project Budget for Santiago Floating Pipeline Anchor Modifications Project

MOTION NO. 18-133
ESTABLISHING PROJECT BUDGET FOR SANTIAGO FLOATING PIPELINE ANCHOR MODIFICATIONS PROJECT

A Project Budget of $30,000 is hereby established for the Santiago Floating Pipeline Anchor Modifications Project.

8. Amendment to License Agreement with Santa Ana Watershed Association for Arundo Removal on District Lands in Prado Basin

RESOLUTION NO. 18-12-164
AMENDMENT TO LICENSE AGREEMENT WITH SANTA ANA WATERSHED ASSOCIATION FOR ARUNDO REMOVAL ON DISTRICT LANDS IN PRADO BASIN

WHEREAS, pursuant to Resolution No. 13-7-87 adopted July 24, 2013, OCWD entered into a License Agreement with the Santa Ana Watershed Association (SAWA) for removal of Arundo on OCWD Property in Prado Basin; and

WHEREAS, the Water Issues Committee of this Board has presented and recommended approval of Amendment No. 1 to such License Agreement reducing the acreage for Arundo removal from 212 acres to 100 acres and extending the Agreement termination date through December 31, 2023; and

WHEREAS, the Water Issues committee has further recommended establishment of the OCWD Arundo Re-Growth Control Fund with a maximum fund amount not to exceed $750,000; and

WHEREAS, the Water Issues Committee has further recommended the transfer of funds received from SAWA for control of Arundo on District lands, up to a maximum of $750,000, into OCWD Arundo Re-Growth Control Fund;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby resolve as follows:

Section 1: Amendment No. 1 to the License Agreement with SAWA is approved as described herein; and, upon approval as to form by District General Counsel, it's execution by the District officers is authorized.

Section 2: Establishment of the OCWD Arundo Re-Growth Control Fund is authorized with a maximum fund amount not to exceed $750,000.

Section 3: Transfer of funds received from SAWA for control of Arundo on District lands, up to a maximum of $750,000, into OCWD Arundo Re-Growth Control Fund is authorized.

9. Extension of Agreements to Habitat West and the Santa Ana Watershed Association (SAWA) for On-Call Restoration Planting and Maintenance in Prado Basin

RESOLUTION NO. 18-12-165
EXTENDING AGREEMENTS TO HABITAT WEST AND SANTA ANA WATERSHED ASSOCIATION (SAWA) FOR ON-CALL RESTORATION PLANTING AND MAINTENANCE IN PRADO BASIN

WHEREAS, pursuant to Resolution No. 15-11-180 adopted November 18, 2015, OCWD authorized Agreement No. 1125 with Habitat West and Agreement No. 1126 with the Santa Ana Watershed Association for restoration planting and maintenance in Prado Basin as part of the District's Prado Basin Water Conservation Program and wetlands operations; and

WHEREAS, the Water Issues Committee of this Board has recommended issuance of Amendment No. 1 to Agreement No. 1125 with Habitat West and Amendment No. 1 to Agreement No. 1126 with the Santa Ana Watershed Association for an amount not to exceed $180,000 for a three-year period with a $60,000 annual limit for hourly work associated with planting, irrigation systems and weed management in Prado Basin through December 31, 2021;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the aforementioned amendments as outlined herein; and, upon approval as to form by District General Counsel, it's execution by the District officers is authorized.

10. Contract No. GA-2019-1, 2018 Green Acres Project (Gap) Pipeline Valve Repairs Project-Notice Inviting Bids

MOTION NO. 18-134
AUTHORIZING PUBLICATION OF NOTICE INVITING BIDS FOR CONTRACT NO. GA-2019-1, 2018 GREEN ACRES PROJECT (GAP) PIPELINE VALVE REPAIRS PROJECT-NOTICE INVITING BIDS

Publication of a Notice Inviting Bids for Contract No. GA-2019-1, 2018 Green Acres Project (GAP) Pipeline Valve Repairs Project, is hereby authorized.

11. Amendment to Cost Share Agreement for Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) Environmental Impact Report

RESOLUTION NO. 18-12-166
APPROVING AMENDMENT TO COST SHARE AGREEMENT FOR SANTA ANA RIVER CONSERVATION AND CONJUNCTIVE USE PROGRAM (SARCCUP) ENVIRONMENTAL IMPACT REPORT

WHEREAS, pursuant to Resolution No. 17-4-55 adopted April 19, 1977, OCWD approved the SARCCUP Cost Share for Program Management; and

WHEREAS, the Water Issues Committee of this Board has presented and recommended approval of an amendment to such Cost Share Letter Agreement for the SARCCUP Environmental Impact Report to increase OCWD's share by $26,920;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the Amendment to Cost Share Letter Agreement for the SARCCUP Environmental Impact Report as outlined herein; and, upon approval as to form by District General Counsel, it's execution by the District officers is authorized, and authorize payment to the Inland Empire Utilities Agency for an amount not to exceed $26,920 is authorized.

ITEMS RECOMMENDED FOR APPROVAL AT ADMINISTRATION AND FINANCE ISSUES COMMITTEE HELD NOVEMBER 15, 2018

12. Monthly Cash Control Report

MOTION NO. 18-135
RECEIVING AND FILING THE SUMMARY CASH AND CASH EQUIVALENTS CONTROL REPORTS

Receive and file Summary Cash and Cash Equivalents Control Reports dated October 31, 2018.

13. Investment Portfolio Holdings Report

MOTION NO. 18-136
RECEIVING AND FILING THE INVESTMENT PORTFOLIO HOLDINGS REPORTS

Receive and file the Investment Portfolio Holdings Reports dated October 31, 2018.

14. District Travel / Expense Reports – FY 2017–18

MOTION NO. 18-137
RECEIVING AND FILING FY 2017-18 DISTRICT TRAVEL/EXPENSE REPORTS

The District Travel and Expense reports for FY 2017-18 are hereby received and filed.

15. Purchase of Shade System at Prado Office

RESOLUTION NO. 18-12-167
RATIFYING PURCHASE OF SHADE SYSTEM AT PRADO OFFICE

RESOLVED, that issuance of a Purchase Order is ratified to Exclusive Awnings for the purchase of a shade system in an amount not to exceed $10,400 for the OCWD Prado Office.

16. Statement of Investment Policy FY 2018-19

RESOLUTION NO. 18-12-168
ADOPTING STATEMENT OF INVESTMENT POLICY FY 2018-19

The Statement of Investment Policy for Fiscal Year 2018-2019, on file at the District office, is hereby adopted as presented.

17. Biennial Review of OCWD Conflict of Interest Code

RESOLUTION NO. 18-12-169
ADOPTING AMENDED APPENDIX A (DESIGNATED FILERS) TO
CONFLICT OF INTEREST CODE

WHEREAS, pursuant to Resolution No. 09-11-163 adopted November 4, 2009, the Orange County Water District adopted its Conflict of Interest Code conforming to the Political Reform Act, composed of the following three documents: 1) Conflict of Interest Code, 2) Appendix A, Designated Filers; and 3) Appendix B, Disclosure Categories; and

WHEREAS, the Political Reform Act requires local government to review its Conflict of Interest Code biennially to determine its accuracy; and

WHEREAS, the Administration and Finance Issues Committee of this Board has reviewed the OCWD Conflict of Interest Code and appendices thereto and has recommended adoption of an amended Appendix "A" to the OCWD Conflict of Interest Code to reflect appropriate staff assignments;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby resolve as follows:

Section 1: The OCWD Conflict of Interest Code Appendix A, Designated Filers, is amended as described herein and is hereby incorporated in and made a part of the OCWD Conflict of Interest Code, replacing the previous Appendix A.

Section 2: The District Secretary is hereby instructed to forward such amended Conflict of Interest Code and revised Appendix A to the Orange County Board of Supervisors for review and approval as required by California Government Code Section 87303.

18. Single Audit Report for Fiscal Year Ended June 30, 2018

MOTION NO. 18-138
RECEIVING AND FILING SINGLE AUDIT REPORT PREPARED BY WHITE NELSON DIEHL EVANS, LLP

The Single Audit Report prepared by White Nelson Diehl Evans, LLP for the period ended June 30, 2018 is received and filed.

19. Amendment to Agreement with American Water Chemicals, Inc., for Purchase of RO Antiscalants in GWRS Reverse Osmosis (RO) Treatment Facility

RESOLUTION NO. 18-12-170
AUTHORIZING AMENDMENT TO AGREEMENT WITH AMERICAN WATER CHEMICALS, INC. FOR PURCHASE OF REVERSE OSMOSIS (RO) ANTISCALANTS IN GWRS REVERSE OSMOSIS (RO) TREATMENT FACILITY

WHEREAS, pursuant to Resolution No. 16-4-49 adopted April 20, 2016, OCWD authorized issuance of Agreement No. 1279 with American Water Chemicals, Inc. for GWRS Reverse Osmosis antiscalent;

WHEREAS, the Administration and Finance Issue Committee has recommended issuance of an Amendment for the continued supply and delivery of antiscalant for a period of two-years at a price of $0.869/lb;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the aforementioned Amendment to Agreement No. 1279 as outlined herein; and, upon approval as to form by District General Counsel, its execution by the District officers is authorized.

20. Demand Response Participation

RESOLUTION NO. 18-12-171
APPROVING AGREEMENT WITH ENEL X FOR DEMAND RESPONSE PARTICIPATION

RESOLVED, that the General Manager is authorized to finalize and execute a three-year renewal agreement with Enel X (formerly EnerNoc) extending the contract for the period January 1, 2019 through December 31, 2021, for a firm service level of 5,048 kilowatts for the GWRS.

21. Budget to Actual Report for First Quarter FY 2018-19

MOTION NO. 18-139
RECEIVING AND FILING BUDGET TO ACTUAL REPORT FOR FIRST QUARTER OF FY 2018-19

The Budget to Actual Report for First Quarter of Fiscal Year 2018-19 ending September 30, 2018 is hereby received and filed.

Directors Nguyen and Yoh arrived at 5:49 p.m. during discussion of the following item.

MATTER FOR CONSIDERATION

22. Sale of Ball Road Basin Property to North Basin Land, LLC (H&S Ventures, LLC)

Executive Director John Kennedy presented the Purchase and Sales Agreement with North Basin Land, LLC (H&S Ventures, LLC) for the purchase of the Ball Road Basin property for a price of $24 million. He stated the PSA includes a $500,000 Initial Earnest Money Deposit which is due within 5 calendar days of execution of the PSA and is non-refundable upon North Basin's approval of title and hazardous materials contingencies prior to the expiration of the Contingency Period; and a $1.5 million additional non-refundable deposit within one business day of the expiration of the Contingency Period. Mr. Kennedy explained that the Contingency Period is to last 60 days, however not to go beyond December 31, 2018, as North Basin has already been conducting due diligence activities on the Property. He advised that close of escrow is on or before 30 days after the expiration of the Contingency Period, however no later than January 31, 2019. It was noted that the General Manager would be out of town when the documents arrive for execution and the Board requested that a staff member be designated to sign the agreements in his absence.

Upon motion by Director Vanderbilt, seconded by Director Ta, the following resolution was unanimously adopted [10-0].

RESOLUTION NO. 18-12-172
APPROVING PURCHASE AND SALE AGREEMENT WITH NORTH BASIN LAND, LLC (H&S VENTURES) FOR PURCHASE OF BALL ROAD BASIN PROPERTY

WHEREAS, the Orange County Water District owns an approximately 18.12-acre parcel of real property located on or about 1200 and 1204 So. Phoenix Club Drive in Anaheim, commonly referred to as the Ball Road Basin property; and

WHEREAS, pursuant to Resolution No. 18-8-1 adopted January 3, 2018, OCWD found that the aforementioned land was no longer necessary to be retained for the uses and purposes of the District and declared it surplus in accordance with Government Code Section 54220, *et seq*., and authorized filing a Notice of Exemption pursuant to California Environmental Quality Act Guidelines Section 15312, Surplus Government Property Sale.

WHEREAS, North Basin Land, LLC (H&S Ventures, LLC) has submitted an offer to purchase such property for $24,000,000 and the District staff has presented and recommended acceptance of such offer and approval of the Agreement for Purchase and Sale of Real Property and Instructions to Escrow in connection with such sale;

NOW, THEREFORE, the Board of Directors of the Orange County Water District does hereby approve the aforementioned Agreement for Purchase and Sale of Real Property and Instructions to Escrow with North Basin Land, LLC (H&S Ventures); and, upon approval as to form by District General Counsel, it's execution by the President and General Manager or his designee is authorized.

INFORMATIONAL ITEMS

23. Field Headquarters – Recharge Operations - Winter Preparations

Director of Recharge and Wetland Operations John Bonsangue provided a presentation on the operations at Field Headquarters in Anaheim and preparations underway for the winter season to maximize the capture of Santa Ana River storm flows.

24. Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) Update

Recharge Planning Manager Adam Hutchinson updated the Board on significant changes to the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) program which could result in increased water supplies and grant funds available to OCWD. Due to these changes he stated several of the agency general managers will be meeting with DWR staff to discuss these changes. Mr. Hutchinson noted a key objective is to show that although the size of the bank has become smaller, the SARCCUP program still provides benefits to the region and thus should remain fully funded.

25. Water Resources Summary – October 2018

There was no discussion of this item.

26. Santa Ana Watershed Project Authority Activities

Director Whitaker reported that he was officially sworn in as SAWPA Commissioner.

27. Committee/Conference/Meeting Reports

The Board reported on the following Committee meetings and noted the Minutes/Action Agendas were included in tonight's Board packet.

November 08 – Communication and Legislative Liaison Committee
November 14 – Water Issues Committee
November 15 – Administration and Finance Issues Committee
November 30 – Property Management Committee

Director Bilodeau reported on his attendance at the Association of California Water Agencies (ACWA) Conference and Joint Powers Insurance Authority (JPIA) Board meeting in San Diego on November 26. He noted that ACWA presented OCWD with the Huell Howser Best in Blue Award for achieving communications excellence for its GWRS Bottled Water Campaign.

Directors Whitaker, Green, and Sheldon also reported on their attendance at the ACWA Conference on November 27 – 30 in San Diego.

Director Vanderbilt advised that he would be leaving the Board as the City of Anaheim will be appointing an existing Councilmember to serve on the OCWD Board.

VERBAL REPORTS

General Manager Markus advised that Sean Maguire of Carmichael, CA was appointed to fill the open seat on the State Water Resources Control Board. He also reported that OCWD received the 2018 Society of Environmental Toxicology and Chemistry Stephen J. Klaine Environmental Education Award for OCWD's environmental education program.

ADJOURNMENT

General Counsel Kuperberg advised that there was no need to adjourn to Closed Session at tonight's meeting. There being no further business to come before the Board, the meeting was adjourned at 6:30 p.m.

_____
Janice Durant, District Secretary

_____
Denis Bilodeau, President

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: G. Woodside/L. Tan

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: Proposition 84
Program/Line Item No.: N/A
General Counsel Approval: Yes
Engineers Report Approved: N/A
CEQA Compliance: N/A

Subject: AMENDMENT NO. 1 TO GRANT FUNDING CONTRACT FOR PRADO SEDIMENT MANAGEMENT DEMONSTRATION PROJECT WITH SANTA ANA WATERSHED PROJECT AUTHORITY

SUMMARY

The Department of Water Resources (DWR) awarded a Proposition 84 Integrated Regional Water Management (IRWM) Implementation Grant to the Santa Ana Watershed Project Authority (SAWPA). As a sub-grantee to SAWPA, the District's Prado Sediment Management Demonstration Project will receive an IRWM Implementation Grant from SAWPA for an amount not to exceed $750,000. An amendment to the grant contract is needed to account for previous changes to the project approved by the Board.

Attachment(s):
- Proposed Amendment No. 1 to Grant Contract with SAWPA

RECOMMENDATION

Approve and authorize execution of Amendment No. 1 to Proposition 84 Integrated Regional Water Management Round 2 Implementation Grant Funding Contract with Santa Ana Watershed Project Authority.

BACKGROUND

The Prado Sediment Management Demonstration Project is a cooperative effort between the District and the United States Army Corps of Engineers and is partially funded by DWR through SAWPA under the Proposition 84 IRWM Round 2 Implementation Grant Program. The Board approved execution of the grant contract with SAWPA in October 2014. The grant amount awarded to the project was $750,000.

Since 2014, the District revised the project and reduced the project's scale and cost. The revisions to the project included reducing the amount of sediment removed to 120,000 cubic yards and eliminating re-entrainment of sediment into the river downstream of Prado Dam. The Board established a budget of $3,898,000 for the revised project.

In September 2018, the Board certified the EIR for the revised project and approved the revised project.

The proposed Amendment No. 1 to the grant contract with SAWPA maintains the grant

award of $750,000 and includes the reduced scale of the project previously approved by the Board.

Staff recommends that the Board approve and authorize execution of Amendment No. 1 to Proposition 84 Integrated Regional Water Management Round 2 Implementation Grant Funding Contract with Santa Ana Watershed Project Authority.

PRIOR RELEVANT BOARD ACTION(S)

09/19/2018, R18-9-126 - Adopt resolution that includes the following: Certifying the Final Environmental Impact Report for the 5-year Prado Dam Deviation and Prado Basin Sediment Management Demonstration Project;

- Adopting the Findings of Fact and the Mitigation Monitoring Reporting Program;
- Approving the District's participation in the 5-year Prado Dam Deviation
- Approving the revised Prado Basin Sediment Management Demonstration Project;
- Authorizing staff to complete the permitting process with the Army Corps of Engineers and the resource agencies, execute the permits received from the Army Corps of Engineers and the resource agencies, and prepare and implement the Habitat Management Program for the 5-year Deviation and Sediment Management Demonstration Project;
- Authorize staff to advertise opening for 2-year limited term employee contract for monitoring natural resources in Prado Basin in connection with the 5-year Prado Dam deviation;
- Authorize Amendment No. 3 to Agreement 0625 with HDR Engineering, Inc. in an amount not to exceed $99,400 for Prado Basin Sediment Management Demonstration Project Bid Document modifications and engineering support during bidding and construction; and
- Authorizing staff to file Notice of Determination

1/20/2016, R16-1-9: Adopt Resolution approving the Prado Basin Sediment Management Demonstration Project which includes the following items:

- Certifying the Final Environmental Impact Report for the Project;
- Adopting the Findings of Fact and Statement of Overriding Consideration and the Mitigation Monitoring Reporting Program;
- Approve the Project and establish the Project budget of $3,898,000;
- Authorizing staff to complete the permitting process with the Army Corps of Engineers and the resource agencies, execute the permits received for the Project from the Army Corps of Engineers and the resource agencies, and prepare and implement the Habitat Management Program for the Project;
- Authorizing issuance of Notice Inviting Bids for sediment removal;
- Authorizing filing of Notice of Determination

10/15/2014, R14-10-137 - Approve and authorize execution of Proposition 84 Integrated Regional Water Management Round 2 Implementation Grant Funding Contract with Santa Ana Watershed Project Authority for a reimbursement amount not to exceed $750,000 for the Prado Sediment Management Demonstration Project

AMENDMENT NO. 1
PROPOSITION 84 INTEGRATED REGIONAL WATER MANAGEMENT ROUND 2
IMPLEMENTATION GRANT FUNDING CONTRACT
BETWEEN THE

SANTA ANA WATERSHED PROJECT AUTHORITY

AND THE

ORANGE COUNTY WATER DISTRICT

This is Amendment No. 1 to the Proposition 84 Integrated Regional Water Management Program ("IRWMP") Implementation Grant Funding Contract made between Santa Ana Watershed Project Authority ("SAWPA"), and Orange County Water District, (the "Sub-Grantee") executed by SAWPA on September 24, 2014, and by Sub-Grantee on October 21, 2014. SAWPA and the Sub-Grantee may be individually referred to as "Party", and collectively referred to as the "Parties".

WHEREAS, Exhibit A of the Department of Water Resources Grant Agreement No. 4600010590 has been amended to clarify the project description and scale back the scope of work for the demonstration project;

WHEREAS, Exhibit B of the Department of Water Resources Grant Agreement No. 4600010590 has been amended to reduce the required funding match to $1,444,000 and reduce the total project cost to $3,898,000. The sources of funding footnote has been amended to only include OCWD Capital Improvement Project funds; and

WHEREAS, Exhibit C of the Department of Water Resources Grant Agreement No. 4600010590 has been amended to extend the construction of the project to November 2019 and reporting to February 2020.

NOW, THEREFORE, based on the foregoing incorporated recitals and in consideration of the mutual covenants and conditions set forth in the Grant Funding Contract and this Amendment, the Parties hereby agree to modify the following sections to their Grant Funding Contract:

SECTION 1. PROJECT DESCRIPTION

The Sub-Grantee's Project is the component described in the IRWMP Grant Agreement as **Prado Basin Sediment Management Demonstration Project.** The Orange County Water District (OCWD) and the United States Army Corps of Engineers (ACOE) will perform a demonstration project that will remove sediment from within Prado Basin.

The project will develop a new method to manage sediment movement in the SAR Watershed. The objectives of the demonstration project include:

(1) Restore natural sediment transport through Prado Basin,
(2) Assess the technical, environmental, and economic issues associated with sediment management in the SAR, and
(3) Provide information to implement a long-term sediment management solution.

Sediment will be removed from Prado Basin and transported to a temporary holding area near the spillway. Sediment removal will occur during the late summer to fall to avoid impacts to endangered species. Sediment removal will be located in areas with *ArundoDonax* to maximize removal of this non-native plant. Options to redistribute the sediment in the lower SAR by natural sediment transport processes will be studied. The project will remove approximately 74 acre feet (120,000 cubic yards) of sediment from the basin.

SECTION 3. ESTIMATED ELIGIBLE PROJECT COSTS; GRANT AMOUNT

The estimated reasonable cost of the Project at the time of this Amendment No. 1 is **Three Million Eight Hundred Ninety-Eight Thousand** dollars ($3,898,000). Subject to all of the terms, provisions, and conditions of this Contract, and subject to the availability of the grant funds, SAWPA shall disburse such grant funds in a sum not to exceed **Seven Hundred Fifty Thousand** dollars ($750,000). However, SAWPA's actual grant disbursements to the Sub-Grantee under this Contract shall not exceed payments received from the DWR. Local match funds shall not include SRF loans per DWR criteria. Upon completion of a separate SRF loan agreement for the Project between the DWR and sub-grantee, the local match funds requirement will be revised, subject to the approval of the DWR.

IN WITNESS THEREOF, the parties have executed this Contract on the dates set forth below.

SANTA ANA WATERSHED PROJECT AUTHORITY

Dated: 11/15/18

By: _____

ORANGE COUNTY WATER DISTRICT
Sub-Grantee

Dated: _____

By: _____
Authorized Representative

_____
Typed Name

_____
Title

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: G. Woodside

Budgeted: No
Budgeted Amount: N/A
Cost Estimate: $29,125
Funding Source: Reserves
Program/Line Item No. 1044.53001
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: CONSULTANT SUPPORT FOR SMITH BASIN IMPROVEMENT PROJECT

SUMMARY

The District has three on-call environmental consultants that are used for selected technical studies and for balancing workload in preparing environmental documentation for District projects. For several years, the District had one staff member that prepared the majority of the District's environmental documents. With the recent departure of this staff member, the District issued a Request for Proposals (RFP) to complete environmental documentation for the Smith Basin Improvement Project.

RECOMMENDATION

Authorize issuance of Work Order to SageCrest Planning+Environmental for an amount not to exceed $29,125 to prepare environmental documentation for the Smith Basin Improvement Project.

BACKGROUND/ANALYSIS

The District has three on-call environmental consultants that are used for selected technical studies such as air quality and noise studies. The on-call environmental consultants have occasionally been used to help balance workload in preparing environmental documentation for District projects. These firms are Environmental Science Associates (ESA), Psomas, and SageCrest Planning+Environmental.

For several years, the District had one staff member that prepared the majority of the District's environmental documents. With the recent departure of this staff member, the District issued a RFP to complete environmental documentation for the Smith Basin Improvement Project. The scope of work is to prepare a Mitigated Negative Declaration for the project and provide assistance with acquiring permits from the regulatory agencies.

Summary of Smith Basin Improvement Project

Smith Basin is an existing basin adjacent to the Santiago Basins. The basin provides limited recharge capacity but does provide some storage capacity. As shown in Figure 1 below, the Smith Basin Improvement project site is located on the north side of Villa

Park Road and south of Santiago Boulevard within the City of Orange and the City of Villa Park.

Santiago Creek flows into Smith Basin at the northeast corner and out of the Basin from a corrugated metal pipe that extends under Villa Park Road and into the downstream Santiago Basins.

The embankment slopes vary in height from 50 feet to 80 feet in height and vary in slope ratio from approximately 1:1 to 2:1, except near the southwest corner of the basin where the embankment slope is approximately 1:1. Erosion has resulted in near-vertical scarps in some areas.

The purpose of the proposed project is to increase geotechnical stability in Smith Basin and minimize the risk of future slope failure. Selected areas within Smith Basin would be repaired and/or improved to increase geotechnical stability. Much of the bottom of Smith Basin will be re-graded to repair the existing slope damage and re-establish Santiago Creek to its original alignment.

The repair to the failed slopes in Smith Basin will require excavation along the base of the failures and placement of engineered fill. Repairs include using fill excavated from within the bottom of Smith Basin to repair these slopes. The project does not involve import or export of fill material.

Consultant Support to Prepare Environmental Documentation

Staff issued the RFP to prepare a Mitigated Negative Declaration and provide permitting support on January 3, 2019 and proposals were received on January 9, 2019. The price quote provided by each firm is:

Firm	Price Quote
ESA	$32,630
Psomas	$62,380
SageCrest Planning+Environmental	$29,125

Each of the three firms has worked for the District in recent years. Each of the three firms were pre-qualified as part of the selection process for the on-call environmental firms. Since all three of the firms are qualified to conduct this work, staff recommends that the District utilize SageCrest for this work because they provided the lowest price quote.

Staff recommends that the Board authorize issuance of a Work Order to SageCrest Planning+Environmental for an amount not to exceed $29,125 to prepare environmental documentation for the Smith Basin Improvement Project.

PRIOR RELEVANT BOARD ACTION(S) N/A

Figure 1
Location Map

Smith Basin Rehabilitation Project
Slope Failure Areas

Figure 1

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 9, 2019

To: Water Issues Committee
Board of Directors

From: Mike Markus

Staff Contact: M. Markus/M. Patel

Budgeted: No
Budget Amount: N/A
Cost Estimate: $125,000
Funding Source: General Fund
Program/Line Item No.: 1050.53001.9900
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: LIMITED TERM EMPLOYMENT AGREEMENT WITH JAMES KALINOWSKI FOR TECHNICAL SUPPORT SERVICES

SUMMARY

James (Jay) Kalinowski will be retiring from the District as Process Control and System Manager in March 2019. An Agreement with Mr. Kalinowski is recommended so that he can provide technical support to the Water Production, Field Headquarters Recharge and Wetlands Departments. Mr. Kalinowski possesses unique knowledge and experience on electrical, process control systems (PCS), and computerized maintenance management systems (CMMS) from his 32 years of employment at the District.

Attachment: Limited Term Employment Agreement

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Authorize execution of a Limited Term Employment Agreement with James Kalinowski for an amount not to exceed $125,000 for technical consulting services for the period of March 4, 2019 to March 4, 2020.

DISCUSSION/ANALYSIS

Jay Kalinowski has been employed by OCWD for 32 years in various roles involving the management of the Instrumentation and Electrical (I&E) of Water Factory 21, Green Acres Project and GWRS. His most recent assignment has been as the Process Control and System Manager overseeing the I&E department providing electrical, PCS, CMMS and asset management oversight for GWRS, GAP, Recharge and other district facilities. During his 32 years at the District, Mr. Kalinowski has acquired unique knowledge that will be valuable to assist the Water Production and Recharge Operations staff and provide support on process control monitoring, electrical and asset management. In addition to managing these duties, Mr. Kalinowski has been the sole staff source of electrical and instrumentation support for the design of the GWRS Final Expansion (GWRSFE) and would continue in that role during construction of the project.

Mr. Kalinowski's scope of work under this limited term contract will include the following activities:

- Provide support and guidance to the new Process Control and System Manager, Executive Director of Operations, and GWRS Program Manager

- Review and comment on the design specifications and drawings for the GWRSFE

- Provide construction management support for GWRSFE including submittals/RFI reviews.

- Assist staff with the ongoing development of the Computerized Maintenance Management System and the development of maintenance practices

- Assist with ongoing maintenance and programming of the Delta V software program for the GWRS Process Control System

- Assist the Engineering department as needed with electrical, controls, and instrumentation support for capital improvement and R&R projects

- Review GWRS power consumption and instrumentation data

- Provide general technical consulting on an as-needed basis

Mr. Kalinowski possesses specialized knowledge of OCWD facilities which will provide a unique resource. Jay has been the sole electrical and instrumentation support for district facilities and their associated issues. Mr. Kalinowski has agreed to work limited hours for the District as a consultant to assist with the activities listed above at an hourly rate of $125 per hour.

PRIOR RELEVANT BOARD ACTION(S) N/A

LIMITED TERM EMPLOYMENT AGREEMENT

(James Kalinowski)

THIS LIMITED TERM EMPLOYMENT AGREEMENT is entered into as of March 4, 2019 by and between the ORANGE COUNTY WATER DISTRICT, a political subdivision of the State of California (hereinafter, "OCWD"), James Kalinowski (hereinafter, "EMPLOYEE"), for the employment of EMPLOYEE by OCWD for the period commencing March 4, 2019 through the termination date as established in Section Three herein below, in accordance with the following terms and conditions:

SECTION ONE: EMPLOYMENT AND DUTIES OF EMPLOYEE

1.1 OCWD hereby employs EMPLOYEE, and EMPLOYEE hereby accepts employment from OCWD, in the capacity of PCS & Electrical Advisor, commencing as of March 4, 2019.

1.2 During EMPLOYEE's employment with OCWD, EMPLOYEE shall do and perform all services, acts or things necessary or advisable to fulfill the duties and responsibilities as directed by the Executive Director of Operations.

1.3 EMPLOYEE shall work not more than twenty-five (25) hours in any work week.

1.4 Unless otherwise, the employment services of EMPLOYEE shall be performed at the offices of OCWD, located at 18700 Ward Street, Fountain Valley, CA; provided, however, that OCWD may require EMPLOYEE to travel temporarily to other locations to perform services for or on behalf of OCWD.

1.5 EMPLOYEE shall, to the best of EMPLOYEE's ability and experience, loyally and conscientiously perform all of the duties and obligations required of EMPLOYEE, either expressly or implicitly by the terms of this Agreement or the provisions of the OCWD Personnel Manual (hereinafter, the "Personnel Manual"), as adopted by the Board of Directors of OCWD and as may be amended by the Board of Directors in its legislative discretion from time to time (copy of which has

been provided to EMPLOYEE); provided, however, that in the event of a conflict between this Agreement and the Personnel Manual, this Agreement shall supersede and prevail of the Personnel Manual.

SECTION TWO: COMPENSATION AND BENEFITS

2.1 As of the date of commencement of employment as set forth in Paragraph 1.1, EMPLOYEE shall receive wages based on an hourly rate of $125, with a do not exceed of $125,000 for the term of the contract.

2.2 For and during the term of employment, EMPLOYEE shall **NOT** be entitled to all of the benefits provided within the contract period and enjoyed by full-time or part-time employees of OCWD, as set forth in the Personnel Manual.

SECTION THREE: TERM OF EMPLOYMENT

3.1 OCWD and EMPLOYEE hereby expressly understand and acknowledge that EMPLOYEE is employed by OCWD, for a period not to exceed one-year duration.

3.2 While OCWD and EMPLOYEE anticipate that the term of employment under this Agreement shall be approximately 1 year from the date of commencement of EMPLOYEE's employment pursuant to Paragraph 1.1 hereinabove, the actual date of termination of employment shall be determined by the completion of duties as determined by the District. In this regard, OCWD shall provide EMPLOYEE at least 14 days' written notice of the termination of employment due to the completion of duties.

3.3 Notwithstanding the provisions of Paragraphs 3.1 and 3.2 hereinabove, OCWD and, EMPLOYEE each reserve the right to terminate this Agreement and the EMPLOYEE's employment with OCWD, at any time, with or without cause.

SECTION FOUR: MISCELLANEOUS

4.1 Effect of Personnel Manual: To the extent not inconsistent with the provisions of this Agreement, the Personnel Manual is incorporated herein by this reference and shall govern the terms and conditions of EMPLOYEE's employment with OCWD, and the employment relationship of EMPLOYEE and OCWD, in all matters not expressly set forth herein.

4.3 Integration: This Agreement, together with all of the provisions of the Personnel Manual not inconsistent with any of the terms and conditions herein, represents the entire understanding of OCWD and EMPLOYEE as to the employment of EMPLOYEE by OCWD; and this Agreement, as complemented by the provisions of the Personnel Manual not inconsistent with the terms and conditions contained herein, supersedes any and all other agreements and understandings, either oral or in writing, between OCWD and EMPLOYEE with respect to the employment of EMPLOYEE by OCWD. Each party to this Agreement expressly acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or any person acting on behalf of any party, which are not embodied herein, and that no other agreement, statement, representation or promise not contained in this Agreement or in the Personnel Manual shall be of any force or effect.

4.4 Construction and Amendment: This Agreement shall be governed by the laws of the State of California. This Agreement may not be modified, altered or amended except in writing signed by OCWD and EMPLOYEE.

4.5 Effective Date: This Agreement shall be deemed executed by the parties as of the date first above written.

APPROVED AS TO FORM:

By_____
General Counsel, OCWD

ORANGE COUNTY WATER DISTRICT

By_____

President

By_____

General Manager

By_____

Employee

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 9, 2019

To: Water Issues Committee
Board of Directors

From: Mike Markus

Staff Contact: C. Olsen / B. Smith

Budgeted: Yes
Budgeted Amount: $5,975
Cost Estimate: $5,975
Funding Source: R&R
Program/Line Item No. R18003
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: **AMENDMENT TO AGREEMENT WITH CONTECH SERVICES FOR REPAIR OF CONCRETE CRACKS IN THE GREEN ACRES PROJECT TREATMENT BUILDING**

SUMMARY

Cracks in the concrete walls of the Green Acres Project treatment building have been observed and were leaking water from the flocculation and filter tanks. Contech Services successfully performed epoxy injection to repair most cracks, however additional cracks and pipe wall penetrations need to be filled.

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Authorize issuance of Amendment No. 1 to Agreement No. 1328 with Contech Services, Inc. for an amount not to exceed $5,975 for additional epoxy injection repairs.

BACKGROUND/ANALYSIS

The District's Green Acres Project (GAP) treatment building was constructed 30 years ago in 1989. The building's structure is made of reinforced concrete walls and partitions to separate its treatment processes. Cracks have developed in the exterior walls of the building. Water leaks through the cracks from the flocculation and filtration treatment processes. Contech Services was contracted to perform epoxy injection of these concrete cracks to seal them and prevent further leakage. Upon completion of the contract's scope, the walls were hydrostatically tested and additional leaking cracks and pipe wall penetrations were observed. Staff recommends issuance of an amendment to Contech for an amount not to exceed $5,975 to fill the additional cracks and penetrations with epoxy.

PRIOR RELEVANT BOARD ACTION(S)

8/15/18, R18-8-109: Authorize issuance of Agreement to Contech Services, Inc. for Repair of Concrete Cracks in the Green Acres Project Treatment Building for an amount not to exceed $48,650.

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 9, 2019

To: Water Issues Committee
Board of Directors

From: Mike Markus

Staff Contact: C. Olsen / B. Smith

Budgeted: Yes
Proposed Budget: $500,000
Cost Estimate: $500,000
Funding Source: R&R
Program/Line Item No.: R18024
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: Cat. Ex.

Subject: CONTRACT NO. GAP-2019-2, 2019 GREEN ACRES PROJECT (GAP) APPURTENANCE REHABILITATION – CATEGORICAL EXEMPTION AND NOTICE INVITING BIDS

SUMMARY

The District's Green Acres Project (GAP) distribution system went into service in 1991. Many of the blow-off enclosure boxes have deteriorated due to rust and are no longer able to secure their lids or maintain smooth transitions in sidewalk areas. A Notice Inviting Bids is ready for a contract to replace approximately 40 of these boxes in the Cities of Costa Mesa, Fountain Valley, Huntington Beach, and Santa Ana.

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting:

1. Authorize filing of a Categorical Exemption for the replacement of existing Green Acres Project appurtenances in compliance with the California Environmental Quality Act (CEQA) guidelines; and

2. Authorize publication of Notice Inviting Bids for Contract No. GAP-2019-2, Green Acres Project (GAP) Appurtenance Rehabilitation.

BACKGROUND/ANALYSIS

Due to the age of the GAP distribution system, annual repair and rehabilitation project budgets have been established to address its needs. Each year, Staff from the Engineering and Barrier groups determine which needs are of the greatest importance. Over the past two years, several of the blow-off enclosure boxes were replaced. This project budget was established to replace all of the remaining compromised boxes. Most of the boxes are located in sidewalk areas and are becoming trip hazards. The metal frames of the boxes have rusted to a point that their lids are no longer secure.

Staff recommends issuance of Notice Inviting Bids for Contract GAP-2019-2 to replace approximately 40 of the boxes. The project is consistent with the Categorical Exemption for Replacement or Reconstruction (Class 2) because it is replacing small existing structures in a way that maintains the original purpose and does not increase capacity. Figure 1 shows the location of the boxes to be included in this contract. Table

1 shows a summary of the expected project expenditures. The construction inspection of this work would be performed in-house by OCWD personnel. It is anticipated that the work will be completed before June 30, 2019.

Figure 1: Proposed Blow-Off Box Replacement Locations

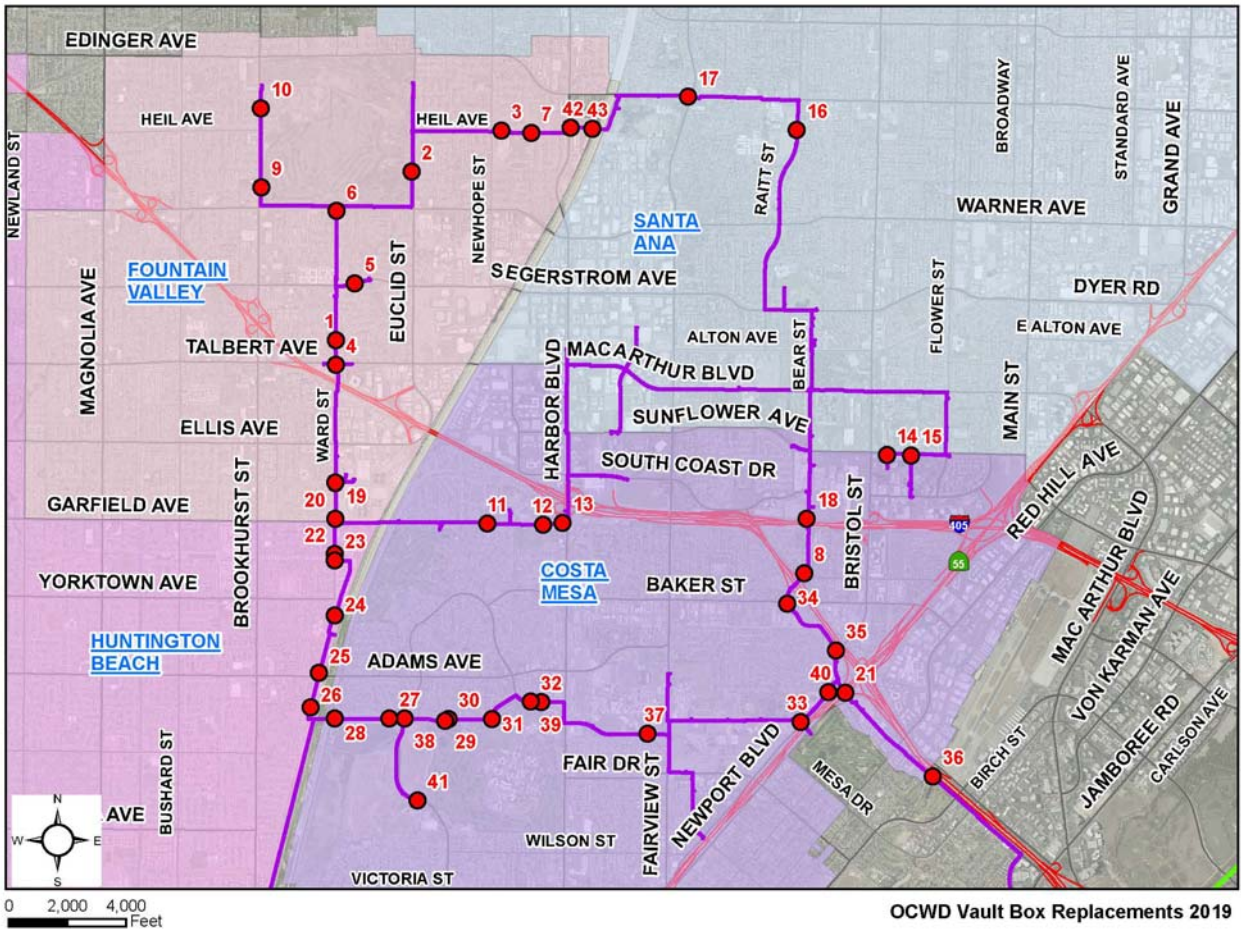


Table 1: Blow-Off Box Replacement Budget Summary

Description	Projected Expenditures
Permitting	$ 20,000
Construction	$ 440,000
Construction Management	$ 0
Project Contingency	$ 40,000
Total Project Budget	$ 500,000

PRIOR RELEVANT BOARD ACTION(S)

N/A

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 9, 2019

To: Water Issues Committee
Board of Directors

From: Mike Markus

Staff Contact: C. Olsen / B. Smith

Budgeted: Yes
Proposed Budget: $205,368
Cost Estimate: $205,368
Funding Source: Grant / SRF
Program/Line Item No.: C17002
General Counsel Approval: Yes
Engineers/Feasibility Report: Complete
CEQA Compliance: EIR/EA, Complete

Subject: **MID-BASIN INJECTION: CENTENNIAL PARK – AUTHORIZE AMENDMENTS TO BUTIER CONSTRUCTION MANAGERS AND GEOTECHNICAL CONSULTANTS, INC. AND RATIFY CONSTRUCTION CHANGE ORDERS 4 AND 5 TO CONTRACT MBI-2017-1**

SUMMARY

On-going construction of the Mid-Basin Injection: Centennial Park Project has resulted in additional support needs for well and civil construction management services. Events necessitating addition support include extended pipeline construction, well quality controls, and Orange County Flood Control work in the Greenville-Banning channel.

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting:

1. Authorize issuance of Amendment No. 1 to Agreement No. 1168 with Butier Construction Managers for an amount not to exceed $90,000 for additional civil construction management;
2. Authorize issuance of Amendment No. 2 to Agreement No. 1164 with Geotechnical Consultants, Inc. for an amount not to exceed $23,700 for additional well construction management; and
3. Ratify issuance of Change Orders No. 4 and 5 to Contract MBI-2017-1 for a net total of $91,668.03 and no time extension for use of native soil for backfill, conflicts with existing utilities, structure cripple walls, additional well drilling and development, and other changes.

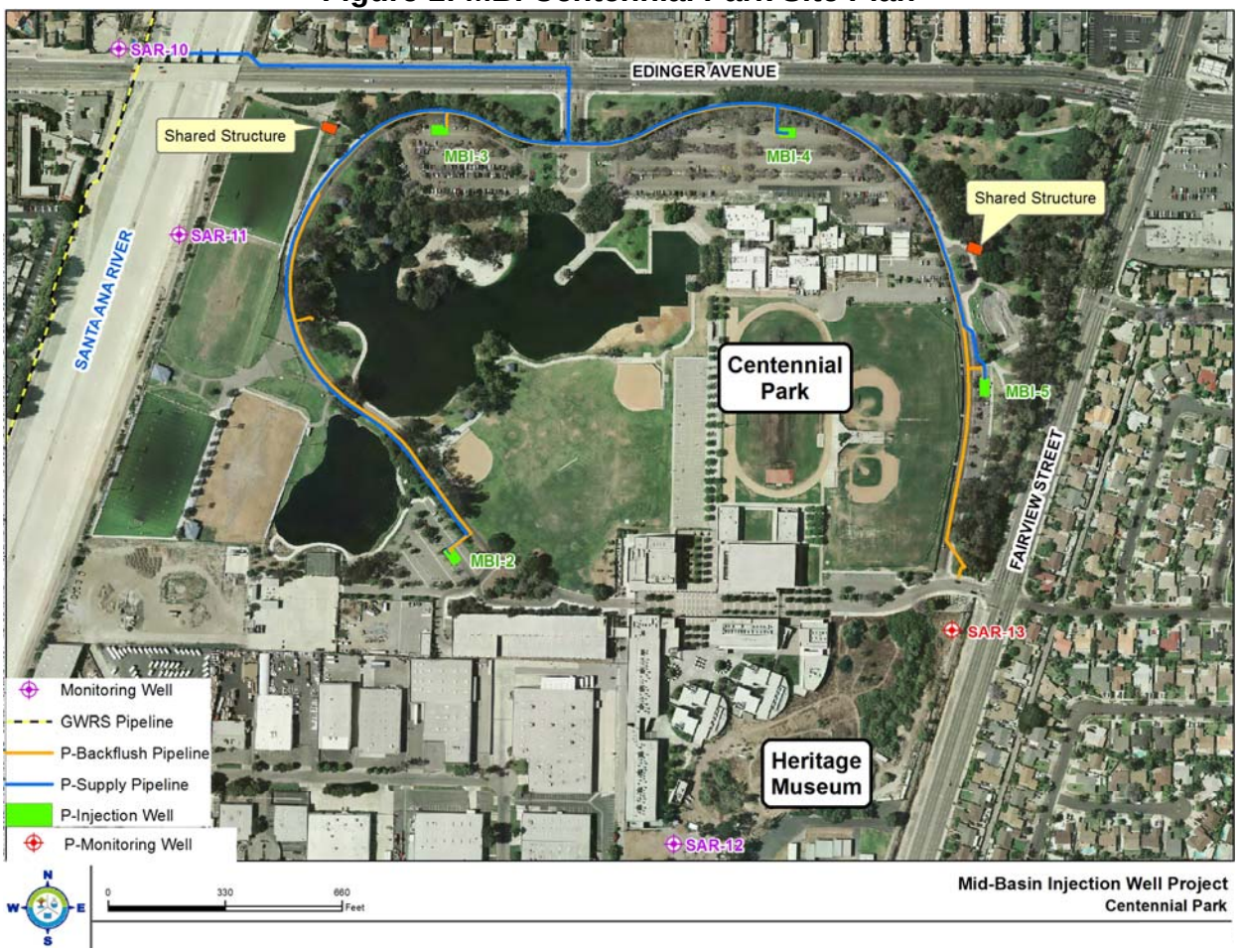
BACKGROUND/ANALYSIS

The District's Mid-Basin Injection (MBI) project in Centennial Park includes construction of four wells to inject GWRS product water directly into the Principal aquifer near areas with concentrated groundwater production and relatively low groundwater levels. The project will provide additional basin recharge capacity that must be developed to support the GWRS Final Expansion Project, raise groundwater levels in the Principal aquifer, and reduce the amount of GWRS water that must be sent to the Anaheim

recharge basins allowing those facilities to be concentrated on capturing Santa Ana River storm flows and recharging untreated imported water. A project site map is shown in Figure 1.

An amendment to the project's civil construction manager, Butier, is recommended for an amount not to exceed $90,000. Loose sandy soil conditions and unmarked utilities were encountered during pipeline construction inside the park. These conditions caused the amount of days needed to construct the pipeline to extend well beyond its expected timeframe. Geotechnical inspections were employed during the pipeline work to ensure that the roadway's sub-grade was compacted properly. Additionally, a column pipe thread issue was uncovered during inspection of the project's well pumping components. New threads are being fabricated and a specialty inspection of the threads will be performed under the Butier contract, which cost will be reimbursed to OCWD via change order with the contractor.

Figure 1: MBI Centennial Park Site Plan



An amendment to the project's well construction manager, Geotechnical Consultants, Inc., is recommended for an amount not to exceed $23,700. Additional inspection and testing efforts were required due to a delay and re-phasing of construction activities caused by a County of Orange project taking place in the Greenville-Banning channel requiring OCWD to stop discharging well development water to the channel. Additionally, there were quality control issues with the glass beads and gravel filter

pack, well sanding issues, and additional effort to clear well tubes. All issues were resolved but resulted in additional time.

Change Order Number 4 consisted of a credit to OCWD for allowance of sandy native soil for pipeline backfill, a deeper pipeline installation to avoid existing utilities, an upgrade to impact resistant drywall in the shared structures, an adjustment to door and doorframe widths, and the addition of a monitor for the skatepark camera system. The net total of these items is a credit to OCWD for $72,379.09.

Change Order Number 5 consisted of expenses associated with the delay discussed above, additional well development, modification of shared structure cripple walls, repair of unmarked existing utilities, addition of a third education sign at the Heritage Museum, an additional well video survey, and change of grating material at one of the air-gaps. The total of these items is $164,047.12.

Project Budget and Schedule

The project has been awarded a $9.1 million Proposition 1 Recycling Water Grant. Additionally, the project has been awarded a combination of low interest State Revolving Fund and Proposition 1 loans for up to $18.1 million with a 30-year repayment term and 1.8% interest rate. The project schedule summary is shown in Table 1 and the project budget is summarized in Table 2.

Table 1: MBI Centennial Park Schedule Summary

Description	Date
Award MBI-2017-1 Construction	July 2017
Obtain Regional Board Permit Amendment	February 2019
Begin Operation of MBI Centennial Park Wells	Fall 2019
Complete MBI-2017-1 Construction	January 2020

Table 2: MBI Centennial Park Budget Summary

Description	Anticipated Expenses as of 5/23/2018	Current Anticipated Expenses
Pre-Design, Permitting, CEQA		
*Pre-Design Technical Studies	$ 78,168	$ 78,168
Design Services	$ 911,639	$ 911,639
Amendment No. 1	$ 45,460	$ 45,460
*Amendment No. 2	$ 56,200	$ 56,200
Amendment No. 3	$ 131,800	$ 131,800
Amendment No. 4	$ 96,665	$ 96,665
DDW & Regional Board Permitting	$ 25,000	$ 25,000
SAUSD Easement for SAR-12	$ 25,200	$ 25,200
*SAUSD Easement for SAR-13	$ 25,200	$ 25,200
Other Permitting	$ 80,000	$ 80,000
Construction MBI-2017-1		
Construction Contract	$ 23,107,567	$ 23,107,567
Change Order No. 1	$ 0	$ 0
Change Order No. 2	$ (60,384)	$ (60,384)

Change Order No. 3	$ 31,866	$ 31,866
Change Order No. 4	*-*	*$ (72,379)*
Change Order No. 5	*-*	*$ 164,047*
***Construction MBI-2017-2 (SAR-13)**		
Construction Contract	$ 1,138,380	$ 1,138,380
Change Orders 1 – 4	$ 42,783	$ 42,783
***Construction Management**		
Civil Construction Management	$ 1,155,932	$ 1,155,932
Amendment No. 1	*-*	*$ 90,000*
Well Construction Management	$ 449,810	$ 449,810
Amendment No. 1	$ 114,360	$ 114,360
Amendment No. 2	*-*	*$ 23,700*
Cultural Resources Monitoring	$ 31,520	$ 31,520
Amendment No. 1	$ 33,332	$ 33,332
Project Contingency	*$ 1,979,502*	*$ 1,774,134*
Total Project Budget	$ 29,500,000	$ 29,500,000
Prop 1 Recycling Water Grant	($9,104,658)	

*These line items contain expenses for the SAR-13 monitoring well: Pre-design $7,300; Design $56,200; Easement as listed; Construction Contract as listed; Construction Management $180,000; and Contingency $25,000.

Staff recommends authorizing issuance of Amendment No. 1 to Agreement No. 1168 with Butier Construction Managers for an amount not to exceed $90,000 for additional civil construction management; authorizing issuance of Amendment No. 2 to Agreement No. 1164 with Geotechnical Consultants, Inc. for an amount not to exceed $23,700 for additional well construction management; and ratifying issuance of Change Orders No. 4 and 5 to Contract MBI-2017-1 for a net total of $91,668.03.

PRIOR RELEVANT BOARD ACTION(S)

5/23/18, R18-5-55: Authorize issuance of Amendment No. 1 to Agreement No. 1244 with VCS Environmental for an amount not to exceed $33,332 for additional cultural monitoring of construction activities.

4/18/18, R18-4-44: Authorize issuance of Amendment No. 4 to Agreement No. 1090 with Tetra Tech, Inc. for an amount not to exceed $96,665 for additional construction support; and Ratify issuance of Change Orders No. 1, 2, and 3 to Contract MBI-2017-1 for a net credit to the District of $28,518 and no time extension for communication of prevailing wages, reduction in SAR-12 monitoring well bid items, and additional items to accommodate community park use.

2/21/18, R18-2-10: Issuance of Contract MBI-2017-2 Change Orders No. 2, 3 and 4 to Best Drilling and Pump, Inc. totaling an OCWD credit amount of $28,950.66 authorized for alternative water supply, additional electrical work, and bid item adjustments. Work under such contract is accepted as complete, and staff is authorized and directed to execute a Notice of Completion and record said Notice in the Office of the County Recorder. Upon expiration of the interim lien period, providing no liens have been filed, payment of the balance due under such contract shall be made.

8/16/17, M17-115: Authorize issuance of $71,734 Change Order No. 1 to Contract No. MBI-2017-2, Mid-Basin Injection: Centennial Park Well SAR-13 at Heritage Museum, with Best Drilling and Pump, Inc. for increasing casing material thickness.

6/21/17, R17-6-89: The Affidavit of Publication of Notice Inviting Bids for Contract No. MBI-2017-2, Mid-Basin Injection: Centennial Park Well SAR-13 at Heritage Museum is hereby received and filed; and the lowest responsive bid of Best Drilling and Pump, Inc. in the amount of $1,138,380 is accepted.

5/24/17, R17-5-78: The Affidavit of Publication of Notice Inviting Bids for Contract MBI-2017-1, Mid-Basin Injection: Centennial Park is hereby received and filed; the lowest responsive bid of Pacific Hydrotech Corp. in the amount of $23,107,567 is accepted and all other bids are rejected; issuance of Amendment No. 3 to Agreement No. 1090 with Tetra Tech, Inc. is authorized for an amount not to exceed $131,800 for additional architectural plans, civil design, and permitting efforts; issuance of an Agreement to VCS Environmental for archeological, paleontological, and Native American resources monitoring for an amount not to exceed $31,520; and the total project budget is reduced from $33,000,000 to $29,500,000

4/19/17, R17-4-56: Adopt Resolution approving the SAR-13 Monitoring at Heritage Museum which includes the following items: Adopt the Final Mitigated Negative Declaration for the project, Authorize execution of Easement Deed with Santa Ana Unified School District, Authorize Amendment No. 2 to Agreement with Tetra Tech, Authorize Amendment No. 1 to Agreement with Geotechnical Consultants, Authorize Notice Inviting Bids for Contract MBI-2017-2, SAR-13 Monitoring Well at Heritage Museum, Authorize filing of the Notice of Determination

11/16/16, R16-11-157: Authorize Notice Inviting Bids for contract MBI-2017-1 Mid-Basin Injection: Centennial Park, and authorize agreement to DDB Engineering for project permit assistance

6/15/16, R16-6-81: Approve agreements for Mid-Basin Injection: Centennial Park project: Agreement to Butier Construction Managers for an amount not to exceed $1,155,932 for Civil Construction Management Service; Agreement to Geotechnical Consultants, Inc. for an amount not to exceed $449,810 for Well Construction Management Service; and Amendment No. 1 to Agreement No. 1090 with Tetra Tech, Inc. for an amount not to exceed $45,460 for additional utility exploration and architectural treatments

6/15/16, R16-6-80: Approve Mid-Basin Injection: Centennial Park Project Easement from Santa Ana Unified School District and License Agreement with City of Santa Ana

5/18/16, R16-5-65: Adopt Resolutions for the Clean Water State Revolving Fund Loan application for Mid-Basin Centennial Park Injection Project: Resolution Establishing a Designee to Authorize Execution of the Financing Agreements with the State Water Resources Control Board; Resolution Establishing Dedicated Source of Revenue for Repayment of the State Revolving Fund Loan for Board approved capital improvement projects; and Reimbursement Resolution

4/20/16, R16-4-52: Adopt Resolution approving the Mid-Basin Injection: Centennial Project which includes the following items: Certifying the Final Environmental Impact Report for the Project; Adopting the Findings of Fact and the Mitigation Monitoring Reporting Program; Approve the Project and establish the Project budget of $33,000,000; Receive and File Revised Engineer’s Report; and Authorize filing of Notice of Determination.

3/16/16, M16-45: Authorize Request for Proposals for Civil and Well Construction Management of the Mid-Basin Injection: Centennial Park Project

6/17/15, R15-6-89: Authorize Agreement to Tetra Tech Inc. for Mid-Basin Injection: Centennial Park Project Design Services

4/15/15, R15-4-48: Receive and file Engineer's Report for Mid-Basin Injection: Centennial Park Project and declare project duly instituted, and authorize issuance of RFP for project design services

7/16/14, R14-7-100: Approve MOU with the City of Santa Ana for Construction and Operation of Injection Wells at Centennial Park

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 9, 2019

To: Water Issues Committee
Board of Directors

From: Mike Markus

Staff Contact: J. Dadakis

Budgeted: Yes
Budgeted Amount: $55,000
Cost Estimate: $52,000
Funding Source: General Fund
Program/ Line Item No. 1046.53001.9922
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: AGREEMENT WITH DDB ENGINEERING FOR THE PREPARATION OF 2018 GWRS ANNUAL REPORT

SUMMARY

Staff recommends issuance of a Professional Service Agreement with DDB Engineering Inc. for the preparation of the calendar year 2018 GWRS Annual Report. Preparation of the Annual Report by an independent qualified engineer registered in California and experienced in the field of advanced wastewater treatment for groundwater recharge is a requirement of the GWRS Regional Board permit. DDB Engineering possesses the qualifications and long-standing familiarity with the GWRS project to prepare the required Annual Report efficiently.

Attachment(s): DDB Engineering Inc. proposal dated December 19, 2018

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed $52,000 to provide consulting services for the preparation of the calendar year 2018 GWRS Annual Report.

BACKGROUND/ANALYSIS

The District's permit to operate the Groundwater Replenishment System (GWRS) was issued by the Santa Ana Regional Water Quality Control Board (RWQCB) via Order No. R8-2004-02, and subsequent amending Orders Nos. R8-2008-0058, R8-2014-0054, and R8-2016-0051 to allow for additional recharge locations and the GWRS Initial Expansion (GWRSIE). A condition of this permit requires that a calendar year Annual Report be submitted by June 30th of the following year. The Annual Report also must prepared by an independent qualified engineer registered in California and experienced in the field of advanced wastewater treatment for groundwater recharge. The purpose of the report is to present an in-depth review of GWRS treatment, Talbert Barrier, Demonstration Mid-Basin Injection, and Miller/Kraemer/Miraloma/La Palma Basin operations, performance, and water quality for the calendar year. The Annual Report is used as a primary reference by District staff and is frequently distributed to external parties seeking information about the project

Since 2004, the GWRS Annual Report has been produced each year by DDB Engineering, Inc. (DDBE). DDBE has been involved with the GWRS treatment and permitting process since the inception of the project. Throughout design, startup, and operations of both the GWRS and GWRSIE projects, DDBE provided a range of support and engineering services for all permit applications, amendments, and compliance related issues, including development the required Operations, Maintenance, and Monitoring Plan (OMMP) and Title 22 Engineering Reports. DDBE is also providing design review and permitting services for the GWRS Final Expansion (GWRSFE) project.

DDBE is uniquely qualified to prepare the Annual Report and brings a wide range of comprehensive knowledge and direct experience with the GWRS treatment processes, as well as regulatory permit and compliance issues. Debra Burris, the firm's principal, and her staff have done an outstanding job of helping the District to comply with GWRS reporting requirements from the RWQCB and the state Division of Drinking Water (DDW). Furthermore, DDBE's history with the project and past experience preparing Annual Reports and earlier GWRS permits provides significant cost and time efficiencies to the District.

PRIOR RELEVANT BOARD ACTION (S)

1/17/18, R18-1-4 Authorize issuance of agreement to DDB Engineering Inc. for an amount not to exceed $49,900 to provide consulting services for the preparation of the calendar year 2017 GWRS Annual Report

11/15/17, R17-11-44 Authorize issuance of agreement with DDB Engineering for an amount not to exceed $198,000 for permitting and regulatory support services for the GWRS Final Expansion Project

1/21/15, R15-1-7 - Approve agreement with DDB Engineering for preparation of 2014-2016 GWRS annual reports.

1/18/12, R12-1-4 – Authorize issuance of Professional Service Agreement to DDB Engineering Inc. for an amount not to exceed $158,400 to provide consulting services for the preparation of the 2011-13 GWRS Annual Reports and amendments to the GWRS & Green Acres Project Regional Water Quality Control Board permits.

DDB
ENGINEERING, INC.

15635 Alton Parkway, Suite 117, Irvine, CA 92618
office: 949.727.4008 fax: 949.727.4079
www.ddbe.com

December 19, 2018

Orange County Water District
Attn: Mr. Jason Dadakis, P.G., C.HG
Executive Director of Water Quality and Technical Resources
18700 Ward Street
Fountain Valley, CA 92708

Subject: Groundwater Replenishment System
Proposal for 2018 Annual Report

Dear Mr. Dadakis:

DDB Engineering, Inc. is pleased to submit this proposal for preparation of the 2018 Annual Report for the Groundwater Replenishment System (GWRS) for your consideration.

The Annual Report will fulfill requirements designated in the GWRS permit and associated amendments, which call for submittal of an annual report to the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) and Regional Water Quality Control Board (RWQCB) by June 30th of each year. In general, the report serves to memorialize GWRS performance. The monitoring and reporting elements of the GWRS permit require that specific information about purified recycled water production, water quality, treatment process performance, facilities' operating conditions, and groundwater monitoring be included in the report. Beyond addressing permit requirements, the Annual Report will describe how the GWRS complied with groundwater recharge requirements set forth in the Title 22 Water Recycling Criteria, and documenting pathogenic microorganism control levels achieved during the year. The report will also present water quality results for treatment process monitoring for health and performance-based chemicals of emerging concern (CECs) and surrogates per the SWRCB Revised Recycled Water Policy.

We anticipate that the organization of the 2018 Annual Report will be similar to that of the preceding year's report, featuring a clear format to document regulatory compliance with appendices of detailed supporting information about the GWRS performance. We will use flow and water quality data, monthly operating reports, hydrogeologic monitoring records, and other available information to prepare the report.

As we have done in the past, three submittals and one review meeting are envisioned for the report. Most of the initial data gathering will be handled via email or taken from monthly operations reports. The next step will be to prepare and submit the draft report for District review. We have found that electronic markups of the draft report are an efficient method to conduct the initial review. Following revisions, the revised draft report will be submitted for District review and input. At that point, we will hold a workshop with the District to address

outstanding comments and questions. Lastly, we will prepare the final report, delivering one unbound original, stamped and signed, with an electronic copy on CD to the District for reproduction and submittal to the RWQCB and DDW before the June 30th deadline. Besides preparation of the report, our scope of work includes attending the National Water Research Institute Independent Advisory Panel meeting to address any questions about the report.

The attached spreadsheet itemizes the tasks associated with the scope of work for preparation of the 2018 Annual Report, showing the estimated level of effort and cost associated with each task.

Having worked on numerous facets of GWRS for many years, including preparation of annual reports, we believe we are uniquely positioned with the necessary project background to efficiently develop and complete the 2018 Annual Report. Brandi Thrasher, P.E., who has worked on prior annual reports, will serve as the Project Engineer; I will serve as the Principal Engineer and be responsible for the final report. We have experience working directly with District staff and coordinating the team effort required to produce the Annual Report.

We appreciate this opportunity to continue to be of service to the District. Please contact me if you have any questions or need more information.

Sincerely,

DDB Engineering, Inc.

Debra L. Burris, P.E., BCEE, D. WRE
Principal

Enclosure

DDB ENGINEERING, INC.

PROPOSAL
for
PROFESSIONAL ENGINEERING SERVICES FOR GROUNDWATER REPLENISHMENT SYSTEM
2018 ANNUAL REPORT
submitted to
ORANGE COUNTY WATER DISTRICT

Estimated Labor and Fee Breakdown

Task		Description*	Labor (Manhours) Principal Engineer	Project Engineer	Tech/Graphics & Clerical	Miscellaneous Expenses	Total Estimated Fee
		Hourly Rate	$199	$155	$70		
2018 Annual Report							
	1.	Gather information re: operations/flows/water quality data	2				$ 398
	2.	Analyze water quality data, process performance, operating records	48	32	64		$ 18,992
	3.	Prepare and submit draft report for review	72	32			$ 19,288
	4.	Revise report and submit revised draft report for review	28	16	4		$ 8,332
	5.	Meet (1) to receive and discuss comments on revised draft report	4			$ 40	$ 836
	6.	Revise report and submit final report (on CD w/ hardcopy mock-up)	8	4	4	$ 40	$ 2,532
	7.	Attend NWRI Independent Advisory Panel meeting	8			$ 30	$ 1,622
		TOTAL	**170**	**84**	**72**	**$ 110**	**$ 52,000**

* Notes & Assumptions:
- Table of contents for 2018 report is anticipated to be similar to that in the 2017 report.
- Water quality data, flow data, and operations reports are available from OCWD.
- Hydrogeologic evaluations by OCWD.
- Draft and revised draft submittals are electronic files. Review comments on draft and revised draft are via email.
- IAP presentation (if any) by District staff
- Expenses include postage and delivery charges, mileage, minor reproduction (major reproduction by OCWD), and other miscellaneous costs.

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 9, 2019

To: Water Issues Committee
Board of Directors

From: Mike Markus

Staff Contact: R. Herndon/D. Mark

Budgeted: Yes
Budgeted Amount: $1,102,500 (FY19-20)
Cost Estimate: $1,102,500
Funding Source: General Fund
Program/Line Item No.: 1050.56026.9932
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: **ALAMITOS SEAWATER BARRIER 2019-20 OPERATIONS AND MAINTENANCE BUDGET**

SUMMARY

Staff recommends approval of the 2019-20 Alamitos Barrier operations and maintenance (O&M) budget of $2,465,000, of which $1,102,500 is the District's share, as proposed by the Alamitos Barrier Joint Management Committee.

Attachment: Alamitos Barrier 2019-20 Operation and Maintenance Budget Table

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting:

1. Approve the Alamitos Barrier 2019-20 total O&M budget in the amount of $2,465,000, and authorize payment of the District's share not to exceed $1,102,500 payable to the Los Angeles County Department of Public Works after receipt and review of invoices; and

2. Appoint Gary Yoshiba as an OCWD alternate member of the Alamitos Barrier Joint Management Committee.

BACKGROUND/ANALYSIS

In 1964, the District entered into an "Agreement for the Cooperative Implementation of Alamitos Barrier Project," with the Los Angeles County Flood Control District (now part of the Los Angeles County Department of Public Works - LACDPW). Under the terms of the agreement, the LACDPW operates and maintains the Alamitos Seawater Barrier and its physical facilities under the direction of the interagency Joint Management Committee (JMC). The JMC comprises eight members, half appointed by LACDPW and half appointed by the District. LACDPW and OCWD also may each appoint up to two alternate members to the JMC to substitute for an absent member. Staff recommends appointment of senior hydrogeologist Gary Yoshiba as an OCWD alternate member of the JMC. Mr. Yoshiba has been involved with the Alamitos Barrier for over ten years and managed construction of the recently-completed Alamitos Barrier

Improvement Project, including 17 new injection wells and 4 monitoring wells.

Each year the JMC reviews and recommends for approval an O&M budget for the upcoming fiscal year. The barrier O&M budget comprises several activities including injection facilities O&M and administration, monitoring well data collection and maintenance, and data analysis and reporting. The total O&M budget is divided between LACDPW and OCWD in proportion to the water injected into the barrier by each agency. With 17 new injection wells that went on line in September 2018, the District's share of total injection (7,000 AF/year) is estimated to be about 45% or 3,150 AF/year.

On November 6, 2018, the JMC proposed a total O&M budget of $2,465,000 for 2019-20, of which the District's estimated 45% share is $1,102,500. These amounts exclude approximately $80,000 liability insurance premiums which are shared equally between LACDPW and OCWD and paid separately. There is a lag time in receiving invoices from LACDPW, so one-half of the annual expenses is paid in FY19-20, and the other half is paid in FY20-21. Staff recommends Board approval of the O&M budget and payment of the District's share.

PRIOR RELEVANT BOARD ACTIONS

1/17/18, M18-6 – Approve the FY2018-19 O&M budget for the Alamitos Barrier in the amount of $1,860,000 and authorize the payment of OCWD's share in the amount of $744,000, payable to LACDPW.

9/16/15, R15-9-125 - Approve and authorize execution of *Amendment to Agreement for Cooperative Implementation of Alamitos Barrier Project, Supplement No. 8* with the Los Angeles County Department of Public Works (LACDPW) to revise the District's annual payment to LACDPW that incorporates a prorated portion of the actual costs of the Alamitos Barrier maintenance yard.

9/17/14, R14-9-126 - Approve and authorize execution of the cost-sharing *Agreement for Construction of Additional Facilities for the Alamitos Barrier Project Supplement No. 7* with the LACDPW for the design and construction of injection and monitoring well facilities and payment by LACDPW to OCWD at one-half of the cost of the new facilities located between Points B and C for a total not to exceed $1,253,000; and approve an increase to the Alamitos Barrier Improvement Project budget by $4,693,000 for a revised total capital project budget of $14,752,000.

12/18/13, M13-181 – Authorize general liability insurance policy for the Alamitos Barrier for calendar year 2014 and authorize inclusion of general liability insurance premiums in future Alamitos Barrier annual O&M budgets submitted separately for Board approval.

9/16/98, R98-9-141 - Approve and authorize execution of Supplement No. 6 to Alamitos Barrier Project agreement with LACDPW. Provides for the District to construct additional barrier facilities identified in Geologist's Report on Alamitos Barrier Improvement Project Construction Unit 12, consisting of 5 new injection wells, one new extraction well, and 3 new monitoring wells.

3/17/93, R93-3-44 - Authorize execution of Supplement No. 5 to Alamitos Barrier Project agreement with Los Angeles County Flood Control District (now part of Los Angeles County Department of Public Works). Supplement provides for expansion of Alamitos Barrier Joint Management Committee from six to eight members (LACFCD and the District each to appoint one additional member)

10/4/89, R89-10-201 - Authorize execution of Supplement No. 4 to Alamitos Barrier Project agreement with Los Angeles County Flood Control District providing for joint participation in design, construction, operation and maintenance of the Alamitos Barrier Project. Provides for the District to design and construct required additional Alamitos Barrier facilities identified in the District's Engineer's Report regarding Seawater Intrusion at the Alamitos Barrier, approved 5/3/89 by Resolution No. 89-5-90.

4/17/85, R85-4-41 - Approve and authorize execution of Alamitos Barrier Hydroelectric Project Site lease and Royalty Agreement with Los Angeles County Flood Control Dist. & Hydro Electric Constr. Inc.; & Supplement No. 3 to Alamitos Barrier Project Agreement to provide for construction of hydroelectric project at Alamitos Barrier.

9/25/69, R69-9-96 - Approve Supplement No. 2, Amending the Agreement for Cooperative Implementation of the Alamitos Barrier Project.

1/20/65, R891 – Authorize Agreement with LACFCD for Geologic Services on Alamitos Barrier Project (Supplement No. 1).

6/17/64, R831 - Approve Agreement for Cooperative Implementation of the Alamitos Barrier Project.

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 10, 2019

To: Administration/Finance Issues Cte.
Board of Directors

From: Mike Markus

Staff Contact: R. Fick/V. Sharma

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: N/A
Program/Line Item No.: N/A
General Counsel Approval: N/A
Engineers Report: N/A
CEQA Compliance: N/A

Subject: **MONTHLY CASH CONTROL REPORT**

SUMMARY

The following monthly financial information is provided in the staff report.

Attachment(s):
- Summary Cash and Cash Equivalent Control Report
- Summary of Reserves
- Summary Sources and Disbursements
- Sources of Funds
- Disbursement of Funds

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Receive and file Summary Cash and Cash Equivalents Control Reports dated December 31, 2018.

PRIOR RELEVANT BOARD ACTION(S) Monthly

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 10, 2019

To: Administration/Finance Issues Cte.
Board of Directors

From: Mike Markus

Staff Contact: R. Fick/V. Sharma

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: N/A
Program/Line Item No: N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: INVESTMENT PORTFOLIO HOLDINGS REPORTS

SUMMARY

The District's monthly Investment Portfolio Holdings Report is provided for Committee review.

Attachment(s): Investment Portfolio Holdings Reports dated December 31, 2018.

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Receive and file the Investment Portfolio Holdings Reports dated December 31, 2018.

BACKGROUND/ANALYSIS

The Investment Portfolio Holdings Report is a list of each of the District's fixed income investments and provides the market value at the end of each month. All securities within the District's Investment Portfolio are in compliance with the District's Statement of Investment Policy. The District's portfolio maturities provide cash liquidity sufficient to meet the District's projected six-month expenditures (as required by Government Code Section 53646).

Highlights of the current and previous report:

Description	Prior Month	Current Month
SWAP Value (in Citi's favor)	$12,525,332	$14,247,258
Required Collateral	$0	$0
Duration/Maturity	480 Days or 1.31 years	491 Days or 1.35 years
Rate of Return/Yield	1.971%	1.976%

- The yield on the one-year Treasury note as of the month end is at 2.63%; two-year at 2.48% and the five-year at 2.51%

- The last Federal Open Market Committee (FOMC) meeting was held on December 18-19, 2018. The FOMC increased the Federal funds rate by 0.25% to the range of 2.25% to 2.50%. This is the rate prime banks lend to each other.

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 10, 2019

To: Administration/Finance Issues Cte
Board of Directors

From: Mike Markus

Staff Contact: B. Howard/R. Fick

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: N/A
Program/ Line Item No. N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: SURPLUS OF EQUIPMENT, VEHICLES, MISCELLANEOUS FURNITURE AND COMPUTER HARDWARE

SUMMARY

Staff has determined that vehicles, obsolete equipment, furniture and computer equipment are irreparable or too costly to repair and no longer necessary for use in District operations. The items on the attached list were removed from service and placed in temporary storage in the warehouse until approved for disposal.

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Declare items on Surplus List as of 12/31/18, surplus and authorize the sale and disposal thereof.

BACKGROUND/ANALYSIS

Below is a list of items recommended for surplus. The items listed on the Surplus List below are either outdated, parts are no longer available and cannot be serviced, or are inoperable. Vehicle T-112, a 2001 Ford Ranger, is inoperable and has been replaced with T-164.

The AquaDisk (Cloth Filter) was purchased in 2012 and utilized to test removal of sediment in Santa Ana River water prior to the water being recharged at RiverView Basin in Orange. The purpose of the test was to determine if the Cloth Filter removed sufficient amounts of sediment to increase the recharge performance of RiverView Basin. The Cloth Filter was tested for four years. The tests were completed and it was determined that the unit did not remove sufficient amounts of sediment. The Cloth Filter unit is no longer needed and staff recommends it be surplused.

The computer equipment has either been replaced or has become obsolete or beyond economical repair. Computer disk drives from JDE and Maximo have been removed and will be destroyed.

Disposal of the equipment, vehicle and computer hardware will be accomplished by selling them through various auction companies, to private companies or sold for scrap. The furniture, electronic and lab equipment will be sold through various companies specializing in each group.

Below is a list of the surplus items as 12/31/18.

PRIOR RELEVANT BOARD ACTION(S)

None

SURPLUS LIST AS OF 12-31-18

2001 Ford Ranger (T-112)
Aqua Disk Cloth filter
Computer Equipment
Printers
Office equipment
Phone equipment
Poloroid camera (1)
Small TV
Spectrophotometer (2)
Cryogenic chest freezer
Recirculating chiller
File cabinet (1)
Wooden desks (2)
Bookcase (1)
Projector
Metal letters from replaced Lab sign
E, S, C, A, D, U, R, and V

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 10, 2019

To: Administration/Finance Issues Cte.
Board of Directors

From: Mike Markus

Staff Contact: B. Dosier/D. Park

Budgeted: N/A
Budget Amount: N/A
Funding Source: N/A
Revenue Estimate: $1,148
Funding Source: N/A
Program/Line Item No. N/A
General Counsel Approval: Required
Engineers/Feasibility Report Approved: N/A
CEQA Compliance: N/A

SUBJECT: AMENDMENT THREE TO LICENSE AGREEMENT WITH PUB CONSTRUCTION FOR STORING OF CONSTRUCTION EQUIPMENT LOCATED AT UPPER FIVE COVES BASIN, ANAHEIM

SUMMARY

The District currently has a License Agreement with PUB Construction for the purpose of storing equipment while performing construction work on the Five Coves Northern Extension Recreation Trail, for the City of Anaheim (City). The License expires December 31, 2018, and the City and PUB Construction have requested to extend the Agreement for an additional two (2) months to complete the work for the City.

Attachment(s): Amendment Three to License Agreement

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Approve and authorize execution of Amendment Three to License Agreement with PUB Construction to extend the License expiration date to February 28, 2019, with an additional license fee of $1,148, with all other Agreement terms to remain the same.

DISCUSSION/ANALYSIS

On December 18, 2017, PUB Construction entered into a short-term License Agreement with OCWD for the purpose of storing equipment and materials consisting of backhoes, loaders, excavator, steel pipe and fittings, and landscape materials, while performing construction work for the City of Anaheim on the Anaheim Coves Northern Extension at Five Coves. PUB Construction accesses their licensed area utilizing the District's maintenance roads through the entrance gates off Lincoln or Frontera Avenue. The Agreement was issued under the General Manager's authority per Board Resolution 14-3-29 as the term was less than six (6) months; and on January 29, the General Manager approved Amendment One depicting a revised storage area, with the expiration date remaining as June 17, 2018.

On August 15, 2018, the Board approved a six (6) month License extension to PUB Construction to complete the project for the City. The License expiration date was extended to December 31, 2018. In December, Pub Construction contacted staff to explain the project would not be completed in time and has requested another License extension for an additional

two (2) months, extending the expiration date to February 28, 2019. Staff recommends approving and authorizing the execution of Amendment Three to the License Agreement.

PRIOR BOARD ACTION

8/15/2018, R18-8-97 – Authorize execution of second Amendment to the License Agreement, extending the License through December 31, 2018, for storing construction equipment at Upper Five Coves Basin in Anaheim.

LOCATION MAP

AMENDMENT THREE TO LICENSE AGREEMENT
(PUB Construction.)
(Upper Five Coves Basin)

THIS AMENDMENT is made and entered into this 16th day of January 2019 by and between the **ORANGE COUNTY WATER DISTRICT**, a political subdivision of the State of California organized under Chapter 924 of the Statutes of 1933, as amended (hereinafter the "OCWD") and **PUB Construction, Inc.,** a California corporation (hereinafter, "Licensee"):

RECITALS

WHEREAS, OCWD and Licensee entered into a License Agreement on December 18, 2017 (the "License") for the purpose of storing Licensee's equipment and materials consisting of backhoes, loader, excavator, steel pipe and fittings, and landscape materials, while performing construction work for the City of Anaheim; and

WHEREAS, on January 29, 2018 Licensee entered into Amendment One to the License to depict a revised storage area; and

WHEREAS, on August 15, 2018 Licensee entered into Amendment Two to extend the License to a new expiration date of December 31, 2018; and

WHEREAS, Licensee wishes to extend the License to a new expiration date of February 28, 2019.

NOW, THEREFORE, in consideration of the matters set forth in the foregoing recitals and the terms, covenants and conditions hereinafter contained, the parties do hereby agree as follows:

1. The Expiration Date in License shown in Section 1.2 of the License ("Term") is changed to read February 28, 2019.

2. In consideration of OCWD granting this Amendment to the Licensee, Licensee shall pay to OCWD the sum of ONE THOUSAND ONE HUNDRED FORTY-EIGHT DOLLARS ($1,148.00) in advance as a single lump sum payment ("License Fee") and shall be paid in full by Licensee to OCWD on or before January 18, 2019.

3. Each and every other term, covenant and condition of the License not herein expressly modified is hereby ratified and confirmed by the parties hereto and are and shall remain in full force and effect.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment to License as of the day and year first hereinabove written.

"LICENSOR" **ORANGE COUNTY WATER DISTRICT,** a political subdivision of the State of California organized under Chapter 924 of the Statutes of 1933, as amended By: _____ Michael Markus P. E., General Manager **APPROVED AS TO FORM:** **RUTAN & TUCKER, LLP.** _____ General Counsel, Orange County Water District 20-December-2018	**"LICENSEE"** **PUB CONSTRUCTION, INC.,** a California corporation By: _____ Name: _____ Title: _____ [*Note: Licenses issued to corporations require the signature of two corporate officers*] **Licensee Information:** Address for Notices: 23545 Palomino Drive, # 104 Diamond Bar, CA 91765

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 10, 2019

To: Administration/Finance Issues Cte.
Board of Directors

From: Mike Markus

Staff Contact: B. Dosier/D. Park

Budgeted: N/A
Budget Amount: N/A
Revenue Estimate: $3,000
Funding Source: N/A
Program/Line Item No. N/A
General Counsel Approval: Required
Engineers/Feasibility Report Approved: N/A
CEQA Compliance: N/A

SUBJECT: AMENDMENT THREE TO LICENSE AGREEMENT WITH T.E. ROBERTS FOR STORING OF CONSTRUCTION EQUIPMENT LOCATED AT HUCKLEBERRY POND, ANAHEIM

SUMMARY

The District currently has a License Agreement with T.E. Roberts, Inc. for the purpose of storing T.E. Robert's equipment while performing construction work for the City of Anaheim (City) pipeline construction project. The License expires December 31, 2018, and T.E. Roberts has requested to extend the Agreement for an additional six (6) months to complete the construction work for the City.

Attachment(s): Amendment Three to License Agreement

RECOMMENDATION

RECOMMENDED BY COMMITTEE

Agendize for January 16 Board meeting: Approve and authorize execution of Amendment Three to License Agreement with T.E. Roberts, Inc. to extend the License expiration date to June 30, 2019, with a license fee of $500 per month, with all other Agreement terms to remain the same.

DISCUSSION/ANALYSIS

On July 17, 2017, T.E. Roberts entered into a short-term License Agreement with OCWD for the purpose of storing equipment and materials consisting of backhoes, loaders, excavator, steel pipe and fittings, while performing pipeline construction work for the City of Anaheim. T.E. Roberts accesses their licensed area utilizing the District's maintenance roads through the entrance gates off Lakeview or Tustin Avenue. The Agreement was issued under the General Manager's authority per Board Resolution 14-3-29 as the term was less than six (6) months.

The Agreement expired January 16, 2018 and the Board extended T.E. Roberts License for an additional six (6) months to complete the pipeline construction work, with an expiration date of July 31, 2018. On July 18, 2018, the Board approved a second License extension to T.E. Roberts, extending the expiration date to December 31, 2018. In December, T.E. Roberts notified staff that the project for the city is still ongoing and has requested an additional six (6) month License extension, extending the expiration date to June 30, 2019. Staff recommends approving and authorizing the execution of Amendment Three to the License Agreement to extend the License expiration date and to increase the License Fee to $500 per month.

PRIOR BOARD ACTION

7/18/2018, R18-7-74, Authorize execution of Amendment Two to License Agreement, extending the expiration date to December 31, 2018 for a fee of $1,148, with all other agreement terms to remain the same.

1/03/2018, R18-1-2, Approve execution of Amendment One to License Agreement extending the expiration date to July 31, 2018 for a fee of $1,148, with all other Agreement terms to remain the same.

LOCATION MAP

AMENDMENT THREE TO LICENSE AGREEMENT
(T. E. Roberts, Inc.)
(Huckleberry Pond)

THIS AMENDMENT is made and entered into this 16th day of January 2019 by and between the **ORANGE COUNTY WATER DISTRICT**, a political subdivision of the State of California organized under Chapter 924 of the Statutes of 1933, as amended (hereinafter the "OCWD") and **T.E. ROBERTS, INC.,** a California corporation (hereinafter, "Licensee"):

RECITALS

WHEREAS, OCWD and Licensee entered into a License Agreement on July 17, 2017 (the "License") for the purpose of storing Licensee's equipment and materials consisting of backhoes, loader, excavator, steel pipe and fittings, while performing construction work for the City of Anaheim; and

WHEREAS, on January 3, 2018, Lessor entered into Amendment One to the License, to extend the Expiration Date to July 31, 2018;

WHEREAS, on July 18, 2018, Licensee entered into Amendment Two to extend the License to a new Expiration Date of December 31, 2018.

WHEREAS, Licensee wishes to extend the License to a new Expiration Date of June 30, 2019.

NOW, THEREFORE, in consideration of the matters set forth in the foregoing recitals and the terms, covenants and conditions hereinafter contained, the parties do hereby agree as follows:

1. The Expiration Date in License shown in Section 1.2 of the License ("Term") is changed to read "June 30, 2019".

2. Paragraph 1.3 License Consideration is replaced as follows:

   As consideration for the issuance of this License, Licensee shall pay to OCWD the sum of **FIVE HUNDRED DOLLARS** ($500.00) in advance on the first day of each calendar month beginning January 1, 2019 and throughout the remainder of the License term ("License Fee") in accordance with Part II (General Provisions).

3. Each and every other term, covenant and condition of the License not herein expressly modified is hereby ratified and confirmed by the parties hereto and are and shall remain in full force and effect.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment to License as of the day and year first hereinabove written.

"LICENSOR" **ORANGE COUNTY WATER DISTRICT,** a political subdivision of the State of California organized under Chapter 924 of the Statutes of 1933, as amended By: _____ Vicente Sarmiento, President By: _____ Michael Markus P.E., General Manager **APPROVED AS TO FORM:** **RUTAN & TUCKER, LLP.** _____ General Counsel, Orange County Water District 12/21/18	**"LICENSEE"** **T.E. ROBERTS, Inc.,** a California corporation By: _____ Name: Timothy Roberts Title: President [*Note: Licenses issued to corporations require the signature of two corporate officers*] **Licensee Information:** Address for Notices: T.E. Roberts 306 West Katella Avenue, Unit B Orange, CA 92867

Backup materials for Committee items are available in the Committee packet.
Materials distributed at Committee meetings are attached hereto

AGENDA ITEM SUBMITTAL

Meeting Date: January 10, 2019

To: Administration/Finance Issues Cte.
Board of Directors

From: Mike Markus

Staff Contact: J. Kennedy/R. Fick

Budgeted: N/A
Budgeted Amount: N/A
Funding Source: N/A
Cost Estimate: N/A
Program/Line Item No: N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: BASIN PRODUCTION PERCENTAGE AND REPLENISHMENT ASSESSMENT ESTIMATES FOR FISCAL YEAR 2019-20

SUMMARY

The District annually provides an estimate of the Basin Production Percentage (BPP) and the Replenishment Assessment (RA) for the following fiscal year to assist the Groundwater Producers in preparing their annual budgets. Per the District Act, the RA and BPP must be set by the Board in the month of April.

Staff is currently preparing a recommended budget for review at the March 6, 2019 Board meeting which will directly impact the setting of the RA and BPP. The following estimates for the Fiscal Year (FY) 2019-20 RA and BPP are provided below.

Item	Current	Estimated FY 2019-20
Combined Replenishment Assessment & Additional RA	$462/af	$498 to 505/acre-foot
Basin Production Percentage	77%	75%

Attachment(s): Presentation Material

RECOMMENDATION

RECOMMENDED BY COMMITTEE

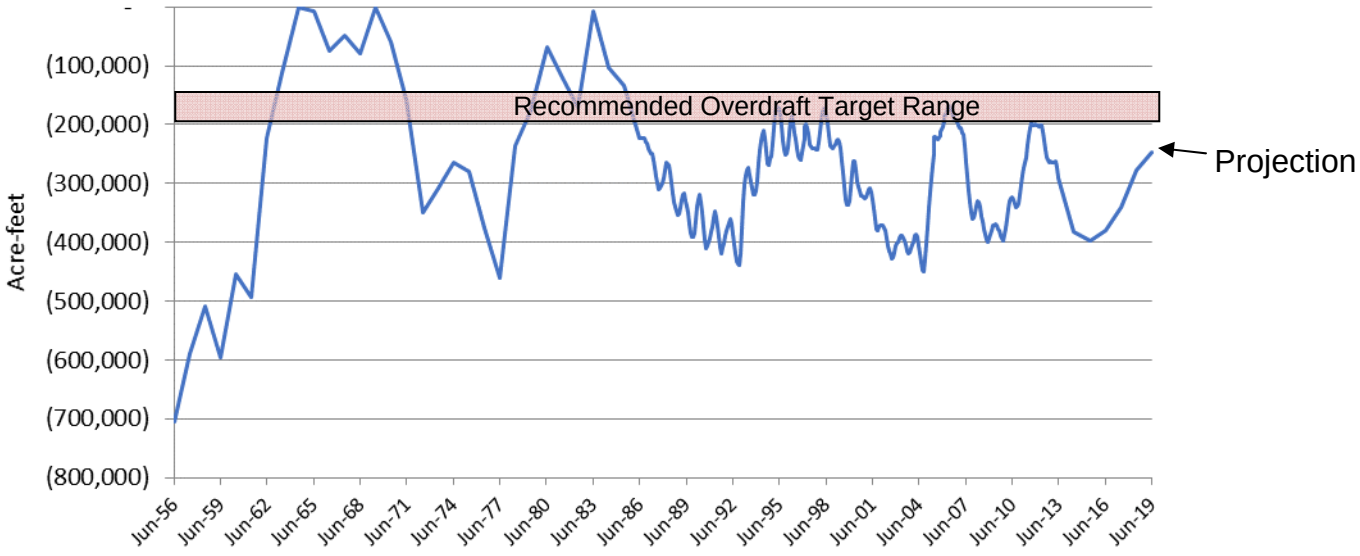
Agendize for January 16 Board meeting: Provide the Fiscal Year 2019-20 Replenishment Assessment and Basin Production Percentage estimates to the Groundwater Producers along with any additional Board comments.

BACKGROUND/ANALYSIS

Establishing the Basin Production Percentage (BPP) Projection

The groundwater basin's accumulated overdraft is projected to be approximately 252,000 acre feet as of June 30, 2019 as shown in Figure 1 assuming average hydrology this winter. The overall condition of the groundwater basin has generally improved the last few years due to conservative budgeting and the purchase of an additional 77,000 acre-feet of imported Metropolitan Water District (MWD) Cyclic agreement water during FY2017-18. The recommended accumulated overdraft target ranges from 150,000 to 200,000 acre-feet.

Figure 1
Groundwater Basin Accumulated Overdraft



Total water demands were at a historic low for FY2015-16 as shown on the following Figure 2 due to the State's emergency water restrictions. Total demands have increased since then and were estimated to be 410,000 acre-feet for the current fiscal year. Staff estimates that total water demands will be in the area of approximately 415,000 acre-feet for FY2019-20 assuming average future hydrology.

Expected source waters to recharge the groundwater basin in FY2019-20 are shown on the following Table 1. Assuming slightly dry hydrological conditions for FY2019-20 with respect to how much Santa Ana River storm flow is captured and the Natural Incidental Recharge amount, along with establishing a 75 percent BPP, the groundwater basin's accumulated overdraft would decrease by about 9,000 acre-feet. Assuming average hydrology, the accumulated overdraft would decrease by about 28,000 acre-feet.

The calculation for estimated groundwater basin pumping at a 75% BPP is shown below:

Total water demands =	415,000 afy

Minus Title 22 reclaimed water supplies = 20,000 afy
Net total water demands = 395,000 afy

75% x 395,000 = 296,000 acre feet of basin pumping at the BPP
Add ~ 24,000 acre feet of pumping above the BPP for BEA exempt water quality projects
Total expected pumping = 320,000 acre-feet

Figure 2
Total Water Demands

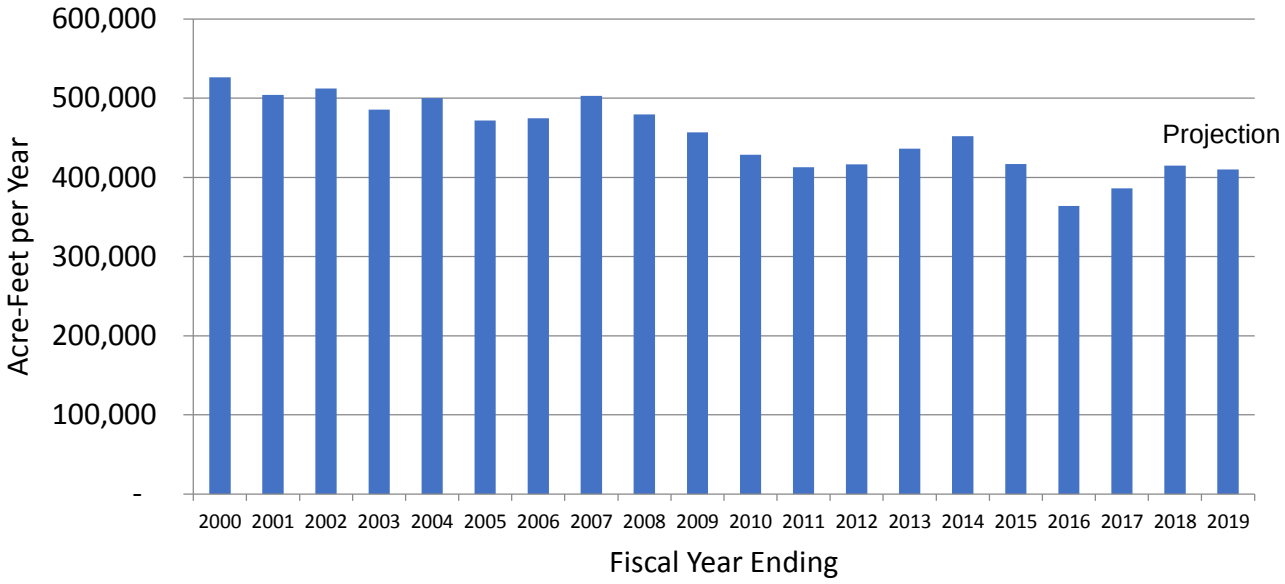


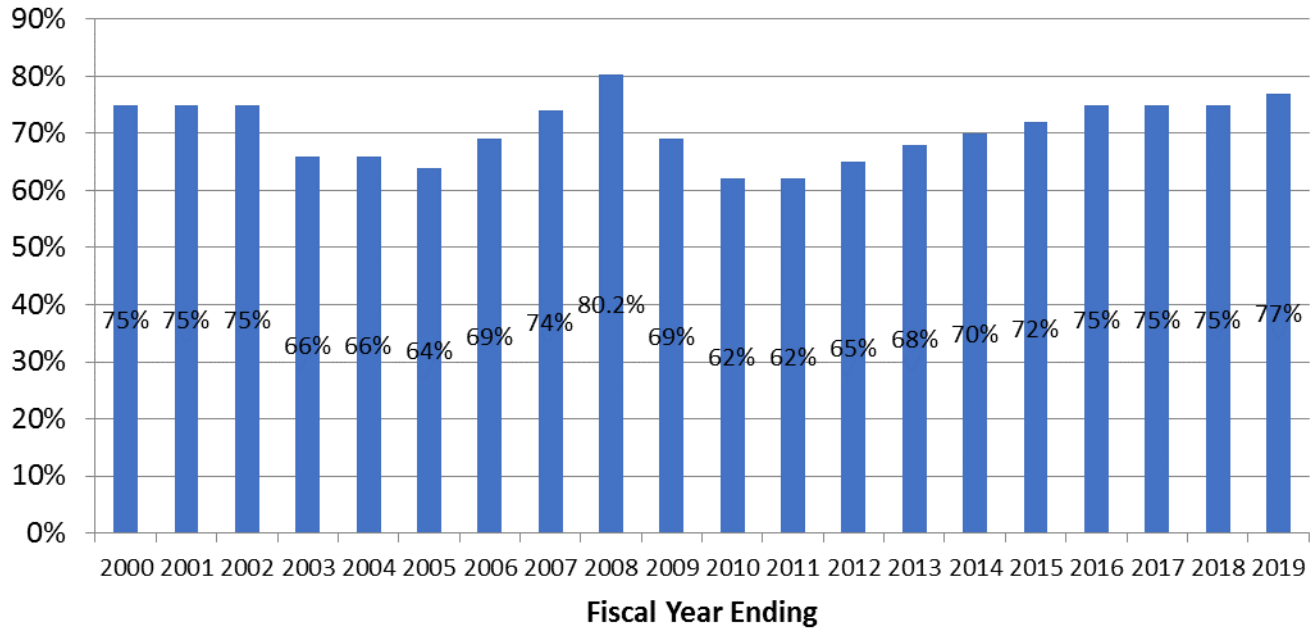
Table 1
Expected FY2019-20 Groundwater Basin Water Balance

Sources	Amount (af)
Captured Santa Ana River Baseflows	65,000
Captured Santa Ana River Stormflows (1) (2)	41,000
Natural Incidental Recharge (1) (3)	52,000
MWD Untreated Full Service water	65,000
GWR System	103,000
Alamitos Barrier	3,000
Total water recharged	**329,000**
Expected Basin Pumping at 75% BPP as previously shown	**320,000**
Planned basin refill (decrease to accumulated overdraft)	9,000

Notes (1): based upon previous historical hydrology there is about a 70% chance the District will receive a greater amount of water than the amounts being used.
(2) recent average SAR stormflow capture has been 51,000 afy
(3) recent average natural incidental recharge has been 61,000 afy

At this time staff recommends that the projected BPP for FY 2019-20 be established at 75%. For reference, the historical BPP since FY 1999-00 is shown on Figure 3.

Figure 3
Historical Basin Production Percentage



Replenishment Assessment (RA) Projection

The RA is determined by taking total expected operating costs which primarily consist of the general fund, debt service, water purchases and the Refurbishment & Replacement transfer amount, subtracting non-RA operating revenues, and dividing this net amount by expected groundwater basin pumping.

The District's department heads are beginning the preparation of their budgets which will be presented to the Board on March 6, 2019. The RA is currently $462/acre-foot and is expected to increase to somewhere between $498 to $505 per acre-foot for the following reasons:

- The MWD LRP funding of about $7.9 million for the GWRS will terminate. This is the biggest issue impacting the budget. The RA needs to increase by $25/acre-foot to replace this lost revenue;
- At this point in time the General Fund was assumed to increase by 3% ($2 million) due to inflation. Once staff develops a recommended budget, a more precise General Fund amount will be available;

- The contribution to the R&R fund is scheduled to increase by 7% ($1.4 million) to provide funding for planned future refurbishments and replacements for existing infrastructure and to support the GWRS Final Expansion project;
- Debt service will increase by approximately $2.2 million to begin funding the GWRS Final Expansion project and another $0.8 million to begin repayment of a state SRF loan for the Alamitos Barrier Expansion project;
- The District's first payment to participate in funding implementation of the Santa Ana River Conservation and Conjunctive Use Program is estimated at $2.0 million;
- The District's PAYGO program for funding capital projects would increase by $2.0 million to help minimize future long-term debt obligations and to maintain an adequate debt service coverage ratio;
- The Other Post Employment Benefit (OPEB) contribution will increase by $1.2 million due to changes in actuarial assumptions and accounting standards; and
- The cost of purchasing 65,000 acre-feet of untreated MWD water will increase by about $2.3 million due to a projected MWD rate increase.

The current FY2018-19 budget includes $9.0 million to fund the purchase of 13,000 af of in-lieu water that was received in FY2017-18 under the MWD Cyclic Agreement. This was a one time expense that will not carry over into FY2019-20 which will help offset the loss of MWD LRP funding and other recommended budget increases.

The District expects to receive $24 million from the sale of Ball Road Basin in the next few weeks. In February staff will recommend how to utilize this money. Staff will recommend using a portion of this money to reduce future Replenishment Assessment increases.

Budget Option

The District has received comments that funds should be available to provide for the purchase of increased amounts of imported water to assist in maintaining the groundwater basin in a fuller condition. At the moment the District budgets to purchase 65,000 acre-feet per year of MWD untreated imported water to support the Basin Production Percentage. Funding is not available to purchase any additional imported water.

If the District desired to generate funding to allow for the potential purchase of an additional 10,000 acre-feet per year of imported water, it would need to increase the Replenishment Assessment an additional $22/acre-foot. If recharge capacity was not available to actually purchase this water and recharge it into the groundwater basin, this money would remain in the water fund for future water purchases.

PRIOR RELEVANT BOARD ACTION(S): N/A

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: J. Kennedy

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: N/A
Program/Line Item No.: N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: CONSIDERATION OF AGREEMENT WITH MOULTON NIGUEL WATER DISTRICT

SUMMARY

In August 2017 the Board broadened the District's Water Resources Policy to allow the consideration of water storage and exchange programs with South Orange County (SOC) water agencies. In October 2018 the Board President created an ad-hoc committee of Orange County Water District (OCWD or District) and Moulton Niguel Water District (MNWD) board members to discuss the issues of developing a MNWD pilot storage account in the groundwater basin. The committee met in October and November. The attached Agreement was drafted and calls for hiring consultants to formally study the issues related to developing a potential MNWD pilot storage account in the OCWD groundwater basin. MNWD has agreed to fund this work.

The agreement was reviewed by the Water Issues Committee on January 9, 2019 and recommended for execution.

Attachments:

A. Agreement
B. Request for Proposals
    a. Review of Existing Storage Programs
    b. Evaluate Conveyance Options to Distribute Water to MNWD
C. Presentation Material
D. Recent Letters
    a. December 4, 2017 IRWD Letter
    b. December 11, 2017 City of Anaheim Letter
    c. January 31, 2018 Letter from Nineteen Groundwater Producers
    d. February 20, 2018 Letter from Eight South Orange County Water Agencies
    e. April 6, 2018 Moulton Niguel Water District letter

RECOMMENDATION

Authorize: (1) execution of the attached Agreement with the Moulton Niguel Water District and (2) issuance of the two attached requests for proposals

DISCUSSION/ANALYSIS

History

In 2006 the District approved an Emergency Services Agreement with the Municipal Water District of Orange County, the Irvine Ranch Water District (IRWD), and multiple South Orange County (SOC) water agencies. The agreement calls for IRWD to provide up to 50 cubic feet per second (cfs) for up to 30 days (a total of approximately 3,000 acre-feet of water) to SOC water agencies during emergency events. IRWD's annual groundwater production must still comply with the annual Basin Production Percentage (BPP) and Basin Equity Assessment (BEA) calculations. The amount of water IRWD can provide is slowly diminishing as water demands within IRWD increase. The agreement will expire in 15 years.

In August 2017 the Board broadened the District's Water Resources Policy to allow the consideration of water storage and exchange programs with SOC water agencies. The concept of such a program is to allow one or more SOC water agencies to store relatively small amounts of water in the groundwater basin which would have little impact if any on the District's operations. OCWD would receive compensation from the program which could be used to help offset future expected Replenishment Assessment increases.

In February 2018 the Water Issues Committee considered entering into a Memorandum of Understanding (MOU) with MNWD to study a potential pilot water storage and exchange agreement. The Board eventually delayed any consideration of the MOU and requested staff to: (1) assess the District's storage needs based upon current and expected future conditions; and (2) address the January 31, 2018 Groundwater Producers letter which requested the District to consider four issues. That letter is attached and is summarized below:

1. Evaluate the current and future operating parameters of the Basin;
2. Identify potential measures to optimize the storage of water in the Basin for the benefit of the Producers;
3. Consider if / how storage accounts could be implemented for Producer agencies; then
4. Consider if / how potential storage accounts could be implemented for non-Producer agencies to the primary benefit of the Producer agencies.

In August 2018 staff completed its assessment of the District's storage needs and presented those findings to the Board. Staff concluded the District was in relatively good condition and recommended the Accumulated Overdraft target range could be lowered from 100,000 to 150,000 acre-feet to 150,000 to 200,000 acre-feet. This recommendation was primarily based upon two factors:

1. The Groundwater Replenishment System was recently expanded to 100 mgd and there are active plans to expand the plant up to 130 mgd by 2023. This creates more reliable base supplies for the service territory.
2. Total expected ultimate 2040 water demands of the 19 Groundwater Producers have significantly decreased from 525,000 acre-feet per year to 447,000 acre-feet per year.

With this information, and based upon future modeling by staff, the District does not need to store as much water as previously believed which means the accumulated overdraft target range could be lowered.

The groundwater basin's accumulated overdraft is currently 277,000 acre-feet as of June 30, 2018. Staff will recommend annual budgets over the next three to four years that should decrease the accumulated overdraft to approximately 150,000 acre-feet which will increase available water storage supplies.

With this information, item #1 from the Groundwater Producers January 31, 2018 letter has been completed.

Groundwater Producer January 31, 2018 Letter

Item #2 from the January 31, 2018 Producers letter recommends the District "**Identify potential measures to optimize the storage of water in the Basin for the benefit of the Producers**". Staff in generally is always working to increase storage supplies in the groundwater basin. However, this effort can be overshadowed by other Producer desires to maximize the Basin Production Percentage and/or to minimize Replenishment Assessment increases. Staff will work with the Producers to determine if any new measures to optimize water storage can be developed for Board consideration.

Item #3 from the Producers January 31, 2018 letter recommends the District "**Consider if / how storage accounts could be implemented for Producer agencies".** Allowing Producers to have individual storage accounts within the OCWD groundwater basin would be a significant deviation from past District policies and practices. This issue was discussed at previous Groundwater Producers meetings during the spring of 2018. The District could generate additional revenues with this option, just as would occur with a storage program with a South Orange County water agency and as occurred with the Metropolitan Water District (MWD) conjunctive use storage program. However, this option requires more careful consideration regarding the need, the interest and basin management policies and practices.

Groundwater Producers at the monthly January 9, 2019 meeting requested the District to delay any consideration of the MNWD agreement until these two remaining issues from the January 31, 2018 letter are resolved. Staff believes entering into an agreement with MNWD and studying how a small pilot storage program with MNWD could possibly be implemented at the same time OCWD is reviewing these remaining issues is reasonable. With the recommended action, staff would reinitiate discussion of these issues at Producers meetings in January, February and March and provide a report back to the Board in April. The MNWD work effort is expected to take approximately six months and would not be concluded until late summer.

Summary of proposed MNWD Agreement

The goal of the Agreement is to develop a small short-term pilot program that would be considered by the Boards of OCWD and MNWD which would provide a foundational understanding to help determine the feasibility of developing a long-term MNWD storage/exchange program in the OCWD groundwater basin. The key elements of the proposed MNWD Agreement are provided below:

a. Develop an RFP (attached) and hire a consultant to study existing and potential new conveyance options for delivery of water from OCWD to MNWD.

b. Develop a second RFP (attached) and hire a second consultant to review existing water industry storage agreements to provide a bench mark and market analysis of what other water agencies have paid for storage programs.

c. Comply with the OCWD Act.

d. MNWD agrees to fund the consultants work.

e. The timeline for completion of the scope of work is estimated at 6 months from execution of the Agreement.

f. The existing ad-hoc committee created by OCWD and MNWD will work collaboratively to carry out the scope of the Agreement.

g. OCWD and MNWD will meet and work with other interested stakeholders to share information and seek input on this issue.

h. OCWD will administer the two consultant RFP and contracts.

i. OCWD is committing to consider a small pilot storage program once the studies are completed.

Existing Emergency Service and Storage Programs

The District has two existing programs which are summarized below that utilize the groundwater basin. Information regarding a third storage program, the Santa Ana River Conservation and Conjunctive Use Program is also summarized below.

1. South County Phase I Emergency Service Program Agreement

As previously mentioned, the District entered into an agreement in 2006 which allows IRWD to send up to 50 cfs of water for no more than 30 days (maximum of 3,000 af per incident) to South Orange County agencies for emergency events. The agreement is for 25 years and has been used about five times. IRWD is annually subject to the OCWD Basin Production Percentage and Basin Equity Assessment even during years when the agreement is exercised. Water sent to South County is deemed to be imported water. The amount of water IRWD is able to send to South County is slowly decreasing as IRWD experiences growth within its own service area. Any potential new program would be coordinated with this agreement. OCWD received no compensation from this program as: (1) it has no impact to the District's operations; and (2) the District is assisting local water agencies to meet water demands during an emergency.

2. MWD Conjunctive Use Storage Program (CUP)

The CUP agreement allows for MWD to store up to 66,000 af of water in the groundwater basin. Up to 22,000 af can be annually extracted. Up to 16,500 af can be annually stored. The District received approximately $32 million in compensation from MWD and will receive approximately $20 million from the Groundwater Producers over the life of the contract. The agreement will expire

in 2028. Staff will not recommend creating any new sizeable storage program(s) until this agreement terminates.

3. Santa Ana River Conservation and Conjunctive Use Program (SARCCUP)

The Santa Ana Conservation and Conjunctive Use Program is a new cooperative project with the San Bernardino Valley Municipal Water District (Valley District), Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), and Western Municipal Water District (WMWD). SARCCUP is partially funded by a $55 million Proposition 84 grant and provides multiple regional benefits to the Santa Ana River Watershed and is made up of three elements:

- A large-scale, conjunctive use project (i.e., water bank) that utilizes storage space in the watershed's groundwater basins allowing the banking of wet year supplies for use in dry years, facilitating the augmentation of drought and emergency water supplies;

- Habitat restoration for the Santa Ana Sucker, a threatened fish species and arundo removal, an invasive plant species that consumes large amounts of water; and

- Water use efficiency (WUE) measures to lower water demands in the watershed. The WUE element includes extending the Proposition 84 2014 Drought Round WUE program for technical support for conservation programs and public outreach.

OCWD will be participating in SARCCUP by having up to 36,000 to 45,000 af of water stored in the basin for use during dry years, such as when MWD allocates limited imported water supplies (allocations).

Water removed from the SARCCUP during MWD allocation periods could be considered "extraordinary" which means the water would be added to the local water supplies that are available and the amount of MWD water that was allocated to an agency.

PRIOR RELEVANT BOARD ACTIONS:

10/3/18: OCWD MNWD ad-hoc committee created

8/15/18, M18-104: Directed staff to update the 2007 *Report on Orange County Groundwater Basin Storage and Operational Strategy* to reflect the recommended basin operating changes and to limit any potential future storage agreements to within the 36,000 acre-foot Santa Ana River Conservation and Conjunctive Use Program until the Metropolitan Water District Conjunctive Use Storage Program expires in 2028.

8/2/17, R17-8-107: Broadened the District's Water Resources Policy to allow the consideration of water storage and exchange programs with SOC water agencies.

3/21/07, M07-44: Receive and file staff report titled, “Evaluation of Orange County Groundwater Basin Storage and Operational Strategy;” adopt the three-layer storage change methodology along with the associated new full-basin condition that will serve as a benchmark for calculating the basin accumulated overdraft; and adopt the proposed basin operating strategy including a basin operating range spanning the new full condition to an accumulated overdraft of 500,000 af, and an optimal range from a target level of 100,000 to 150,000 af of accumulated overdraft, with the understanding that specific operational scenarios will be further developed and evaluated cooperatively by the District and Producers.

INTERAGENCY AGREEMENT

This Interagency Agreement ("**Agreement**"), is entered into between the Orange County Water District ("**OCWD**") and the Moulton Niguel Water District ("**MNWD**"), collectively herein referred to as the **PARTIES**.

I. PURPOSE

The purpose of this Agreement is to work collaboratively to evaluate the potential joint benefits of developing a storage/exchange program between the PARTIES by:

a. Exploring existing and potential new conveyance methods for delivery of stored water in the OCWD groundwater basin to MNWD, and;

b. Evaluating potential revenue and economic benefits to OCWD to offset projected future Replenishment Assessment increases without creating a negative operational impact.

The goal of this Agreement is to develop a short-term pilot program that would be considered by the PARTIES which would provide a foundational understanding to help determine the feasibility of developing a long-term MNWD storage/exchange program in the OCWD groundwater basin.

II. GUIDING PRINCIPLES

The following guiding principles will be adhered to by the PARTIES in completing any work to develop a pilot program:

a. Comply with the OCWD Act, and;

b. OCWD will receive a net benefit from any storage or exchange program, and;

c. OCWD's ability to store water and operate the groundwater basin will not be harmed, and;

d. MNWD understands that direct conveyance of stored water from the groundwater basin does not exist at this time, but will evaluate options for conveyance as part of this work, and;

e. OCWD and its members will not subsidize any work that will solely benefit MNWD as part of the analysis or implementation of any program.

III. SCOPE OF WORK

The scope of work to be performed as a part of the Agreement shall include:

a. Evaluate potential pumping and conveyance options to deliver water from the OCWD groundwater basin and/or proposed Huntington Beach Poseidon Resources Ocean Desalination Plant to MNWD utilizing existing or new facilities.

b. Review and analyze various groundwater banking and exchange programs throughout the state that may serve as models for development of a pilot program between the PARTIES.

c. The PARTIES will collectively develop two Request for Proposals for the work described in paragraphs III.a and III.b above. The PARTIES will review the proposals and develop a joint recommendation for consideration of award of professional service contracts.

d. MNWD agrees to provide funding to perform the scope of work identified as a part of the Agreement.

IV. DELIVERABLES & SCHEDULE

a. The deliverables anticipated as a part of the Agreement includes two separate reports for each scope item:

   i. Infrastructure review of pumping and conveyance alternatives

   ii. Groundwater banking and exchange program review

b. The timeline for completion of the scope of work is estimated at 6 months from execution of the Agreement.

V. OVERVIEW

a. The existing ad-hoc committee created by the PARTIES will work collaboratively to carry out the scope of this Agreement.

b. The ad-hoc committee will meet to review progress and any draft work product that may be available.

c. The PARTIES will meet and work with other interested stakeholders to share information and seek input on this issue.

VI. OTHER

a. The PARTIES understand the scope of work identified in this Agreement is the extent of the agreed upon analysis and acknowledge that any future pilot storage program will require mutual consent of the PARTIES.

b. This agreement may be terminated by either PARTY with thirty (30) days written notice. Upon termination, the PARTIES will be responsible for any outstanding financial commitments for any contracts entered into at the time of termination.

IN WITNESS WHEREOF, the PARTIES hereby execute this Interagency Agreement.

ORANGE COUNTY WATER DISTRICT

By: Date:

Vincente Sarmiento, President
for Orange County Water District

MOULTON NIGUEL WATER DISTRICT

By: Date:

Donald R. Froelich, President
for Moulton Niguel Water District

DRAFT REQUEST FOR PROPOSALS

REVIEW OF EXISTING WATER STORAGE PROGRAMS

ORANGE COUNTY WATER DISTRICT

SINCE 1933

moulton niguel water district

ORANGE COUNTY WATER DISTRICT and
MOULTON NIGUEL WATER DISTRICT

PROPOSALS DUE:
February 22, 2019
2:00 P.M.

INTRODUCTION

The Orange County Water District (OCWD; the District) and the Moulton Niguel Water District (MNWD) are seeking proposals from qualified consultants to provide a review, summary and analysis of existing water storage programs in Southern California (Study).

In general, the Study consists of providing a market analysis and/or bench mark of what other water agencies are paying to store water. This information will be used by OCWD and MNWD to assist in the potential development of a pilot storage program whereby MNWD will compensate OCWD to store water in the OCWD groundwater basin.

The selected consultant should have an individual with significant experience, water industry contacts and knowledge in the area of water resources management to provide expert advice to assist both agencies in potentially developing a water storage program.

This Request for Proposals (RFP) describes the Study, the required scope of services, Study milestones, consultant selection process, and the minimum amount of information that must be included in the proposal. Failure to submit information in accordance with these requirements and procedures may be cause for disqualification.

STUDY BACKGROUND

MNWD lies outside of the OCWD groundwater basin in south orange county as shown on the following figure. MNWD is seeking to develop a small storage program to assist in improving the water reliability of its service territory. OCWD manages the Orange County groundwater basin which has a useable volume of approximately 500,000 acre-feet. The OCWD Act Section 2.1 allows for storage programs with agencies outside of the OCWD boundaries. OCWD would provide a relatively small amount of storage space to MNWD and potentially other South Orange County water agencies in exchange for appropriate compensation.

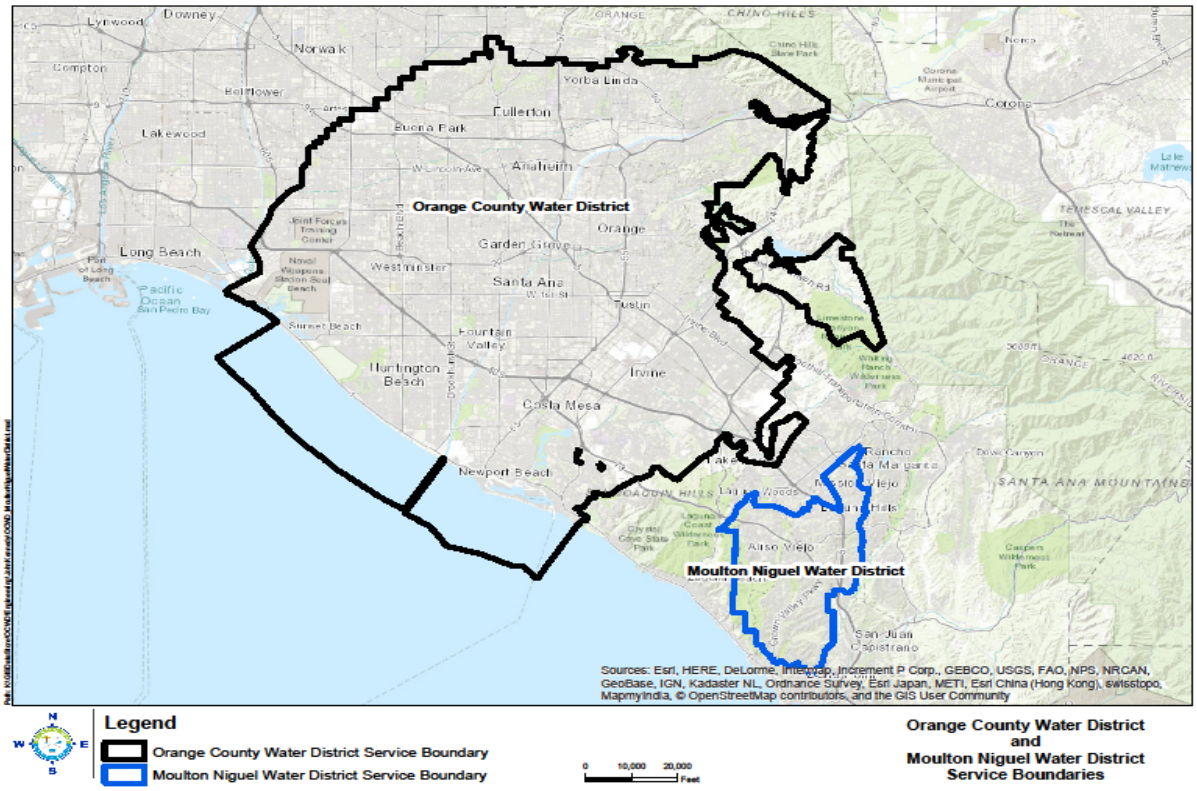
OCWD and MNWD first wish to develop and consider a small short-term 5,000 acre-feet pilot storage program which if implemented, would be used to determine if a long-term storage arrangement can be consummated.

STUDY DESCRIPTION

Many storage programs have been developed in Southern California and the western United States over the past 30 years. The selected consultant will evaluate all storage programs listed below. Consultants should also propose other storage programs they believe are comparable to the likely exchange arrangement being contemplated by OCWD and MNWD.

- Metropolitan Water District (MWD) Arvin Edison
- MWD Semi Tropic
- Santa Margarita Water District Upper Chiquita Reservoir
- Antelope Valley East Kern Water Agency
- OCWD MWD Conjunctive Use Storage Program.

- Irvine Ranch Water District Strand Ranch and Stockdale
- Pixley Water District



These storage programs are generally developed to provide water during dry hydrologic periods and/or for emergency purposes. It will be important to differentiate the purpose of the storage program to allow for accurate comparisons. The consultant should also determine if there is any significant difference between storage programs for retail water agency versus wholesale agency. Additionally, other material terms of these storage programs such as “put” or “take” restrictions along with any hydrology and/or water quality constraints should be noted.

OCWD and MNWD water district’s wish to develop a fee that MNWD will pay to store water in the OCWD groundwater basin that is fair and reasonable to both agencies. The fee can be in the form of money or water left behind (a storage exchange program) to OCWD or both. At this time the compensation to the District is likely to be in the form of water purchased by MNWD but left behind in the OCWD groundwater basin.

The possible 5,000 acre-feet of water to be stored by OCWD for MNWD in the initial pilot program being contemplated could be MWD untreated imported water that is purchased and recharged by OCWD at its field headquarters in the city of Anaheim. This water currently cost $695/acre-foot and will increase in cost to $731/acre-foot on January 1, 2019. Alternatively, to avoid any impact to its groundwater recharge operations, OCWD may implement an in-lieu type arrangement with one or more Groundwater Producer(s) to not pump up to the Basin Production Percentage (BPP) by a total of 5,000 acre-feet to indirectly store water in the groundwater basin. OCWD

would pay the Basin Equity Assessment which averages $539/acre-foot as compensation to a Producer not pumping up to the BPP to store water in this manner.

SCOPE OF WORK

The Consultant shall perform the Scope of Work as described below:

- Review existing water industry storage programs and interview the appropriate staff of the agencies involved.
- Perform a literature review. Obtain and coordinate the Study with other similar reports that have been prepared and/or are being prepared by other agencies.
- Develop a summary table whereby the key elements of each storage program can be summarized for comparison with other programs.
- Develop a generic, generally accepted and appropriate financial methodology to calculate the unit cost ($/af) of each storage program to allow it to be compared with other programs. This methodology should take into account exchange programs whereby agencies storing water leave behind a percentage of water as compensation for storing water.
- When comparing storage programs, determine if and how programs for water retailors should be differentiated from programs for water whole sellers.
- When comparing storage programs, determine if and how programs that provide emergency water system supplies should be differentiated from programs providing water during dry hydrologic cycles (dry year yield).
- Summarize the purpose of each storage program. For example, is water being stored for emergency purposes? Is water being stored for drought periods?
- Document the parameters for storing and calling upon water.
- Provide an outline of the technical paper, an approximate 50% draft and a final draft of the Study paper for review and comment by OCWD and MNWD.
- Determine what existing storage programs provide a representative and comparable match to the storage program being contemplated by OCWD and MNWD.
- Provide a final technical paper and a presentation summarizing the results of the study.
- Coordinate this work with other surveys and reports that have been completed by other water agencies to avoid any duplication of effort.
- Plan on three meetings with OCWD and MNWD staff. Plan on providing separate presentations to the MNWD and OCWD Boards

SCHEDULE

The proposed project schedule is as follows:

Task	Date
Study RFP Issued	January 18, 2019
Optional meeting with OCWD & MNWD	February 11, 2019 - 2:00 p.m. @ OCWD
Proposals Due, 2:00 P.M.	February 22, 2019
Interviews, if necessary	March 4 – 6, 2019
Award Study Contract	March 20, 2019
Study Kick-off Meeting	April 8, 2019 – 2:00 p.m. @ OCWD
Consultant Provides Study Outline	April 26, 2019
Consultant Provides draft Study	June 28, 2019
Consultant Provides final draft Study	August 2, 2019
Consultant Provides final Study	August 30, 2019

ELEMENTS OF PROPOSAL

Please include the following in your proposal:

1. Cover letter.

2. Study approach, expanding or revising the scope of work provided herein if necessary. Any deviations from the scope herein shall be clearly designated in the proposal, including associated man-hours.

3. Project team description (with resumes at the back of the proposal), emphasizing experience and capabilities of designated project manager, and support staff related to the outlined scope of work. Indicate the percentage of time each member will contribute to the project. The Study consultant shall also include the home office and location of each project team member.

4. A matrix table of the estimated man-hours for the Study broken down by individual staff and any sub-Consultants.

5. Description of the Study team's past record of performance on similar study's for which your firm has provided services. Also include client references that may be contacted by OCWD.

6. Project schedule with milestones and completion deadlines, modifying the proposed schedule herein, based on your project approach and experience.

7. A statement that the Consultant has read and can execute the District's standard professional services contract and can comply with the insurance requirements.

8. Fee proposal submitted in a separate sealed envelope. The fee proposal shall show estimated hours and cost for each task and subtask, including meeting obligations. The fee proposal shall be based on services provided on an hourly-rate basis, with a total not-to-exceed fee. Provide a rate schedule for proposed services. On a separate sheet, please provide a fee proposal for the study.

The proposal is limited to 7 pages, exclusive of cover letter, resumes, and preprinted materials. Interested firms shall deliver four paper copies of the proposal, one

electronic PDF file, and one sealed fee proposal on or before February 22, 2019 at 2:00 pm. Proposals shall be mailed or delivered to:

Orange County Water District
Attention: John Kennedy
18700 Ward Street
Fountain Valley, CA 92708

SELECTION PROCESS

Selection of the Consultant will be based upon the proposal contents, prior experience of the firm, and specific experience and capabilities of the designated project manager and support staff. The firm, and in particular the project manager, must be fully capable in all areas outlined under the scope of work above. The nature of this study includes working with and obtaining information from numerous water agencies. The selected firm and project manager will have good working relations with many agencies in the water community.

Based upon this information, OCWD staff will recommend a firm to OCWD's Board of Directors for award of contract. The selected firm must be able to begin work immediately upon award of contract and must be able to maintain the required level of effort to meet the proposed schedule.

The evaluation criteria listed in the OCWD Proposal Evaluation Form (Exhibit A) will be used to evaluate each Consultant. Depending on the response to the RFP, oral interviews may or may not be a part of the selection process.

PRE-SUBMITTAL ACTIVITIES

Questions Concerning Request for Proposals
All questions regarding the RFP should be presented in writing to:

Orange County Water District
Attn: John Kennedy
18700 Ward Street, Fountain Valley, CA 92708
Phone: (714) 378-3304
JKennedy@ocwd.com

Pre-Proposal Meeting
The February 11, 2019 meeting at 2:00 p.m. will be held at the OCWD headquarters in Fountain Valley. This meeting is optional.

SPECIAL CONDITIONS

Revision to the Request for Proposals

The District reserves the right to revise the RFP prior to the date the Proposals are due. The District reserves the right to extend the date by which the Proposals are due.

Reservations

This RFP does not commit the District to award a contract, to defray any costs incurred in the preparation of a Proposal pursuant to this RFP or to procure or contract for work.

Public Records

All Proposals submitted in response to this RFP become the property of OCWD and are public records and as such may be subject to public review.

Right to Cancel

The District reserves the right to cancel, for any or no reason, in part or in its entirety, this RFP including but not limited to: selection schedule, submittal date, and submittal requirements. If the District cancels or revises the RFP, the District will notify all the known Proposers in writing.

Additional Information

The District reserves the right to request additional information and/or clarifications from any or all Proposers.

Public Information

Release of Public Information selection announcements, contract awards, and all data provided by the District shall be protected from public disclosure. Proposers desiring to release information to the public must receive prior written approval from the District.

Professional Services Agreement

The selected Consultant will be required to sign the attached Professional Services Agreement (Exhibit B) and to provide the Insurance Certificates and all other required documentation within 10 calendar days of notice of award.

Insurance Requirements

The minimum insurance requirements are: $2 million ($4 million aggregate) for Commercial General Liability insurance, $1 million for Automobile Liability insurance (including Additional Insured endorsement for both General Liability and Automobile Liability insurance), $1 million for Workers' Compensation insurance (including Waiver of Subrogation endorsement for Workers' Comp), and $1 million for Professional Liability (Errors and Omissions) insurance.

Equal Employment Opportunity and Affirmative Action Requirements

The Proposers shall provide a Statement of Equal Employment Opportunity/Affirmative Action. The Consultant and each subcontractor shall not discriminate in the employment of persons on the work because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, sexual preference or sex of such persons except as permitted by Section 12940 of the California government Code. The Consultant is expected to maintain policies similar to those of the District regarding equal employment opportunities and affirmative action as set forth in the OCWD’s Administrative Policies.

EXHIBIT A

PROPOSAL EVALUATION FORM

EXHIBIT B

SAMPLE PROFESIONAL SERVICES AGREEMENT

DRAFT REQUEST FOR PROPOSALS

EVALUATION OF GROUNDWATER CONVEYANCE OPTIONS

moulton niguel water district

ORANGE COUNTY WATER DISTRICT and
MOULTON NIGUEL WATER DISTRICT

PROPOSALS DUE:
February 22, 2019
2:00 P.M.

INTRODUCTION

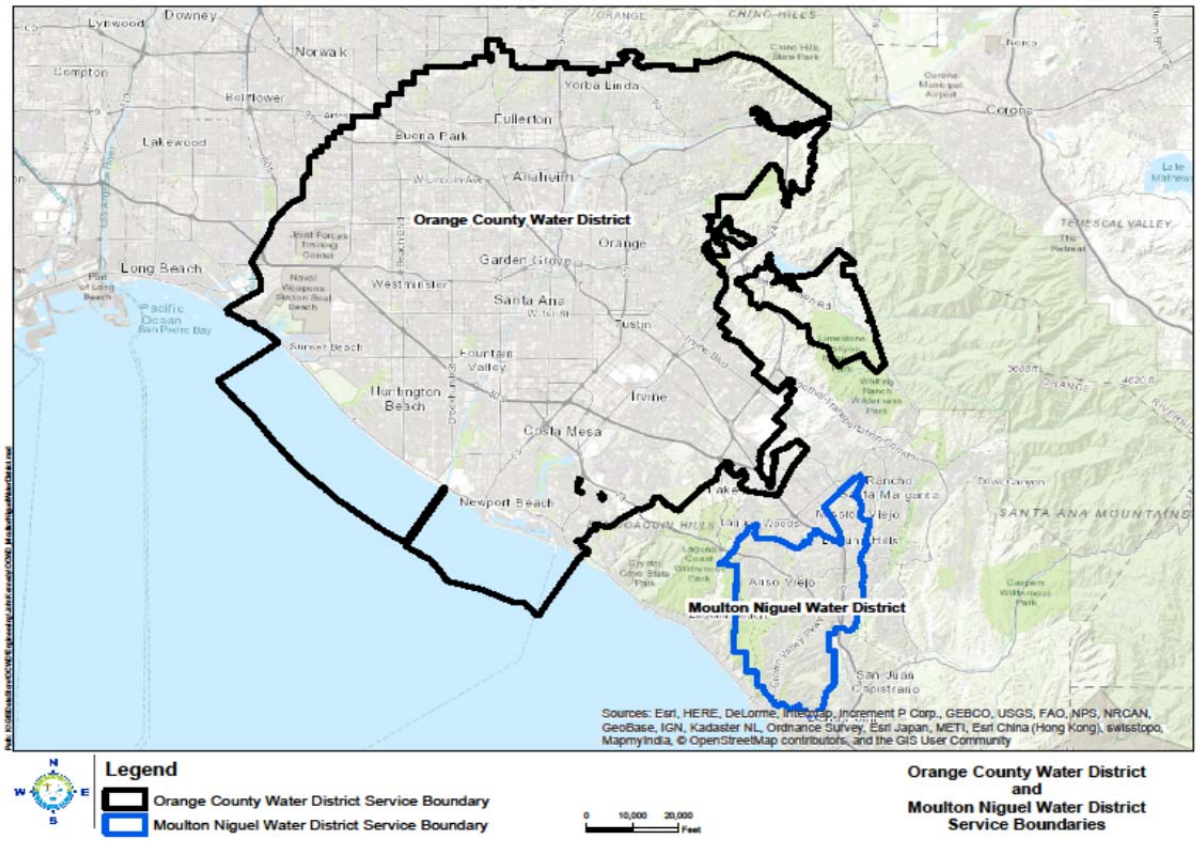
The Orange County Water District (OCWD; the District) and the Moulton Niguel Water District (MNWD) are seeking proposals from qualified consultants to provide a review, summary and analysis of conveyance options from the Orange County Groundwater basin to South Orange County and in particular, MNWD.

In general, the goal of this project is to evaluate the potential infrastructure and property acquisition required to convey water from the Orange County Groundwater Basin to Moulton Niguel Water District's system. This information will be used by OCWD and MNWD to assist in the potential development of a pilot storage program whereby MNWD will compensate OCWD to store water in the OCWD groundwater basin and ultimately convey stored water to MNWD during emergencies or water shortage conditions.

This Request for Proposals (RFP) describes the Study, the required scope of services, Study milestones, consultant selection process, and the minimum amount of information that must be included in the proposal. Failure to submit information in accordance with these requirements and procedures may be cause for disqualification.

STUDY BACKGROUND

MNWD lies outside of the OCWD groundwater basin in south orange county as shown on the following figure.

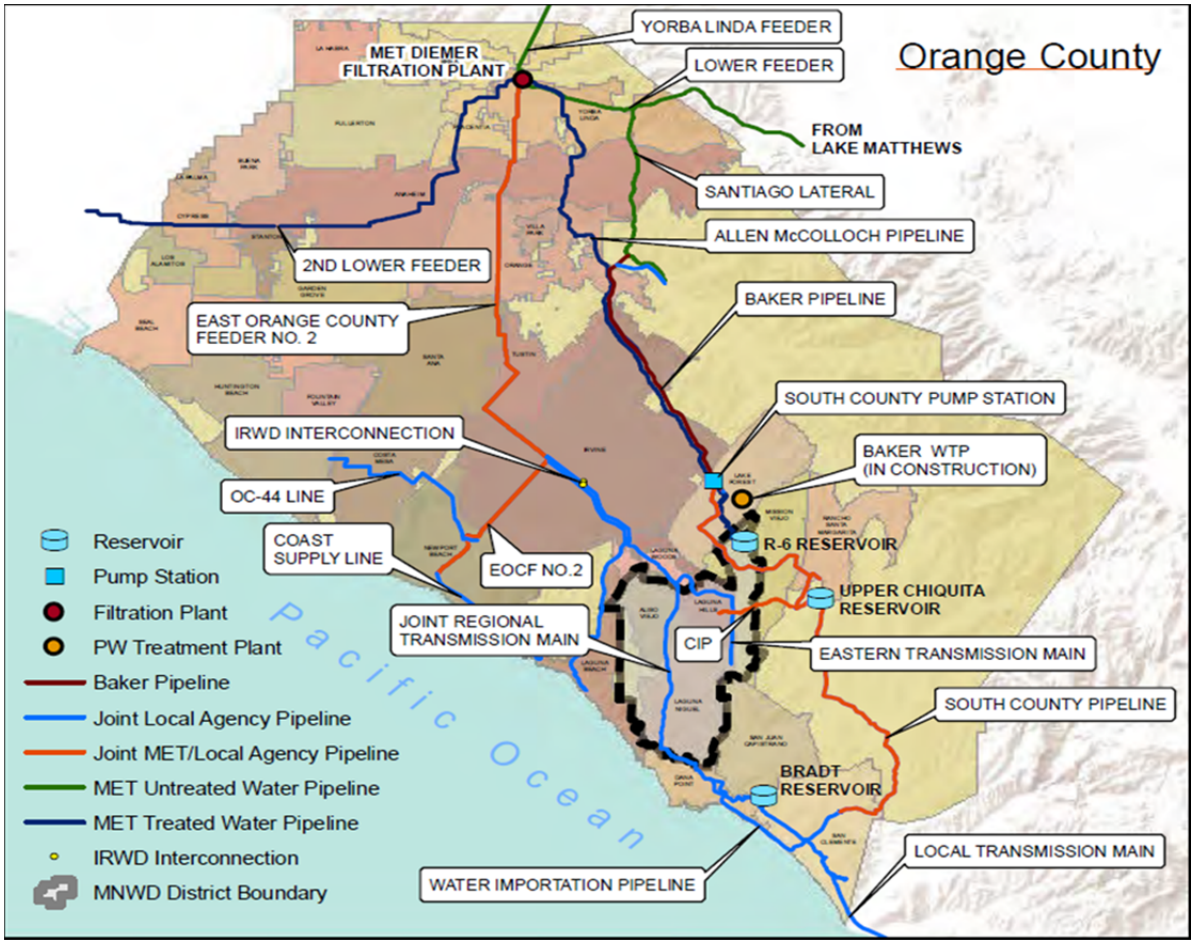


MNWD is seeking to develop a small storage program to assist in improving the water reliability of its service territory. OCWD manages the Orange County groundwater basin which has a useable volume of approximately 500,000 acre-feet. The OCWD Act Section 2.1 allows for storage programs with agencies outside of the OCWD boundaries. OCWD would provide a relatively small amount of storage space to MNWD and potentially other South Orange County water agencies in exchange for appropriate compensation.

OCWD and MNWD first wish to develop and consider a small short-term 5,000 acre-feet pilot storage program which if implemented, would be used to determine if a long-term storage arrangement can be consummated.

STUDY DESCRIPTION

Moulton Niguel Water District currently has an emergency interconnection through Irvine Ranch Water District which can move up to 50 cfs of water to serve South Orange County. Moulton Niguel Water District owns 58.93 percent of the capacity of the interconnection. Due to growth in Irvine Ranch Water District, expiration of the capacity rights in the interconnection facilities, and uncertainty in the ability to convey water into the future, Moulton Niguel Water District is interested in alternative conveyance options to move water from the groundwater basin to MNWD through a potential exchange program. MNWD currently receives imported water from the East Orange County Feeder #2 and/ or the Allen-McCulloch Pipeline as shown on the following figure.



The study should evaluate potential costs of land acquisition, building new transmission mains and/or pumping plants, utilization of existing available groundwater well capacity or construction of new wells, and connecting transmission mains to the East Orange County Feeder #2 and/or the Allen-McCulloch Pipeline.

AVAILABLE DATA

Moulton Niguel Water District will provide GIS shapefiles with the regional pipeline infrastructure including Metropolitan Water District pipelines, the Joint Regional Water Supply System, South County Pipeline and Eastern Transmission Main.

Orange County Water District will provide GIS files with the location of existing groundwater pumping wells. Historical production amounts from the wells will also be provide.

SCOPE OF WORK

The Consultant shall perform the Scope of Work as described below:

- Review and meet with staff of the agencies involved to discuss existing conveyance facilities, well production facilities, and desired capacity and conveyance goals.
- Develop alternative conveyance approaches of groundwater which shall include:
    - Identification of 3-4 alternative locations for developing the desired pumping capacity utilizing either existing available well capacity or developing new well capacity;
    - Evaluation of existing infrastructure to convey stored water from the identified pumping locations to either the East Orange County Feeder #2, Allen-McColloch Pipeline, or the Joint Transmission Main;
    - Identification of any new infrastructure necessary to convey stored water to either the East Orange County Feeder #2, Allen-McColloch Pipeline or the Joint Transmission Main.
- Evaluation of potential property needed to build any additional infrastructure, i.e. well facilities, pumping plants.
- Evaluation of probable construction costs for each of the proposed conveyance alternatives.
- Provide a final technical paper and a presentation summarizing the results of the study.

- Plan on three meetings with OCWD and MNWD staff. Plan on providing separate presentations to the MNWD and OCWD Board of Directors.
- Review similar work the Municipal Water District of Orange County is performing regarding pumping groundwater into the EOCFD#2.
- Coordinate this work with the possible transmission of Poseidon Resources Ocean Desalination water to South Orange County via the EOCFD#2. OCWD will provide relevant information to the consultant.

Future work will need to be completed to evaluate the hydraulic constraints of regional infrastructure as well as water quality impacts. This initial work does not contemplate those work products.

SCHEDULE

The proposed project schedule is as follows:

Task	Date
Study RFP Issued	January 18, 2019
Optional meeting with OCWD & MNWD	February 4, 2019 - 2:00 p.m. @ OCWD
Proposals Due, 2:00 P.M.	February 22, 2019
Interviews, if necessary	March 4 – 6, 2019

Award Study Contract	March 20, 2019
Study Kick-off Meeting	April 1, 2019 – 2:00 p.m. @ OCWD
Consultant Provides Study Outline	May 10, 2019
Consultant Provides draft Study	July 26, 2019
Consultant Provides final draft Study	September 6, 2019
Consultant Provides final Study	October 4, 2019

ELEMENTS OF PROPOSAL

Please include the following in your proposal:

1. Cover letter.

2. Study approach, expanding or revising the scope of work provided herein if necessary. Any deviations from the scope herein shall be clearly designated in the proposal, including associated man-hours. roject team description (with resumes at the back of the proposal), emphasizing experience and capabilities of designated project manager, and support staff related to the outlined scope of work. Indicate the percentage of time each member will contribute to the project. The Study consultant shall also include the home office and location of each project team member.

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The evaluation criteria listed in the OCWD Proposal Evaluation Form (Exhibit A) will be used to evaluate each Consultant. Depending on the response to the RFP, oral interviews may or may not be a part of the selection process.

PRE-SUBMITTAL ACTIVITIES

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The Proposers shall provide a Statement of Equal Employment Opportunity/Affirmative Action. The Consultant and each subcontractor shall not discriminate in the employment of persons on the work because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, sexual preference or sex of such persons except as permitted by Section 12940 of the California government Code. The Consultant is expected to maintain policies similar to those of the District regarding equal employment opportunities and affirmative action as set forth in the OCWD’s Administrative Policies.

EXHIBIT A

PROPOSAL EVALUATION FORM

EXHIBIT B

SAMPLE PROFESIONAL SERVICES AGREEMENT

Proposed Agreement with Moulton Niguel Water District

History

- August 2017 Board - Broadened the District's Water Resources Policy to allow the consideration of water storage and exchange programs with South Orange County (SOC) agencies
- February 2018 Water Issues Committee
  - Reviewed draft MOU with Moulton Niguel Water District (MNWD) to study issue
  - Staff directed to review the storage needs of OCWD and consider a letter from the Groundwater Producers

History

- August 2018 WIC
  - Reviewed OCWD storage needs provided
  - Recommended lowering the Accumulated Overdraft target range
- October 2018 Board – Established OCWD MNWD ad-hoc Committee
- October/November 2018
  - Two meetings of ad-hoc Committee
  - Developed attached agreement

Summary of Existing Storage/Emergency Programs

1. **MWD CUP Storage Program**
   - 66,000 af
   - OCWD received
     - ~ $32 M from MWD
     - ~ $20 M from Producers
   - Expires in 2028
2. **SOC Emergency Service Agreement**
   - 50 cfs for up to 30 days (~3,000 af)
   - No compensation
   - Expires in 2033
3. **Santa Ana River Conservation & Conjunctive Use Program**
   - 36,000 to 45,000 af
   - To Be Determined

MNWD Agreement Terms

- Develop an RFP (attached) and hire a consultant to study existing and potential new conveyance options for delivery of water from OCWD to MNWD.
- Develop a second RFP (attached) and hire a second consultant to review existing water industry storage agreements to provide a bench mark and market analysis of what other water agencies have paid for storage programs.
- OCWD would administer the two consultant RFP and contracts.
- MNWD agrees to fund the consultants work.

MNWD Agreement Terms

- The timeline for completion of the scope of work is estimated at 6 months from execution of the Agreement.
- The existing ad-hoc committee created by OCWD and MNWD would work collaboratively to carry out the scope of the Agreement.
- OCWD and MNWD would meet and work with other interested stakeholders to share information and seek input on this issue.
- OCWD is committing to consider a small short-term pilot water storage program once the studies are completed.

Potential Pilot Storage Program

- ~ 5,000 afy
- ~ Five year duration
- Store imported water supplies from the Metropolitan Water District
- Water available for MNWD use during drought periods/emergencies
- If successful could lead to more permanent deal with MNWD and potentially other SOC agencies
  - 15,000 to 20,000 acre feet total for all of SOC
  - After MWD CUP agreement expires in 2028

Why Consider South Orange County (SOC) Water Agency Storage Accounts?

- OCWD can generate additional income to offset future expected Replenishment Assessment increases
- Relatively small amount of storage space - No impact to OCWD Operations
- Cost effective way for SOC agencies to secure their water supply reliability needs

Producers Summary

- January 2018 letter from the Groundwater Producers attached
  1. ~~Evaluate the current and future operating parameters of the basin~~;
  2. Identify potential measures to optimize the storage of water in the basin for the benefit of the Producers;
  3. Consider if / how storage accounts could be implemented for Producer agencies; then
  4. Consider if / how potential storage accounts could be implemented for non-Producer agencies to the primary benefit of the Producer agencies.

Producers Summary

- Discussed issue at several meetings in spring of 2018 and fall of 2019
- Discussed issue with Producers on January 9th
- Requested OCWD consider deferring action on agreement until issues #2 and #3 are resolved from letter
- Continue Producer discussions
  - Schedule special meetings in January, February & March if necessary
  - Report back to Board in March or April 2019

Recommendation

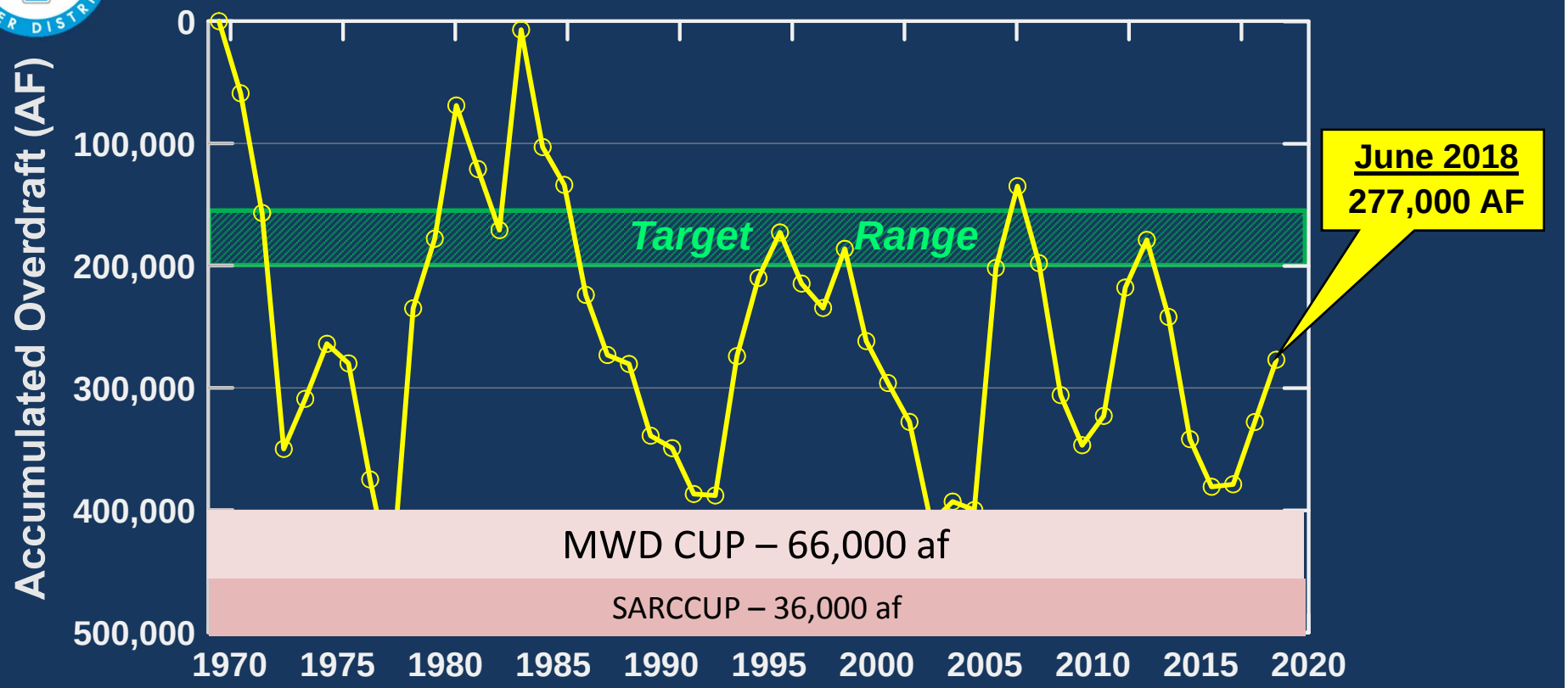
Agendize for January 16 Board meeting:
Authorize:

(1) execution of the attached Agreement with the Moulton Niguel Water District and

(2) issuance of the two attached requests for proposals

End of Presentation

Accumulated Overdraft Since 1969



General Schedule/Potential Board Actions

Task	Date
Consider Agreement/Issue RFP	January 2019
Hire Consultants to Study Issues	March 2019
Consider Small Pilot Storage Program	~November 2019

Metropolitan Water District Conjunctive Use Program (CUP)

- 25 year program approved in 2003
- Terminates in 2028
- MWD can store 66,000 af of water
- Store 16,500 afy / Extract 22,000 afy
- MWD able to cycle the program ~ 3 times
- OCWD compensation from MWD - $32 million
- Total OCWD compensation ~ $53 million

Santa Ana River Conservation & Conjunctive Use Program (SARCCUP)

- 180,000 af storage program in the SAR Watershed
- OCWD, EMWD, SBVMWD, WMWD, IEUA
- OCWD portion - 36,000 af
- $100 million total cost / $50 million state grant received
- Store excess SBVMWD water supplies
- Provide “Extraordinary Supplies” during a MWD allocation
- Expect formal consideration to approve in spring 2019
- 25? Year program

South Orange County (SOC) Emergency Services Agreement

- Approved in 2006 - Terminates in 2033
- Provide water supplies to SOC agencies via IRWD water system during emergency events
- Up to 50 cfs for 30 days (3,000 af) – small program
- IRWD still needs to comply with annual BPP/BEA
- IRWD ability to provide SOC water decreasing as demands within their system increase
- Water sent to SOC considered imported water
- No OCWD compensation – SOC agencies reimbursed IRWD for necessary improvements to send water south

District Act – Section 2.1

- **Groundwater storage; agreement between entity and district; use priorities; limitation of parties; waivers od replenishment and basin quality assessments; allocation consideration written finding**

- (a.) All groundwater storage by entity other than the district shall be conducted pursuant to a groundwater storage agreement between that entity and the district.
- (b.) Use of the groundwater basin within the district for the purpose of replenishing and managing the groundwater supplies of the district shall have priority over the use of the groundwater basin for storage of water.
- (c.) The groundwater storage agreement shall be limited to public and private entities distributing water to consumers for domestic, municipal, industrial, and agricultural use within their boundaries, which are located wholly or partially within the district, except that, where the primary benefits accrue to persons or property within the District, the agreement may include other public and private entities, including, but not limited to, the Metropolitan Water District of Southern California and the Department of Water Resources.
- (d.) The groundwater storage agreements may include provisions that provide for the waiver of replenishment assessments or basin equity assessments, or both, on stored water that is extracted pursuant to the agreement.
- (e.) In allocating the use of the groundwater basin storage space, the district shall consider and protect the quality of the groundwater and the reasonable water supply needs of the district. The district shall impose such limitation on the quality of the water to be stored as shall be necessary to protect the quality of the groundwater in the district.
- (f.) The district shall include written findings supporting its conclusions in its record of consideration of a proposed groundwater storage agreement.

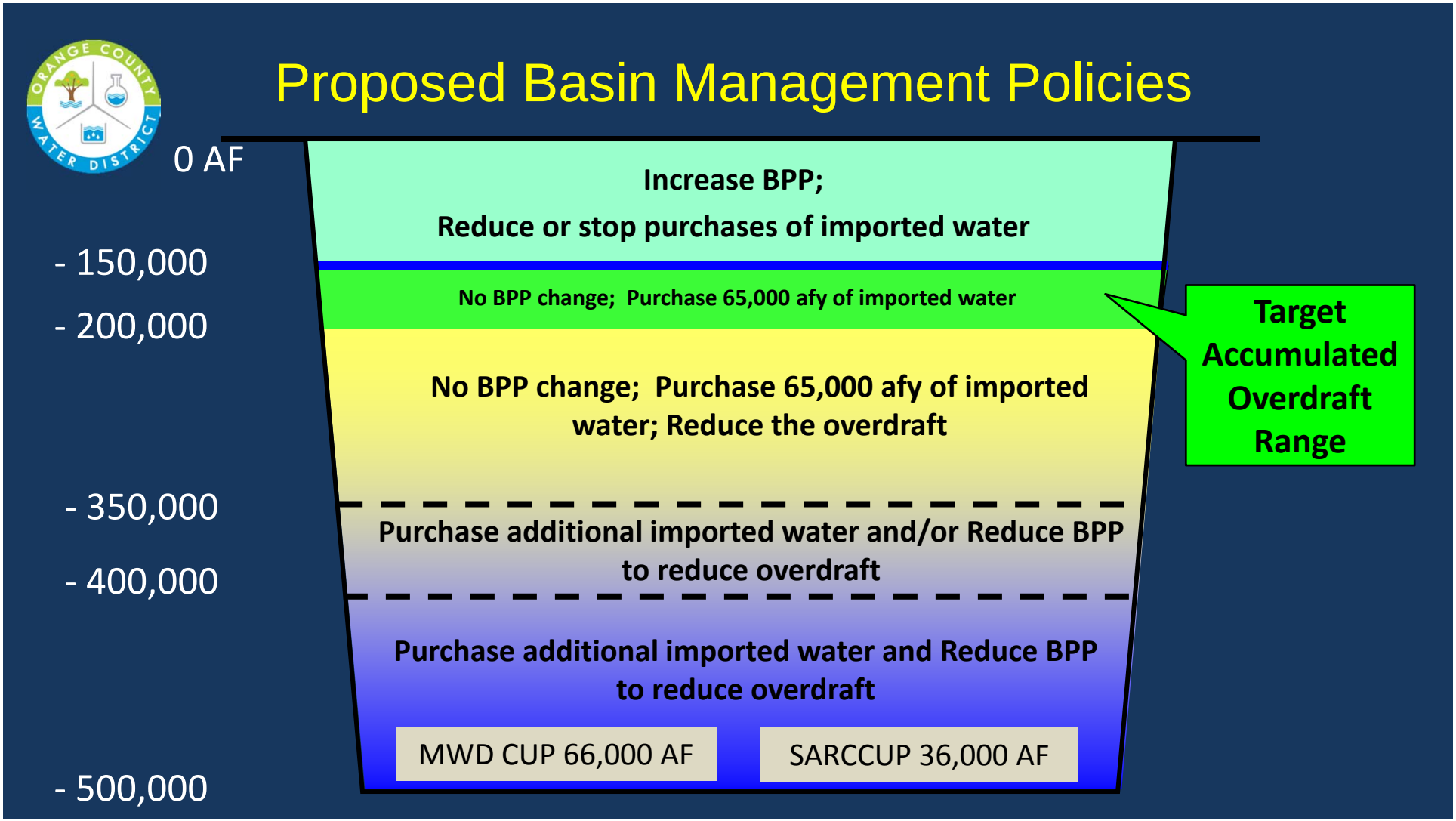
District Act Section 2.1 – Groundwater Storage Agreements - Paragraph C

- The groundwater storage agreement shall be limited to public and private entities distributing water to consumers for domestic, municipal, industrial, and agricultural use within their boundaries, which are located wholly or partially within the district, except that, where the primary benefits accrue to persons or property within the District, the agreement may include other public and private entities, including, but not limited to, the Metropolitan Water District of Southern California and the Department of Water Resources.

Extraordinary Supplies

- Imported Water Supplies become scarce
- MWD decides to allocate imported water - Complicated formula
- Allocation is based upon a water agencies need for water
- Accounts for local water supplies – the more local supplies you have reduces your need for imported water
- With the MWD water provided and the available local water supplies, an agency may only have 80 to 90% of water supplies needed to serve its customers
- “Extraordinary” water supplies are additional

Proposed Basin Management Policies



Irvine Ranch
WATER DISTRICT

December 4, 2017

Mr. Michael Markus, P.E.
General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Subject: Proposed Pilot Water Storage and Exchange Program in Orange County

Mike:

We have received a draft agreement describing a proposed Pilot Water Storage and Exchange Agreement between Orange County Water District (OCWD), Moulton Niguel Water District (MNWD) and Irvine Ranch Water District (IRWD) sent on November 16, 2017. While IRWD has been and remains an advocate for storage accounts and exchange programs within the Orange County Groundwater Basin (the Basin) to improve local water supply reliability, we do not believe that an initial pilot program with one non-groundwater producer agency is an appropriate approach.

IRWD's recommended approach to developing a Pilot Water Storage and Exchange Program within the Basin is as follows:

1. Concepts, policies, terms, and processes for implementing any water storage and exchange programs must first be vetted with the Groundwater Producer Agencies;
2. Before developing a program to benefit water agencies outside of the Basin, a storage and exchange program should first be developed for potential participation by interested Producer Agencies, recognizing that each of these agencies has a vested interest in maximizing the use of storage in the Basin;
3. A water storage and exchange program to benefit South County (non-Basin) agencies can be developed after the needs of the Producer Agencies have been met; and
4. The implementation of any storage and exchange programs must be consistent with the OCWD District Act, the requirements of the California Environmental Quality Act and should not infringe upon the jurisdiction of other Orange County agencies.

When developing terms for a potential water storage and exchange program, an In-lieu Exchange Program, as described in IRWD's August 10, 2016 letter on this topic (attached) should be considered as an option.

Furthermore, to the extent a water storage and exchange program would require the use of IRWD facilities, the following considerations must be addressed while developing such a program:

1. Existing contractual arrangements, such as the Dyer Road Well Field Agreement and the South County Interconnection Agreement, would take priority over any subsequent arrangements;
2. Use of IRWD's infrastructure should provide for the recovery of a proportional share of IRWD capital, operations, maintenance and replacement costs; and
3. Use of IRWD infrastructure by other agencies is subject to current and future availability, with the needs of IRWD's customers taking top priority.

Finally, with the current legal dispute between IRWD and OCWD still pending resolution, I recommend that IRWD and OCWD staff and legal counsel work to identify issues associated with the legal action that could have a bearing on the development of terms for storage and exchange program(s).

IRWD supports efforts to improve the water supply reliability of all agencies in Orange County. In addition to the meeting described above, I also believe that an Ad Hoc meeting with a few members from the OCWD Board and two members of the IRWD Board to discuss concepts of water supply reliability could be beneficial as well. Feel free to give me a call at (949) 453-5590 if you wish to pursue this matter further at this time.

Sincerely,

Paul A. Cook, P.E.
General Manager

Attachment

IRVINE RANCH WATER DISTRICT 15600 Sand Canyon Avenue • P.O. Box 57000 • Irvine, California 92619-7000 • (949) 453-5300 • www.irwd.com

August 10, 2016

Mr. Mike Markus, P.E.
General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Subject: Methods to Restore Groundwater Levels in the Orange County Basin

Mike:

At the July 2016 Joint Planning Committee meeting of the Board of Directors of Orange County Water District (OCWD) and Municipal Water District of Orange County (MWDOC), IRWD was requested to prepare an overview of how groundwater levels in the Orange County Basin could be restored to traditional (much higher) levels. The purpose of this letter is to share concepts for expanding on the list of approaches to refilling the Basin as follows:

1. Lower the Basin Production Percentage (BPP), in accordance with the OCWD Board-approved Groundwater Management Plan.
2. Purchase the maximum amount of imported water available to benefit the basin *directly* through recharge and *indirectly* through a traditional in-lieu program.
3. Establish a new In-lieu Exchange Program through which groundwater producer agencies can voluntarily store water without financially impacting OCWD.

Management of the Basin Production Percentage (BPP):

In 2013, the OCWD Board of Directors adopted a policy to establish a stable BPP with the goal of achieving an average BPP of 75%. For the purpose of sustainably managing the Basin for current and future generations, OCWD has established within its Groundwater Management Plan the Storage Management Actions presented in the following table:

Orange County Water District
Groundwater Basin Storage Management Actions*

Accumulated Overdraft	Basin Management Actions to Consider
Less than 100,000 acre-feet	Raise the BPP.
100,000 to 300,000 acre-feet	Maintain and/or raise BPP towards 75% goal.
300,000 to 350,000 acre-feet	Seek additional supplies to refill Basin and/or lower the BPP.
Greater than 350,000 acre-feet	Seek additional supplies to refill Basin and lower the BPP.

* OCWD Board-adopted Policy

The current estimated accumulated overdraft of the Basin is 370,000 acre-feet (AF). By June 30, 2017, OCWD staff predicts that the accumulated overdraft will be reduced to 353,000 AF in part due to purchases of 50,000 AF of water from Metropolitan Water District of Southern California (Metropolitan). These purchases are included in OCWD's Fiscal Year 2016-17 Operating Budget.

Taking Action Now:

In accordance with OCWD's Groundwater Management Plan, actions should have already been taken to reduce the BPP and to seek additional supplies of water to fill the basin. We understand that OCWD is currently taking water from Metropolitan at full direct recharge capacity. OCWD could be taking full advantage of additional existing supplies that are currently available from Metropolitan through the implementation of a multi-year in-lieu recharge program. Under such a program, the Producers that volunteer to participate would pay OCWD the Replenishment Assessment (RA) ($402 per acre-foot) and the avoided cost of pumping ($97 per acre-foot) while OCWD would pay the cost of the Full Service Treated Tier-1 water and associated costs to Metropolitan ($1,044 per acre-foot). Since the Producer would have paid to OCWD the RA for the same amount of water had it been produced from the Basin, the payments to the OCWD by each participating producer would not offset OCWD costs of the full-service water from Metropolitan. This would result in a net cost to OCWD of $947 per acre-foot ($1,044 – $97) that would need to be budgeted for and recovered through corresponding increases in the Replenishment Assessment (RA).

To implement an in-lieu recharge program in a way that is cost neutral to OCWD, it is recommended that OCWD consider implementing an In-lieu Exchange Program as described below.

Conceptual In-lieu Exchange Program:

The OCWD Act allows for the execution of exchanges in the Basin. A hybrid in-lieu recharge program could be created that incorporates exchange concepts for the purpose of allowing individual producers to improve reliability by storing water in the Basin. Conceptual principles associated with the implementation of such an In-lieu Exchange Program are described in the following:

- The Producers would have the option to voluntarily purchase Full-Service Tier-1 treated water from Metropolitan in-lieu of pumping groundwater.
- The reduction in pumping by the participating Producers would result in additional water in storage in the aquifer that would be received by OCWD in exchange for the Producers' right to recover an equivalent amount of water in the future to offset future pumping above the BPP.
- The participating Producers would pay Metropolitan the cost of the Full-Service Tier-1 treated water and associated costs ($1,044 per acre-foot).
- The participating Producers would also pre-pay the RA to OCWD for the future recovery of the water at the current OCWD Board adopted rate ($402 per acre-foot).

- OCWD would provide the participating producers a credit for the future recovery of the water for use in-lieu of paying RA and Basin Equity Assessments on future pumping above the BPP.
- OCWD could extinguish the credits by reimbursing a participating Producer for the Full-Service Tier-1 treated rate that was previously paid by the Producer ($1,044 per acre-feet).
- Under this program, OCWD would be cost-neutral.

An overview of the how such an In-lieu Exchange Program would work financially is provided in Exhibits "A" and "B". This concept would provide a creative solution to increasing the amount of water stored in the Basin, improving water supply reliability to the producing agencies, while ensuring that OCWD remains cost-neutral.

We hope that the concepts described above will assist you in your discussion with the OCWD Board of Directors Administration / Finance Issues Committee meeting on August 11, 2016 where you will be presenting options to refill the Basin. We look forward to working with you and your staff as well as the interested producer agencies in refining the In-Lieu Exchange Program concepts presented above. Please contact me at (949) 453-5590 or cook@irwd.com so that we can schedule a meeting to discuss these concepts.

Sincerely,

Paul A. Cook, P.E.
General Manager

EXHIBIT "A"

Example of Recharge of Water Through In-Lieu Exchange

- Costs of Recharge -

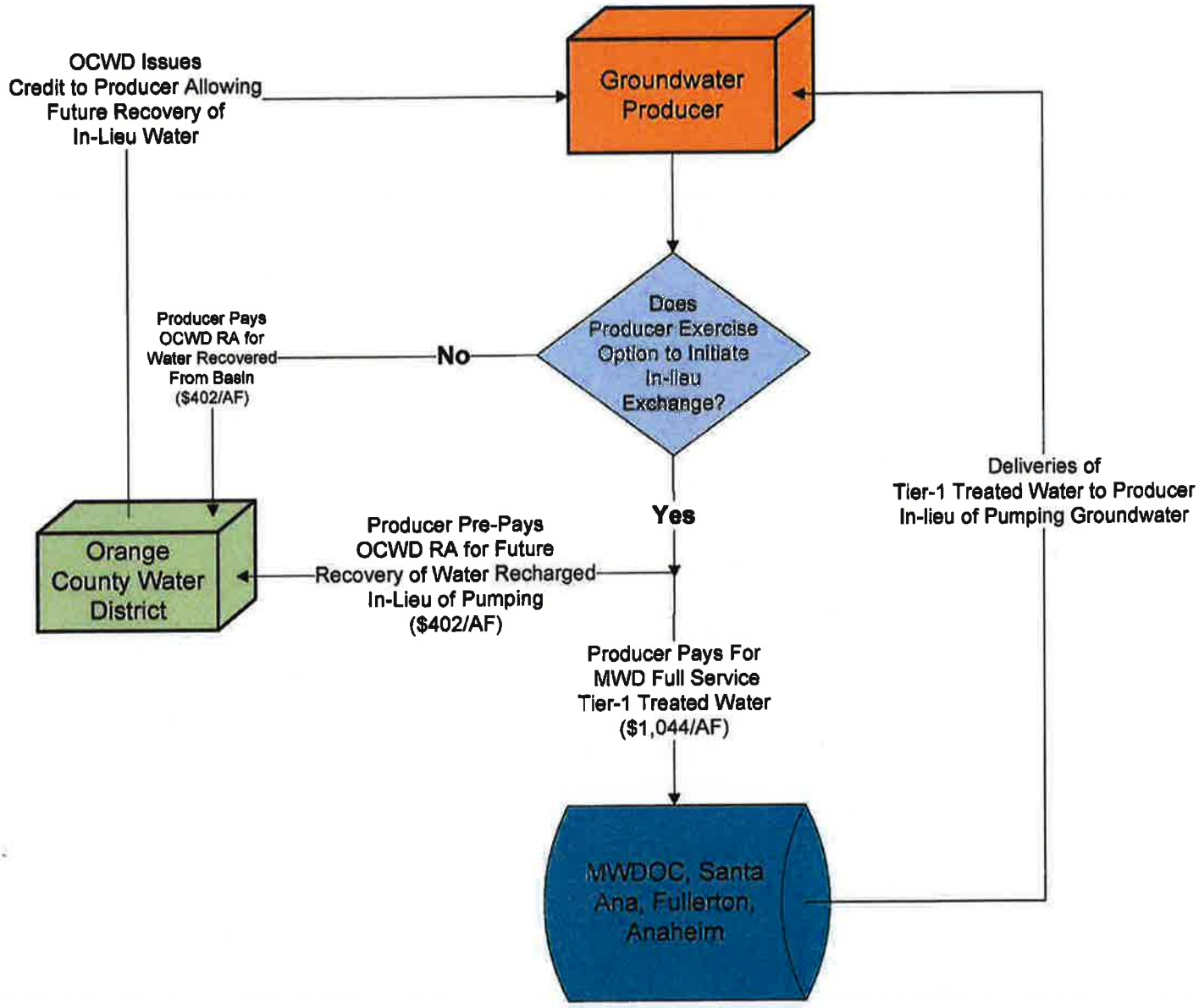
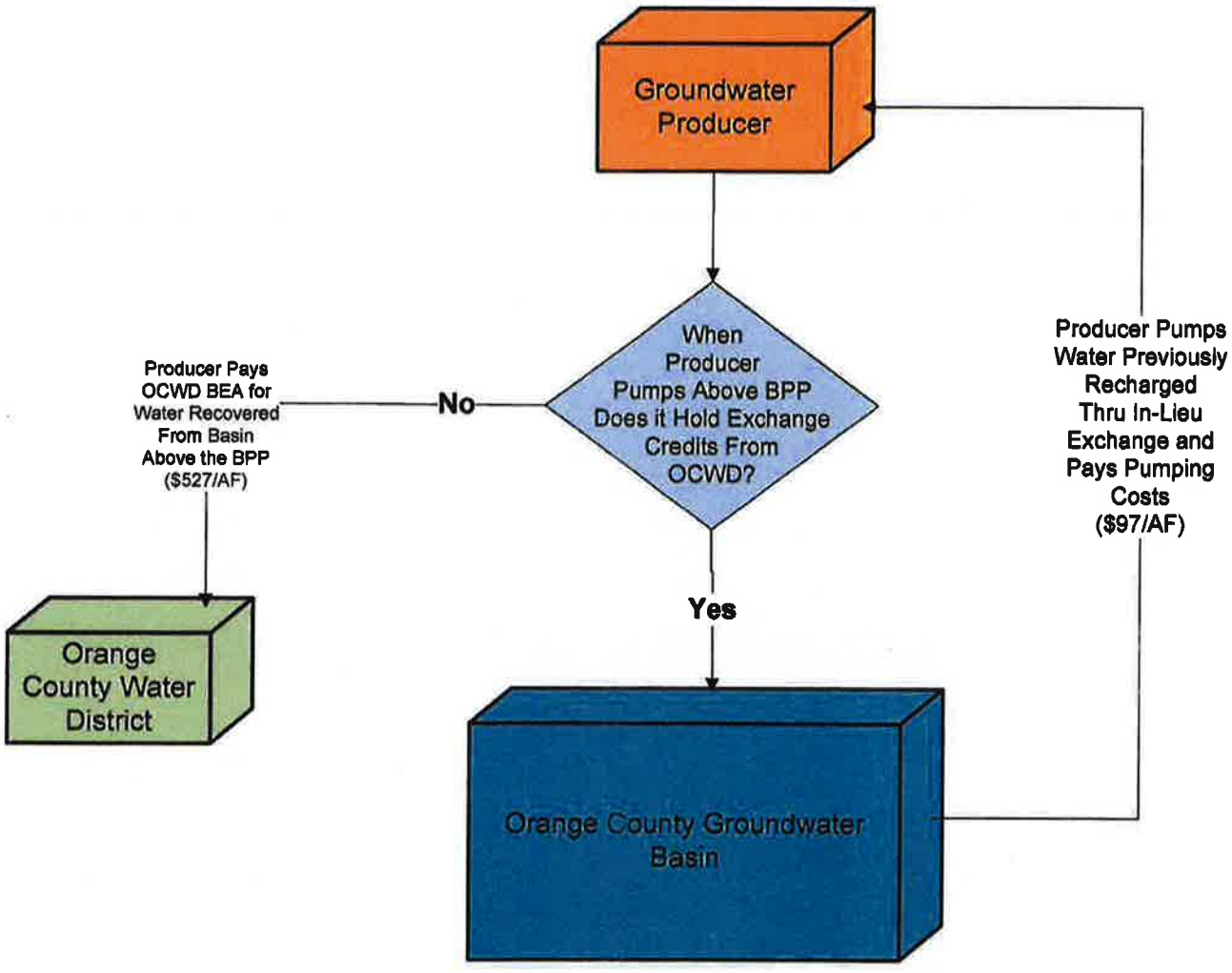


EXHIBIT "B"

Example of Recovery of Water Recharged Through In-Lieu Exchange

- Costs of Recovery -



City of Anaheim
PUBLIC UTILITIES DEPARTMENT
Administration

December 11, 2017

Mr. Michael Markus, P.E.
General Manager
Orange County Water District (OCWD)
18700 Ward Street
Fountain Valley, CA 92708

Subject: Proposed South Orange County Pilot Water Storage and Exchange Programs

Mr. Markus,

This letter addresses the upcoming Water Issues Committee agenda item for consideration of proposed South Orange County Pilot Water Storage and Exchange Programs.

I recommend the Committee defer action on this agenda item at this time. While OCWD staff's recommendation may have merit at some point, OCWD should first consider allowing water storage and exchange programs with its member agencies before considering such programs for agencies outside the basin.

I understand several of the Groundwater Producers would be interested in discussing the potential merits of water storage and/or exchange programs with the District. These types of programs would improve local supply reliability and potentially provide OCWD with additional resources for the benefit of the basin and all its member agencies.

While the Producers fully support the OCWD Board's prior establishment of the emergency program for South County, I believe expanding or supplementing it to provide additional storage or exchange provisions would be premature. Instead, I recommend OCWD first engage with the Groundwater Producers to discuss the potential merits of such programs with your member agencies.

Sincerely,

Michael Moore, P.E.
Assistant General Manager, Water

201 S. Anaheim Blvd.
M.S. #1101
Anaheim, CA 92805
TEL: 714.765.5173

Orange County Groundwater Producers

January 31, 2018

AGENCIES
City of Anaheim
City of Buena Park
East Orange County WD
City of Fountain Valley
City of Fullerton
City of Garden Grove
Golden State Water Co.
City of Huntington Beach
Irvine Ranch WD
City of La Palma
Mesa Water District
City of Newport Beach
City of Orange
City of Santa Ana
City of Seal Beach
Serrano Water District
City of Tustin
City of Westminster
Yorba Linda Water District

Mr. Michael Markus, P.E.
General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Subject: Proposed Memorandum of Understanding for a Water Storage and Exchange Program between OCWD and Moulton Niguel Water District

Mike:

On January 25, 2018, your staff sent a reminder notice for the next meeting of the Orange County Groundwater Producer Agencies to discuss the concept of storage accounts in the Orange County Groundwater Basin. This notice included a draft of a potential Memorandum of Understanding (MOU) between OCWD and Moulton Niguel Water District (MNWD). As was clearly articulated at the first meeting of the Producers regarding this topic on January 10, 2018, the Producers strongly believed that executing an MOU with MNWD at this time is not appropriate. In this letter, all 19 Producer Agencies are unanimously requesting that OCWD table this proposed MOU with MNWD from further consideration. We also recommend that OCWD undertake a process for evaluating the potential for storage accounts using the following process:

1) Evaluate the current and future operating parameters of the Basin;
2) Identify potential measures to optimize the storage of water in the Basin for the benefit of the Producers;
3) Consider if / how storage accounts could be implemented for Producer agencies; then
4) Consider if / how potential storage accounts could be implemented for non-Producer agencies to the primary benefit of the Producer Agencies.

Concepts for water storage accounts in the Orange County Groundwater Basin have been discussed for many years, including the "MWD CUP" with Metropolitan Water District of Southern California and a potential "SARRCUP" program. Other storage programs could be considered in the future, but only after considering all relevant factors. This analysis, which we believe can be completed by the very knowledgeable OCWD staff, should evaluate the operating parameters of the Basin including seasonal fluctuations, current and future sources of water, demands, recharge capacity, and current and future facilities, just to name a few considerations. The Producers are ready, willing, and able to assist in this effort, providing data and other information as requested.

The Groundwater Producer Agencies of Orange County support efforts to improve the water supply reliability of all agencies in Orange County. We look forward to working in conjunction with OCWD staff to maximize the use of the tremendous water resource asset known as the Orange County Groundwater Basin.

Staff from the following agencies have each provided concurrence with the statements and recommendations contained in this letter:

Concurrence Provided at the January 31, 2018 Producer Meeting	**Concurrence provided after the January 31, 2018 Producer Meeting**
City of Anaheim	City of Buena Park
East Orange County Water District	City of Garden Grove
City of Fountain Valley	City of La Palma
City of Fullerton	City of Tustin
Golden State Water Company	
City of Huntington Beach	
Irvine Ranch Water District	
Mesa Water District	
City of Newport Beach	
City of Orange	
City of Santa Ana	
City of Seal Beach	
Serrano Water District	
City of Westminster	
Yorba Linda Water District	

cc: OCWD Board of Directors

SOUTH ORANGE COUNTY AGENCIES' GROUP

February 20, 2018

Mr. Michael Markus, P.E.
General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Subject: Support for Proposed Analysis for Potential Storage Accounts in the Orange County Groundwater Basin

Dear Mr. Markus:

The undersigned agencies are very appreciative of the recent discussion among the Groundwater Producer Agencies about water supply reliability and emergency supplies. As you know, by agreement with Orange County Water District (OCWD), Municipal Water District of Orange County, and Irvine Ranch Water District, many agencies in South Orange County have the ability to exchange water in an emergency through the Dyer Road Wellfield for up to 30 days. Over the years, OCWD and the South County agencies have discussed various alternatives for storage or exchange agreements and emergency supplies utilization of the groundwater basin as a potential alternative delivery of emergency water and the storage or exchange of longer term emergency supplies.

Recently the OCWD Producer Agencies suggested storage programs could be considered in the future, but only after considering several factors and issues. The proposed analysis would evaluate the operating parameters of the Basin including seasonal fluctuations, current and future sources of water, demands, recharge capacity, and current and future facilities using the following process:

1) Evaluate the current and future operating parameters of the Basin;
2) Identify potential measures to optimize the storage of water in the Basin for the benefit of the Producers;
3) Consider if / how storage accounts could be implemented for Producer agencies; then
4) Consider if / how potential storage accounts could be implemented for non-Producer agencies to the primary benefit of the Producer Agencies.

We believe this is a prudent approach and would all be willing participants in the discussions on future sources of water and non-producer storage accounts, when the time is appropriate. We appreciate your periodic attendance and participation in discussions at the South County Agencies' Group and welcome the opportunity to have further discussions.

SOUTH ORANGE COUNTY AGENCIES' GROUP

We support efforts to improve the water supply reliability of all agencies in Orange County. We look forward to working with OCWD staff to maximize the use of the tremendous water resource asset known as the Orange County Groundwater Basin.

Staff from the following agencies have each provided concurrence with the statements and recommendations contained in this letter:

City of San Juan Capistrano

El Toro Water District

Emerald Bay Service District •

Irvine Ranch Water District

Laguna Beach County Water District

Santa Margarita Water District

South Coast Water District

Trabuco Canyon Water District

cc: OCWD Board of Directors

moulton niguel water district

April 6, 2018

Mr. Michael Markus, P.E.
General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Subject: Support for Proposed Analysis for a Potential Pilot Exchange Agreement in the Orange County Groundwater Basin

Dear Mr. Markus:

Moulton Niguel Water District (MNWD) appreciates the visionary leadership by Orange County Water District's (OCWD) Board of Directors to amend its policy on local water supplies and begin discussions for a potential pilot groundwater exchange program. Over the years, OCWD has been a key partner of South Orange County in jointly signing on to the Emergency Services Agreement in 2006 to provide South Orange County including MNWD with the ability to exchange water in an emergency, at no compensation to OCWD.

As a follow up to the policy amendment, MNWD has been working with your staff to develop a memorandum of understanding to jointly study opportunities in the basin for both OCWD members and non-OCWD members, where MNWD would help fund the cost of these studies to gain information and evaluate the feasibility of future opportunities. Understandably, these matters take time, and we appreciate the willingness of the OCWD Board and its member agencies to engage with MNWD in discussing the potential for opportunities within the groundwater basin that could provide county-wide benefits, including economic benefits to all of the OCWD member agencies.

Recently, several agencies in South Orange County sent a joint letter expressing their similar appreciation for your efforts. The concept of an exchange agreement is not new; however with Metropolitan Water District recently noting that over 1.2 million acre feet have been depleted from groundwater basins over the past decade in Southern California, the time is ripe to work towards optimization of local resources like the Orange County Basin. MNWD acknowledges the historical investment that OCWD and its member agencies have paid in their proactive management of the basin and applauds the past work such as the Groundwater Replenishment System.

BOARD OF DIRECTORS | Duane D. Cave DIRECTOR | Scott Colton VICE PRESIDENT | Richard Fiore DIRECTOR | Donald Froelich PRESIDENT | Gary R. Kurtz DIRECTOR | Larry Lizotte DIRECTOR | Brian S. Probolsky VICE PRESIDENT

Any program would need to ensure that OCWD members receive an appropriate benefit and that it improves the overall health of the basin.

In recent discussions, a number of key factors were suggested to be evaluated as part of the development of a pilot exchange agreement. MNWD supports the process and following analysis for consideration by OCWD Board and staff, if appropriate:

1) Evaluate the current and future operating parameters of the Basin;
2) Identify potential measures to optimize the storage of water in the Basin for mutual county-wide benefit;
3) Consider if / how exchange agreements could be implemented

We appreciate the ongoing discussions as well as OCWD's willingness to consider further analysis and support the evaluation of future sources of water as well as exchange agreements. MNWD supports your efforts to work collaboratively across the county to increase the water reliability for all Orange County agencies. We look forward to working with your staff and further discussions on the potential opportunities towards county-wide benefit.

Sincerely,

Joone Lopez
General Manager

cc: OCWD Board of Directors

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: L. Yoo/ P. Bouyounes/ J. Dadakis

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: Proposition 84
Program/Line Item No.: N/A
General Counsel Approval: Yes
Engineers Report Approved: N/A
CEQA Compliance: N/A

Subject: ACWA/JPIA H.R. LABOUNTY SAFETY AWARDS TO LABORATORY STAFF

SUMMARY

District staff working within the Philip L. Anthony Water Quality Laboratory have been recognized by the Association of California Water Agencies/Joint Powers Insurance Authority (ACWA/JPIA) through its H.R. LaBounty Safety Awards program. The award specifically recognizes staff's successful transition to a safer organic extraction procedure for the analysis of nitrosamine compounds in water samples.

Attachment: Award Letter from ACWA/JPIA dated November 26, 2018

RECOMMENDATION

Informational

BACKGROUND

The District's Philip L. Anthony Water Quality Laboratory regularly analyzes groundwater, surface water, and recycled water samples for nitrosamines, a family of disinfection byproducts that are known human carcinogens. The analytical method for low-level nitrosamines analysis requires an organic extraction or pre-concentration step ahead of quantification via a gas chromatography/mass spectrometry (GS/MS) instrument. For the last 20 years, the laboratory's standard pre-concentration step involved liquid-liquid extraction using a glass separatory funnel (Figure 1) and 100-200 milliliters (ml) of methylene chloride solvent per sample; this would generate approximately 40 liters of solvent waste per month requiring hazardous waste disposal of a known carcinogen. Furthermore, the manual shaking of the separatory funnel would expose multiple laboratory staff to the risks of vapor exposure, solvent leakage, and cuts from broken glass.

To reduce these risks and increase efficiency, laboratory staff has transitioned to an automated solid-phase extraction (SPE) technique using carbon cartridges to concentrate nitrosamines (Figure 2). The SPE procedure uses only 15 ml of methylene chloride per sample, reducing solvent waste by up to 93%, while also limiting solvent exposure and eliminating glass breakage risk. Furthermore, the automated system can process 24 samples in two hours using a consistent and reproducible process to improve throughput and overall quality control.

Figure 1: Glass Separatory Funnels

Figure 2: Automated SPE System

The ACWA/JPIA H.R. LaBounty Safety Awards are issued twice a year and are designed to promote safe workplace behavior and operations practices and reward those employees who demonstrate safe behavior, take part in recognizable proactive activities, or participate in risk-reducing actions that can also be used by other agencies. The following District laboratory staff worked collaboratively on the nitrosamine extraction technique transition procedures and received Fall 2018 award letters, certificates, and individual award checks of $20 each:

- Quan Kha, Senior Chemist
- Elizabeth Mosher, Senior Chemist
- Alexander Adams, Chemist
- Elder Turcios, Senior Laboratory Technician
- Pedro Alvaro, Laboratory Technician

PRIOR RELEVANT BOARD ACTION(S)
None

YOUR BEST PROTECTION

November 26, 2018

ACWA JPIA

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President
E.G. "Jerry" Gladbach

Vice President
Tom Cuquet

Chief Executive Officer
Walter "Andy" Sells

Executive Committee
Tom Cuquet
David Drake
E.G. "Jerry" Gladbach
David T. Hodgin
W.D. "Bill" Knutson
Steven LaMar
Melody A. McDonald
J. Bruce Rupp
Kathleen Tiegs

Mr. Mike Markus, General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Re: H.R. LaBounty Safety Awards Program

Dear Mr. Markus:

On behalf of the ACWA JPIA, I am pleased to enclose checks, thank you letters, and award certificates for the following employees:

Quan Kha, Senior Chemist	**$20**
Elizabeth Mosher, Senior Chemist	**20**
Alex Adams, Chemist	**20**
Elder Turcios, Lab Technician/Laboratory	**20**
Pedro Alvaro, Lab Technician/Laboratory	**20**

I am sure you will be proud to present these awards to these employees for their outstanding contributions to the District's health and safety programs.

The District's participation in this ongoing program is deeply appreciated. Continued involvement by Orange County Water District's employees is always welcomed.

Sincerely,

Walt "Andy" Sells

Walter "Andy" Sells
Chief Executive Officer

1118:tl

Enc.

AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: G. Woodside

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: N/A
Program/Line Item No. N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: STATE WETLAND DEFINITION AND PROCEDURES FOR DISCHARGES OF FILL MATERIALS TO WATERS OF THE STATE

SUMMARY

The State of California has existing policies regarding the definition of wetland waters that the state has jurisdiction over. The state also has existing policies regarding discharges of fill materials to waters of the state. The State Water Resources Control Board (SWRCB) is proposing changes to state policies that would significantly increase the regulatory burden on the District for existing District projects and operations and maintenance activities. Staff will update the board on this item.

Attachment:

SWRCB Final Draft State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

RECOMMENDATION

Informational.

BACKGROUND/ANALYSIS

The District has existing permits from the state and the United States Army Corps of Engineers for maintenance and operations of the Prado Wetlands and Orange County recharge facilities.

On January 3, 2019, the SWRCB issued a public notice of new state policies for the definition of wetlands and regulations for discharges of dredged or fill material to waters of the state (generally speaking, 'waters of the state' refers to water bodies that the state exercises regulatory control over). These new proposed state requirements are proposed for inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. If approved as currently written in the January 3, 2019 document, these requirements would significantly increase the regulatory burden for OCWD's existing operations and maintenance of the Prado Wetlands and the District's Orange County recharge facilities (such as the Santa Ana River and Anaheim Lake).

When our existing permit from the State expires, the proposed regulations would require the District to evaluate alternatives to our existing facilities such as the Prado Wetlands and the Orange County recharge facilities. Potentially, the proposed regulations could cause our existing state permit to be invalid. The regulations would also require identification of the 'Least Environmentally Damaging Practicable Alternative'. District staff and our legal counsel have been working with SWRCB to have language added to the regulations that would exempt OCWD's existing facilities such as the Prado Wetlands and Orange County recharge facilities from these requirements. However, to date, adequate exemption language has not been added to the proposed regulations. Staff is continuing to work with our legal counsel and SWRCB staff on this issue. Staff and our legal counsel have also been coordinating with the Association of California Water Agencies (ACWA), and other water districts.

The proposed regulations have been noticed for potential adoption by the SWRCB at the SWRCB's February 5, 2019 board meeting.

PRIOR RELEVANT BOARD ACTION(S) N/A

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

~~PRELIMINARY DRAFT~~

State Wetland Definition and Procedures for Discharges of Dredged or Fill ~~Materials~~Material to Waters of the State

[~~Proposed for~~For Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California]

STATE WATER RESOURCES CONTROL BOARD

~~July 21, 2017~~

Final Draft Noticed: January 2019

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I. Introduction[1]

The mission of the State Water Resources Control Board and the Regional Water Quality Control Boards (Water Boards) includes the preservation, enhancement, and restoration of the quality of California's water resources for the protection of the environment and all beneficial uses for the benefit of present and future generations. In accordance with the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste, which includes discharges of dredged or fill material, that may affect the quality of waters of the state. As described below, waters of the state include some, but not all, features that are defined as wetlands, as well as other features, including the ocean, lakes, and rivers. These wetlands provide environmental and economic benefits to the people of this state, including flood and ~~storm water~~stormwater control, surface and ground water supply, fish and wildlife habitat, erosion control, pollution treatment, nutrient cycling, and public enjoyment. Wetlands ameliorate the effects of global climate change by providing floodwater storage, sequestering carbon, and maintaining vulnerable plant and animal communities. Many of these invaluable areas statewide have been lost to fill and development. Presently, wetlands are threatened by impacts from increasing population growth, land development, sea level rise, and climate change. These Procedures for the Discharges of Dredged or Fill ~~Materials~~Material to Waters of the State (Procedures) conform to Executive Order W-59-93, commonly referred to as California's "no net loss" policy for wetlands. In accordance with Executive Order W-59-93, the Procedures ensure that the Water Boards' regulation of ~~dredged~~dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values…" The Water Boards are committed to increasing the quantity, quality, and diversity of wetlands that qualify as waters of the state.

These Procedures contain a wetland definition in section II and wetland delineation procedures in section III, both of which apply to all Water Board programs. The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands. These Procedures also include procedures for the submission, review and approval of applications for activities that could result in the discharge of dredged or fill material to any waters of the state in section IV. The Procedures include elements of the Clean Water Act Section 404(b)(1) Guidelines, thereby bringing uniformity to Water Boards' regulation of discharges of dredged or fill material to all waters of the state. The effective date of these Procedures shall be [insert date that is six months after approval by the Office of Administrative Law].

II. Wetland Definition

The Water Boards define an area as wetland as follows:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of

[1] [NOTE: These Procedures will be incorporated into the Water Quality Control Plans for (1) Inland Surface Waters Enclosed Bays and Estuaries and (2) Ocean Waters of California. Because the Procedures will already have been adopted, future incorporation of the Procedures, as adopted, into the water quality control plans will be considered non-substantive amendments. At that time, formatting and other organizational edits necessary for incorporation into the water quality control plans will be addressed.]

such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." The following wetlands are waters of the state:

1. Natural wetlands,
2. Wetlands created by modification of a water of the state,[~~1~~2]
3. Wetlands that meet current or historic definitions of "waters of the ~~United States~~U.S.,"[~~2~~3] and
4. Artificial wetlands[~~3~~4] that meet any of the following criteria:
    a. Approved by an agency as mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy ~~another one of~~ the ~~above~~ criteria set forth in 2, 3, 4a, or 4b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. ~~Storm water~~Stormwater detention, infiltration, or treatment,
        iv. Agricultural crop irrigation or stock watering,
        v. Fire suppression,
        vi. ~~Cooling water,~~Industrial processing or cooling,
        vii. Active surface mining – even if the site is managed for interim wetlands functions and values, ~~or~~

[~~1~~2] "Created by modification of a water of the state" means that the wetland that is being evaluated must have been directly converted from a pre-existing water of the state, and does not include a situation where the water of the state was completely eliminated.

[~~2~~ ~~This~~3] The State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in ~~a preliminary jurisdictional determination~~an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

[~~3~~4] Artificial wetlands are wetlands that result from human activity.

viii. Log storage~~,~~.

ix. Treatment, storage, or distribution of recycled water, or

x. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits).

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3, 4.a, 4.b, or 4.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

III. Wetland Delineation

The permitting authority shall rely on any wetland area delineation from a final aquatic resource report~~, with a preliminary or approved jurisdictional determination issued by the United States~~ verified by the U.S. Army Corps of Engineers (Corps) for the purposes of determining the extent of wetland waters of the U.S. A delineation of ~~non-federal~~any wetland areas potentially impacted by the project that are not delineated in a final aquatic resource report verified by the Corps shall be performed using the methods described in the three federal documents listed below (collectively referred to as "1987 Manual and Supplements") to determine whether the area meets the state definition of a wetland as defined above. As described in the 1987 Manual and Supplements, an area "lacks vegetation" if it has less than 5 percent areal coverage of plants at the peak of the growing season. The methods shall be modified only to allow for the fact that the lack of vegetation does not preclude the determination of such an area that meets the definition of wetland. Terms as defined in these Procedures shall be used if there is conflict with terms in the 1987 Manual and Supplements.

- Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

IV. Procedures for Regulation of Discharges of Dredged or Fill Material to Waters of the State

The purpose of this section is to establish application procedures for discharges of dredged or fill material to waters of the state, which includes both waters of the U.S. and non-federal waters of the

state. This section supplements existing state requirements for discharges of dredged or fill material to waters of the U.S.[4][5] These Procedures include Appendix A, which contains relevant portions of the U.S. EPA's Section 404(b)(1) "Guidelines for Specification of Disposal Sites for Dredge or Fill Material"[5][6] (Guidelines), 1980, with minor modifications to make them applicable to the state dredged or fill program (hereafter State Supplemental Dredge or Fill Guidelines).[6][7] This section applies to all applications for discharges of dredged or fill material to waters of the state submitted after [insert ~~the effective date of the Plan Amendment]~~. date that is six months after approval by the Office of Administrative Law]. [8]

~~Project Application Submittal for Individual Orders~~

Unless excluded by ~~Section~~section IV.D, applicants must file an application ~~to~~with the Water Boards for any activity that could result in the discharge of dredged or fill material to waters of the state in accordance with California Code of Regulations, title 23, section 3855.[7][9] The applicant may consult with the Water Boards to determine whether a project could result in impacts to waters of the state and/or discuss submittals that would meet the application requirements listed below. Discharges of dredged or fill material or other waste material to areas that are not waters of the state, but that could affect the quality of waters of the state, may be addressed under other Water Board regulatory programs.

A. Project Application Submittal for Individual Orders

The requirements set forth in sections IV.A and IV.B apply only to individual orders. Applicants must submit the items listed in subsection 1 to the permitting authority. In addition, applicants shall consult with the permitting authority about the items listed in subsection 2. Within 30 days of receiving the

[4][5] California Code of Regulations, title 23, sections 3830-3869 (state's Clean Water Act (CWA) section 401 (33 USC § 1341) water quality certification program)

[5][6] 40 C.F.R. § 230.

[6][7] The State Supplemental Dredge ~~and~~or Fill Guidelines are included as Appendix A. Because ~~Appendix A is~~the State Supplemental Dredge or Fill Guidelines are derived directly from the U.S. EPA's 404(b)(1) ~~guidelines~~Guidelines, it uses slightly different terms than terms used in sections I through V of these Procedures. ~~Appendix A~~The State Supplemental Dredge or Fill Guidelines will be applied in a manner consistent with sections I through V of these Procedures.

[8] In cases where the applicant is a state agency and is acting as the CEQA lead agency for one or more projects otherwise subject to this section, and that state agency is a party to an existing written agreement (e.g., memorandum of understanding) with the State Water Board that sets out alternative procedures and requirements regarding the submission, review, or approval of project applications, the permitting authority shall apply the terms and conditions of the agreement in lieu of the terms and conditions of this section. The State Water Board may also enter into such written agreements after the adoption of these Procedures; such an agreement may include, for example, early consultation regarding potential project applications, early identification and analysis of project alternatives and mitigation measures, and dispute resolution. Any written agreements, whether existing or entered into after the adoption of these Procedures, may be amended in writing at any time by joint agreement of the parties, and such amended agreements shall govern in lieu of the terms and conditions of this section. All other applicable laws, including requirements for public notice and comment, apply to the permitting authorities' approval of projects under such an agreement.

[7][9] Note that California Code of Regulations, title 23, section 3855 applies only to individual water quality certifications, but these Procedures extend the application of section 3855 to individual waste discharge requirements for discharges of dredged or fill material to waters of the state and waivers thereof.

items listed in subsection 1, the permitting authority may require the applicant to submit one or more of the items in subsection 2 for a complete application. Applicants are encouraged to consult with the permitting authority to determine the appropriate level of detail for the items in subsections 1 (and 2, if applicable). Within 30 days of receiving all of the required items, the permitting authority shall determine whether the application is complete and notify the applicant accordingly. If the applicant's federal license or permit application includes any of the information required in subsections 1 or 2 below, the applicant may submit the federal application materials to satisfy the corresponding state application information. If federal application materials are submitted as part of the state application, the applicant shall indicate where the corresponding state application information can be found in the federal application materials.

1. Items Required for a Complete Application

   a. All items listed in California Code of Regulations, title 23, section 3856 "Contents of a Complete Application."[~~8~~10]

   b. If ~~waters of the U.S. are present, a final~~the Corps requires an aquatic resource delineation report, ~~with a preliminary or approved jurisdictional determination issued~~a copy of the report verified by the Corps. ~~c. If waters of the state outside of federal jurisdiction are present, a delineation of those waters, including wetlands~~

   c. A delineation of any waters that are not delineated in an aquatic resource delineation report verified by the Corps. If such waters include wetlands, the wetlands must be delineated as described in section III.

   d. The dates upon which the overall project activity will begin and end~~;~~. and, if known, the date(s) upon which the discharge(s) will take place.

   e. Map(s) with a scale of at least 1:24000 (1" = 2000') and of sufficient detail to accurately show (1) the boundaries of the lands owned or to be utilized by the applicant in carrying out the proposed activity, including the grading limits, proposed land uses, and the location, dimensions and type of any structures erected (if known) or to be erected and (2) all aquatic resources that may qualify as waters of the state, within the boundaries of the project, and all aquatic resources that may qualify as waters of the state outside of the boundary of the project that could be ~~affected~~impacted by the project. A map ~~submitted for a Corps' preliminary jurisdictional determination~~verified by the Corps may satisfy this requirement if it includes all potential waters of the state. The permitting authority may require that the map(s) be submitted in electronic format (e.g., GIS shapefiles).

   f. A description of the waters proposed to ~~receive a discharge of dredged~~be impacted by the dredge or fill ~~material, including~~activity. The description should include the beneficial uses as listed in the applicable water quality control plan~~. The description should also include:~~. a description of ~~discharge~~the activity at each individual ~~impact~~discharge or dredge location; quantity of ~~impact~~impacts to waters proposed to receive a discharge of dredged or fill material at each location rounded to at least the nearest one-~~thousandth (0.001~~hundredth (0.01) of an acre,

[~~8~~10] Note that California Code of Regulations, title 23, section 3856 applies only to individual water quality certifications, but these Procedures extend the application of section 3856 to individual waste discharge requirements for discharges of dredged or fill material to waters of the state and waivers thereof.

nearest linear foot, and quantity of impacts to waters proposed to be dredged at each dredging location to the nearest cubic yard (as applicable); assessment of potential direct and indirect impacts ~~to listed beneficial uses~~resulting from the discharge or dredging activity and potential mitigation measures for those potential impacts ~~to beneficial uses~~, identification of existing water quality impairment(s); the source of water quality impairment(s), if known; and the presence of rare, threatened or endangered species[11] habitat.

g. An alternatives analysis,[9][12] unless any of the following exemptions apply.

i. The project includes discharges to waters of the state outside of federal jurisdiction, but the entire project would meet the terms and conditions of one or more Water Board certified Corps' General Permits, if all discharges were to waters of the U.S. The permitting authority will verify that the entire project would meet the terms and conditions of the Corps' General Permit(s) if all discharges, including discharges to waters of the state outside of federal jurisdiction, were to waters of the U.S. based on information supplied by the applicant.

ii. The project meets the terms and conditions for coverage under an uncertified Corps' General Permit. This exemption does not apply if the discharge of dredged or fill material will directly impact:

a) more than two-tenths (0.2) of an acre or 300 linear feet of waters of the state;

b) habitat for rare, threatened, or endangered species;

c) wetlands or eel grass beds; or

d) Outstanding National Resource Waters or Areas of Special Biological Significance.

iii. The project would be conducted in accordance with a watershed plan that has been approved by the permitting authority and analyzed in an environmental document that includes a sufficient alternatives analysis, monitoring provisions, and guidance on compensatory mitigation opportunities.

iv. ~~iii.~~ The project is an Ecological Restoration and Enhancement Project.

v. ~~iv.~~ The project has no permanent impacts to aquatic resources and no impacts to ~~any bog, fen, playa, seep wetland, vernal pool, headwater creek, eelgrass bed, anadromous fish~~

[11] "Rare, threatened, or endangered species" as used in the Procedures refers to plant and animal species listed as rare, threatened, or endangered pursuant to the California Endangered Species Act of 1984 (Fish & Game Code, § 2050 et seq.), the Native Plant Protection Act of 1977 (Fish & Game Code, § 1900 et seq.), or the Federal Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq.).

[9][12] "Alternatives analysis" as used in these Procedures refer to the analysis required by ~~Section~~section IV.A.~~(~~h~~)~~ and ~~Appendix A,~~the State ~~Supplement Dredged~~Supplemental Dredge or Fill Guidelines, section 230.10(a). An alternatives analysis also may be required in order to comply with other statutory or regulatory requirements, such as CEQA. The exemptions and the tiers set forth below do not affect any alternatives analysis conducted pursuant to another statutory or regulatory requirement. To the extent that the permitting authority is acting as the lead agency under CEQA, it may be necessary for the permitting authority to conduct further analysis to comply with CEQA.

~~habitat, or~~ habitat for rare, threatened or endangered species, wetlands or eel grass beds, Outstanding National Resource Waters or Areas of Special Biological Significance, and all implementation actions in the restoration plan can reasonably be concluded within one year.

h. If none of the above exemptions apply, the applicant must submit an alternatives analysis consistent with the requirements of section 230.10 of the State Supplemental Dredge or Fill Guidelines that allows the permitting authority to determine whether the proposed project is the Least Environmentally Damaging Practicable Alternative (LEDPA). If the applicant submitted ~~a draft~~information to the Corps to support an alternatives analysis ~~to the Corps~~, the applicant shall provide ~~a copy~~that information to the permitting authority. Such ~~alternatives analyses~~information may satisfy some or all of the following requirements in accordance with ~~Section~~section IV.B.3. Alternatives analyses shall be completed in accordance with the following tiers~~, unless the permitting authority determines that a lesser level of analysis is appropriate~~. The level of effort required for an alternatives analysis within each ~~tier~~of the three tiers shall be commensurate with the significance of the ~~project's potential threats to water quality and beneficial uses[10]~~impacts resulting from the discharge.[13]~~.~~

i. Tier 3 projects include any ~~project~~discharge of dredged or fill material that directly impacts more than two-tenths (0.2) of an acre or 300 linear feet of waters of the state, ~~or directly impacts a bog, fen, playa, seep wetland, vernal pool, headwater creek, eelgrass bed, anadromous fish habitat, or~~ habitat for rare, threatened or endangered species~~;~~, wetlands or eel grass beds, or Outstanding National Resource Waters or Areas of Special Biological Significance, and is not a project that inherently cannot be located at an alternate location. Tier 3 projects shall provide an analysis of off-site and on-site alternatives.

ii. Tier 2 projects include any ~~project~~discharge of dredged or fill material that directly impacts more than one tenth (0.1) and less than or equal to two tenths (0.2) of an acre or more than 100 and less than or equal to 300 linear feet of waters of the state unless it meets the criteria for a Tier 3 project, or any project that inherently cannot be located at an alternate location (unless it meets the size requirements set forth in Tier 1). Tier 2 projects shall provide an analysis of only on-site alternatives.

iii. Tier 1 projects include any ~~project~~discharge of dredged or fill material that directly impacts less than or equal to one tenth (0.1) of an acre or less than or equal to 100 linear feet of waters of the state, unless it ~~is~~meets the criteria for a Tier 3 project ~~because it impacts a specified habitat type~~. Tier 1 projects shall provide a description of any steps that have been or will be taken to avoid and minimize loss of, or significant adverse impacts to, beneficial uses of waters of the state.

2. Additional Information Required for a Complete Application

~~10~~13 As used below, "impacts" include both permanent and temporary impacts.

a. If required by the permitting authority on a case-by-case basis, ~~if the wetland area delineations were conducted in the dry season,~~ supplemental field data from the wet season to substantiate dry season delineations~~.~~, as is consistent with the 1987 Manual and Supplements.

~~b. If required by the permitting authority on a case-by-case basis, an assessment of the potential impacts associated with climate change related to the proposed project and any proposed compensatory mitigation, and any measures to avoid or minimize those potential impacts.~~

b. ~~c.~~ If compensatory mitigation is required by the permitting authority, on a case-by-case basis, ~~an assessment of the overall condition of aquatic resources proposed to receive a discharge of dredged or fill material and their likely stressors, using an assessment method approved by the permitting authority and~~ a draft compensatory mitigation plan developed using a watershed approach containing the items listed below. Compensatory mitigation plans are not required for Ecological Restoration and Enhancement Projects. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, their mitigation plans need include only ~~the~~ items i, ii, and ~~ii~~iii, as described below, as well as information required in ~~Appendix A~~the State Supplemental Dredge or Fill Guidelines, section 230.94 (c)(5) and (c)(6), and the name of the specific mitigation bank or in-lieu fee program proposed to be used.

Draft compensatory mitigation plans shall comport with the State Supplemental Dredge or Fill Guidelines, Subpart J, and include the ~~elements~~items listed below.

i. A watershed profile for the project evaluation area for both the proposed dredged or fill project and the proposed compensatory mitigation project.

ii. An assessment of the overall condition of aquatic resources proposed to be impacted by the project and their likely stressors, using an assessment method approved by the permitting authority.

iii. ~~ii.~~ A description of how the project impacts and compensatory mitigation would not cause a net loss of the overall abundance, diversity, and condition of aquatic resources, based on the watershed profile. If the compensatory mitigation is located in the same watershed as the project, no net loss will be determined on a watershed basis. If the compensatory mitigation and project impacts are located in multiple watersheds, no net loss will be determined considering all affected watersheds collectively. The level of detail in the plan shall be sufficient to accurately evaluate whether compensatory mitigation offsets the adverse impacts attributed to a project.

iv. ~~iii.~~ Preliminary information about ecological performance standards, monitoring, and long-term protection and management, as described in the State Supplemental Dredge or Fill Guidelines.

v. ~~iv.~~ A timetable for implementing the compensatory mitigation plan.

vi. ~~v.~~ If the compensatory mitigation plan includes buffers, design criteria and monitoring requirements for those buffers.

vii. ~~vi.~~ If the compensatory mitigation involves restoration or establishment as the form of mitigation, applicants shall notify, as applicable, state and federal land management agencies, airport land use commission, fire control districts, flood control districts, local mosquito-vector control district(s), and any other interested local entities prior to initial site selection. These entities should be notified as early as possible during the initial compensatory mitigation project design stage.

viii. ~~d.~~ If required by the permitting authority, an assessment of reasonably foreseeable impacts to the compensatory mitigation associated with climate change, and any measures to avoid or minimize those potential impacts.

c. If required by the permitting authority on a case-by-case basis, if project activities include in-water work or water diversions, a proposed water quality monitoring plan to monitor compliance with water quality objectives of the applicable water quality control plan. At a minimum, the plan should include type and frequency of sampling for each applicable parameter.

d. ~~e.~~ In all cases where temporary impacts are proposed, a draft restoration plan that outlines design, implementation, assessment, and maintenance for restoring areas of temporary impact to pre-project conditions. The design components shall include the objectives of the restoration plan; grading plan of disturbed areas to pre-project contours; a planting palette with plant species native to the area; seed collection locations; and an invasive species management plan. The implementation component shall include all proposed actions to implement the plan (e.g., re-contouring, initial planting, site stabilization, removal of temporary structures) and a schedule for completing those actions. The maintenance and assessment components shall include a description of performance standards used to evaluate attainment of objectives; the timeframe for determining attainment of performance standards; and maintenance requirements (e.g., watering, weeding, replanting and invasive species control). The level of detail in the restoration plan shall be sufficient to accurately evaluate whether the restoration ~~offsets~~addresses the adverse temporary impacts attributed to a project.

Prior to issuance of the Order, the applicant shall submit a final restoration plan that describes the restoration of all temporarily disturbed areas to pre-project conditions.

e. ~~f.~~ For all Ecological Restoration and Enhancement Projects, a draft assessment plan including the following: project objectives; description of performance standards used to evaluate attainment of objectives; protocols for condition assessment; the timeframe and responsible party for performing condition assessment; and assessment schedule. A draft assessment plan shall provide for at least one assessment of the overall condition of aquatic resources and their likely stressors, using an appropriate assessment method approved by the permitting authority, prior to restoration and/or enhancement and two years following restoration and/or enhancement to determine success of the restoration and/or enhancement.

B. Permitting Authority Review and Approval of Applications for Individual Orders

1. The permitting authority will evaluate the potential impacts on the aquatic environment from the proposed project and determine whether the proposed project complies with these Procedures. The permitting authority has the discretion to approve a project only if the applicant has demonstrated the following:

   a. A sequence of actions has been taken to first avoid, then to minimize, and lastly compensate

for adverse impacts to waters of the state;

b. The potential impacts will not contribute to a net loss of the overall abundance, diversity, and condition of aquatic resources in a watershed (or multiple watersheds when compensatory mitigation is permitted in another watershed as set forth in section IV.B.5(d));

c. The discharge of dredged or fill material will not violate water quality standards and will be consistent with all applicable water quality control plans and policies for water quality control; and

d. The discharge of dredged or fill material will not cause or contribute to significant degradation of the waters of the state.

2. The permitting authority shall rely on any final aquatic resource report~~, with a preliminary or approved jurisdictional determination issued~~ verified by the Corps to determine boundaries of waters of the U.S. For all other wetland area delineations, the permitting authority shall review and approve delineations that are performed using the methods described in ~~Section~~section III.

3. Alternatives Analysis Review Requirements:

a. The purpose of the alternatives analysis is to identify the LEDPA. The permitting authority will be responsible for determining the sufficiency of an alternatives analysis except as described in 3(b) below. In all cases, the alternatives analysis must establish that the proposed project alternative is the LEDPA in light of all potential direct, secondary (indirect), and cumulative impacts on the physical, chemical, and biological elements of the aquatic ecosystem.

b. Discharges to waters of the U.S.

In reviewing and approving the alternatives analysis for discharges of dredged or fill material that impact waters of the U.S., the permitting authority shall defer to the Corps' determinations on the adequacy of the alternatives analysis, or rely on a draft alternatives analysis if no final determination has been made, unless the Executive Officer or Executive Director determines that (1) the permitting authority was not provided an adequate opportunity to collaborate in the development of the alternatives analysis, (2) the alternatives analysis does not adequately address issues identified in writing by the Executive Officer or Executive Director to the Corps during the development of the alternatives analysis, or (3) the proposed project and all of the identified alternatives would not comply with water quality standards.

If the project also includes discharges to waters of the state outside of federal jurisdiction, the permitting authority shall require the applicant to supplement the alternatives analysis to include waters of the state outside of federal jurisdiction. If an alternatives analysis is not required by the Corps for ~~waters of the U.S. impacted by the discharge~~ discharges of dredged or fill material to waters of the U.S., the permitting authority shall require an alternatives analysis for the entire project in accordance with the State Supplemental Dredge or Fill Guidelines, unless the project is exempt under ~~Section~~section IV.A.~~1.~~1(g) above.

For discharges of dredged or fill material to a water of the U.S. that meets the Water Boards' definition of a wetland (set forth in section II), but that the Corps does not classify as a special aquatic site (as defined in subpart E of U.S. EPA's section 404(b)(1) Guidelines), the permitting authority shall not apply the presumption set forth in the State Supplemental Dredge or Fill Guidelines, section 230.10(a)(3) to those discharges.

4. Prior to or concurrent with issuance of the Order, the permitting authority will ~~review and~~ approve the final restoration plan for temporary impacts.

5. Compensatory Mitigation

   a. Compensatory mitigation, in accordance with the State Supplemental Dredge or Fill Guidelines, Subpart J, may be required to ensure that an activity complies with these Procedures.

   b. Where feasible, the permitting authority will consult and coordinate with any other public agencies that have concurrent mitigation requirements in order to achieve multiple environmental benefits with a single mitigation project, thereby reducing the cost of compliance to the applicant.

   c. Amount: The amount of compensatory mitigation will be determined on a project-by-project basis in accordance with State Supplemental Dredge or Fill Guidelines, section 230.93(f). The permitting authority may take into account recent anthropogenic degradation to the aquatic resource and the potential and existing functions and conditions of the aquatic resource. ~~A minimum of one-to-one acreage or length of stream reach replacement is necessary to compensate for wetland or stream losses unless an appropriate function or condition assessment method clearly demonstrates, on an exceptional basis, that a lesser amount is sufficient. A reduction in the mitigation ratio for compensatory mitigation will be considered by the permitting authority~~The permitting authority may reduce the amount of compensatory mitigation if buffer areas adjacent to the compensatory mitigation are also required to be maintained as part of the compensatory mitigation management plan. The amount of compensatory mitigation required by the permitting authority will vary depending on which of the following strategies the applicant uses to locate the mitigation site within a watershed.

      Strategy 1: Applicant locates compensatory mitigation using a watershed approach based on a watershed profile developed from a watershed plan that: (1) has been approved by the permitting authority and analyzed in an environmental document, (2) includes monitoring provisions, and (3) includes guidance on compensatory mitigation opportunities~~;~~.

      Strategy 2: Applicant locates compensatory mitigation using a watershed approach based on a watershed profile developed for a project evaluation area, and demonstrates that the mitigation project will contribute to the sustainability of watershed functions and the overall health of the watershed area's aquatic resources.

      Generally, the amount of compensatory mitigation required under Strategy 1 will be less than the amount of compensatory mitigation required under Strategy 2 since the level of certainty that a compensatory mitigation project will meet its performance standards increases if the compensatory mitigation project complies with a watershed plan as described above. Certainty increases when there is a corresponding increase in understanding of watershed conditions, which is increased when using a watershed plan as described above to determine compensatory mitigation requirements. A minimum of one-to-one mitigation ratio is required to compensate for wetland or stream losses when compensatory mitigation is required.

   d. Type and Location: The permitting authority will evaluate the applicant's proposed mitigation type and location based on the applicant's use of a watershed approach based on a watershed profile. The permitting authority will determine the appropriate type and location of compensatory mitigation based on watershed conditions, impact size, location and spacing,

aquatic resource values, relevant watershed plans, and other considerations.

In general, the required compensatory mitigation should be located within the same watershed as the impact site, but the permitting authority may approve compensatory mitigation in a different watershed. For example, if a proposed project may affect more than one watershed, then the permitting authority may determine that locating all required project mitigation in one area is ecologically preferable to requiring mitigation within each watershed.

e. Final Compensatory Mitigation Plan: The permitting authority will review and approve the final compensatory mitigation plan submitted by the applicant to ensure mitigation comports with the State Supplemental Dredge or Fill Guidelines, Water Code requirements, applicable water quality standards, and other appropriate requirements of state law. The level of detail in the final plan shall be sufficient to accurately evaluate whether compensatory mitigation offsets the adverse impacts attributed to a project considering the overall size and scope of impact. The compensatory mitigation plan shall be sufficient to provide the permitting authority with a reasonable assurance that replacement of the full range of lost aquatic resource(s) and/or functions will be provided in perpetuity.

~~The~~Generally, the permitting authority will approve the final compensatory mitigation plan when it issues the Order. Where compliant with CEQA, the permitting authority may approve the final compensatory mitigation plan after it issues the Order. In such cases the permitting authority shall include as a condition of ~~an~~the Order that the applicant receive approval of ~~a~~the final mitigation plan prior to discharging dredged or fill ~~materials~~material to waters of the state~~. In this case, the permitting authority will approve~~ and shall specify a process for approving the final mitigation plan ~~by amending the Order~~.

f. Financial Security: Where deemed necessary by the permitting authority, provision of a financial security (e.g., letter of credit or performance bond) shall be a condition of the Order. In this case, the permitting authority will approve the financial security to ensure compliance with compensatory mitigation plan requirements. The financial security shall be in a form consistent with the California Constitution and state law.

g. Term of Mitigation Obligation: The permitting authority may specify in the Order the conditions that must be met in order for the permitting authority to release the permittee from the mitigation obligation, including compensatory mitigation performance standards and long-term management funding obligations.

6. The permitting authority shall provide public notice in accordance with Water Code section 13167.5 for waste discharge requirements. The permitting authority shall provide public notice of an application for water quality certification in accordance with California Code of Regulations, title 23, section 3858. If the permitting authority receives comments on the application or there is substantial public interest in the project, the permitting authority shall also provide public notice of the draft Order, or draft amendment of the Order, unless circumstances warrant ~~a shorter notice period~~otherwise.

7. The permitting authority will review and approve the final monitoring and reporting requirements for all projects. Monitoring and reporting may be required to demonstrate compliance with the terms of the Order.

C. General Orders

Discharges of dredged or fill material to waters of the state that are regulated under a general order are not subject to the requirements set forth in sections IV.A and IV.B. Applicants applying to enroll under a general order shall follow the instructions specified in the general order for obtaining coverage.

The permitting authority may issue general orders for specific classes of dredged or fill discharge activities that are similar; involve the same or similar types of discharges and possible adverse impacts requiring the same or similar conditions or limitations in order to alleviate potential adverse impacts to water quality; and are determined by the permitting authority to more appropriately be regulated under a general order rather than under an individual Order.

General orders shall be reviewed, noticed, and issued in accordance with the applicable requirements of division 7 of the Water Code and the California Code of Regulations, division 3 of title 23.

~~Applicants applying to enroll under a general order shall follow the instructions specified in the general order for obtaining coverage.~~

D. Activities and Areas Excluded from the Application Procedures for Regulation of Discharges of Dredged or Fill Material to Waters of the State

The application procedures specified in sections IV.A and IV.B do not apply to proposed discharges of dredged or fill material to waters of the state from the following activities or to the following areas. These exclusions do not, however, affect the Water Board's authority to issue or waive waste discharge requirements (WDRs) or take other actions for the following activities or areas to the extent authorized by the Water Code.

1. Activities excluded from application procedures in sections IV.A and IV.B:

    a. Activities that are exempt under CWA section 404(f) (33 USC § 1344(f)). The following federal regulations (Table 1), guidance letters (Table 2), and memoranda (Table 3), that have been adopted pursuant to CWA section 404(f) or that are used to interpret or implement section 404(f) shall be used when determining whether certain activities are excluded from these procedures. These documents are hereby incorporated by reference and shall apply to all waters of the state. Consistent with CWA section 404(f)(2) and 40 CFR section 232.3, any discharge of dredged or fill material to a water of the state incidental to any of these activities is not exempt under CWA section 404(f) and shall be subject to the application procedures set forth in sections IV.A and IV.B, if (1) the purpose of the activity is bringing a water of the state into a use to which it was not previously subject, where the flow or circulation of water of the state may be impaired or the reach of such waters be reduced, or (2) the discharge contains any toxic pollutant listed in CWA section 307.

460 ~~b.~~ **Table 1: CFR References**[~~11~~14]

Title	Section	Name
33 CFR	323.4	Discharges not requiring permits (1986)
40 CFR	232.3	Activities not requiring permits (1988)

461

462 **Table 2: Applicable U.S. Army Corps of Engineers (Corps) Regulatory Guidance Letters**
463 **(RGLs)**[~~12~~15]

RGL	Title
~~82-03~~	~~Irrigation Exemption in Section 404(F)(1)(C) of the Clean Water Act~~
84-01	Regulatory Jurisdiction Over Vegetative Operations
84-05	Fifth Circuit Decision in *Avoyelles vs. Marsh*
~~85-04~~	~~Agricultural Conversion~~
~~86-01~~	~~Exemptions to Clean Water Act - Plowing~~
86-03	Exemption of Farm and Forest Roads
87-07	Exemption for Drainage Ditch Maintenance
87-09	Exemption for Construction or Maintenance of Farm or Stock Ponds
92-02	Water Dependency and Cranberry Production
~~93-03~~	~~Rescission of RGL's 90-5 and 90-8~~
96-02	Applicability of Exemptions under Section 404(f) to "Deep Ripping" Activities in Wetlands
07-02	Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches Under Section 404 of Clean Water Act

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465 **Table 3: Memoranda**[~~13~~16]

[~~11~~14] The documents in Table 1 are available at the U.S. Government Printing Office, Code of Federal Regulations webpage: http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=C.F.R.

[~~12~~15] The documents in Table 2 are available at the U.S. Army Corps of Engineers, Regulatory Program and Permits, Related Resources, Regulatory Guidance Letters webpage: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx

[~~13~~16] These documents are available at the U.S. Army Corps of Engineers Regulatory Program and Permits, Related Resources, Memoranda of Understanding/Agreement webpage: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ MOUMOAs.aspx

b. ~~c.~~ Suction dredge mining activities for mineral recovery regulated under CWA section 402.

c. Routine operation and maintenance activities that result in discharge of dredged or fill material to artificially-created waters currently used and maintained primarily for one or more of the purposes listed in section II.4.d. This exclusion does not apply to the discharge of dredged or fill material to (a) a water of the U.S., (b) a water specifically identified in a water quality control plan, (c) a water created by modification of a water of the state, or (d) a water approved by an agency as compensatory mitigation.

2. Areas excluded from application procedures in sections IV.A and IV.B:

~~a. Discharges of dredged or fill material that occur within wetland~~Wetland areas that ~~have been~~are currently certified as prior converted cropland (PCC) by the Natural Resources Conservation Service~~. The PCC~~, the Corps, or the U.S. EPA. This exclusion will no longer apply if~~: (1)~~ the ~~PCC~~wetland area changes to a non-agricultural use~~, or (2) the PCC is abandoned, meaning it is not planted to an agricultural commodity for more than five consecutive years and wetland characteristics return, and the land was not left idle in accordance with a USDA program~~.

~~i. For purposes of D.2.(a), agricultural commodity means any crop planted and produced by annual tilling of the soil, including tiling by one-trip planters, or sugarcane.[14]~~

~~ii. For purposes of D.2.(a), agricultural use means open land planted to an agricultural crop, used for the production of (1) food or fiber, (2) used for haying or grazing, (3) left idle per a USDA program, or (4) diverted from crop production to an approved cultural practice by NRCS that prevents erosion or other degradation.[15]~~

~~b. Discharges of dredged or fill material that are associated with routine maintenance of storm water facilities regulated under another Water Board Order, such as sedimentation/storm water detention basins.~~

For activities associated with (1) an appropriation of water subject to Part 2 (commencing with section 1200) of Division 2 of the Water Code, (2) a hydroelectric facility where the proposed activity requires a Federal Energy Regulatory Commission (FERC) license or amendment to a FERC license, or (3) any other diversion of water for beneficial use, the Division of Water Rights will inform the applicant whether the application procedures in sections IV.A and IV.B will apply to the application.

~~[14] Joint Guidance from the Natural Resources Conservation Service and the Army Corps of Engineers Concerning Wetland Determinations for the Clean Water Act and the Food Security Act of 1985, February 25, 2005.~~

~~[15] Joint Guidance from the Natural Resources Conservation Service and the Army Corps of Engineers Concerning Wetland Determinations for the Clean Water Act and the Food Security Act of 1985, February 25, 2005~~

V. Definitions

The following definitions apply to these Procedures, including the State Supplemental Dredge or Fill Guidelines. Unless otherwise indicated, any term that is not defined in these Procedures shall have the same meaning as defined in Water Code section 13050, and title 23, section 3831 of the California Code of Regulations.

Abundance means an estimate of the amount of aquatic resources by type in a watershed area, and what types of aquatic resources are most and least prevalent.

Active Surface Mining means operations that, in accordance with Division 2, Chapter 9 of the Surface Mining and Reclamation Act of 1975, have an approved reclamation plan, and for which reclamation has not been certified as complete by the local lead agency with the concurrence of the Department of Conservation.

Alternatives Analysis is the process of analyzing project alternatives, including the proposed project, to determine the alternative that is ~~both practicable and~~ the least environmentally damaging practicable alternative (LEDPA).

Application means a written request, including a report of waste discharge or request for water quality certification, for authorization of any activity that may result in the discharge of dredged or fill material and is subject to these Procedures.

~~**Wetland Delineation** means the application of a technical and procedural method to identify the boundary of a wetland area within a specified study site by identifying the presence or absence of wetland indicators at multiple points at the site and by establishing boundaries that group together sets of points that share the same status as wetland versus non-wetland.~~

[Definition moved to the end.]

Discharge of Dredged ~~Material~~ ~~means addition of dredged material, material that is excavated or dredged from waters of the state, including redeposit of dredged material other than incidental fallback within, to the waters of state~~**or Fill Material** shall have the same meanings as they are used in the federal Clean Water Act and 40 CFR section 232.2, but (1) shall include discharges to waters of the state that are not waters of the U.S. and (2) any demonstrations described in section 232.2(3)(i) shall be made to the permitting authority instead of the Corps or U.S. EPA.

Diversity means the relative proportion of aquatic resource types, classification, connectivity, and spatial distribution in a watershed area.

~~**Discharge of Fill Material** means the addition of fill material where the material has the effect of replacing any portion of a water of the state with dry land or changing the bottom elevation of any portion of a water of the state.~~

Ecological Restoration and Enhancement Project means the project is voluntarily undertaken for the purpose of assisting or controlling the recovery of an aquatic ecosystem that has been degraded, damaged or destroyed to restore some measure of its natural condition and to enhance the beneficial uses, including potential beneficial uses of water. Such projects are undertaken: 1) in accordance with the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a wetland establishment agreement, between the landowner and a) a federal or state resource agency, including, but not limited to, the U.S. Fish and Wildlife Service, Natural Resources Conservation

Service, Farm Service Agency, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Forest Service, U.S. Bureau of Land Management, California Department of Fish and Wildlife, California Wildlife Conservation Board, California Coastal Conservancy~~, or other federal or state resource agency or~~ or the Delta Conservancy; b) a local agency with the primary function of managing land or water for wetland habitat purposes; or c) a non-governmental conservation organization; or 2) by a state or federal agency that is statutorily tasked with natural resource management. These projects do not include the conversion of a stream or natural wetland to uplands or stream channelization. It is recognized that ~~ecological restoration and enhancement projects~~Ecological Restoration and Enhancement Projects may require filling gullied stream channels and similar rehabilitative activities to re-establish stream and meadow hydrology. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during rehabilitation activities are not considered a conversion to another aquatic habitat type. These projects also do not include actions required under a Water Board ~~order (e.g., WDRs, waivers of WDRs, or water quality certification)~~Order for mitigation, actions to service required mitigation, or actions undertaken for the primary purpose of land development.

Environmental Document means a document prepared for compliance with the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA).

Hydrophyte means any macrophyte that grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wet habitats.

LEDPA means the least environmentally damaging practicable alternative. The determination of practicable alternatives shall be consistent with the State Supplemental Dredge or Fill Guidelines, section 230.10(a).

Normal Circumstances is the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed. The determination of whether normal circumstances exist in a disturbed area involves an evaluation of the extent and relative permanence of the physical alteration of ~~wetlands~~wetland hydrology and hydrophytic vegetation, and consideration of the purpose and cause of the physical alterations to hydrology and vegetation.

Order means ~~Waste Discharge Requirements~~waste discharge requirements, waivers of ~~Waste Discharge Requirements~~waste discharge requirements, or water quality certification.

Permitting Authority means the entity or person issuing the Order (i.e., the applicable Water Board, Executive Director or Executive Officer, or his or her designee).

Project means the whole of an action that includes a discharge of dredged or fill material to waters of the state.

Project Evaluation Area means an area that includes the project impact site, and/or the compensatory mitigation site, and is sufficiently large to evaluate the effects of the project and/or the compensatory mitigation on the abundance, diversity, and condition of aquatic resources in an ecologically meaningful unit of the watershed. The size and location of the ecologically meaningful unit shall be based on a reasonable rationale.

Water Boards mean any of the nine Regional Water Quality Control Boards, the State Water Resources Control Board, or all of them collectively.

Watershed means a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

Watershed Approach means an analytical process for evaluating the environmental effects of a proposed project and making decisions that support the sustainability or improvement of aquatic resources in a watershed. The watershed approach recognizes that the abundance, diversity, and condition of aquatic resources in a watershed support beneficial uses. Diversity of aquatic resources includes both the types of aquatic resources and the locations of those aquatic resources in a watershed. Consideration is also given to understanding historic and potential aquatic resource conditions, past and projected aquatic resource impacts in the watershed, and terrestrial connections between aquatic resources. The watershed approach can be used to evaluate avoidance and minimization of direct, ~~indirect,~~ secondary (indirect), and cumulative project impacts. It also can be used in determining compensatory mitigation requirements.

Watershed Plan means a document developed in consultation with relevant stakeholders, for the specific goal of aquatic resource restoration, establishment, enhancement, and preservation within a watershed. A watershed plan addresses aquatic resource conditions in the watershed, multiple stakeholder interests, and land uses. Watershed plans should include information about implementing the watershed plan. Watershed plans may also identify priority sites for aquatic resource restoration and protection. Examples of watershed plans include special area management plans, advance identification programs, and wetland management plans. The permitting authority may approve the use of Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs) as watershed plans.

Watershed Profile means a compilation of data or information on the abundance, diversity, and condition of aquatic resources in a project evaluation area. The watershed profile shall include a map and a report characterizing the location, abundance and diversity of aquatic resources in the project evaluation area, assessing the condition of aquatic resources in the project evaluation area, and describing the environmental stress factors affecting that condition.

The watershed profile shall include information sufficient to evaluate direct, secondary (indirect), and cumulative impacts of project and factors that may favor or hinder the success of compensatory mitigation projects~~,~~ and help define watershed goals. It may include such things as current trends in habitat loss or conservation, cumulative impacts of past development activities, current development trends, the presence and need of sensitive species, and chronic environmental problems or site conditions such as flooding or poor water quality.

The scope and detail of the watershed profile shall be commensurate with the magnitude of impact associated with the proposed project. Information sources include online searches, maps, watershed plans, and possibly some fieldwork if necessary. In some cases, field data may need to be collected in the project evaluation area to confirm the reported condition. Some or all of the information may be obtained from a watershed plan. Watershed profiles for subsequent projects in a watershed can be used to track the cumulative effectiveness of the permitting authority's decisions.

Wetland Delineation means the application of a technical and procedural method to identify the boundary of a wetland area within a specified study site by identifying the presence or absence of wetland indicators at multiple points at the site and by establishing boundaries that group together sets of points that share the same status as wetland versus non-wetland.

Appendix A: State Supplemental Dredge or Fill Guidelines

It is the intent of the Water Boards to be consistent with the U.S. EPA's 404(b)(1) Guidelines where feasible. Due to jurisdictional and procedural differences, some modifications to the U.S. EPA's 404(b)(1) Guidelines were necessary. Generally, these changes or deletions were made to reduce redundancy (especially where sufficiently described elsewhere in these Procedures) and to account for other state requirements. Note that the numbering scheme of the U.S. EPA's 404(b)(1) Guidelines has been retained in these State Supplemental Dredge or Fill Guidelines for the benefit of practitioners who are familiar with the ~~federal~~U.S. EPA's 404(b)(1) Guidelines. The State Supplemental Dredge or Fill Guidelines describe how the Water Boards will implement the U.S. EPA's 404(b)(1) Guidelines under these Procedures. The definitions contained herein apply to these Procedures, including the State Supplemental Dredge or Fill Guidelines.

Subpart A – General[~~16~~]

§ 230.3 Definitions.

For purposes of these Procedures, the following terms shall have the meanings indicated:

(c) The terms aquatic environment and aquatic ecosystem mean waters of the state, including wetlands, that serve as habitat for interrelated and interacting communities and populations of plants and animals.

(h) The term discharge point means the point within the disposal site at which the dredged or fill material is released.

(i) The term disposal site means that portion of the "waters of the state" where the discharge of dredged or fill material is permitted and involves a bottom surface area and any overlying volume of water. In the case of wetlands or ephemeral streams on which surface water is not present, the disposal site consists of the wetland or ephemeral stream surface area.

(k) The term extraction site means the place from which the dredged or fill material proposed for discharge is to be removed.

(n) The term permitting authority means as defined above in the main text of these Procedures.

(q) The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

(q1) Special aquatic sites means those sites identified in subpart E. Special aquatic sites are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. (See § 230.10 (a)(3))

[~~16~~] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

§ 230.6 Adaptability[17]

(a) The manner in which these Guidelines are used depends on the physical, biological, and chemical nature of the proposed extraction site, the material to be discharged, and the candidate disposal site, including any other important components of the ecosystem being evaluated. Documentation to demonstrate knowledge about the extraction site, materials to be extracted, and the candidate disposal site is an essential component of guideline application. These Guidelines allow evaluation and documentation for a variety of activities, ranging from those with large, complex impacts on the aquatic environment to those for which the impact is likely to be innocuous. It is unlikely that the Guidelines will apply in their entirety to any one activity, no matter how complex. It is anticipated that substantial numbers of applications will be for minor, routine activities that have little, if any, potential for significant degradation of the aquatic environment. It generally is not intended or expected that extensive testing, evaluation or analysis will be needed to make findings of compliance in such routine cases.

(b) The Guidelines user, including the agency or agencies responsible for implementing the Guidelines, must recognize the different levels of effort that should be associated with varying degrees of impact and require or prepare commensurate documentation. The level of documentation should reflect the significance and complexity of the discharge activity.

(c) An essential part of the evaluation process involves making determinations as to the relevance of any portion(s) of the Guidelines and conducting further evaluation only as needed. However, where portions of the Guidelines review procedure are “short form” evaluations, there still must be sufficient information (including consideration of both individual and cumulative impacts) to support the decision of whether to specify the site for disposal of dredged or fill material and to support the decision to curtail or abbreviate the evaluation process. The presumption against the discharge in ~~§ 230.1~~§ 230.1**0** applies to this decision-making.

Subpart B – Compliance with Guidelines[18]

§ 230.10 Restrictions on Discharge

(a) No discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

(1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

(i) Activities which do not involve a discharge of dredged or fill material to waters of the state or ocean waters;

(ii) Discharges of dredged or fill material at other locations in waters of the state or ocean waters;

[17] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

[18] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

(3) Where activity associated with a discharge which is proposed for a special aquatic site (as defined in subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

(b) No discharge of dredged or fill material shall be permitted if it:

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;

(2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Clean Water Act;

(c) No discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the state. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:

(1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites;

(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes.

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or

(4) Significantly adverse effects of the discharge of pollutants on recreational, aesthetic, and economic values.

(d) No discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.

Subpart E – Potential Impacts on Special Aquatic Sites

§ 230.40 Sanctuaries and refuges[19]

(a) Sanctuaries and refuges consist of areas designated under State and Federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources.

§ 230.41 Wetlands.

(a)(1) Wetlands are as defined above in the main text of these Procedures.

§ 230.42 Mud Flats.

(a) Mud flats are broad flat areas along the sea coast and in coastal rivers to the head of tidal influence and inland lakes, ponds, and riverine systems. When mud flats are inundated, wind and wave action may resuspend bottom sediments. Coastal mud flats are exposed at extremely low tides and inundated at high tides with the water table at or near the surface of the substrate. The substrate of mud flats contains organic material and particles smaller in size than sand. They are either unvegetated or vegetated only by algal mats.

§ 230.43 Vegetated shallows.

(a) Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as turtle grass and eel grass in estuarine or marine systems as well as a number of freshwater species in rivers and lakes.

§ 230.45 Riffle and Pool Complexes.

(a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a streaming flow, a smooth surface, and a finer substrate. Riffle and pool complexes are particularly valuable habitat for fish and wildlife.

Subpart H – Actions to Minimize Adverse Effects

Note: There are many actions which can be undertaken in response to 230.10(d) to minimize the adverse effects of discharges of dredged or fill material. Some of these, grouped by type of activity, are listed in this subpart. Additional criteria for compensation measures are provided in subpart J of these ~~procedures~~Procedures.

§ 230.70 Actions concerning the location of the discharge.

The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by:

(a) Locating and confining the discharge to minimize smothering of organisms;

(b) Designing the discharge to avoid a disruption of periodic water inundation patterns;

(c) Selecting a disposal site that has been used previously for dredged material discharge;

[19] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

(d) Selecting a disposal site at which the substrate is composed of material similar to that being discharged, such as discharging sand on sand or mud on mud;

(e) Selecting a disposal site, the discharge point, and the method of discharge to minimize the extent of any plume;

(f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage of areas subject to such fluctuations.

§ 230.71 Actions concerning the material to be discharged[~~20~~]

The effects of a discharge can be minimized by treatment of, or limitations on the material itself, such as:

(a) Disposal of dredged material in such a manner that physiochemical conditions are maintained, and the potency and availability of pollutants are reduced.

(b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular site;

(c) Adding treatment substances to the discharge material;

(d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked disposal areas.

§ 230.72 Actions controlling the material after discharge.

The effects of the dredged or fill material after discharge may be controlled by:

(a) Selecting discharge methods and disposal sites where the potential for erosion, slumping or leaching of materials into the surrounding aquatic ecosystem will be reduced. These sites or methods include, but are not limited to:

(1) Using containment levees, sediment basins, and cover crops to reduce erosions:

(2) Using lined containment areas to reduce leaching where leaching of chemical constituents from the discharged material is expected to be a problem;

(b) Capping in-place contaminated material with clean material or selectively discharging the most contaminated material first to be capped with the remaining material;

(c) Maintaining and containing discharged material properly to prevent point and nonpoint sources of pollution;

(d) Timing the discharge to minimize impact, for instance during periods of unusual high -water flows, wind, wave, and tidal actions.

§ 230.73 Actions affecting the method of dispersion.

The effects of a discharge can be minimized by the manner in which it is dispersed, such as:

[~~20~~] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

(a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the disposal site maintain natural substrate contours and elevation;

(b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water current or circulation pattern, and utilizing natural bottom contours to minimize the size of the mound;

(c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a small area where settling or removal can occur;

(d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;

(e) Minimizing water column turbidity by using a submerged diffuser system. A similar effect can be accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;

(f) Selecting sites or managing discharges to confine and minimize the release of suspended particulates to give decreased turbidity levels and to maintain light penetration for organisms;

(g) Setting limitations on the amount of material to be discharged per unit of time or volume of receiving water.

§ 230.74 Actions related to technology.

Discharge technology should be adapted to the needs of each site. In determining whether the discharge operation sufficiently minimizes adverse environmental impacts, the applicant should consider:

(a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material;

(b) Employing appropriate maintenance and operation on equipment or machinery, including adequate training, staffing, and working procedures;

(c) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting;

(d) Designing access roads and channels spanning structures using culverts, open channels, and diversions that will pass both low and high -water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement;

(e) Employing appropriate machinery and methods of transport of the material for discharge.

§ 230.75 Actions affecting plant and animal populations.[21]

Minimization of adverse effects on populations of plant and animals can be achieved by:

(a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals;

[21] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

(b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals;

(c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species;

(d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat. Additional criteria for compensation measures are provided in subpart J of this part. Use techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible. Where proposed development and restoration techniques have not yet advanced to the pilot demonstration stage, initiate their use on a small scale to allow corrective action if unanticipated adverse impacts occur;

(e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods;

(f) Avoiding the destruction of remnant natural sites within areas already affected by development.

§ 230.76 Actions affecting human use.

Minimization of adverse effects on human use potential may be achieved by:

(a) Selecting discharge sites and following discharge procedures to prevent or minimize any potential damage to the aesthetically pleasing features of the aquatic site (e.g. viewscapes), particularly with respect to water quality;

(b) Selecting disposal sites which are not valuable as natural aquatic areas;

(c) Timing the discharge to avoid the seasons or periods when human recreational activity associated with the aquatic site is most important;

(d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features on an aquatic site or ecosystem;

(e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the need for frequent dredge or fill maintenance activity in remote fish and wildlife areas;

(f) Locating the disposal site outside of the vicinity of a public water supply intake.

§ 230.77 Other actions.

(a) In the case of fills, controlling runoff and other discharges from activities to be conducted on the fill;

(b) In the case of dams, designing water releases to accommodate the needs of fish and wildlife;

(c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain desired water quality of the return discharge through agreement with the Federal funding authority on scientifically defensible pollutant concentration levels in addition to any applicable water quality standards;

(d) When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.

Subpart J – Compensatory Mitigation for Losses of Aquatic Resources[~~22~~]

§ 230.91 Purpose and general considerations.

(a) Purpose.

(1) The purpose of this subpart is to establish standards and criteria for the use of all types of compensatory mitigation, including on-site and off-site permittee-responsible mitigation, mitigation banks, and in-lieu fee mitigation to offset unavoidable impacts to waters of the state authorized through the issuance of Orders.

(d) Accounting for regional variations. Where appropriate, the permitting authority shall account for regional characteristics of aquatic resource types, functions and services when determining performance standards and monitoring requirements for compensatory mitigation projects.

§ 230.92 Definitions.[~~23~~]

For the purposes of this subpart, the following terms are defined:

Adaptive management means the development of a management strategy that anticipates likely challenges associated with compensatory mitigation projects and provides for the implementation of actions to address those challenges, as well as unforeseen changes to those projects. It requires consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and guides modification of those projects to optimize performance. It includes the selection of appropriate measures that will ensure that the aquatic resource functions are provided and involves analysis of monitoring results to identify potential problems of a compensatory mitigation project and the identification and implementation of measures to rectify those problems.

Buffer means an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with waters of the state from disturbances associated with adjacent land uses.

Compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Compensatory mitigation project means compensatory mitigation implemented by the permittee as a requirement of an Order (i.e., permittee-responsible mitigation), or by a mitigation bank or an in-lieu fee program.

[~~22~~] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

Condition means the relative ability of an aquatic resource to support and maintain a community of organisms having a species composition, diversity, and functional organization comparable to reference aquatic resources in the region.

Credit means a unit of measure (e.g., a functional or areal measure or other suitable metric) representing the accrual or attainment of aquatic functions at a compensatory mitigation site. The measure of aquatic functions is based on the resources restored, established, enhanced, or preserved.

Days means calendar days.

Debit means a unit of measure (e.g., a functional or areal measure or other suitable metric) representing the loss of aquatic functions at an impact or project site. The measure of aquatic functions is based on the resources impacted by the authorized activity.

Enhancement means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.[~~24~~]

Establishment (creation) means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions.

Functional capacity means the degree to which an area of aquatic resource performs a specific function.

Functions means the physical, chemical, and biological processes that occur in ecosystems.

Impact means adverse effect.

In-kind means a resource of a similar structural and functional type to the impacted resource.

In-lieu fee program means a program involving the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements for Orders. Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor. However, the rules governing the operation and use of in-lieu fee programs are somewhat different from the rules governing operation and use of mitigation banks. The operation and use of an in-lieu fee program are governed by an in-lieu fee program instrument.

In-lieu fee program instrument means the legal document for the establishment, operation, and use of an in-lieu fee program.

Instrument means mitigation banking instrument or in-lieu fee program instrument.

[~~24~~] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

Mitigation bank means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing compensatory mitigation for impacts authorized by Orders. In general, a mitigation bank sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are governed by a mitigation banking instrument.

Mitigation banking instrument means the legal document for the establishment, operation, and use of an in-lieu fee program.

Off-site means an area that is neither located on the same parcel of land as the impact site, nor on a parcel of land contiguous to the parcel containing the impact site.

On-site means an area located on the same parcel of land as the impact site, or on a parcel of land contiguous to the impact site.

Out-of-kind means a resource of a different structural and functional type from the impacted resource.

Performance standards are observable or measurable physical (including hydrological), chemical and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives.[~~25~~]

Permittee-responsible mitigation means an aquatic resource restoration, establishment, enhancement, and/or preservation activity undertaken by the permittee (or an authorized agent or contractor) to provide compensatory mitigation for which the permittee retains full responsibility.

Preservation means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Reference aquatic resources are a set of aquatic resources that represent the full range of variability exhibited by a regional class of aquatic resources as a result of natural processes and anthropogenic disturbances.

Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

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~~Riparian areas are lands adjacent to waters of the state. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality.~~

Service area means the geographic area within which impacts can be mitigated at a specific mitigation bank or an in-lieu fee program, as designated in its instrument.

Services mean the benefits that human populations receive from functions that occur in ecosystems.

Sponsor means any public or private entity responsible for establishing, and in most circumstances, operating a mitigation bank or in-lieu fee program.

Temporal loss is the time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site. Higher compensation ratios may be required to compensate for temporal loss. When the compensatory mitigation project is initiated prior to, or concurrent with, the permitted impacts, the permitting authority may determine that compensation for temporal loss is not necessary, unless the resource has a long development time.

Watershed means a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.[~~26~~]

Watershed approach is defined above in the main text of these Procedures.

Watershed plan is defined above in the main text of these Procedures.

§ 230.93 General compensatory mitigation requirements.

(a) General Considerations.

(1) The fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the state authorized by Orders. The permitting authority must determine the compensatory mitigation to be required in an Order, based on what would be environmentally preferable. In making this determination, the permitting authority must assess the likelihood for ecological success and sustainability, and the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project. In many cases, the environmentally preferable compensatory mitigation may be provided through mitigation banks or in-lieu fee programs because they usually involve consolidating compensatory mitigation projects where ecologically appropriate, consolidating resources, providing financial planning and scientific expertise (which often is not practical for permittee-responsible compensatory mitigation projects), reducing temporal losses of functions, and reducing uncertainty over project success. Compensatory mitigation requirements must be commensurate with the amount and type of impact that is associated with a particular Order. Applicants are responsible for proposing an appropriate compensatory mitigation option to offset unavoidable impacts.

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(2) Compensatory mitigation may be performed using methods ~~or~~of restoration, enhancement, establishment, and in certain circumstances preservation. Restoration should generally be the first option considered because the likelihood of success is greater and the impacts to potentially ecologically important uplands are reduced compared to establishment, and the potential gains in terms of aquatic resource functions are greater, compared to enhancement and preservation.

(3) Compensatory mitigation projects may be sited on public or private lands. Credits for compensatory mitigation projects on public land must be based solely on aquatic resource functions provided by the compensatory mitigation project, over and above those provided by public programs already planned or in place. All compensatory mitigation projects must comply with the standards in section IV of these Procedures, if they are to be used to provide compensatory mitigation for activities authorized by Orders, regardless of whether they are sited on public or private lands and whether the sponsor is a governmental or private entity.

(b) Type and location of compensatory mitigation.[~~27~~]

(1) In general, the required compensatory mitigation should be located within the same watershed as the impact site, and should be located where it is most likely to successfully replace lost functions and services, taking into account such watershed scale features as aquatic habitat diversity, habitat connectivity, relationships to hydrologic sources (including the availability of water rights), trends in land use, ecological benefits, and compatibility with adjacent land uses. When compensating for impacts to marine resources, the location of the compensatory mitigation site should be chosen to replace lost functions and services within the same marine ecological system (e.g., reef complex, littoral drift cell). Compensation for impacts to aquatic resources in coastal watersheds (watersheds that include a tidal water body) should also be located in a coastal watershed where practicable. Compensatory mitigation projects should not be located where they will increase risks to aviation by attracting wildlife to areas where aircraft-wildlife strikes may occur (e.g., near airports).

(2) Mitigation bank credits. When permitted impacts are located within the service area of an approved mitigation bank, and the bank has the appropriate number and resource type of credits available, the permittee's compensatory mitigation requirements may be met by securing those credits from the sponsor. Since an approved instrument (including an approved mitigation plan and appropriate real estate and financial assurances) for a mitigation bank is required to be in place before its credits can begin to be used to compensate for authorized impacts, use of a mitigation bank can help reduce risk and uncertainty, as well as temporal loss of resource functions and services. Mitigation bank credits are not released for debiting until specific milestones associated with the mitigation bank site's protection and development are achieved, thus use of mitigation bank credits can also help reduce risk that mitigation will not be fully successful. Mitigation banks typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-

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responsible mitigation. Also, development of a mitigation bank requires site identification in advance, project-specific planning, and significant investment of financial resources that is often not practicable for many in-lieu fee programs. For these reasons, the permitting authority should give preference to the use of mitigation bank credits when these considerations are applicable. However, these same considerations may also be used to override this preference, where appropriate, as, for example, where an in-lieu fee program has released credits available from a specific approved in-lieu fee project, or a permittee-responsible project will restore an outstanding resource based on rigorous scientific and technical analysis.

(3) In-lieu fee program credits. Where permitted impacts are located within the service area of an approved in-lieu fee program, and the sponsor has the appropriate number and resource type of credits available, the permittee's compensatory mitigation requirements may be met by securing those credits from the sponsor. Where permitted impacts are not located in the service area of an approved mitigation bank, or the approved mitigation bank does not have the appropriate number and resource type of credits available to offset those impacts, in-lieu fee mitigation, if available, is generally preferable to permittee-responsible mitigation. In-lieu fee projects typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation. They also devote significant resources to identifying and addressing high-priority resource needs on a watershed scale, as reflected in their compensation planning framework. For these reasons, the permitting authority should give preference to in-lieu fee program credits over permittee-responsible mitigation, where these considerations are applicable. However, as with the preference for mitigation bank credits, these same considerations may be used to override this preference where appropriate. Additionally, in cases where permittee-responsible mitigation is likely to successfully meet performance standards before advance credits secured from an in-lieu fee program are fulfilled, the permitting authority should also give consideration to this factor in deciding between in-lieu fee mitigation and permittee-responsible mitigation.

(4) Permittee-responsible mitigation under a watershed approach. Where permitted impacts are not in the service area of an approved mitigation bank or in-lieu fee program that has the appropriate number and resource type of credits available, permittee-responsible mitigation is the only option. Where practicable and likely to be successful and sustainable, the resource type and location for the required permittee-responsible compensatory mitigation should be determined using the principles of a watershed approach as outlined in paragraph (c) of this section.

(5) Permittee-responsible mitigation through on-site and in-kind mitigation. In cases where a watershed approach is not practicable, the permitting authority should consider opportunities to offset anticipated aquatic resource impacts by requiring on-site and in-kind compensatory mitigation. The permitting authority must also consider the practicability of on-site compensatory mitigation and its compatibility with the proposed project.

(6) Permittee-responsible mitigation through off-site and/or out-of-kind mitigation. If, after considering opportunities for on-site, in-kind compensatory mitigation as provided in paragraph (b)(5) of this section, the permitting authority determines that these compensatory mitigation

opportunities are not practicable, are unlikely to compensate for the permitted impacts, or will be incompatible with the proposed project, and an alternative, practicable off-site and/or out-of-kind mitigation opportunity is identified that has a greater likelihood of offsetting the permitted impacts or is environmentally preferable to on-site or in-kind mitigation, the permitting authority should require that this alternative compensatory mitigation be provided.

(c) Watershed approach to compensatory mitigation.[~~28~~]

(1) The permitting authority must use a watershed approach to establish compensatory mitigation requirements in Orders as described in the main text of the Procedures. Where a watershed plan is available, the permitting authority will determine whether the plan meets the definition of watershed plan in the Procedures and therefore is appropriate for use in the watershed approach for compensatory mitigation. In cases where the permitting authority determines that an appropriate watershed plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources. The ultimate goal of a watershed approach is to maintain and improve the abundance, diversity, and condition of aquatic resources within watersheds through strategic selection of compensatory mitigation sites.

(2) Considerations.

(i) A watershed approach to compensatory mitigation considers the importance of condition, landscape position and resource type of compensatory mitigation projects for the sustainability of aquatic resource functions within the watershed. Such an approach considers how the condition, types, and locations of compensatory mitigation projects will provide the desired aquatic resource functions, and will continue to function over time in a changing landscape. It also considers the habitat requirements of important species, habitat loss or conversion trends, sources of watershed impairment, and current development trends, as well as the requirements of other regulatory and non-regulatory programs that affect the watershed, such as storm water management or habitat conservation programs. It includes the protection and maintenance of terrestrial resources, such as non-wetland riparian areas and uplands, when those resources contribute to or improve the overall ecological functioning of aquatic resources in the watershed. Compensatory mitigation requirements determined through the watershed approach should not focus exclusively on specific functions (e.g., water quality or habitat for certain species), but should provide, where practicable, the suite of functions typically provided by the affected aquatic resource.

(ii) Locational factors (e.g., hydrology, surrounding land use) are important to the success of compensatory mitigation for impacted habitat functions and may lead to siting of such mitigation away from the project area. However, consideration should also be given to

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functions and services (e.g., water quality, flood control, shoreline protection) that will likely need to be addressed at or near the areas impacted by the permitted impacts.[~~29~~]

(iii) A watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation (including mitigation banks or in-lieu fee programs), or a combination of on-site and off-site compensatory mitigation.

(iv) A watershed approach to compensatory mitigation should include, to the extent practicable, inventories of historic and existing aquatic resources, including identification of degraded aquatic resources, and identification of immediate and long-term aquatic resource needs within watersheds that can be met through permittee-responsible mitigation projects, mitigation banks, or in-lieu fee programs. Planning efforts should identify and prioritize aquatic resource restoration, establishment, and enhancement activities, and preservation of existing aquatic resources that are important for maintaining or improving ecological functions of the watershed. The identification and prioritization of resource needs should be as specific as possible, to enhance the usefulness of the approach in determining compensatory mitigation requirements.

(v) A watershed approach is not appropriate in areas where watershed boundaries do not exist, such as marine areas. In such cases, an appropriate spatial scale should be used to replace lost functions and services within the same ecological system (e.g., reef complex, littoral drift cell).

(3) Information Needs.

(i) In the absence of a watershed plan determined by the permitting authority under paragraph (c)(1) of this section to be appropriate for use in the watershed approach, the permitting authority will use a watershed approach based on analysis of information regarding watershed conditions (as identified in the watershed profile) and needs, including potential sites for aquatic resource restoration activities and priorities for aquatic resource restoration and preservation. Such information includes: Current trends in habitat loss or conversion; cumulative impacts of past development activities, current development trends, the presence and needs of sensitive species; site conditions that favor or hinder the success of compensatory mitigation projects; and chronic environmental problems such as flooding or poor water quality.

(ii) This information may be available from sources such as wetland maps; soil surveys; U.S. Geological Survey topographic and hydrologic maps; aerial photographs; information on rare, endangered and threatened species and critical habitat; local ecological reports or studies; and other information sources that could be used to identify locations for suitable compensatory mitigation projects in the watershed.

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(iii) The level of information and analysis needed to support a watershed approach must be commensurate with the scope and scale of the proposed impacts requiring an Order, as well as the functions lost as a result of those impacts.

(4) Watershed Scale. The size of watershed addressed using a watershed approach should not be larger than is appropriate to ensure that the aquatic resources provided through compensation activities will effectively compensate for adverse environmental impacts resulting from activities authorized by Orders. The permitting authority should consider relevant environmental factors and appropriate locally-developed standards and criteria when determining the appropriate watershed scale in guiding compensation activities.

(d) Site selection.~~30~~

(1) The compensatory mitigation project site must be ecologically suitable for providing the desired aquatic resource functions. In determining the ecological suitability of the compensatory mitigation project site, the permitting authority must consider, to the extent practicable, the following factors:

(i) Hydrological conditions, soil characteristics, and other physical and chemical characteristics;

(ii) Watershed-scale features, such as aquatic habitat diversity, habitat connectivity, and other landscape scale functions;

(iii) The size and location of the compensatory mitigation site relative to hydrologic sources (including the availability of water rights) and other ecological features;

(iv) Compatibility with adjacent land uses and watershed management plans;

(v) Reasonably foreseeable effects the compensatory mitigation project will have on ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature forests), cultural sites, or habitat for federally- or state-listed threatened and endangered species; and

(vi) Other relevant factors including, but not limited to, development trends, anticipated land use changes, habitat status and trends, the relative locations of the impact and mitigation sites in the stream network, local or regional goals for the restoration or protection of particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for species of concern), water quality goals, floodplain management goals, and the relative potential for chemical contamination of the aquatic resources.

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(2) Permitting authorities may require on-site, off-site, or a combination of on-site and off-site compensatory mitigation to replace permitted losses of aquatic resource functions and services.

(3) Applicants should propose compensation sites adjacent to existing aquatic resources or where aquatic resources previously existed.

(e) Mitigation type.

(1) In general, in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to compensate for the functions and services lost at the impact site. For example, tidal wetland compensatory mitigation projects are most likely to compensate for unavoidable impacts to tidal wetlands, while perennial stream compensatory mitigation projects are most likely to compensate for unavoidable impacts to perennial streams. Thus, except as provided in paragraph (e)(2) of this section, the required compensatory mitigation shall be of a similar type to the affected aquatic resource.

(2) If the permitting authority determines, using the watershed approach in accordance with paragraph (c) of this section that out-of-kind compensatory mitigation will serve the aquatic resource needs of the watershed, the permitting authority may authorize the use of such out-of-kind compensatory mitigation. The basis for authorization of out-of-kind compensatory mitigation must be documented in the administrative record for the Order action.

(3) For difficult-to-replace resources (e.g., bogs, fens, springs, streams, vegetated seasonal wetlands, slope and seep wetlands, vernal pools, and wet meadows) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts.

(f) Amount of compensatory mitigation.

(1) If the permitting authority determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. ~~If a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used.~~

(2) The permitting authority must require a mitigation ratio greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation

site. The rationale for the required replacement ratio must be documented in the administrative record for the Order action.

(3) If an in-lieu fee program will be used to provide the required compensatory mitigation, and the appropriate number and resource type of released credits are not available, the permitting authority must require sufficient compensation to account for the risk and uncertainty associated with in-lieu fee projects that have not been implemented before the permitted impacts have occurred.

(g) Use of mitigation banks and in-lieu fee programs. Mitigation banks and in-lieu fee programs may be used to compensate for impacts to aquatic resources authorized by general Orders and individual Orders in accordance with the preference hierarchy in paragraph (b) of this section. Mitigation banks and in-lieu fee programs may also be used to satisfy requirements arising out of an enforcement action, such as supplemental environmental projects.

(h) Preservation.[~~31~~]

(1) Preservation may be used to provide compensatory mitigation for activities authorized by Orders when all the following criteria are met:

(i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;

(ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the permitting authority must use appropriate quantitative assessment tools where available;

(iii) Preservation is determined by the permitting authority to be appropriate and practicable;

(iv) The resources are under threat of destruction or adverse modifications; and

(v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

(2) Where preservation is used to provide compensatory mitigation, to the extent appropriate and practicable the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities. This requirement may be waived by the permitting authority where preservation has been identified as a high priority using a watershed approach described in paragraph (c) of this section, but compensation ratios shall be higher.

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(i) Buffers. The permitting authority may require the restoration, establishment, enhancement, and preservation, as well as the maintenance, of riparian areas and/or buffers around aquatic resources where necessary to ensure the long-term viability of those resources. Buffers may also provide habitat or corridors necessary for the ecological functioning of aquatic resources. If buffers are required by the permitting authority as part of the compensatory mitigation project, compensatory mitigation credit will be provided for those buffers, as provided in section IV B.5 (c).

(j) Relationship to other federal, tribal, state, and local programs.

(1) Compensatory mitigation projects for Orders may also be used to satisfy the environmental requirements of other programs, such as tribal, state, or local wetlands regulatory programs, other federal programs such as the Surface Mining Control and Reclamation Act, Corps civil works projects, and Department of Defense military construction projects, consistent with the terms and requirements of these programs and subject to the following considerations:

(i) The compensatory mitigation project must include appropriate compensation required by the Order for unavoidable impacts to aquatic resources authorized by that Order.

(ii) Under no circumstances may the same credits be used to provide mitigation for more than one permitted activity. However, where appropriate, compensatory mitigation projects, including mitigation banks and in-lieu fee projects, may be designed to holistically address requirements under multiple programs and authorities for the same activity.

(2) Except for projects undertaken by federal agencies, or where federal funding is specifically authorized to provide compensatory mitigation, federally-funded aquatic resource restoration or conservation projects undertaken for purposes other than compensatory mitigation, such as the Wetlands Reserve Program, Conservation Reserve Program, and Partners for Wildlife Program activities, cannot be used for the purpose of generating compensatory mitigation credits for activities authorized by Orders. However, compensatory mitigation credits may be generated by activities undertaken in conjunction with, but supplemental to, such programs in order to maximize the overall ecological benefits of the restoration or conservation project.

(3) Compensatory mitigation projects may also be used to provide compensatory mitigation under the federal and state Endangered Species Act or for Natural Community Conservation Plans and Habitat Conservation Plans, as long as they comply with the requirements of paragraph (j)(1) of this section.

(k) Order conditions.

(1) The compensatory mitigation requirements for an Order, including the amount and type of compensatory mitigation, must be clearly stated in the special conditions of the individual Order or authorization to use the general Order. The special conditions must be enforceable.[~~32~~]

(2) For an Order that requires permittee-responsible mitigation, the special conditions must:

(i) Identify the party responsible for providing the compensatory mitigation;

(ii) Incorporate, by reference, the final or draft mitigation plan approved by the permitting authority;

(iii) State the objectives, performance standards, and monitoring required for the compensatory mitigation project, unless they are provided in the approved final mitigation plan; and

(iv) Describe any required financial assurances or long-term management provisions for the compensatory mitigation project, unless they are specified in the approved final mitigation plan.

(4) If a mitigation bank or in-lieu fee program is used to provide the required compensatory mitigation, the special conditions must indicate whether a mitigation bank or in-lieu fee program will be used, and specify the number and resource type of credits the permittee is required to secure. In the case of an individual Order, the special condition must also identify the specific mitigation bank or in-lieu fee program that will be used. For authorizations to use a general Order, the special conditions may either identify the specific mitigation bank or in-lieu fee program, or state that the specific mitigation bank or in-lieu fee program used to provide the required compensatory mitigation must be approved by the permitting authority before the credits are secured.

(l) Party responsible for compensatory mitigation.

(1) For permittee-responsible mitigation, the special conditions of the Order must clearly indicate the party or parties responsible for the implementation, performance, and long-term management of the compensatory mitigation project.

(3) If use of a mitigation bank or in-lieu fee program is approved by the permitting authority to provide part or all of the required compensatory mitigation for an Order, the permittee retains responsibility for providing the compensatory mitigation until the appropriate number and resource type of credits have been secured from a sponsor and the permitting authority has received documentation that confirms that the sponsor has accepted the responsibility for providing the required compensatory mitigation. This documentation may consist of a letter or

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form signed by the sponsor, with the Order number and a statement indicating the number and resource type of credits that have been secured from the sponsor. Copies of this documentation will be retained in the administrative records for both the Order and the instrument. If the sponsor fails to provide the required compensatory mitigation, the permitting authority may pursue measures against the sponsor to ensure compliance.[~~33~~]

(m) Timing. Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of or concurrent with the activity causing the authorized impacts. The permitting authority shall require, to the extent appropriate and practicable, additional compensatory mitigation to offset temporal losses of aquatic functions that will result from the permitted activity.

(n) Financial assurances.

(1) The permitting authority shall require sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. In cases where an alternate mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g., a formal, documented commitment from a government agency or public authority) the permitting authority may determine that financial assurances are not necessary for that compensatory mitigation project.

(2) The amount of the required financial assurances must be determined by the permitting authority, in consultation with the project sponsor, and must be based on the size and complexity of the compensatory mitigation project, the degree of completion of the project at the time of project approval, the likelihood of success, the past performance of the project sponsor, and any other factors the permitting authority deems appropriate. Financial assurances may be in the form of performance bonds, escrow accounts, casualty insurance, letters of credit, legislative appropriations for government sponsored projects, or other appropriate instruments, subject to the approval of the permitting authority. The rationale for determining the amount of the required financial assurances must be documented in the administrative record for either the Order or the instrument. In determining the assurance amount, the permitting authority shall consider the cost of providing replacement mitigation, including costs for land acquisition, planning and engineering, legal fees, mobilization, construction, and monitoring.

(3) If financial assurances are required, the Order must include a special condition requiring the financial assurances to be in place prior to commencing the permitted activity.[~~34~~]

(4) Financial assurances shall be phased out once the compensatory mitigation project has been determined by the permitting authority to be successful in accordance with its performance

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standards. The Order or instrument must clearly specify the conditions under which the financial assurances are to be released to the permittee, sponsor, and/or other financial assurance provider, including, as appropriate, linkage to achievement of performance standards, adaptive management, or compliance with special conditions.

(5) A financial assurance must be in a form that ensures that the permitting authority will receive notification at least 120 days in advance of any termination or revocation. For third-party assurance providers, this may take the form of a contractual requirement for the assurance provider to notify the permitting authority at least 120 days before the assurance is revoked or terminated.

(6) Financial assurances shall be payable at the direction of the permitting authority to his designee or to a standby trust agreement. When a standby trust is used (e.g., with performance bonds or letters of credit) all amounts paid by the financial assurance provider shall be deposited directly into the standby trust fund for distribution by the trustee in accordance with the permitting authority's instructions.

(o) Compliance with applicable law. The compensatory mitigation project must comply with all applicable federal, state, and local laws. The Order, mitigation banking instrument, or in-lieu fee program instrument must not require participation by the permitting authority in project management, including receipt or management of financial assurances or long-term financing mechanisms, except as determined by the permitting authority to be consistent with its statutory authority, mission, and priorities.

§ 230.94 Planning and documentation.

(a) Pre-application consultations. Potential applicants for Orders are encouraged to participate in pre-application meetings with the permitting authority and appropriate agencies to discuss potential mitigation requirements and information needs.

(c) Mitigation plan.

(1) Preparation and Approval.

(i) For individual Orders, the permittee must prepare a draft mitigation plan and submit it to the permitting authority for review prior to ~~certification~~issuing the Order. After addressing any comments provided by the permitting authority, the permittee must prepare a final mitigation plan, which must be approved by the permitting authority prior to commencing work in waters of the state. The approved final mitigation plan must be incorporated into the individual Order either as an attachment or by reference. The final mitigation plan must include the items described in paragraphs (c)(2) through (c)(14) of this section, but the level of detail of the mitigation plan should be commensurate with the scale and scope of the impacts. As an alternative, the permitting authority may determine that it would be more appropriate to address any of the items described in paragraphs (c)(2) through (c)(14) of this section as Order conditions, instead of components of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, their mitigation plans need include only

the items described in paragraphs (c)(5) and (c)(6) of this section, and the name of the specific mitigation bank or in-lieu fee program to be used.[35]

~~(ii) For general Orders, if compensatory mitigation is required, the permitting authority may approve a conceptual or detailed compensatory mitigation plan to meet required time frames for general Order enrollments, but a final mitigation plan incorporating the elements in paragraphs (c)(2) through (c)(14) of this section, at a level of detail commensurate with the scale and scope of the impacts, must be approved by the permitting authority before the permittee commences work in waters of the state. As an alternative, the permitting authority may determine that it would be more appropriate to address any of the items described in paragraphs (c)(2) through (c)(14) of this section as Order conditions, instead of components of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, their mitigation plans need include only the items described in paragraphs (c)(5) and (c)(6) of this section, and either the name of the specific mitigation bank or in-lieu fee program to be used or a statement indicating that a mitigation bank or in-lieu fee program will be used (contingent upon approval by the permitting authority).~~

(2) Objectives. A description of the resource type(s) and amount(s) that will be provided, the method of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed, ecoregion, physiographic province, or other geographic area of interest.

(3) Site selection. A description of the factors considered during the site selection process. This should include consideration of watershed needs, on-site alternatives where applicable, and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the compensatory mitigation project site. (See § 230.93(d).)

(4) Site protection instrument. A description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection of the compensatory mitigation project site (see § 230.97(a)).[36]

(5) Baseline information. A description of the ecological characteristics of the proposed compensatory mitigation project site and, in the case of an application for an Order, the impact site. This may include descriptions of historic and existing plant communities, historic and existing hydrology, soil conditions, a map showing the locations of the impact and mitigation site(s) or the geographic coordinates for those site(s), and other site characteristics appropriate to the type of resource proposed as compensation. The baseline information should also include a delineation of waters of the state on the proposed compensatory mitigation project site. A prospective permittee planning to secure credits from an approved mitigation bank or in-

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[36] ~~Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.~~

lieu fee program only needs to provide baseline information about the impact site, not the mitigation bank or in-lieu fee project site.

(6) Determination of credits. A description of the number of credits to be provided, including a brief explanation of the rationale for this determination. (See § 230.93(f).)

(i) For permittee-responsible mitigation, this should include an explanation of how the compensatory mitigation project will provide the required compensation for unavoidable impacts to aquatic resources resulting from the permitted activity.

(ii) For permittees intending to secure credits from an approved mitigation bank or in-lieu fee program, it should include the number and resource type of credits to be secured and how these were determined.

(7) Mitigation work plan. Detailed written specifications and work descriptions for the compensatory mitigation project, including, but not limited to, the geographic boundaries of the project; construction methods, timing, and sequence; source(s) of water, including connections to existing waters and uplands; methods for establishing the desired plant community; plans to control invasive plant species; the proposed grading plan, including elevations and slopes of the substrate; soil management; and erosion control measures. For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information, such as planform geometry, channel form (e.g., typical channel cross-sections), watershed size, design discharge, and riparian area plantings.

(8) Maintenance plan. A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.

(9) Performance standards. Ecologically-based standards that will be used to determine whether the compensatory mitigation project is achieving its objectives. (See § 230.95.)

(10) Monitoring requirements. A description of parameters to be monitored in order to determine if the compensatory mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting on monitoring results to the permitting authority must be included. (See § 230.96.)[~~37~~]

(11) Long-term management plan. A description of how the compensatory mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management. (See § 230.97(d).)

(12) Adaptive management plan. A management strategy to address unforeseen changes in site conditions or other components of the compensatory mitigation project, including the party or parties responsible for implementing adaptive management measures. The adaptive management plan will guide decisions for revising compensatory mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success. (See § 230.97(c).)

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(13) Financial assurances. A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with its performance standards (see § 230.93(n)).

(14) Other information. The permitting authority may require additional information as necessary to determine the appropriateness, feasibility, and practicability of the compensatory mitigation project.

§ 230.95 Ecological performance standards.

(a) The approved mitigation plan must contain performance standards that will be used to assess whether the project is achieving its objectives. Performance standards should relate to the objectives of the compensatory mitigation project, so that the project can be objectively evaluated to determine if it is developing into the desired resource type, providing the expected condition or functions, and attaining any other applicable metrics (e.g., acres).

(b) Performance standards must be based on attributes that are objective and verifiable. Ecological performance standards must be based on the best available science that can be measured or assessed in a practicable manner. Performance standards may be based on variables or measures of functional capacity or condition as described in assessment methodologies, measurements of hydrology or other aquatic resource characteristics, and/or comparisons to reference aquatic resources of similar type and landscape position. The use of reference aquatic resources to establish performance standards will help ensure that those performance standards are reasonably achievable, by reflecting the range of variability exhibited by the regional class of aquatic resources as a result of natural processes and anthropogenic disturbances. Performance standards based on measurements of hydrology should take into consideration the hydrologic variability exhibited by reference aquatic resources, especially wetlands. Where practicable, performance standards should take into account the expected stages of the aquatic resource development process, in order to allow early identification of potential problems and appropriate adaptive management.

§ 230.96 Monitoring.[38]

(a) General.

(1) Monitoring the compensatory mitigation project site is necessary to determine if the project is meeting its performance standards, and to determine if measures are necessary to ensure that the compensatory mitigation project is accomplishing its objectives. The submission of monitoring reports to assess the development and condition of the compensatory mitigation project is required, but the content and level of detail for those monitoring reports must be commensurate with the scale and scope of the compensatory mitigation project, as well as the compensatory mitigation project type. The mitigation plan must address the monitoring requirements for the compensatory mitigation project, including the parameters to be monitored, the length of the monitoring period, the party responsible for conducting the monitoring, the frequency for submitting monitoring reports to the permitting authority, and the party responsible for submitting those monitoring reports to the permitting authority.

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(2) The permitting authority may conduct site inspections on a regular basis (e.g., annually) during the monitoring period to evaluate mitigation site performance.

(b) Monitoring period. The mitigation plan must provide for a monitoring period that is sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years. A longer monitoring period must be required for aquatic resources with slow development rates (e.g., forested wetlands, bogs). Following project implementation, the permitting authority may reduce or waive the remaining monitoring requirements upon a determination that the compensatory mitigation project has achieved its performance standards. Conversely the permitting authority may extend the original monitoring period upon a determination that performance standards have not been met or the compensatory mitigation project is not on track to meet them. The permitting authority may also revise monitoring requirements when remediation and/or adaptive management is required.

(c) Monitoring reports.

(1) The permitting authority must determine the information to be included in monitoring reports. This information must be sufficient for the permitting authority to determine how the compensatory mitigation project is progressing towards meeting its performance standards, and may include plans (such as as-built plans), maps, and photographs to illustrate site conditions. Monitoring reports may also include the results of functional, condition, or other assessments used to provide quantitative or qualitative measures of the functions provided by the compensatory mitigation project site.

(2) The permittee or sponsor is responsible for submitting monitoring reports in accordance with the special conditions of the Order or the terms of the instrument. Failure to submit monitoring reports in a timely manner may result in compliance action by the permitting authority.

(3) Monitoring reports must be provided by the permitting authority to interested federal, tribal, state, and local resource agencies, and the public, upon request.

§ 230.97 Management.[39]

(a) Site protection.

(1) The aquatic habitats, riparian areas, buffers, and uplands that comprise the overall compensatory mitigation project must be provided long-term protection through real estate instruments or other available mechanisms, as appropriate. Long-term protection may be provided through real estate instruments such as conservation easements held by entities such as federal, tribal, state, or local resource agencies, non-profit conservation organizations, or private land managers; the transfer of title to such entities; or by restrictive covenants. For government property, long-term protection may be provided through state or federal facility management plans or integrated natural resources management plans. When approving a method for long-term protection of non-government property other than transfer of title, the permitting authority shall consider relevant legal constraints on the use of conservation easements and/or restrictive covenants in determining whether such mechanisms provide sufficient site protection. To provide sufficient site protection, a conservation easement or

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restrictive covenant should, where practicable, establish in an appropriate third party (e.g., governmental or non-profit resource management agency) the right to enforce site protections and provide the third party the resources necessary to monitor and enforce these site protections.

(2) The real estate instrument, management plan, or other mechanism providing long-term protection of the compensatory mitigation site must, to the extent appropriate and practicable, prohibit incompatible uses (e.g., clear cutting or mineral extraction) that might otherwise jeopardize the objectives of the compensatory mitigation project. Where appropriate, multiple instruments recognizing compatible uses (e.g., fishing or grazing rights) may be used.

(3) The real estate instrument, management plan, or other long-term protection mechanism must contain a provision requiring 60–day advance notification to the permitting authority before any action is taken to void or modify the instrument, management plan, or long-term protection mechanism, including transfer of title to, or establishment of any other legal claims over, the compensatory mitigation site.

(4) For compensatory mitigation projects on public lands, where state or Federal facility management plans or integrated natural resources management plans are used to provide long-term protection, and changes in statute, regulation, or agency needs or mission results in an incompatible use on public lands originally set aside for compensatory mitigation, the public agency authorizing the incompatible use is responsible for providing alternative compensatory mitigation that is acceptable to the permitting authority for any loss in functions resulting from the incompatible use.[~~40~~]

(5) A real estate instrument, management plan, or other long-term protection mechanism used for site protection of permittee-responsible mitigation must be approved by the permitting authority in advance of, or concurrent with, the activity causing the authorized impacts.

(b) Sustainability. Compensatory mitigation projects shall be designed, to the maximum extent practicable, to be self-sustaining once performance standards have been achieved. This includes minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that natural hydrology and landscape context will support long-term sustainability. Where active long-term management and maintenance are necessary to ensure long-term sustainability (e.g., prescribed burning, invasive species control, maintenance of water control structures, easement enforcement), the responsible party must provide for such management and maintenance. This includes the provision of long-term financing mechanisms where necessary. Where needed, the acquisition and protection of water rights must be secured and documented in the Order conditions or instrument.

(c) Adaptive management.

(1) If the compensatory mitigation project cannot be constructed in accordance with the approved mitigation plans, the permittee or sponsor must notify the permitting authority. A significant modification of the compensatory mitigation project requires approval from the permitting authority.

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(2) If monitoring or other information indicates that the compensatory mitigation project is not progressing towards meeting its performance standards as anticipated, the responsible party must notify the permitting authority as soon as possible. The permitting authority will evaluate and pursue measures to address deficiencies in the compensatory mitigation project. The permitting authority will consider whether the compensatory mitigation project is providing ecological benefits comparable to the original objectives of the compensatory mitigation project.

(3) The permitting authority, in consultation with the responsible party (and other federal, tribal, state, and local agencies, as appropriate), will determine the appropriate measures. The measures may include site modifications, design changes, revisions to maintenance requirements, and revised monitoring requirements. The measures must be designed to ensure that the modified compensatory mitigation project provides aquatic resource functions comparable to those described in the mitigation plan objectives.[~~41~~]

(4) Performance standards may be revised in accordance with adaptive management to account for measures taken to address deficiencies in the compensatory mitigation project. Performance standards may also be revised to reflect changes in management strategies and objectives if the new standards provide for ecological benefits that are comparable or superior to the approved compensatory mitigation project. No other revisions to performance standards will be allowed except in the case of natural disasters.

(d) Long-term management.

(1) The Order conditions or instrument must identify the party responsible for ownership and all long-term management of the compensatory mitigation project. The Order conditions or instrument may contain provisions allowing the permittee or sponsor to transfer the long-term management responsibilities of the compensatory mitigation project site to a land stewardship entity, such as a public agency, non-governmental organization, or private land manager, after review and approval by the permitting authority. The land stewardship entity need not be identified in the original Order or instrument, as long as the future transfer of long-term management responsibility is approved by the permitting authority.

(2) A long-term management plan should include a description of long-term management needs, annual cost estimates for these needs, and identify the funding mechanism that will be used to meet those needs.

(3) Any provisions necessary for long-term financing must be addressed in the original Order or instrument. The permitting authority may require provisions to address inflationary adjustments and other contingencies, as appropriate. Appropriate long-term financing mechanisms include non-wasting endowments, trusts, contractual arrangements with future responsible parties, and other appropriate financial instruments. In cases where the long-term management entity is a public authority or government agency, that entity must provide a plan for the long-term financing of the site.

(4) For permittee-responsible mitigation, any long-term financing mechanisms must be approved in advance of the activity causing the authorized impacts.

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AGENDA ITEM SUBMITTAL

Meeting Date: January 16, 2019

To: Board of Directors

From: Mike Markus

Staff Contact: W. Hunt, R. Herndon

Budgeted: N/A
Budgeted Amount: N/A
Cost Estimate: N/A
Funding Source: N/A
Program/ Line Item No.: N/A
General Counsel Approval: N/A
Engineers/Feasibility Report: N/A
CEQA Compliance: N/A

Subject: GROUNDWATER REMEDIATION STATUS UPDATE

SUMMARY

Staff will present a short overview of the recent remediation activities and will be available to answer any questions.

RECOMMENDATION

Informational

BACKGROUND/ANALYSIS

North Basin:
- Update regarding RI/FS Activities
- EW-1 operations
- Status of proposed NPL Listing

South Basin:
- Update regarding RI/FS Activities

Prop 1:
- Funding Update

Spending:
- Monthly cost update

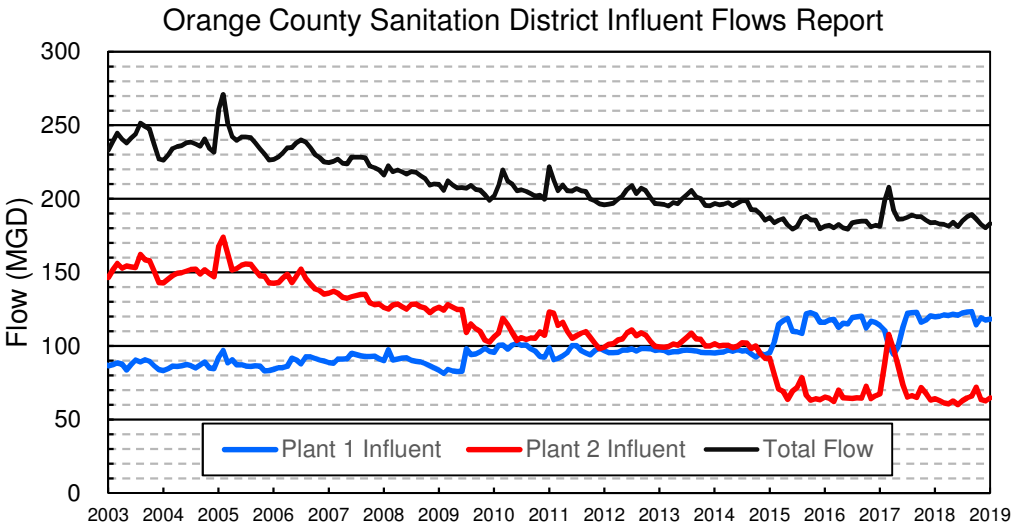
WATER RESOURCES SUMMARY

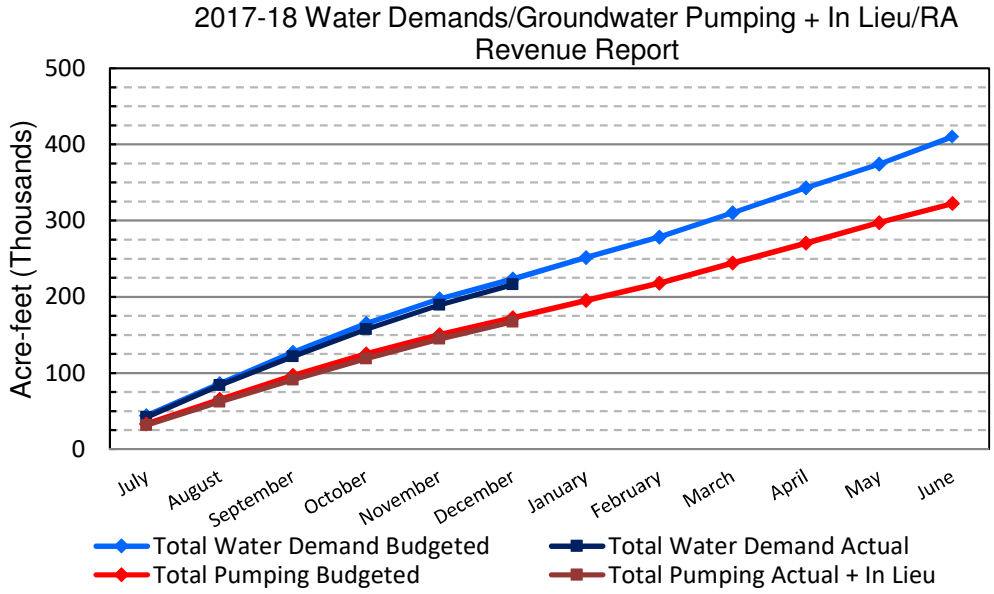
December 2018

INFLOWS & OUTFLOWS (acre-feet)	Total for Month	Year to Date - This Year	Year to Date - Last Year
BASIN SUPPLIES			
Water Purchases from MWD (excludes In Lieu)	600	40,345	42,737
Water into MWD Storage Account (excludes In Lieu)	0	0	0
SAR & Santiago Creek Flows	17,079	44,879	35,909
(accounts for storage to/from recharge facilities)			
GWRS Water to Forebay	6,550	28,073	40,991
GWRS Water to Mid-Basin Injection Wells	224	753	781
GWRS Water to Talbert Barrier	2,413	15,151	11,049
OC-44 Water to Talbert Barrier	0	16	12
Alamitos Barrier Water	190	1,007	621
Incidental Recharge (estimated)	5,000	13,850	14,400
Evaporation from Recharge Basins	(192)	(1,848)	(1,849)
River Flow Lost to Ocean	(1,000)	(1,000)	0
Total Groundwater Recharge	30,865	141,225	144,651
WATER PRODUCTION			
Groundwater Production	22,428	167,244	99,989
MWD Storage Program Withdrawals	0	0	0
Total Groundwater Production	22,428	167,244	99,989
BASIN BALANCE			
Change in Groundwater Storage	8,437	(26,019)	44,662
Change in Groundwater Storage excluding MWD Stored Water	8,437	(26,019)	44,662
Accumulated Overdraft	------	303,249	283,339
Accumulated Overdraft excluding MWD Storage	------	304,943	285,058
IN LIEU WATER			
OCWD In Lieu Purchases (MWD Cyclic Storage)	0	0	65,354
MWD In Lieu Storage	0	0	0
Total In Lieu	0	0	65,354
OTHER KEY INFORMATION			
1. MWD Water Deliveries to Producers	2,926	40,119	110,208
2. Basin Production Percentage	88.5%	80.7%	78.7%
3. Total Water Demand	26,595	216,146	219,465
4. Total GWRS Production	9,193	44,030	52,883
5. Green Acres Project Water	118	2,055	2,291
6. SAR Water Quality			
- Total Dissolved Solids (TDS) of SAR below Prado Dam (ppm)	428	------	668
- Total Nitrogen of SAR below Prado Dam (ppm)	2.7	------	5.6
7. Month-End Water Storage Behind Prado Dam	5	------	4
8. Month-End Water Storage in Recharge Facilities	17,499	------	8,679
9. Water Storage Change in Recharge Facilities	6,246	4,920	(5,918)
10. Total Artificial Recharge	25,865	127,376	130,250
11. Monthly Mean Temperature at Santa Ana Fire Station (°F)	59.7	------	63.5
12. Rainfall at FHQ (inches)	2.51	4.79	0.09

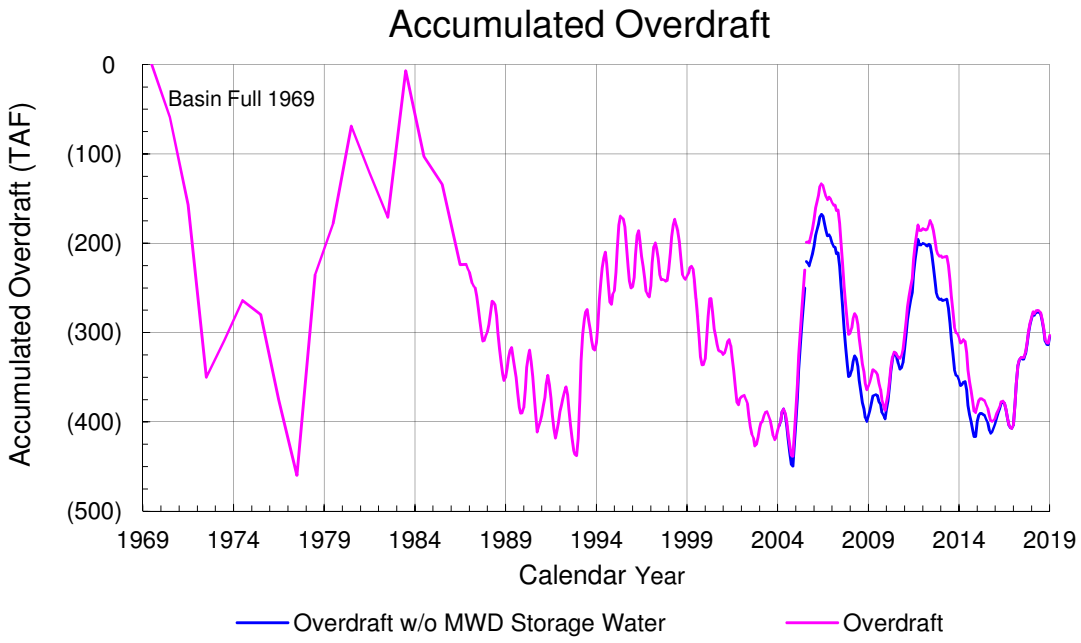
***** Note: Data are preliminary, subject to change**

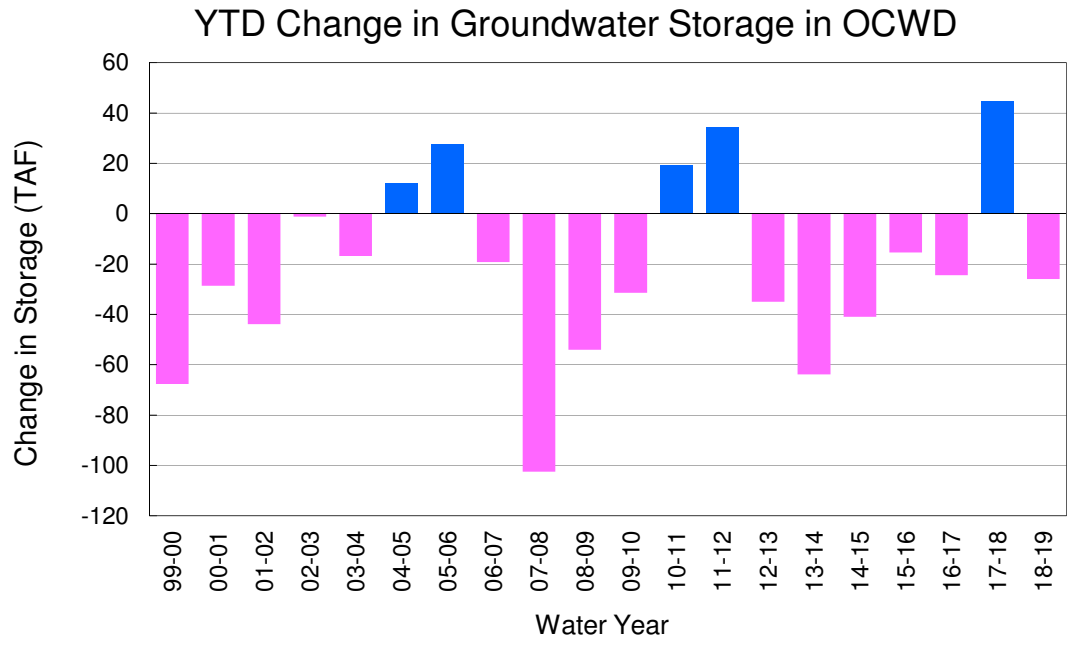
1/10/2019





	Monthly		Accumulated Total for the Year			
	Budget	Actual	Budget	Actual	Difference	Percent
Total Water Demand	**26,300**	**26,595**	**223,500**	**216,146**	**-7,354**	**96.71%**
Total Pumping + In Lieu	**22,200**	**22,428**	**172,600**	**167,244**	**-5,356**	**96.90%**
RA Revenue	**$10,256,400**	**$10,361,589**	**$79,741,200**	**$77,266,908**	**-$2,474,292**	**96.90%**


Accumulated Overdraft
Basin Full 1969
Accumulated Overdraft (TAF)
0
(100)
(200)
(300)
(400)
(500)
1969
1974
1979
1984
1989
1994
1999
2004
2009
2014
2019
Calendar Year
Overdraft w/o MWD Storage Water
Overdraft


YTD Change in Groundwater Storage in OCWD
Change in Storage (TAF)
60
40
20
0
-20
-40
-60
-80
-100
-120
99-00
00-01
01-02
02-03
03-04
04-05
05-06
06-07
07-08
08-09
09-10
10-11
11-12
12-13
13-14
14-15
15-16
16-17
17-18
18-19
Water Year

PRODUCERS WATER USAGE SUMMARY
December 2018

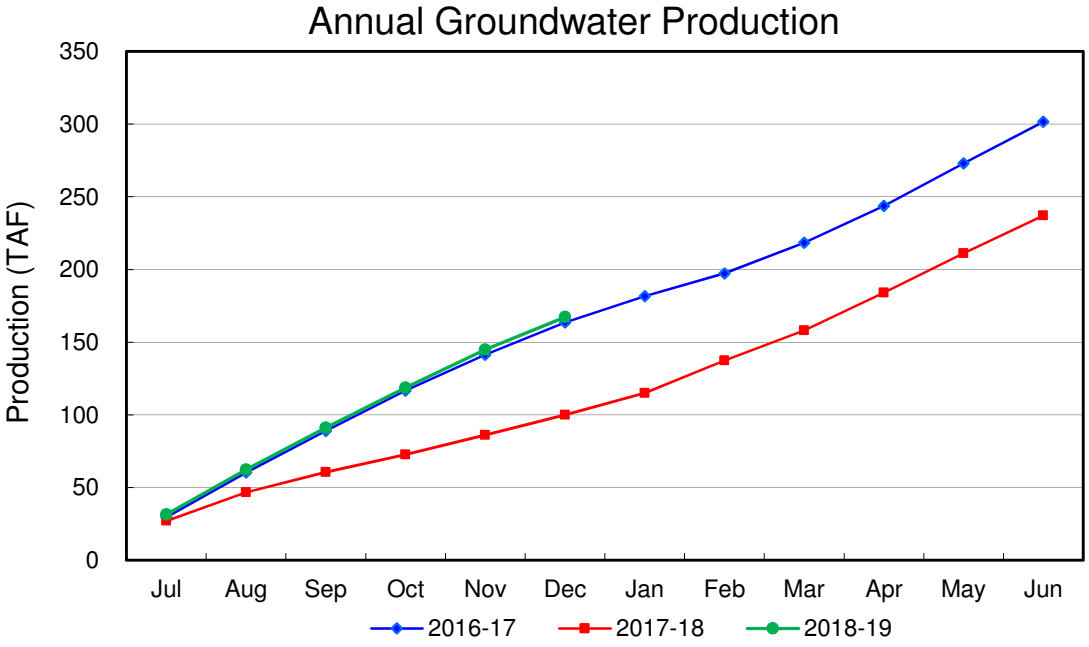
(AF except BPP)

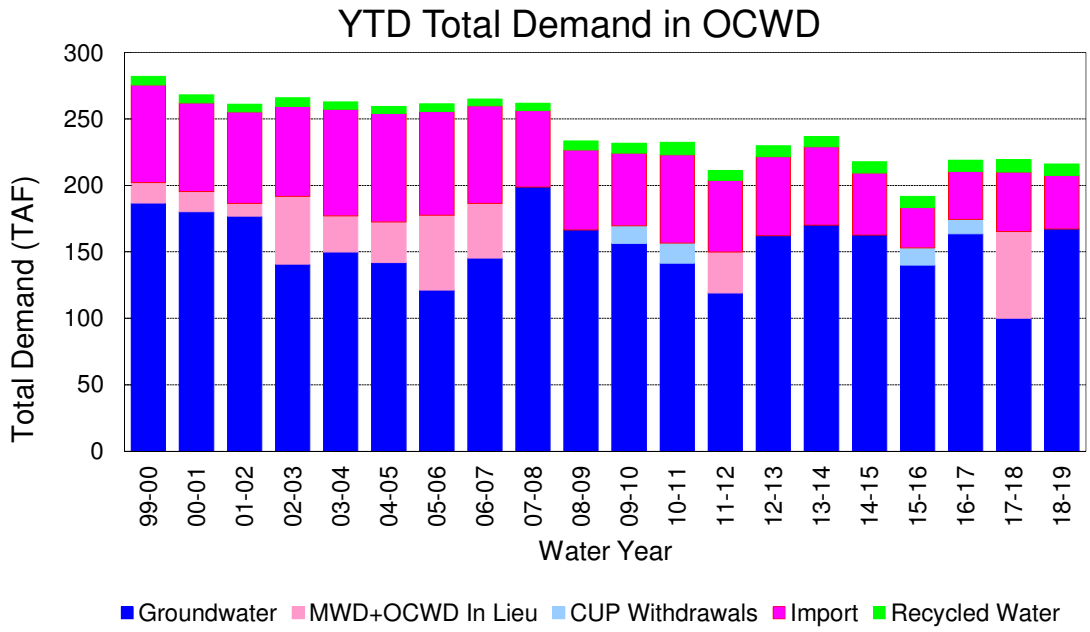
WATER AGENCY	Ground-water (1)	In Lieu	Reclaimed Water	Total Import (2)	Total Demand	2018-19 YTD Demand	2017-18 YTD Demand	YTD % Diff Demand	DEC 2018 BPP	2018-19 YTD BPP	2017-18 YTD BPP
Anaheim	3,729	0	0	384	4,113	31,385	32,669	96%	90.7%	78.4%	76.5%
Buena Park	706	0	0	171	877	7,261	7,229	100%	80.5%	82.6%	77.0%
East Orange County	40	0	0	0	40	486	473	103%	100.0%	72.4%	76.7%
Fountain Valley	543	0	16	0	559	5,159	5,550	93%	99.9%	100.0%	75.7%
Fullerton	1,182	0	0	295	1,477	13,634	14,171	96%	80.0%	77.2%	71.7%
Garden Grove	1,585	0	0	0	1,585	12,397	12,268	101%	100.0%	79.6%	69.2%
Golden State	1,262	0	0	238	1,500	13,335	13,309	100%	84.1%	78.2%	72.4%
West OC System	934	-	-	2	935	7,527	7,616	99%	na	na	na
East OC System	329	-	-	237	565	5,808	5,693	102%	na	na	na
Huntington Beach	1,299	0	0	467	1,766	14,511	14,708	99%	73.5%	65.2%	78.6%
Irvine Ranch	3,296	0	1,202	7	4,505	32,844	32,981	100%	99.8%	99.0%	99.5%
DRWF Clear	1,813	-	-	-	1,813	14,767	5,023	294%	na	na	na
DRWF Color	719	-	-	-	719	4,264	4,438	96%	na	na	na
Laguna Beach	53	0	0	184	236	1,892	1,974	na	22.2%	40.0%	70.5%
La Palma	132	0	0	0	132	1,002	998	100%	100.0%	100.0%	99.9%
Mesa Water (MW)	914	0	11	161	1,086	9,398	9,609	98%	85.0%	90.1%	100.0%
MW Clear	914	-	-	-	914	5,194	2,061	252%	na	na	na
MW Color	0	-	-	-	0	2,828	2,126	133%	na	na	na
Newport Beach	458	0	4	452	914	8,223	8,228	100%	50.4%	69.6%	81.8%
Orange	1,803	0	0	110	1,913	15,021	15,125	99%	94.3%	79.0%	69.5%
OCWD (GAP)	118	0	0	0	118	1,023	328	311%	100.0%	100.0%	100.0%
Santa Ana	2,364	0	10	0	2,374	18,304	18,554	99%	100.0%	73.5%	66.6%
Seal Beach	55	0	0	194	249	1,905	1,881	101%	22.2%	65.8%	54.0%
Serrano	130	0	0	13	144	1,554	1,574	99%	90.8%	77.1%	76.6%
Tustin	638	0	0	11	649	5,701	6,008	95%	98.4%	89.5%	94.3%
Westminster	540	0	0	229	769	5,647	5,877	96%	70.3%	74.0%	71.9%
Yorba Linda	974	0	0	6	980	10,885	11,274	97%	99.4%	76.4%	69.9%
SUBTOTAL:	21,820	0	1,242	2,922	25,984	211,565	214,787	98%	88.5%	80.7%	78.7%
Other Producers (Est ~3% of Subtotal)	607	0	0	4	611	4,581	4,678	98%			
TOTAL:	**22,428**	**0**	**1,242**	**2,926**	**26,595**	**216,146**	**219,465**		**88.5%**	**80.7%**	**78.7%**
OCWD (Talbert Barrier)	0		2,413	0	2,413	15,167	11,062				
OCSD (GAP)	na		80	na	80	503	263				

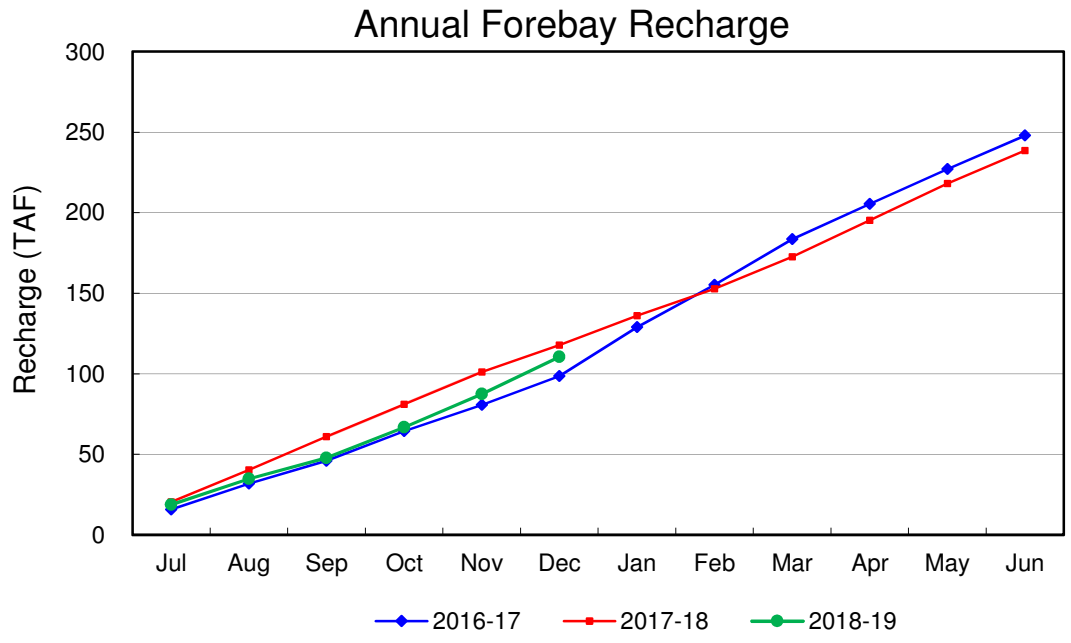
Estimated

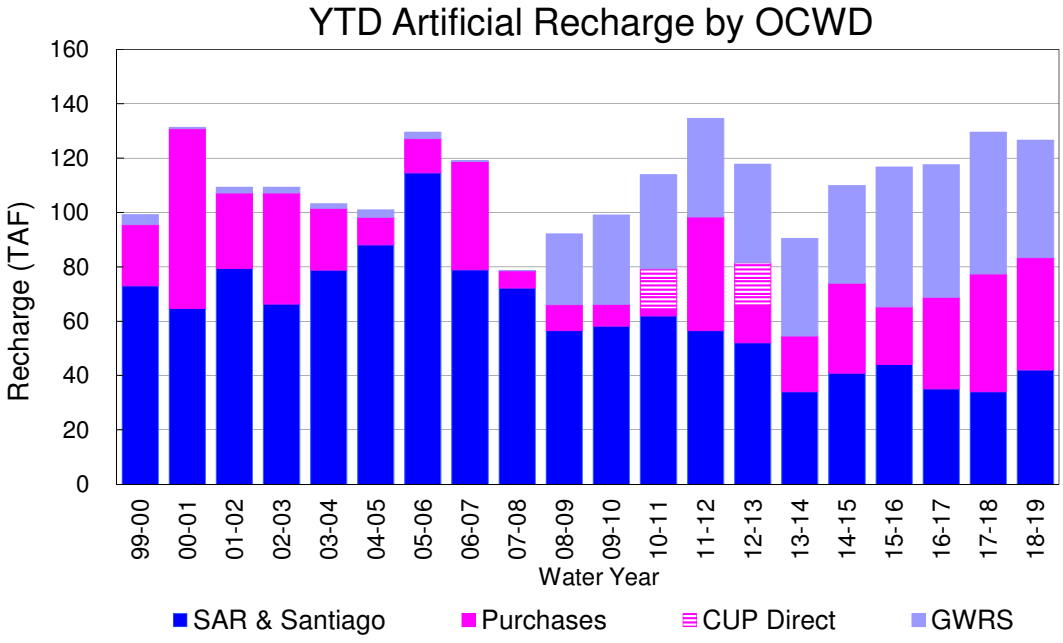
(1) Excludes MWD CUP Withdrawals

(2) Includes MWD CUP Withdrawals & In Lieu Water


Annual Groundwater Production
Production (TAF)
350
300
250
200
150
100
50
0
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
2016-17
2017-18
2018-19


YTD Total Demand in OCWD
Total Demand (TAF)
300
250
200
150
100
50
0
99-00
00-01
01-02
02-03
03-04
04-05
05-06
06-07
07-08
08-09
09-10
10-11
11-12
12-13
13-14
14-15
15-16
16-17
17-18
18-19
Water Year
Groundwater
MWD+OCWD In Lieu
CUP Withdrawals
Import
Recycled Water


Annual Forebay Recharge
Recharge (TAF)
300
250
200
150
100
50
0
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
2016-17
2017-18
2018-19


YTD Artificial Recharge by OCWD
Recharge (TAF)
160
140
120
100
80
60
40
20
0
99-00
00-01
01-02
02-03
03-04
04-05
05-06
06-07
07-08
08-09
09-10
10-11
11-12
12-13
13-14
14-15
15-16
16-17
17-18
18-19
Water Year
SAR & Santiago
Purchases
CUP Direct
GWRS

RECHARGE AREAS REPORT
December 2018

	Percolation (AF)	Remarks
RIVER SYSTEM	4,185	68 cfs per day average
DESILTING SYSTEM	na	
OFF-RIVER SYSTEM	2,998	SAR
WARNER SYSTEM	331	SAR
OLIVE BASIN	-	SAR inflow through Passive System
ANAHEIM LAKE	2,907	SAR
MINI-ANA LAKE	57	SAR
MILLER BASIN	197	SAR
KRAEMER BASIN	1,341	SAR
LA PALMA BASIN	5,297	
MIRA LOMA	1,245	GWRS
LA JOLLA BASIN	104	
PLACENTIA BASIN	na	
RAYMOND BASIN	200	
FIVE COVES BASIN	na	SAR
BURRIS BASIN	1,305	
RIVER VIEW BASIN	311	
FLETCHER BASIN	23	
SANTIAGO BASINS	2,539	
SANTIAGO CREEK	0	
TOTALS	**23,040**	
5-YR AVERAGE	**20,321**	

FLOWS TO RECHARGE AREAS (AF)		
Imperial Headgates (estimated)		22,139
GWRS		6,553
OC-28 (MWD)		600
OC-28a (MWD)		0
CB-11		0
CB-18		0
Est'd local Forebay inflow below Imperial		600
Est'd local Santiago inflow (estimated)		440
Irvine lake releases (OC-13 MWD)		0
Villa Park Dam releases (estimated)		0
Precip at Warner Basin (inches)	2.51	
Precip direct to open water surfaces		146
TOTAL INFLOW		30,478

LOSSES FROM RECHARGE AREAS (AF)		
Est'd SAR flow past Chapman Ave.		1,000
Est'd Santiago Cr. flow to SAR		0
Est'd flows past Raymond Basin		0
Calc'd evap (inches) Estimated	3.29	
Est'd evaporative losses		192
TOTAL LOSSES		**1,192**

STORAGE CHANGES (AF)			
Facility	*Begin*	*End*	*Net*
Deep basins	7,736	7,633	-103
Santiago Pits	3,517	9,866	6,349
River			0
Off-river			0
Irvine Lake			
TOTAL	11,253	17,499	6,246

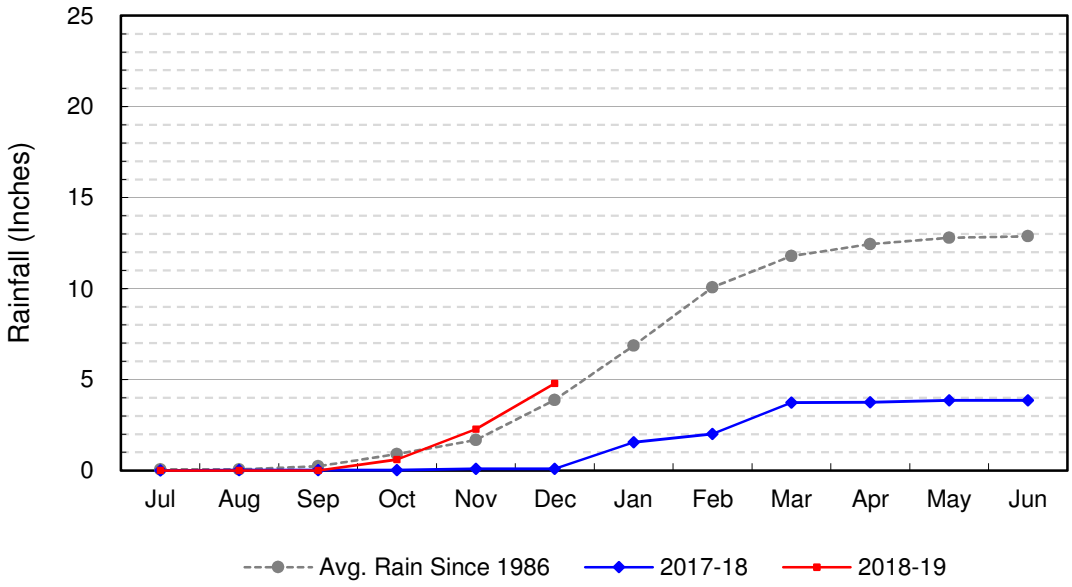
SUMMARY (AF)	
TOTAL INFLOW	30,478
TOTAL LOSSES	1,192
STORAGE CHANGE	6,246
CALC'D PERCOLATION	23,040

DEEP BASINS MONTHLY STATUS
December 2018

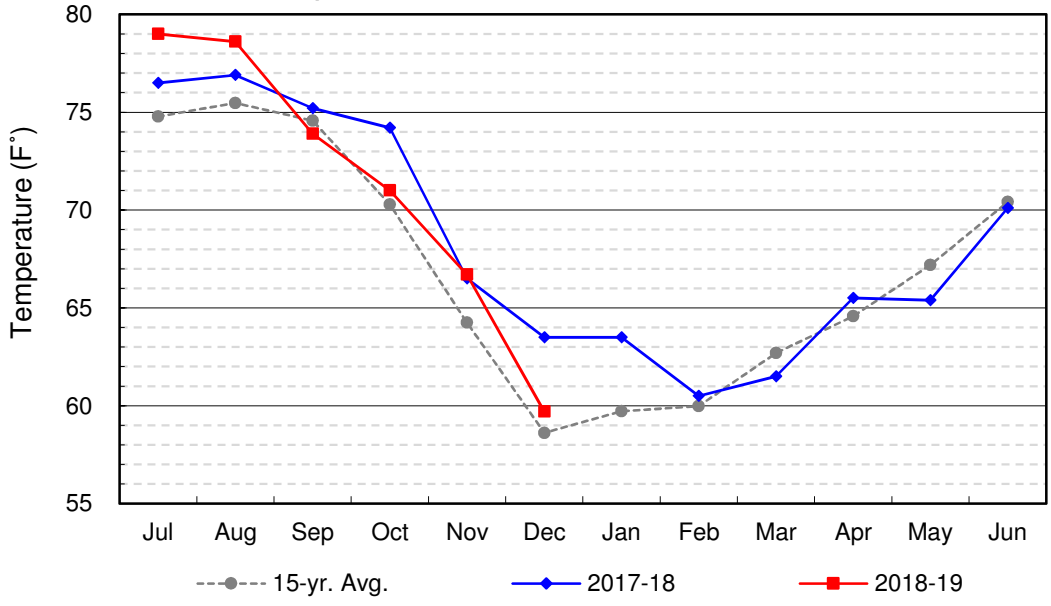
(values in acre-feet)

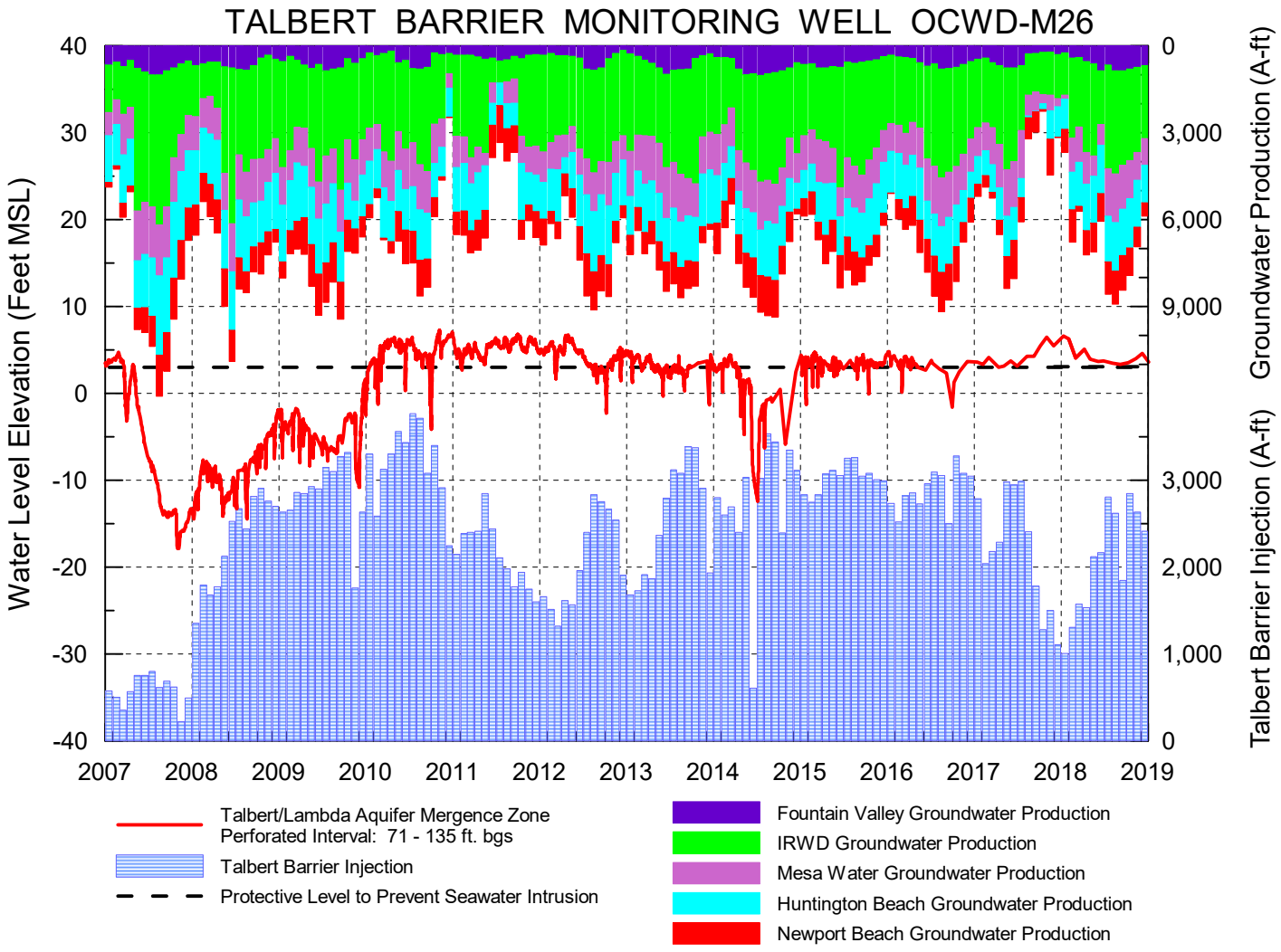
Facility	*Storage Start*	*Storage End*	*Maximum Storage*	*Total Perc*	*Max Perc*	*Avg Perc*	*Avg W.S. Elev*
Desilting Ponds	230	230	230	na	na	na	na
Fos-Huckleberry	527	541	630	na	na	na	na
Conrock Basin	543	548	660	na	na	na	na
Warner Basins	2,823	2,813	2,810	331	na	na	237
Olive Pit	61	8	183	138	25	2	206
Anaheim Lake	1,073	991	2,300	2,907	151	47	204
Mini-Anaheim Lk	6	0	21	57	14	2	221
Miller Basin	179	0	340	197	67	6	201
Kraemer Basin	957	840	1,050	1,341	59	43	211
La Palma Basin	11	17	105	5,297	181	171	213
Mira Loma	7	8	62	1,245	41	40	213
La Jolla Basin	1	0	36	104	14	3	200
Placentia Basin	0	0	350	na	na	na	na
Raymond Basin	25	25	370	200	na	na	na
Five Coves Basins	239	212	350	na	na	na	na
Burris Pit	1,040	1,390	2,670	1,305	na	na	na
River View Basin	0	0	12	311	19	10	187
Fletcher Basin	15	10	6	23	na	na	na
Santiago (Bond)	2,391	6,483	8,690	2,539	164	82	245
Santiago (Blu Dia)	1,126	3,383	5,240	-	-	-	-
Totals	11,253	17,499	26,115	15,995			
Prado Dam	2,090	5	25,000				

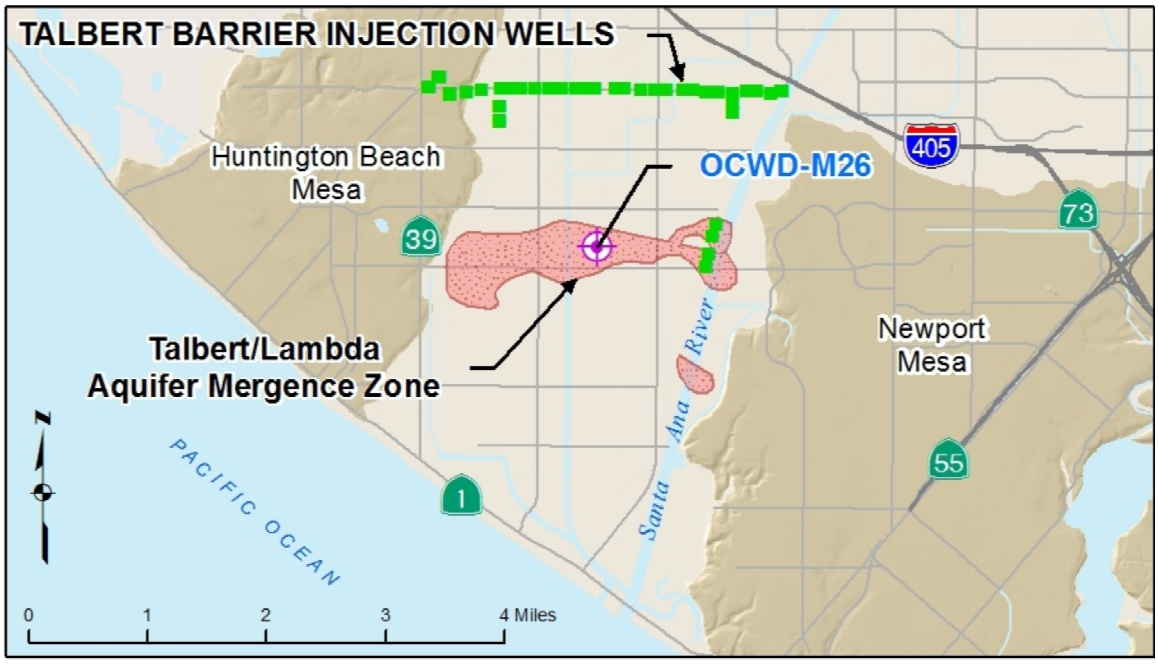
Cumulative Anaheim Field HQ Rainfall



Temperature at Santa Ana Fire Station




TALBERT BARRIER MONITORING WELL OCWD-M26
Water Level Elevation (Feet MSL)
Groundwater Production (A-ft)
Talbert Barrier Injection (A-ft)
40
30
20
10
0
-10
-20
-30
-40
0
3,000
6,000
9,000
3,000
2,000
1,000
0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Talbert/Lambda Aquifer Mergence Zone
Perforated Interval: 71 - 135 ft. bgs
Talbert Barrier Injection
Protective Level to Prevent Seawater Intrusion
Fountain Valley Groundwater Production
IRWD Groundwater Production
Mesa Water Groundwater Production
Huntington Beach Groundwater Production
Newport Beach Groundwater Production


TALBERT BARRIER INJECTION WELLS
Huntington Beach
Mesa
OCWD-M26
405
73
39
Talbert/Lambda
Aquifer Mergence Zone
Newport
Mesa
Santa Ana River
PACIFIC OCEAN
55
1
N
0
1
2
3
4 Miles

ACTION AGENDA
WATER ISSUES COMMITTEE MEETING
Wednesday, January 9, 2019, 8:00 a.m. – Boardroom

ROLL CALL Cathy Green Bruce Whitaker Tri Ta Steve Sheldon Dina Nguyen (absent) <u>Alternates</u> Roger Yoh (absent) Denis Bilodeau (absent) Kelly Rowe Jordan Brandman Vicente Sarmiento	Quorum of Cte: Yes Quorum of Board: Yes
CONSENT CALENDAR (ITEMS NO. 1 – 6)	
1. MINUTES OF WATER ISSUES COMMITTEE MEETING HELD DECEMBER 12, 2018 RECOMMENDATION: Approve minutes as presented	Approved
2. LIMITED TERM EMPLOYMENT AGREEMENT WITH JAMES KALINOWSKI FOR TECHNICAL SUPPORT SERVICES	Approved
RECOMMENDATION: Agendize for January 16 Board meeting: Authorize execution of a Limited Term Employment Agreement with James Kalinowski for an amount not to exceed $125,000 for technical consulting services for the period of March 4, 2019 to March 4, 2020	
3. AMENDMENT TO AGREEMENT TO CONTECH SERVICES FOR REPAIR OF CONCRETE CRACKS IN THE GREEN ACRES PROJECT TREATMENT BUILDING	Approved
RECOMMENDATION: Agendize for January 16 Board meeting: Authorize issuance of Amendment No. 1 to Agreement No. 1328 with Contech Services, Inc. for an amount not to exceed $5,975 for additional epoxy injection repairs	
4. CONTRACT NO. GAP-2019-2, 2019 GREEN ACRES PROJECT (GAP) APPURTENANCE REHABILITATION – CATEGORICAL EXEMPTION AND NOTICE INVITING BIDS	Approved
RECOMMENDATION: Agendize for January 16 Board meeting:	
1) Authorize filing of a Categorical Exemption for the replacement of existing Green Acres Project appurtenances in compliance with the California Environmental Quality Act (CEQA) guidelines; and	
2) Authorize publication of Notice Inviting Bids for Contract No. GAP-2019-2, Green Acres Project (GAP) Appurtenance Rehabilitation	
5. MID-BASIN INJECTION: CENTENNIAL PARK – AUTHORIZE AMENDMENTS TO BUTIER CONSTRUCTION MANAGERS AND GEOTECHNICAL CONSULTANTS, INC. AND RATIFY CONSTRUCTION CHANGE ORDERS 4 AND 5 TO CONTRACT MBI-2017-1	Approved
RECOMMENDATION: Agendize for January 16 Board meeting:	

1) Authorize issuance of Amendment No. 1 to Agreement No. 1168 with Butier Construction Managers for an amount not to exceed $90,000 for additional civil construction management;	
2) Authorize issuance of Amendment No. 2 to Agreement No. 1164 with Geotechnical Consultants, Inc. for an amount not to exceed $23,700 for additional well construction management; and	
3) Ratify issuance of Change Orders No. 4 and 5 to Contract MBI-2017-1 for a net total of $91,668.03 and no time extension for use of native soil for backfill, conflicts with existing utilities, structure cripple walls, additional well drilling and development, and other changes	
6. AGREEMENT WITH DDB ENGINEERING FOR THE PREPARATION OF 2018 GWRS ANNUAL REPORT	Approved
RECOMMENDATION: Agendize for January 16 Board meeting: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed $52,000 to provide consulting services for the preparation of the calendar year 2018 GWRS Annual Report	
MATTERS FOR CONSIDERATION	
7. ALAMITOS SEAWATER BARRIER 2019-20 OPERATIONS AND MAINTENANCE BUDGET	Approved
RECOMMENDATION: Agendize for January 16 Board meeting:	
1) Approve the Alamitos Barrier 2019-20 total O&M budget in the amount of $2,465,000, and authorize payment of the District's share not to exceed $1,102,500 payable to the Los Angeles County Department of Public Works after receipt and review of invoices; and	
2) Appoint Gary Yoshiba as an OCWD alternate member of the Alamitos Barrier Joint Management Committee	
8. CONSIDERATION OF AGREEMENT WITH MOULTON NIGUEL WATER DISTRICT	Approved
RECOMMENDATION: Agendize for January 16 Board meeting: Authorize: (1) execution of the attached Agreement with the Moulton Niguel Water District and (2) issuance of the two attached requests for proposals	
CHAIR DIRECTION AS TO ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT THE JANUARY 16 BOARD MEETING	**Item No. 8**
ADJOURNMENT	**9:00 a.m.**

ACTION AGENDA

ADMINISTRATION/FINANCE ISSUES COMMITTEE MEETING

Thursday, January 10, 2019, 8:00 a.m.-Conference Room C-2

ROLL CALL Bruce Whitaker Roger Yoh (absent) Dina Nguyen (absent) Cathy Green Steve Sheldon <u>Alternates</u> Tri Ta Denis Bilodeau (absent) Kelly Rowe Jordan Brandman (absent) Vicente Sarmiento	Quorum of Cte: Yes Quorum of Board:
CONSENT CALENDAR (ITEMS NO. 1 – 6)	
1. MINUTES OF ADMINISTRATION/FINANCE ISSUES COMMITTEE MEETING HELD DECEMBER 13, 2018 RECOMMENDATION: Approve minutes as presented	Approved
2. MONTHLY CASH CONTROL REPORT RECOMMENDATION: Agendize for January 16 Board meeting: Receive and file Summary Cash and Cash Equivalents Control Reports dated December 31, 2018	Approved
3. INVESTMENT PORTFOLIO HOLDINGS REPORTS RECOMMENDATION: Agendize for January 16 Board meeting: Receive and file the Investment Portfolio Holdings Reports dated December 31, 2018	Approved
4. SURPLUS OF EQUIPMENT, VEHICLES, MISCELLANEOUS FURNITURE AND COMPUTER HARDWARE RECOMMENDATION: Agendize for January 16 Board meeting: Declare items on Surplus List as of 12/31/18, surplus and authorize the sale and disposal thereof	Approved
5. AMENDMENT THREE TO LICENSE AGREEMENT WITH PUB CONSTRUCTION FOR STORING OF CONSTRUCTION EQUIPMENT LOCATED AT UPPER FIVE COVES BASIN, ANAHEIM RECOMMENDATION: Agendize for January 16 Board meeting: Approve and authorize execution of Amendment Three to License Agreement with PUB Construction to extend the License expiration date to February 28, 2019, with an additional license fee of $1,148, with all other Agreement terms to remain the same	Approved
6. AMENDMENT THREE TO LICENSE AGREEMENT WITH T.E. ROBERTS FOR STORING OF CONSTRUCTION EQUIPMENT LOCATED AT HUCKLEBERRY POND, ANAHEIM RECOMMENDATION: Agendize for January 16 Board meeting: Approve and authorize execution of Amendment Three to License Agreement with T.E. Roberts, Inc. to extend the License expiration date to June 30, 2019, with a license fee of $500 per month, with all other Agreement terms to remain the same	Approved

END OF CONSENT CALENDAR	
MATTER FOR CONSIDERATION	
7. BASIN PRODUCTION PERCENTAGE AND REPLENISHMENT ASSESSMENT ESTIMATES FOR FISCAL YEAR 2019-20 RECOMMENDATION: Agendize for January 16 Board meeting: Provide the Fiscal Year 2019-20 Replenishment Assessment and Basin Production Percentage estimates to the Groundwater Producers along with any additional Board comments	Approved
INFORMATIONAL ITEMS	
8. MONTHLY CASH DISBURSEMENTS REPORT	Informational
9. EMPLOYMENT STATUS REPORT	Informational
CHAIR DIRECTION AS TO WHICH ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT JANUARY 16 BOARD MEETING	**Consent: Item Nos. 2-7**
ADJOURNMENT	**8:45 a.m.**

ACTION AGENDA
GROUNDWATER REPLENISHMENT SYSTEM STEERING COMMITTEE
(A Committee of Orange County Water District
and Orange County Sanitation District Directors*)
Monday, January 14, 2019, 5:00 p.m.

ROLL CALL OCWD Director Roger Yoh OCSD Director David Shawver OCSD Director Jim Ferryman OCWD Director Cathy Green OCSD Director Steve Jones (absent) OCWD Director Denis Bilodeau **Alternates** OCSD Director Donald Wagner OCSD Director Phil Hawkins OCSD Director Tim Shaw OCWD Director Dina Nguyen (absent) OCWD Director Steve Sheldon (absent)	Quorum of Cte: Yes Quorum of Board: Yes
ANNUAL REORGANIZATION OF COMMITTEE OFFICERS	
• Election of Chairman (OCSD)	Director Shawver
• Election of Vice Chair (OCWD)	Director Yoh
CONSENT CALENDAR (ITEM NO. 1)	
1. MINUTES OF PREVIOUS MEETING	
RECOMMENDATION: Approve Minutes of the October 8, 2018 GWRS Steering Committee meeting as presented	Approved
INFORMATIONAL ITEMS	
2. GWRS OPERATIONS UPDATE	Informational
3. UPDATE ON GWRS FINAL EXPANSION PROJECT	Informational
4. QUARTERLY OUTREACH REPORT [OCTOBER-DECEMBER 2018]	Informational
● Next GWRS Steering Committee Meeting – April 8, 2019	
DETERMINATION OF ITEMS (IF ANY) TO BE AGENDIZED FOR FUTURE OCWD BOARD MEETING AND/OR OCSD BOARD MEETING	
ADJOURNMENT	**5:25 pm**

2019 COMMITTEES OF OCWD BOARD OF DIRECTORS

Administration and Finance Issues*
Bruce Whitaker - Chair
Tri Ta - Vice Chair
Roger Yoh
Dina Nguyen
Kelly Rowe
Cathy Green - Alternate 1
Steve Sheldon - Alternate 2
Jordan Brandman - Alternate 3
Denis Biloeau - Alternate 4
Vicente Sarmiento - Alternate 5

Water Issues*
Cathy Green - Chair
Dina Nguyen - Vice Chair
Bruce Whitaker
Jordan Brandman
Tri Ta
Steve Sheldon - Alternate 1
Roger Yoh - Alternate 2
Kelly Rowe - Alternate 3
Denis Bilodeau - Alternate 4
Vicente Sarmiento - Alternate 5

Communication & Legislative Liaison*
Cathy Green - Chair
Jordan Brandman - Vice Chair
Steve Sheldon
Roger Yoh
Bruce Whitaker
Tri Ta - Alternate 1
Kelly Rowe - Alternate 2
Dina Nguyen - Alternate 3
Denis Bilodeau - Alternate 4
Vicente Sarmiento - Alternate 5

Property Management*
Steve Sheldon - Chair
Denis Bilodeau - Vice Chair
Kelly Rowe
Dina Nguyen
Jordan Brandman
Bruce Whitaker - Alternate 1
Cathy Green - Alternate 2
Tri Ta - Alternate 3
Roger Yoh - Alternate 4
Vicente Sarmiento - Alternate 5

OCWD/OCSD GWR System Steering*
Roger Yoh
Cathy Green
Vicente Sarmiento
Tri Ta - Alternate 1
Dina Nguyen - Alternate 2
Steve Sheldon - Alternate 3

Executive
Vicente Sarmiento - President
Cathy Green - 1st Vice President
Steve Sheldon - 2nd Vice President
Denis Bilodeau - Past President

OCWD/MWDOC Joint Planning*
Cathy Green - OCWD Chair
Vicente Sarmiento
Steve Sheldon
Bruce Whitaker

Retirement*
Tri Ta - Chair
Bruce Whitaker - Vice Chair
Jordan Brandman
Alternates
Roger Yoh
Kelly Rowe
Cathy Green
Steve Sheldon
Denis Bilodeau
Dina Nguyen
Vicente Sarmiento

Staff Members:
Jason Dadakis
Vishav Sharma
Dave Bolin - Alt 1
Kevin O'Toole Alt 2

Water Summit Planning ad hoc
Steve Sheldon – Chair
Cathy Green – Vice Chair
Jordan Brandman

Visitor Center & Building ad hoc
Cathy Green - Chair
Roger Yoh - Vice Chair
Dina Nguyen
Kelly Rowe

Moulton Niguel Water District ad hoc
Vicente Sarmiento
Cathy Green

2019 DIRECTOR OUTSIDE AGENCY ASSIGNMENTS

Association of California Water Agencies (ACWA)*

As designated by Board of Directors or General Manager

Cathy Green	-	Representative
Bruce Whitaker	-	Alternate Representative
Vicente Sarmiento	-	Alternate Representative
Gina Ayala	-	Communication Committee
Bill Hunt	-	Energy Committee
Joel Kuperberg	-	Legal Affairs Committee
Greg Woodside	-	Groundwater Committee
Michael Markus	-	Groundwater Committee
Adam Hutchinson	-	Groundwater Committee
Cathy Green	-	Water Quality Committee
Patrick Versluis	-	Water Quality Committee
Michael Markus	-	Water Resources Committee
Alicia Dunkin	-	State Legislative Committee

Association of California Water Agencies - Joint Powers Insurance Authority (ACWA/JPIA)

Cathy Green		Director
Stephanie Dosier	-	Health Benefits Committee

Association of California Water Agencies – Region 10

Cathy Green	-	Chair

CalDesal

Cathy Green	-	Director
Vicente Sarmiento	-	Alternate Director

Center for Demographic Research

Bruce Whitaker	-	Representative

Independent Special Districts of Orange County (ISDOC)*

Cathy Green	-	Representative
Tri Ta	-	Alternate Representative
Dina Nguyen		Alternate Representative
Kelly Rowe	-	Alternate Representative
Alicia Dunkin	-	Staff Liaison

Association of California Cities – Orange County

Vicente Sarmiento	-	Representative
Cathy Green	-	Representative
Steve Sheldon	-	Representative
Jordan Brandman	-	Representative
Bruce Whitaker	-	Representative

Orange County Council of Governments (OCCOG)

Kelly Rowe	-	OCWD Representative

Santa Ana River Flood Protection Agency (SARFPA)

Cathy Green	-	Commissioner, Chair
Dina Nguyen	-	Alternate Commissioner
Tri Ta	-	Alternate Commissioner
Bruce Whitaker	-	Alternate Commissioner

All Board members approved for paid attendance. Attendance by more than 5 Board members discouraged due to Brown Act.

Santa Ana Watershed Project Authority (SAWPA)*

Bruce Whitaker	-	Commissioner
Denis Bilodeau	-	Alternate Commissioner

Water Advisory Committee of Orange County (WACO)*

Cathy Green	-	Representative
Bruce Whitaker	-	Alternate Representative
Alicia Dunkin	-	Staff Liaison

WACO Planning Committee*

Bruce Whitaker	-	Representative
Cathy Green	-	Representative
Tri Ta	-	Representative
Alicia Dunkin	-	Staff Liaison

American Desalting Association (ADA)

Kelly Rowe	-	Representative

American Water Works Association (AWWA)

As designated by Board of Directors or General Manager

Association of Ground Water Agencies (AGWA)

Michael Markus	-	Representative

National Water Research Institute (NWRI)

Cathy Green	-	Director
Jordan Brandman	-	Alternate Director
Bruce Whitaker	-	Alternate Director
Mike Markus	-	Alternate Director, Secretary
Mike Wehner	-	Alternate Director, Treasurer

WateReuse Association

Cathy Green	-	Director
Michael Markus	-	Staff Representative

University of California Irvine Urban Water Research Institute:

Denis Bilodeau	-	Advisory Committee Representative
Steve Sheldon	-	Advisory Committee Representative
Roger Yoh	-	Advisory Committee Representative

***All Board members approved for paid attendance.**
Attendance by more than 5 Board members discouraged due to Brown Act.

Revised January 10, 2019