

**AGENDA  
REGULAR MEETING  
GROUNDWATER REPLENISHMENT SYSTEM STEERING COMMITTEE  
(A Committee of Orange County Water District  
and Orange County Sanitation District Directors\*)  
OCWD Boardroom 18700 Ward Street, Fountain Valley  
Monday, July 13, 2015, 5:00 p.m.**

\* Orange County Water District Notice: The GWRS Steering Committee (SC) meeting is being noticed as a joint meeting with the Orange County Water District (OCWD) Board of Directors and Orange County Sanitation District (OCSD) Board of Directors for the purpose of strict compliance with the Brown Act and it provides an opportunity for all Directors to hear presentations and participate in discussions. The SC has been delegated limited authority by the OCWD and OCSD Boards of Directors. Agenda items requiring Board approval will be placed on future OCWD and/or OCSD Board meeting Agendas. OCWD Directors receive no additional compensation or stipend as a result of simultaneously convening this meeting.

**PLEDGE OF ALLEGIANCE**

**ROLL CALL**

**ITEMS RECEIVED TOO LATE TO BE AGENDIZED**

RECOMMENDATION: Determine need to take action on item(s) which arose subsequent to posting of the Agenda (ROLL CALL VOTE: Adoption of this recommendation requires two-thirds vote of the Board/Committee, or, if less than two-thirds of the members are present, a unanimous vote)

**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.

**CONSENT CALENDAR (ITEM NO. 1)**

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.

1. **MINUTES OF PREVIOUS MEETING**

RECOMMENDATION: Approve Minutes of the April 13, 2015 GWRS Steering Committee meeting as presented

**END OF CONSENT CALENDAR**

## **INFORMATIONAL ITEMS**

2. JOINT FACILITIES SECURITY UPDATE
3. GWRS INITIAL EXPANSION CONSTRUCTION UPDATE
4. GWRS OPERATIONS UPDATE
5. UPDATE ON SP-173 EFFLUENT REUSE STUDY
6. QUARTERLY OUTREACH REPORT [APRIL – JUNE 2015]

## **DIRECTORS' ANNOUNCEMENTS/REPORTS**

### **GENERAL MANAGERS' REPORT**

- Next GWRS Steering Committee - Monday, October 12, 2015 @ 5:00 p.m.

## **DETERMINATION OF ITEMS TO BE PLACED ON CONSENT CALENDAR FOR JULY 15 OCWD BOARD MEETING**

## **ADJOURNMENT**

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 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 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](http://www.ocwd.com).

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](mailto: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.

As a general rule, agenda reports or other written documentation has been prepared or organized with respect to each item of business listed on the agenda, and can be reviewed at [www.ocwd.com](http://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.

## GWRS STEERING COMMITTEE

### OCSD Committee Members

Tom Beamish, Chair	OCSD Director (No. 1)
Jim Ferryman	OCSD Director (No. 2)
John Nielsen	OCSD Director (No. 3)

### OCSD Alternates

Lucille Kring	OCSD Director (No. 1)
Greg Sebourn	OCSD Director (No. 2)
Steve Jones	OCSD Director (No. 3)

### OCWD Committee Members

Roger Yoh, Vice Chair	OCWD Director (No. 1)
Philip Anthony	OCWD Director (No. 2)
Cathy Green	OCWD Director (No. 3)

### OCWD Alternates

Denis Bilodeau	OCWD Director (No. 1)
Jan Flory ....	OCWD Director (No. 2)
Dina Nguyen	OCWD Director (No. 3)



MINUTES OF MEETING  
GROUNDWATER REPLENISHMENT SYSTEM STEERING COMMITTEE  
ORANGE COUNTY WATER DISTRICT & ORANGE COUNTY SANITATION DISTRICT  
April 13, 2015 @ 5:00 p.m.

Chairman Beamish called the Groundwater Replenishment System Steering Committee meeting to order in the Boardroom at the District office. Following the Pledge of Allegiance to the Flag, the Recording Secretary called the roll and reported a quorum as follows.

2015 Committee Members

Roger Yoh	OCWD Director	(No. 1) (not present)
Philip Anthony	OCWD Director	(No. 2)
Cathy Green	OCWD Director	(No. 3)
Tom Beamish	OCSD Director	(No. 1)
Jim Ferryman	OCSD Director	(No. 2)
John Nielsen	OCSD Director	(No. 3)

Alternates

Denis Bilodeau	OCWD Director	(No. 1) (arrived 5:25 p.m.)
Jan Flory	OCWD Director	(No. 2) (not present)
Dina Nguyen	OCWD Director	(No. 3) (arrived 5:10 p.m.)
Lucille Kring	OCSD Director	(No. 1)
Greg Sebourn	OCSD Director	(No. 2)
Steve Jones	OCSD Director	(No. 3) (arrived 5:13 p.m.)

Others

Mike Markus, OCWD	Jim Herberg, OCSD
Sandy Scott-Roberts, OCWD	Kathy Millea, OCSD
Judy-Rae Karlsen, OCWD	Cindy Murra, OCSD
Gina Ayala, OCWD	Rich Ten Bosch, Black & Veatch
Debra Burris, DDB Engineering	Luke Wendel, Parsons
	Curt Horner, McCarthy Building Co

CONSENT CALENDAR

The Consent Calendar was approved upon motion by Director Anthony, seconded by Director Nielsen and carried [5-0] as follows.

*[Yes- Beamish, Anthony, Ferryman, Green, Nielsen /No-0]*

1. Minutes of Previous Meeting

**The Minutes of the GWRS Steering Committee meeting held January 12, 2015 are approved as presented.**

INFORMATIONAL ITEMS

OCWD Director Dina Nguyen arrived at 5:10 p.m. and OCSD Director Steve Jones arrived at 5:13 p.m. during the following discussion.

2. GWRS Initial Expansion Construction Update

OCWD General Manager Mike Markus introduced Principal Engineer Sandy Scott-Roberts and she presented an overview of the GWRS Initial Expansion construction project. She reported that due to authorized time extensions, the completion date for the GWRS Initial Expansion construction schedule was extended to June 30, 2015. She responded to Committee questions about obstacles and she reviewed the overall revised project budget, amendments, Change

Orders and product performance warranties. Ms. Scott-Roberts advised the GWRS Initial Expansion construction progress report is based upon information provided by Parsons in the Construction Management Monthly Progress Report dated February 2015.

Director Bilodeau arrived at 5:25 p.m. during the following discussion.

3. GWRS Operations Update

Ms. Scott-Roberts advised the GWRS plant operated below the target production level due to construction issues, system shut downs, and tie-in work. She advised that production levels will increase and stabilize as the initial expansion production rate reaches 100 million gallons per day (mgd). She advised that production rates have increased due to the new flow equalization tanks, and the addition of the new reverse osmosis train along with the new microfiltration train that were put into service and the ultraviolet units are running. The Committee discussed evening flows, the impact of the drought on future waste water flows, the impacts from increased conservation activities and anticipated growth in housing developments. There was a brief discussion on the GWRS equipment performance warranties and apparent motor vibrations. Ms. Scott-Roberts discussed ongoing interactions with the manufacturer regarding troubleshooting motor vibrations and associated operational issues. Mr. Markus reported the plant has been online 97% of the time which is higher than anticipated. He advised that flows will vary but consistent online production will help to meet the 100 mgd production target.

4. GWRS Operating Budget Summary

Ms. Scott-Roberts reported the amended Joint Exercise of Powers Agreement was established to provide details on the obligations of OCWD and OCSD for the operation of GWRS. Ms. Scott-Roberts reviewed the proposed Operations and Maintenance budget and noted the current budget is \$24 million and staff anticipates a budget increase to \$27.9 million due to the addition of new staff positions, new equipment, new pumps, increasing electrical, power and chemical costs. Mr. Markus advised that OCWD is responsible for paying the operational costs for the GWRS project and the water is provided by OCSD.

5. Update on OCSD P1-101 Sludge Dewatering and Odor Control Project

Orange County Sanitation District (OCSD) Planning Manager Kathy Millea presented an update on the OCSD P1-101 Sludge Dewatering and Odor Control Project that commenced construction in January 2013. She reported the project is no longer expected to have an impact on the amount of flow available to the GWRS Initial Expansion project. She reviewed plant #1 and plant #2 operations and advised that OCSD has observed a significant decrease in sewer flows to both plants that will impact flow availability to the GWRS Initial Expansion project. She noted the flows from OCSD are currently at 120 mgd and may reach 125 mgd as operations become more efficient. Ms. Scott-Roberts reported there is a joint cost share study that will research additional flows needed for the GWRS Final Expansion because the project will require 173 mgd of secondary effluent to produce 130 mgd of GWRS produce water. She advised some of the flows from OCSD are from the Santa Ana Regional Interceptor (SARI) line and the regulatory permit process needs to be addressed and modified prior to using that OCSD flow as a resource.

Director Beamish reported that OCSD is committed to working on that issue and lobbying for a change in Washington D.C.

6. Quarterly Outreach Report [October – December]

Mr. Markus advised the Outreach Report is in the packet, and OCWD currently gives approximately 1 tour per day and there are increased media inquiries as the public becomes

more aware about the drought. He reported that staff is in the process of organizing the GWRS dedication event and both agencies will be invited to attend with invitations also being extended to dignitaries.

#### DIRECTORS' ANNOUNCEMENTS/REPORTS

The Committee requested information on the storage level in the groundwater aquifer. Mr. Markus advised that due to the drought, dry hydrology and the drop in Santa Ana River base flows, there is a basin overdraft of approximately -416,000 acre feet (AF) of water and it is low but within the operating range of the established basin management program. He explained that OCWD staff is recommending a 70% basin pumping percentage (BPP) and staff is proposing a replenishment assessment of \$322 AF.

Director Seborn asked for a status update on security enhancements for GWRS facilities and the property of both agencies. Mr. Markus advised that joint security enhancements will be addressed at the next meeting.

Director Green received a call from Gary Player who requested that OCSD consider the removal of eucalyptus trees as a water conservation effort.

Director Green reported that OCWD staff member Becky Mudd who is responsible for community outreach tours recently ran 268 miles over 9 days to raise funds for pediatric cancer.

Chairman Beamish reported on the remaining meetings for the 2015 GWRS Steering Committee:

- Monday, July 13, 2015 @ 5:00 p.m.
- Monday, October 12, 2015 @ 5:00 p.m.

#### ADJOURNMENT

There being no further business, the meeting was adjourned at 6:10 p.m.

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Tom Beamish, Chair





## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 13, 2015

**To:** GWRS Steering Committee

**From:** Mike Markus/Jim Herberg

**Staff Contact:** P. Bouyounes

**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

**Project Report Approved:** N/A

**CEQA Compliance:** N/A

**Subject:** JOINT FACILITIES SECURITY UPDATE

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### SUMMARY

Staff will update the Committee on joint facilities security issues.

### RECOMMENDATION

Informational.



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 13, 2015

**To:** GWRS Steering Committee

**From:** Mike Markus/Jim Herberg

**Staff Contact:** M. Patel

**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

**Project Report Approved:** N/A

**CEQA Compliance:** N/A

**Subject: GWRS INITIAL EXPANSION CONSTRUCTION UPDATE**

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### SUMMARY

A Notice to Proceed was issued on October 20, 2011 to McCarthy Building Companies, Inc. for construction of the Groundwater Replenishment System (GWRS) Initial Expansion project. The project construction contract was in the amount of \$115,089,998.

#### Attachment(s):

- Change Order Report

### RECOMMENDATION

Informational.

### DISCUSSION/ANALYSIS

The GWRS Initial Expansion project increases the GWRS treatment capacity from 70 million gallons per day (mgd) to 100 mgd. Additionally, two flow equalization tanks will be constructed on Orange County Sanitation District property to store excess daytime wastewater flows and feed to GWRS at night. Construction is now underway on the project.

The construction contract was awarded to McCarthy Building Companies, Inc. with a Notice to Proceed dated October 20, 2011. The original construction contract end date was October 18, 2014. Due to authorized time extensions the revised contractual end date is now July 31, 2015. The contractor received a notice of substantial completion on June 30, 2015. This means they construction work is essentially complete and all new systems are on line. However, the remaining time to July 31 will be spend performing closeout activities such as repairing punch list items, addressing warranty issues, and submittal final required submittal paperwork (i.e. final O&M manuals, red-line drawings, etc.). A notice of final completion will be brought to the OCWD board of directors for approval at their August meeting.

The Initial Expansion of the GWRS construction project is the second largest capital project ever undertaken by OCWD, second only to the original GWRS project. The initial expansion construction project had a high level of complexity due to it having to be built and integrated into a working treatment plant while keeping the existing plant online construction. Since capital project designs are never 100% free from errors or can

account for unforeseen conditions, a contingency of 5% of the contract value is always budgeted on construction projects per District policy. This contingency is meant to cover changes that occur during construction. For this project the construction contract was \$115,089,997, which meant that the contingency for the project was budgeted at \$5,754,500.

During the course of any construction project, the contractor will find discrepancies in the drawings or conflicts in the specifications. A contractor will typically send the construction manager a Request for Information (RFI) that requires an answer to a particular question (on this project there were 1,287 RFI's). If the response requires additional costs the construction manager will issue a Request for Proposal (RFP) to the contractor summarizing the issue and how the issue is to be addressed. The general contractor then supplies a written estimate to cover the changes described in the RFP. Once the written estimate is negotiated between the construction manager and OCWD the RFP becomes a Field Change Order (FCO). To date as a result of the negotiation process by the construction manager and District staff, a total savings of \$992,652.84 has been achieved over the contractor's initial FCO estimates. The FCO authorizes the contractor to begin the added project work and bill for that work in their monthly invoice (known as a Pay Application). Once several FCOs have been accumulated they are combined into a formal Change Order. This formal change order is then signed by both the OCWD project manager and OCWD General Manager. Attached is a Change Order Report showing a summary of the amounts for all Change Orders issued to date for construction of the GWRS Initial Expansion project.

To date 23 individual Change Orders containing 466 FCOs have been issued to McCarthy Building Companies. Change Orders 1 through 23 result in a total amount of \$4,622,966. This results in a 4.02% total change order rate, which is below the project contingency approved budget of 5%.

## **PRIOR BOARD/COMMITTEE ACTIONS**

9/07/11 R11-9-128 Award Contract No. GWRS-2011-1, GWRS Initial Expansion Award Contract to McCarthy Builder Inc.

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE		CHANGE ORDER DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING	CHANGE ORDER NUMBER					
\$ 115,089,997	\$ 5,754,500						
	\$ 7,141,272	1	May-12	\$ (1,386,772)	-1.20	FCO 1 - Bid item 4 & 5 credit for prior payment	OR
						FCO 2 - PCS Upgrade - Milestone Revision (no cost)	UC
						FCO 3 - OCSD slide gate modifications (credit)	OR
						FCO 4 - MF backwash pipeline modification	DE
						FCO 6 - Change to meltblown cartridge filter	OR
						FCO 7 - Abandoned wells at RO building	UC
						FCO 8 - Stainless nuts and bolts for stainless pipe	DE
						FCO 9 - RO electrical feeder upsizing	DE
						FCO 12 - Sulfuric acid tank vent & overflow modification	OR
						FCO 13 - Breaker for future UV Train C	OR
						FCO 16.1 - Asbestos floor tile removal in old lab	UC
						FCO 17 - Additional personnel carrier	OR
						FCO 18 - Dewatering discharge point change (credit)	OR
						FCO 19 - Replace personnel carrier	OR
						FCO 20 - RO flush pump manufacturer change	OR
						FCO 22 - UV Train Control Center Component	OR
	\$ 7,065,179	2	Jul-12	\$ 76,093	-1.14	FCO 11 - RO building shoring extension	UC
						FCO 11.1 - RO building shoring time extension (no cost)	UC
						FCO 14.2 - RO waste sump electrical conflicts	UC
						FCO 15.1 - Remove bulge at OCSD effluent wall channel wall	UC
						FCO 24 - Unforeseen transite material removal at old lab	UC
						FCO 25 - Conductivity analyzers and pressure switches	DE
						FCO 26 - Copier finishers	OR
						FCO 28 - Area 710 Decarb Elect/I&C RFI 30 (credit)	DE
						FCO 29 - 1.5 inch DW pipe removal at RO (credit)	OR
						FCO 30 - Flat plate closure at OCSD PISB (credit)	CIC
	\$ 6,926,573	3	Jul-12	\$ 138,606	-1.02	FCO 10.1 - 4" pump discharge at RO building	UC
						FCO 27.1 - OT inspection through 6/30/12 (credit)	OR
						FCO 33 - Filter screen component material change	OR
						FCO 34 - RO membrane change (bulletin 3)	OR
						FCO36 - SEFE RIO panel power supply	DE
						FCO 37 - Electrical stub ups beneath equipment (credit)	OR
						FCO 38 - Misc. electrical changes at UV area (credit)	DE
						FCO 39 - RO electrical room equipment layout (no cost)	DE
						FCO 41 - Allow early access to SEFE area at OCSD (no cost)	OR
						FCO 42 - Revised mobilization payment (no cost)	OR

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE ORDER BUDGET REMAINING	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
						FCO 5.2 - Reroute existing 10" DW and 1" PA line at MF are	UC
	\$ 6,926,573	4	10/5/2012	(104,663)	-1.11	FCO 23.1 - Remove 4th abandoned DW well at RO are	UC
						FCO 31.1 - Add rebar to RO slab area	UC
						FCO 40.1 - Add rebar to RO slab area	UC
						FCO 43 - Add 2nd pile for MF BWW line pipe support	OR
						FCO 44 - Payment for suitably stored materials (no cost)	Or
						FCO 46 - Sodium bisulfite piping insulation addition	DE
						FCO 47 - RO & MF slab waterproofing deletion (credit)	OR
						FCO 48 - MF reinforcement - RFI 0125 (credit)	OR
						FCO 49 - MF canopy pilaster base reinforcement	DE
						FCO 50 - Realign access road to SEFE area at OCSI	OR
						FCO 51 - MF blower room exhaust tie-in	UC
						FCO 52 - Shadow box insulation	DE
						FCO 53 - RO building revisions to electrical room	UC
						FCO 54 - Existing RO building grounding modification	UC
						FCO 55 - MF pre bid equipment clarifications (credit)	OR
						FCO 56 - Relocate BFV actuator conduit at U1	UC
	\$ 6,816,831	5	10/11/2012	\$ 109,741	-1.01	FCO 21.1 - MF backwash cover modifications at OCSI	OR
						FCO 57 - RO curtain wall NW corner framing	DE
						FCO 59 - RO building metal deck support RFI 19	DE
						FCO 60 - RO building bridge crane extension	DE
						FCO 61 - SEFE grading revisions	OR
						FCO 62 - Relocate electrical at MF wall knockout	DE
						FCO 63 - RO building retrofit waterstop	DE
						FCO 67 - SHC loading panel power feed	DE
						FCO 69 - Roof mounted level switches at SEFE tank	DE
	\$ 6,712,242	6	1/8/2013	\$ 104,589	-0.92	FCO 45.1 - Reroute DW/SW lines RFI 274/275	DE
						FCO 65 - MF Waterstop Retrofit	DE
						FCO 68 - OCWD Water & Power Costs Reimbursement (credit)	OR
						FCO 70 - RO Acoustical Barrier End Closure	DE
						FCO 71 - FPW Channge Mixer Breaker	DE
						FCO 72 - RO Basement Wall Finish	OR
						FCO 74 - Additional Pipe Support 60-inch MFF Pipeline	DE
						FCO 75 - MF Excavation Time Extension	OR
						FCO 76 - 3" Potable Water Connection at Screening Facility	DE
						FCO 78 - Future Pump Deck Sleeves RFI 032	OR
						FCO 79 - Butterfly Valve Actuator Modification	DE

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE ORDER BUDGET REMAINING	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
						FCO 80 - Cartridge Filter Pedestal Modification	DE
						FCO 82 - Add Steel Plate to SEFE Tank Outle	DE
						FCO 83 - Alloy 20 Strainers at Sulfuric Acid Pump:	OR
						FCO 86 - UV Baseplate Conflic	DE
						FCO 88 - RO Feed Pump Discharge Flange Se	DE
	\$ 6,920,420	7	2/14/2013	\$ (208,177)	-1.10	FCO 11.2 - RO Building Shoring Damp-Proofing	DE
						FCO 66.1 - Pothole SEFE Pump Station Electrical - RFI 036	OR
						FCO 77.1 - RO Skylight Roof Curbs - RFI 032	DE
						FCO 85 - Sulfuic Acid Flow Transmitter Modification:	OR
						FCO 87 - RO Monorail Support Beams - RFI - 034:	DE
						FCO 90 - Cut, Remove, and Replace Additional Concrete - RF 393	DE
						FCO 92 - Add Circuit in Lime Area	DE
						FCO 94 - Modify Two Roof Joists - RFI 401	DE
						FCO 95 - Investigate Electrical Ductbank at U\	OR
						FCO 96 - Add Epoxy - Cartridge Filter Pedestal	DE
						FCO 97 - RO CIP Mixer Location and Positio	DE
						FCO 98 - Add Conduits and Modify Grounding	DE
						FCO 99 - RO Transformer Pad Modifications - RFI 378.1	DE
						FCO 100 - Delete 54" BWW Pipe Support - RFI 420	CIC
						FCO 101 - MF Pipe Connection Modification:	CIC
						FCO 102 - Add Rebar in Slab RO Electrical Room - RFI 411	CIC
						FCO 103 - Increased Asphalt Removal RO Electrical Room South Road	CIC
						FCO 106 - RO Building Cartridge Filter Relocatio	OR
						FCO 107 - Delete MF Basement Drain Pipin	OR
						FCO 109 - Siemens Pre-Bid Scope Change:	CIC
						FCO 110 - RO Membrane Feed Pump Substitution (credit	OR
						FCO 112 - Relocate RO Sprinkler Line:	CIC
						FCO 113 - SEFE Tank Outlets	DE
						FCO 114 - Increased Asphalt Removal Lime Decarb Are	CIC
						FCO 116 - MF Basemetn Dampproofing Remova	CIC
	\$ 6,196,078	8	4/8/2013	\$ 724,342	-0.47	FCO 117 - Train E MFF Pipe Support Plate:	DE
						FCO 119 - Reduce Coating @ UV Facility, RFI 461.1 (Credit	OR
						FCO 120 - UV Pipe & Ductbank Modifications, RFI 45'	UC
						FCO 121 - Piping Modifications at UV, RFI 274.1, 288, 40'	UC
						FCO 123 - Light Pole Base Removal on FPW Channel, RFI 427	DE
						FCO 124 - Piping modifications @ Lime Area, RFI 47'	DE

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE		CHANGE ORDER DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING	CHANGE ORDER NUMBER					
						FCO 124.1 - Lime/Decarb Tamper Switches, RFI 47	DE
						FCO 127 - Cut, Remove, and Replace Concrete, RFI 40	OR
						FCO 128 - SEFE Area Contaminated Soils	UC
						FCO 129 - Delete Coating on Interrial Plastic Pipe (Credi	OR
						FCO 131 - Disposal of SEFE Contaminated So	UC
						FCO 133 - Ductwork Mods in MF Basement, RFI 46	DE
						FCO 134 - Modification of MF Sump Cover, RFI 51	OR
						FCO 81.1 - Pothole North of UV Electrical Building	UC
						FCO 84.1 - UV Pipe Damage Reimbursement (Credit	NA
	\$ 4,933,231	9	6/25/2013	\$ 1,051,427	0.44	FCO 89.1 - Unforeseen Ductbank at RO Transmformer Pad	UC
						FCO 104.1 - RO Seismic Brace Conflicts	DE
						FCO 105.2 - Pothole Unforeseen Utilities Area 710	UC
						FCO 108.2 - SEFE Construction Fencing	CIC
						FCO 115.1 - Relocate Sump Discharge at EMH B-1	UC
						FCO 118.1 - RO Beam Support at Seismic Joint	DE
						FCO 122.1 - Repair Dewatering Discharge Line	NA
						FCO 125 - Increased Asphalt Removal@UV Area	UC
						FCO 126 - Train C MFF Support Base Plates, RFI 506	DE
						FCO 130 - Modify Hydrants at SEFE Area, RFI 517	DE
						FCO 132.1 - Add Waterstop at MFF Feed Box	DE
						FCO 135 - SEFE Drainage Piping Reduced Scope	OR
						FCO 136 - Grating Mods at UV Area	OR
						FCO 137.1 - Credit for VFD/Motor Substitution, RFI 479	OR
						FCO 139 - Relocate LS and Sanitary Sewer Piping, RFI 483	UC
						FCO 140 - RO Joists Uplift Bridging	DE
						FCO 141 - Electrical Instrument Mods @ MF CIP RFI 386	DE
						FCO 142 - Add Retrofit Waterstop @ MF, RFI 210.1	DE
						FCO 143 - Modify Feeder Breakers for 510-AC-1 & 2	DE
						FCO 144 - Modify HSS 12x8 Girt @ RO West Elev	DE
						FCO 145 - Add Neoprene Pad at TI and SHC Tanks	OR
						FCO 146.1 Safe Area Contaminated Soils 2	UC
						FCO 147 - Lime Saturator C Sump Mod RFI 411.1	UC
						FCO 148 - Concrete Finish Existing Walls @ MF, RFI 565	OR
						FCO 149 - Train C & E Instrument Sleeves@MF, RFI 519	DE
						FCO 150 - 4" & 2" Drain Piping @ Switchgear/RO, RFI 523	UC
						FCO 151 - Modify Link Seal Hardware, RFI 525	DE
						FCO 153 - Add Conduit for FE to FIT, RFI 522	DE
						FCO 154 - Modify Cable Tray and Supports	OR
						FCO 155 - Delete Cable Tray and Supports, RFI 560	DE
						FCO 156 - Add J-Box and Conduit@FIT, RFI 536.1	DE



## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE		CHANGE ORDER DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING	CHANGE ORDER NUMBER					
						FCO 157 - Delete Circuits C247, C253 Extend P501, RFI 537	DE
						FCO 158 - Add 1" ARV to DW Piping, RFI 539	OR
						FCO 159 - SEFE Contaminated Soils Disposal 2	CIC
	\$ 5,249,314	10	9/11/2013	\$ 211,420	0.62	FCO 111 - Bid Item No. 10 Credit (Credit)	OR
						FCO 160 - Lime Dosing System Changes, RFI 490 (Credit)	OR
						FCO 161 - Increase Size of 510-TCP-1, RFI 568	DE
						FCO 162 - Modify Lime Saturator C Blowdown Trench	UC
						FCO 164.1 - Concrete Details at Lime Saturator	DE
						FCO 166 - Modify SEFE Tank Internal Roof Coating (Credit)	OR
						FCO 167 - Change Valve 510-ROC-BFV-2310	DE
						FCO 168- Obsolete Control Equipment, RFI 0437	OR
						FCO 169 - Soils Disposal at OC Landfill	UC
						FCO 170 - Add Baseplates for Monorail, RFI 625	DE
						FCO 171 - Add Roof Hatch, Modify HVAC Duct at MF	OR
						FCO 172 - Modify Programming for BPV & ERD	UC
						FCO 174 - Modify Demolition Limits @ RO Wall, RFI 562	DE
						FCO 175 - Add Grounding at MF, Lime RFI 674, 668.	DE
						FCO 177 - Delete 4" conduits and Supports, RFI 514 (Credit)	UC
						FCO 178 - Modify Fire Sprinkler Pipe in RO, RFI 661	DE
						FCO 179 - Relocate Existing Elect and Piping at RO, RFI 56	DE
						FCO 181 - Add Supports to Process Air Piping at MF, RFI 611	DE
						FCO 182 - Cable Tray Modification in RO Basemer	OR
						FCO 183 - Modify Cable Tray, Ducts, Pipe Support, RFI 571 (Credit)	OR
						FCO 184 - Relocate Panel and Conduit at MF Cell E02, RFI 604	DE
						FCO 185 - Repair Conduit and Re-pull Wire, RFI 651	UC
						FCO 188 - Remove Dampproofing at FPW Channel	UC
						FCO 027.2 - OT Inspection Charges July to Dec 2012 (Credit)	OR
						FCO 064.1 - Repair Stirrups at RO Knockout Wall	UC
	\$ 4,872,485	11	10/9/2013	\$ 376,829	0.95	FCO 152.1 ROP Piping Clarification, RFI 0311	DE
						FCO 163.1 - Relocate Pipes at Lime Sumj	UC
						FCO 176.1 - Modify Steel for Curtain Wall, RFI 702, 701	DE
						FCO 180.1 - FACP 5101 Circuit Investigator	DE
						FCO 186.1 - Adjust Conduit at Decarbonato	UC
						FCO 187 - SEFE Tank Slab Placements (Credit)	OR
						FCO 189 - Electrical & Control Mods @ RO CIP Mixer	DE
						FCO 190 - Relocate Conduits from Exiting RO West Wall	DE
						FCO 191 - Modify Conduit P125A, P804B, RFI 661, 662.	DE

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE ORDER BUDGET REMAINING	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
						FCO 192 - Modify Metal Sutr Framing at RO, RFI 627.	DE
						FCO 193 - FRP Pipe Anchor Support & Expansion Joint Add	DE
						FCO 194 - Modify/Delete Conduit, Cable, Delete Instruments, RF 655 (Credit)	OR
						FCO 195 - Add Conduits & Pull Box, RFI 511.2, 508, 511	DE
						FCO 197 - Modify Concrete Equipment Pad at Polymer Tank, RF 737	OR
						FCO 199 - Add Lighing Contactors at RO, RFI 535.	DE
						FCO 200 - Add P981, P982, C358C, C366C, RFI 712	DE
	\$ 4,769,140	12	12/2/2013	\$ 103,345	1.04	FCO 138.1 - RO Deck Support on Grid 1, RFI 0557	DE
						FCO 165.1 - Unforseen Concrete Slab at SEFE Tank	UC
						FCO 196.1 - Restore MF Basement FA Device	UC
						FCO 198.1 - Replace Fabric on SEFE Fence	OR
						FCO 202 - Modify HVAC ductwork @ RO building	DE
						FCO 203 - Relocate Electrical Equipment at MF East, RFI 72	DE
						FCO 204 - Conduit for FO Panel at UV Electrical Building	DE
						FCO 206 - Add handrail at UV Facility, RFI 72	DE
						FCO 207 - Mods at Saturator C Blowdown Trench, RFI 63	DE
						FCO 208 - Modify Skylight curbs at RO, RFI 77	DE
						FCO 209 - Modify Pipe Support for Scour Air, RFI 718 (Credit	UC
						FCO 210 - Add flange nozzles to SEFE Tanks, RFI 61	DE
						FCO 211 - Delete conduits, RFI 733.1, RFI 752 (Credit	OR
						FCO 212 - Delete Conduits, RFI 745, 746, 747 (Credit	OR
						FCO 213 - Add circuits C908, Delete C737,C738, RFI 63	DE
						FCO 214 - Modify Pipe Penetration detail at MF Cell	DE
						FCO 215 - Modify 8" SEFE drain line, RFI 73	DE
						FCO 216 - Core, grout and install pipe for C01-LIT-325 leve transmitter for MF cell	DE
						FCO 217 - Modify overhead coiling door instllation, RFI 67	DE
						FCO 218 - Modify Shadow Boxes at RO Building, RFI 76	OR
	\$ 4,451,506	13	1/14/2014	\$ 317,634	1.32	FCO 201.1 - Investigate/Repair Lime Building DW Lin	UC
						FCO 219.1 - Adjust RO Light Fixture, RFI 080	DE
						FCO 221 - Respan RO Flowmeter	OR
						FCO 223 - Add conduit and Expansion Fittings, RFI 778, 77	DE
						FCO 224.1 - Relocate MF Basement Ligh	DE
						FCO 225 - Increase Rating for AC-1,2 Disconnects, RFI 77	DE
						FCO 226 - Add IW and Instrument Air Stations at MF	DE
						FCO 227 - Add Overflow piping to Polymer Tank, RFI 795	OR

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE ORDER BUDGET REMAINING	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
						FCO 229 - NETA Breaker Testing, Submittal 16100-004-A	OR
						FCO 230 - Add conduit, circuit, disconnect to monorail, RFI 795	DE
						FCO 231 - Reroute conduits and circuits at Waste Sump Pumps	OR
						FCO 232 - Relocate A710 Power Panels, RFI 441	UC
						FCO 233 - Relocate Conduits and Circuits, RFI 791	UC
						FCO 234 - Modify East wall of RO Electrical Room, RFI 791	DE
						FCO 235 - Seal Water Interlock, Bulletin #31	DE
						FCO 236 - Relocate MF Conduit, RFI 4591	UC
						FCO 237 - Modify Stainless Steel flanges at RO, RFI 735.	DE
	\$ 4,491,823	14	2/11/2014	\$ (40,317)	1.28	FCO 205 - FRP Anchor Relocation in RO basemen	DE
						FCO 220.1 - Modify RO Acoustic Barrier Frame	DE
						FCO 238.1 - Adjust MF Train E PA Line, RFI 0871	UC
						FCO 239 - Modify SS Card Reader locations, RFI 773 (Credit	OR
						FCO 240 - Lime Building Wall Penetration, RFI 721	DE
						FCO 241 - Modify ductbank @ road crossing, RFI 831	UC
						FCO 242 - Modify Bonding Jumpers @ UV spools, RFI 841	UC
						FCO 243 - Add Supports for ROP FRP Pipe	DE
						FCO 244 - Add conduit/conductors @ PWPS, RFI 537	DE
						FCO 246 - Add cable chase to A03-VFD-3400, RFI 781	UC
						FCO 248 - Modify Canopy at RO Electrical Room	OR
						FCO 249 - Delete conduit and circuits, NCN 0028 (Credit	OR
						FCO 250 - Install conduit, circuit, for LCP-Etherne	OR
						FCO 251 - SEFE Contaminated Soils Remediatio	UC
						FCO 252 - Deduct unused Hazardoud hauling cost allotment to Yuma, AZ (Credit)	UC
						FCO 253 - Global contract time adjustmen	Other
						FCO 254 - Add conduits and circuits for CP Rectifiers, RFI 751	DE
						FCO 255 - Add conduit and circuits for Wall Wash lights, RFI 762	DE
						FCO 256 - Modifications at TI and SBS control pane	DE
						FCO 257 - Modify existing Fire Alarm, Lighting, HVAC, RFI 865.1	DE
						FCO 260 - Modify canopy coverboard at MF and UV, RFI 88	DE
						FCO 261 - MF and RO Asphalt thickness discrepancy	UC
						FCO 262 - RO Basement Wall Knockout Reductor	Other
						FCO 263 - Polish and blast RO stainless steel pipe	DE
						FCO 264 - Add firetape to medium voltage cable, RFI 83	OR
						FCO 265 - Add expansion joints to CR/CF Piping RO Clf	DE
						FCO 266 - Modify Effluent launder enclosure, RFI 791	DE

## GWR Initial Expansion Contract GWR-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING						
						FCO 267 - Delete conduit, cable and supports, RFI 885.1 (Credit)	Other
	\$ 3,881,319	15	3/25/2014	\$610,504	1.81	FCO 228.1 - Add Insulating Flange Kits for 815-A04-BFV-340!	DE
						FCO 245.1 - Add Drywall Joints in RO Bldg, RFI 893.	DE
						FCO 258.1 - Attached Bonding Cables to UV Pipe	UC
						FCO 268 - Delete Removal of Shoring @ SEFE P.S. (Credi	OR
						FCO 269 - Delete ductwork insulation, RFI 524 (Credit	OR
						FCO 270 - Modify Skylight Curbs @ RO, RFI 771	DE
						FCO 271 - Delete Coating on Interior Ducting, RFI 556.1 (Credit)	OR
						FCO 272 - Modify 6" MCR Piping near Train B&C, RFI 871	DE
						FCO 273 - Add handrail @ ladder openings, RFI 771	DE
						FCO 274 - Modify Guardrail @ MF Train C, RFI 841	DE
						FCP 275 - Modify Existing Ductwork in MF basement, RFI 89	DE
						FCO 276 - Modify HVAC ductwork at MF, RFI 871	DE
						FCO 277 - Modify W12x19 beams at Decarb, RFI 901	DE
						FCO 278 - Add Master LES control to TI, SBS Pump:	DE
						FCO 279 - Roofing Substrate at RO parapet:	Other
						FCO 280.1 Remove & Replace Metal Panel at Existing R	Other
						FCO 281 - Add Hose bib station and piping at RO roc	OR
						FCO 282 - Link seal grout at SEFE pump station	DE
						FCO 283 - Provide new UPS for MF and RO Electrical Room	OR
						FCO 284 - Modify CT and Conduit at MF Train C, RFI 921	DE
						FCO 285 - Add asphalt plan walkway at RO, RFI 92	DE
						FCO 286 - Add angle at curb for Skylight Attachmer	DE
						FCO 287 - Add walk demo at RO west side	DE
						FCO 288 - DW Tie-In at RO Fire line, RFI 0804	DE
						FCO 289 - Off hours SEFE tank radiograph	OR
						FCO 290 - MF Process Air System piping modification:	DE
						FCO 296 - Add L-angle to vertical expansion joint, RFI 91	Other
	\$ 3,815,312	16	5/23/2014	\$ 66,007	1.87	FCO 291 - Modify 24-inch BWW spools at MF, RFI	DE
						FCO 292.1 - MF Train C North Wall Crack Repair	UC
						FCO 293.1 - Retroute Run P005B, RFI 98	UC
						FCO 294 - Delete Conduit/Circuits at MF, RFI 939, 946 (Credit)	DE
						FCO 297 - Modify Flowmeter Install at Decarb, RFI 91	DE
						FCO 298.1 - Modify RO Skylight Angles, RFI 1001	DE
						FCO 300 - Modify Lime Feed Piping, RFI 98	OR
						FCO 301 - Modify Lighting & HVAC at RO Elect Bldg, RFI	DE
						FCO 302 - Modify Piping at PWP A04-PMP-3400, RF	UC

## GWRs Initial Expansion Contract GWRs-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE		CHANGE ORDER DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING	CHANGE ORDER NUMBER					
						FCO 304 - Add supports, upsize bolts 30" UVP, RFI 96	DE
						FCO 305 - Bid Item No. 9 Pile Installation (Credit)	OR
						FCO 306 - Add MF Train C Vapor Barrie	OR
						FCO 307 - Add coating for FPW Channe	OR
						FCO 308 - Add base at drywall/joint in RO, RFI 94	DE
						FCO 309 - Relocate Eyewash in Lime Building, RFI 97	DE
						FCO 310 - Delete conduit, DeviceNet cable, Programming RF 949.1 (Credit)	DE
						FCO 311 - Delete N910E, N915E;Modify MF Train C CP locator (Credit)	DE
						FCO 312 - SEFE Yard Hydrant Tie In Source, RFI 100	OR
						FCO 314 - RO Bollards and SEFE Pump Station Stoop	DE
						FCO 315 - Delete AVRv & BV at Train C Backwash, RFI 97	OR
						FCO 316 - Delete Lime Silo Air Piping, RFI 097	DE
						FCO 317 - Modify Vent piping @A255 Area Pumps, RFI 10	OR
						FCO 318 - Modify Speed feedback cable, RFI 986	DE
						FCO 319 - Modify control circuits for 230-B04-VFD-080	OR
						FCO 320 - Bead Blast exterior SST Piping	OR
						FCO 322 - Mill Product water pump barrel plate, RFI 101	UC
	\$ 3,471,667	17	8/12/2014	\$ 343,645	2.17	FCO 259.1 - Expose and Remove Interfering Duct	UC
						FCO 295.1 - Repair Train E Cell Coating, RFI 98	UC
						FCO 303 - Beneficial Occupancy and Guarantee	Other
						FCO 313.1 - Outage N-1 SEJB6 POTW Fill Support	OR
						FCO 323.1 - Replace DB for 710-CPF-0008, RFI 105	UC
						FCO 326 - Modify Programming for RO Units F&C	OR
						FCO 327 - Add Cartridge Filter Pressure Gauge	DE
						FCO 328 - Upsize UV PCS Conductors, RFI 105	DE
						FCO 329 - Modify Conduit C510C, C595, Add 1560	DE
						FCO 330 - Modify C358C and C366C	DE
						FCO 331 - SEFE Tank Roof Access Modifications	OR
						FCO 336 - Modify Sodium Hypochlorite Feed @ SEJB	OR
						FCO 337 - Modify DeviceNet at MF East Electric	OR
						FCO 338 - Add Lime Silo Blower Disconnects, RFI 100	UC
						FCO 339 - RO Electrical Room Wall Faci	Other
						FCO 340 - Add Power to MF East FABP, RFI 105	DE
						FCO 343 - Add Trian C CA Drip Legs, RFI 105	DE
						FCO 344 - 30 Inch DIP-FPW Piping Mods, RFI 1074	DE
						FCO 347 - Adjust Level Switch UV Train J, K, L	DE
						FCO 348 - Modify existing RO West Wall Demolition, RFI 76	DE
						FCO 349 - Modify Seal Water @ BWW Pump, RFI	DE

## GWRs Initial Expansion Contract GWRs-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING						
						FCO 350 - Add SEFE PS AHU Support, RFI 1063	DE
						FCO 351 - Add Isolation Valves for Lime Feed P,	OR
						FCO 352 - Modify RO Dump Valve Actuator:	OR
	\$ 3,475,964	18	9/11/2014	\$ 339,348	2.46	FCO 299.1 - Correct Existing Train E BW and MFF Pipe	UC
						FCO 333.2 - Repair CML in Existing 84-inch FPW	UC
						FCO 334.1 - 60 inch MFE Epoxy Lining Repair:	UC
						FCO 346.1 - Bid Item 11 Reconciliation	Other
						FCO 353 - Modify Motor Cooling Piping, RFI 110	OR
						FCO 354 - Modify Programming RO Units	OR
						FCO 356 - Add MEMSAP Panels, RFI 1061	DE
						FCO 357 - Modify circuit LoLo SD Interlock A03-PMP-040	DE
						FCO 358 - Modify BWW CMLSP Pipe, RFI 1103	DE
						FCO 361 - Abandon shoring along grade line M, RFI 57	Other
						FCO 363 - Add MF Turbidity Station Switches	OR
						FCO 365 - Add Area 730 Concrete Pipe Bases, RFI 11	DE
						FCO 366 - Barrier Water Connection to new RO Buildin	OR
						FCO 367 - Modify RO Feed Pump Motor Coolin	OR
						FCO 368 - Modify SBS Header Piping, RFI 109	DE
						FCO 369 - Sampling Modifications at DPW Channels, RF	DE
						FCO 371 - Add Conduit in 910 Building, RFI 110	UC
						FCO 372 - Modify MF Common DN Segments, RFI	UC
						FCO 373 - Modify Lime Saturator C 12 inch PVC line, RFI 1145	DE
						FCO 374 - Modify Conduit - Area 815 MOVs, RFI 110	UC
						FCO 375 - Extend MFE AVRv above deck, RFI 109	DE
						FCO 376 - Add doors at AC-1and2 and Screenwall, RF	DE
						FCO 360.1 - Modify MF PA Pipe Supports, RFI 112	DE
						FCO 379 - Replace UV Train I and M FITs, RFI 113	DE
						FCO 380 - RO Startup Temporary Piping	OR
						FCO 377 - Add Power to 210-CPF-0001, RFI 113	DE
	\$ 3,344,277	19	11/26/2014	\$ 131,687	2.58	FCO 247.1 - Relocate AC Vents in RO Electrical Room	DE
						FCO 321.1 - Restore Cathodic Protection at OCSL	UC
						FCO 383 - Internal CP Rectifier AC Power, RFI 116:	DE
						FCO 384 - Lime Pump Discharge Modification:	OR
						FCO 387 - Relocate Saturator C Dosing Assemble	DE
						FCO 388 - Lime Saturator Small Bore Pipe Routin	DE
						FCO 389 - Reroute 8" DW to RO Building, RFI 1151	DE
						FCO 390 - Lime Pump Suction Piping Modification:	OR
						FCO 392 - Lime Saturator Injection Points, RFI 117	DE
						FCO 393 - UV Electrical Room AC Disconnect, RFI 115	DE

## GWRS Initial Expansion Contract GWRS-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE ORDER BUDGET REMAINING	CHANGE ORDER NUMBER	DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
						FCO 394 - MF Electrical Room HVAC Fans Control, RFI 1144	DE
						FCO 395 - Add FIT/FE Manual Calbe Junction Box, RFI 117	DE
						FCO 397 - Delete Work in HP Builidng	OR
						FCO 400 - Mechanical Crew OT Working Hours (T&M	OR
						FCO 402 - Replace RO 5 to 6 port valve, RFI 113	DE
						FCO 403 - RO Feed Pump FSL Signal to VFD, RFI 1154	DE
						FCO 404 - Cooling Fan Additional Power Conntion, RFI 117	DE
						FCO 406 - MEMSAP Removable Gratinç	DE
						FCO 381 - Relocate Existing Phone Equipment in 910 Bld	UC
	\$ 2,791,639	20	2/4/2015	\$ 552,638	3.06	FCO 262.1-Modify VFD I/O, RFI 1107, 1107.1, 1083	UC
						FCO 335 -Lime Silo CP Circuit Mods, RFI 1064	Other
						FCO 341.1 - Mod Grating Install @ UV, RFI 1088	DE
						FCO 342 - Add Circuit for Lime Air Dryer	DE
						FCO 345.1 - Lime Truck Unloading Panel Wiring	Other
						FCO 370.1 - Add 610 CPE 5021 Pad & Xypex Sat. C	UC
						FCO 382.1 - Temp Power to 100-BFV-5525, 5526	DE
						FCO 391 - Add Support for RO OH Coiling Door, RFI 0974	UC
						FCO 399.1 - Remove Reg Materials from Old Lab	UC
						FCO 405.1 - Mod Lime Storage Silo Knife Plate	DE
						FCO 407.1 -Mech Polish MF 12in SS Pipe	OR
						FCO 408.1 - Relo MF Basement Light Switches	UC
						FCO 410.1 - Mod MF Blower Pln Ctrl Wire, RFI 1206	Other
						FCO 412 - Add Pconduit OCSD I/O Cab, RFI 1187	DE
						FCO 413 - Ext conduit Tank Top Mix CP, RFI 1188	Other
						FCO 414 - Replace CV MF Sump Pump, RFI 1185	OR
						FCO 415 - Add SEFE Tank Mix Neo Pad, RFI 1186	Other
						FCO 416.1 - Mod SD JB Cover North of RO Building	UC
						FCO 417 - Mod RO Control Station, RFI 1168	OR
						FCO 418 - Mod RO Valve Actuator w/ Position Indicator	Other
						FCO 419 - Relocate RO Utility Sink	UC
						FCO 421 - Add ERD Piping Supports, RFI 1199	DE
						FCO 422 - Deletion of SEFE Tank Disinfection	Other
						FCO 423 - Replace Network Switch FO Transceivers	DE
						FCO 424 - Add South Area Striping	OR
						FCO 425 - Add OCSD SHC Pipe Encase Rebars	OR
						FCO 428 - FPW Chann Mixer Hatch Mod, RFI 1171	DE
						FCO 429 - Add RO Air Handler Drains, RFI1215	DE
						FCO 430 - Add Sulfuric Acid CPVC Coat, RFI 1222	DE
						FCO 432 - Mod Ramp North of RO Building, RFI 1190	DE
						FCO 433 - SEFE Contaminated Soil Reconciliation	UC

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	ORDER BUDGET REMAINING	CHANGE ORDER NUMBER					
						FCO 434 - Relocate RO PCR, FF, & FLW Lines	Other
						FCO 435 - RO Shear Collar Install Reconciliation	Other
						FCO 436 - HVAC Duct Support Material RO & MF	Other
						FCO 437 - Change RO Bolts & Nuts CL1/CL2	Other
	\$ 2,247,570	21	2/28/2015	\$544,069	3.53	FCO 325.1 - Additional Potholing for 36-in ROC	UC
						FCO 355.1 - Exist. UV Stair Modification	Other
						FCO 398.1 - Replace RO FLW Spools, PVC to SST	Other
						FCO 401 - Remove Sand/Grit & Adj Sole Plate, MF BWW	UC
						FCO 409.1 - Change RO Dump Valve Volt, RFI 1204	DE
						FCO 411.1 - Change RO 208V Pnl Feed Wire, RFI 1203	DE
						FCO 427.1 - Relo Area 255 Seismic Support	UC
						FCO 438 - Decreased Asphalt Removal, SEFE	UC
						FCO 439 - Add OCSD Bleach Piping PRVs	OR
						FCO 440 - UV&SEFE Bldg Condens Drain, RFI 1238	DE
						FCO 441 - Rep BUSA-480-MCC-0040 Breaker, RFI 1223	DE
						FCO 442 - SEFE Grading Revisions	Other
						FCO 443 - Replace CIP Cart Filter PDI & PDSH	DE
						FCO 444 - Mod MF East Train C Basement Lighting	DE
						FCO 445 - Mod MF E Sump Pump Panel, RFI 1225	DE
						FCO 446 - Add SEFE PS Disch BFV Remote Control Panel	Other
						FCO 447 - Mod Lime Sat Catwalk Handrail, RFI 1219	UC
						FCO 448 - RO Feed Dual High Press Test	Other
						FCO 449 - Add Conduits FE to FIT, RFI 1240	DE
						FCO 450 - Mod MF Train C AIT-470, 475 Sign&Power	DE
						FCO 451 - Mod Sat Lime Feed Pulse Dampener	DE
						FCO 452 - 24-inch ROC Pipeline Mods, RFI 1077	Other
	\$ 1,760,043	22	4/2/2015	\$487,527	3.95	FCO 385.1 - Temp Relo Power 7 FO for CCTV #14	UC
						FCO 386.2 - V&TSH for ROTP & PWP, RFI 1172	DE
						FCO 420.1 - PSL, PSH & FSL RO Feed Pump	DE
						FCO 426.1 - PSL, PSH & FSL ROTP and PWP	DE
						FCO 453 - Mod RO CIP Pipe Supports, RFI 1251	UC
						FCO 455 - Add AVR on 78-in UVP Pipe, RFI 1246	DE
						FCO 456 - Mod 1in Pipes@SA Tank No. 2, RFI 1245	UC
						FCO 457 - Mod SEFE Pump A04&A05 TSH, RFI 1216	DE
						FCO 458 - Add MF 200-PMP-5065 LSH Cond & Wire	DE
						FCO 460 - Add OCSD Bleach Sta Position Indicator	DE
						FCO 461 - Replace MF E Sump PI, RFI 1257	DE
						FCO 462 - Add Lime Saturator C I/O Cables, RFI 1247	DE
						FCO 463 - Mod ROP PIT/PSH RuptDisk, RFI 1258.1	DE



## GWRs Initial Expansion Contract GWRs-2011-01 Change Order Report

CONTRACT AMOUNT	APPROVED CHANGE		CHANGE ORDER DATE	CHANGE ORDER AMOUNT	TOTAL % CHANGE	REASON FOR CHANGE ORDER	TYPE CHANGE
	ORDER BUDGET REMAINING	CHANGE ORDER NUMBER					
						FCO 464 - Mod SEFE Tank Drain Control Strategy	DE
						FCO 466 - Mod RO Basement CF/CR Piping	OR
						FCO 468 - SEFE Control Strategy & RO CF/CR Time Extension	Other
	\$ 1,686,599	23	5/26/2015	\$ 73,444	4.02	FCO 454.1 - Add Temp Support RO CIP Mixer, RFI 1253	UC
						FCO 459.1 - Add Elec Handholes at Old Lab	OR
						FCO 462.1 - Add Additional Lime Sat C I/O Cable	DE
						FCO 465 - Premiere CO Bond Rider Increase	Other
						FCO 467 - Add SBS Leak Detection Probe, RFI 211.1	DE
						FCO 469 - Add/Mod FO Cable @ Admin & MF Buldings	OR
						FCO 470 - Add Dnet Conn to RO Power Monitors	UC
						FCO 471 - Connect UV PowerMonitors&LIT-5030 to UV Master	Other
						FCO 472 - Add High Temp Light MF BW VFD, RFI 1262	DE
						FCO 473 - Add Power RO-DNJB-01 Panel, RFI 1273	DE
						FCO 474 - Add Handrailing RO Build N Ramp	UC
						FCO 475 - OCSD Valve Controls RFI 1249, 1249.1	DE
						FCO 476 - Mods to Sulf Acid Sys, RFI 921, RFI 923	Other
						FCO 477 - Lime Area Dnet Conn, RFI 1248.1	Other
\$ 119,712,963				\$ 4,622,966	4.02		

### TYPE CHANGE - LEGEND

- Design Error (DE)      Changes to completed work due to design error - Potential cost recovery from design engineer.
- Unknown Condition (UC)      Additional work required to complete the design that
- Owner Requested (OR)      Additional work requested by the owner - No cost recovery, work is outside scope of original contract.
- Change-In-Condition (CIC)      Additional work required due to unexpected conditions - No



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 13, 2015

**To:** GWRS Steering Committee

**From:** Mike Markus/Jim Herberg

**Staff Contact:** W. Dunivin

**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

**Project Report Approved:** N/A

**CEQA Compliance:** N/A

**Subject:** GWRS OPERATIONS UPDATE

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### SUMMARY

Operation of the Groundwater Replenishment System (GWRS) commenced on January 10, 2008. The GWRS operations update will be discussed at Committee.

### RECOMMENDATION

Informational

### DISCUSSION/ANALYSIS

Since startup in 2008 GWRS continues produce water that meets regulatory requirements. The quality of the secondary effluent received from the Orange County Sanitation District (OCSD) continues to meet all water quality requirements while operating in the nitrified/denitrified (NDN) mode. The GWRS, Microfiltration (MF) and Reverse Osmosis (RO) treatment processes have benefited in overall operational improvements as a result of OCSD's efforts to successfully maintain stable operation in the NDN mode.

As of May 21, 2015 all the MF, RO and Secondary Effluents Flow Equalization (SEFE) equipment supplied with the GWRS Initial Expansion were operational. In conjunction with OCSD staffs effort to supply more water staff has been able to operate GWRS at 100 mgd for periods while filling the two new 7,500,000 million gallon secondary effluent flow equalization tanks (SEFE). With this type of operation strategy the daily average production has been in the low to mid 90 mgd range. OCSD continues to work to optimize flow availability while OCWD staff works on operation strategies on how to utilize the new SEFE tanks to maximize production.

The GWRS effluent production for the months of April through June 2015 is shown in the following tables:

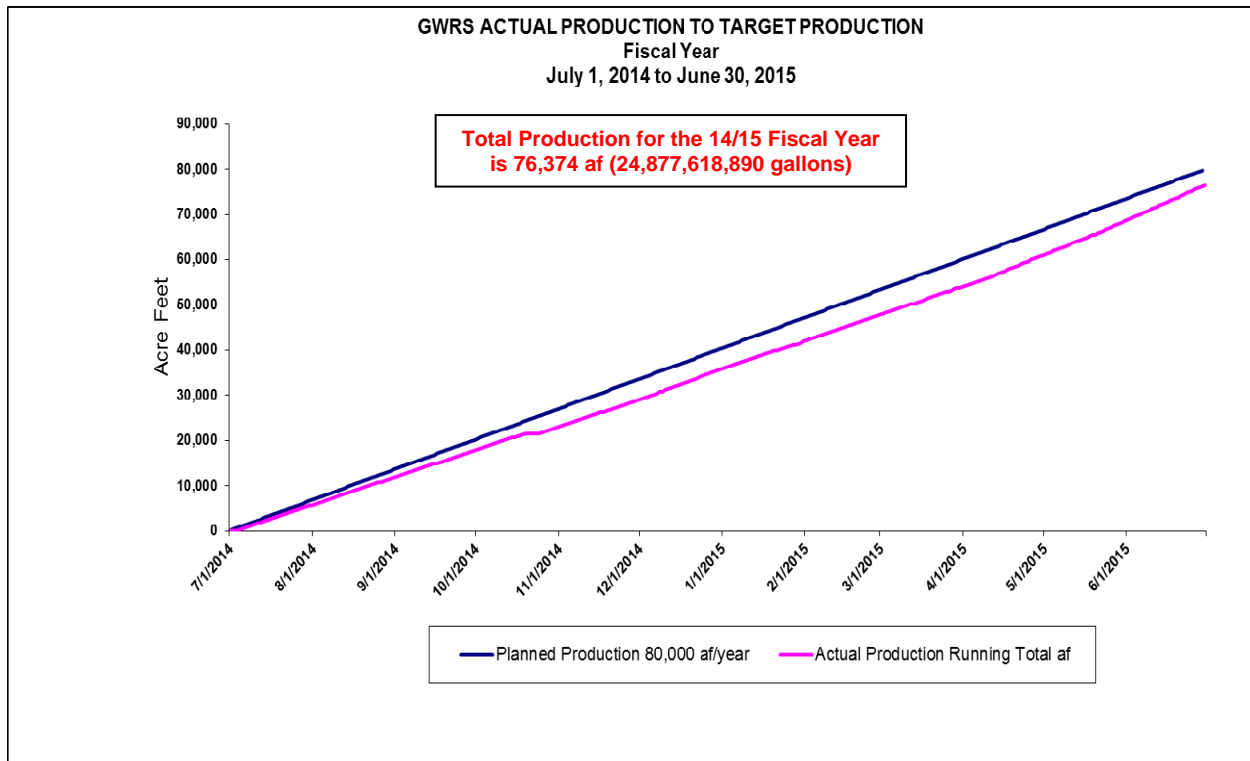
	<b>April 2015 (million gallons)</b>	<b>April 2015 (acre feet)</b>
Mira Loma, Kraemer/Miller Basin Recharge, Mid Basin Injection, Artic, and Canyon Power	1,267.41	3,890.95
Seawater Intrusion Barrier	1,001.44	3,074.43

<b>Total</b>	<b>2,268.85</b>	<b>6,965.38</b>
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	<b>May 2015 (million gallons)</b>	<b>May 2015 (acre feet)</b>
Mira Loma, Kraemer/Miller Basin, Recharge, Mid Basin Injection, Artic and Canyon Power	1,448.20	4,445.96
Seawater Intrusion Barrier	1,013.44	3,111.26
<b>Total</b>	<b>2,461.64</b>	<b>7,557.22</b>

	<b>June 2015 (million gallons)</b>	<b>June 2015 (acre feet)</b>
Mira Loma, Kraemer/Miller Basin Recharge, Mid Basin Injection, Artic and Canyon Power	1,618.68	4,969.34
Seawater Intrusion Barrier	994.45	3,052.96
<b>Total</b>	<b>2,613.13</b>	<b>8,022.30</b>

The following graph shows the final 2014/2015 fiscal year production compared to the fiscal year production target of 80,000 acre feet (af). At the fiscal year ending on June 30, 2015 the GWRS production was 76,374 af which is -3,626 af below the target production of 80,000 af. The production target was missed due to McCarthy Construction and OCWD staff completing the GWRS Initial Expansion project. In light the effort to complete the expansion project this fiscal year production is considered a success with 24,877,618,890 gallons of purified being produced to help replenish Orange County's ground water basin.





## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 13, 2015

**To:** GWRS Steering Committee

**From:** Mike Markus/Jim Herberg

**Staff Contact:** M. Patel

**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

**Project Report Approved:** N/A

**CEQA Compliance:** N/A

**Subject: UPDATE ON SP-173 EFFLUENT REUSE STUDY**

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### SUMMARY

Orange County Sanitation District (OCSD) and Orange County Water District (OCWD) staff have currently started a Effluent Reuse Study known as SP-173 to determine how to achieve flows required for the GWRS Final Expansion.

### RECOMMENDATION

Informational.

### DISCUSSION/ANALYSIS

OCSD has seen a decrease in the available sewer flows to their Plant No. 1 facility that feeds GWRS. This decrease is a result of the ongoing drought and increased conservation. The GWRS Final Expansion is will require 173 mgd to produce 130 mgd. A joint study has been started that will look into where the additional flows required for the final expansion will originate. The study will also look at water quality issues associated with bringing in the additional required flows from OCSD Plant No. 2, including those associated with the Santa Ana Regional Interceptor (SARI) line.

### PRIOR BOARD/COMMITTEE ACTIONS

The GWRS has the treatment capacity to produce 70 million gallons per day (mgd) of purified water. Construction activities are currently underway to expand the treatment capacity, so that the expanded GWRS will have the capacity to produce 100 mgd of purified recycled water. This expansion, referred to as the GWRS Initial Expansion, will utilize most of the secondary effluent produced by OCSD Plant No. 1. The Initial Expansion includes the construction of 15 million gallons of storage capacity to temporarily store excess flows of secondary treated wastewater from OCSD Plant No 1. Excess flows from OCSD Plant No. 1 typically occur during the daytime, when the amount of flow from OCSD exceeds the GWRS treatment capacity. During the late night/early morning hours, there is typically a deficit of secondary treated wastewater. The storage being constructed will provide flow equalization such that the expanded GWRS may operate at a more consistent production rate. Construction of the Initial Expansion was substantially completed in June 2015.

The GWRS was designed to accommodate a Final Expansion that would increase the treatment capacity beyond the 100 mgd Initial Expansion currently under construction. The Environmental Impact Report certified for GWRS evaluated an ultimate facility with a treatment capacity to produce 130 mgd of purified water.

The availability of sufficient quantities of both raw wastewater and secondary treated wastewater from OCSD is an important consideration in planning for the Final Expansion. To produce 130 mgd of purified water, approximately 173 mgd of treated secondary wastewater is needed (based on a 25 percent loss through the GWRS advanced treatment system).

To increase the amount of flow that can be recycled via the GWRS Final Expansion, additional sewage flows need to be conveyed to OCSD Plant No. 1; or treated secondary effluent from OCSD Plant No. 2 needs to be recycled through the GWRS; or a combination of the two. Flows that are conveyed to OCSD Plant No. 2 for treatment include sewage from the Plant No. 2 tributary area (primarily the western and coastal section of the OCSD service area), flows from SARI, microfiltration and reverse osmosis cleaning flows from GWRS and other minor flows from the GWRS (for example, from sumps and pump cooling water), OCSD Plant No. 1 truck disposal station flows, and some process water flows from OCSD Plant No. 1.

OCSD, with input from District staff, issued a Request for Proposals (RFP) for an Effluent Reuse Study (SP-173). The scope of work for the study includes:

- Hydraulic model for OCSD Plant No. 1 and No. 2
- Plant No. 2 secondary treatment processes water quality study
- SARI and sidestream separate treatment evaluation and concept design
- Plant No. 2 pump stations/conveyance to GWRS evaluation and concept design
- Flow equalization concept design
- GWRS Final Expansion impacts to ocean and OCSD discharge permit
- Potential opportunities for collections diversions and acceptance of urban runoff
- Potential for future water recycling
- Potential for grant funding opportunities to support the GWRS Final Expansion

OCSD issued the RFP in January 2015 and began the study in May 2015. The draft report for the study is anticipated to be completed in August 2016.

The deliverables from the study in the preliminary scope of work include:

- Plant No. 1 and Plant No. 2 Hydraulic Models
  - Final Hydraulic Model Report
- GWRS Final Expansion Implementation Plan and Report
  - Plant No. 2 Secondary Water Quality Report
  - SARI/Sidestream Separate Process Treatment Concept Design
  - Plant No. 2 GWRS Pump Station Concept Design
  - Flow Equalization Concept Design
  - Permit and Environmental Impacts
  - Implementation Plan (Costs and Schedule)
- Collection Diversions/Urban Runoff Opportunities Report

The results from this study are key to planning the GWRS Final Expansion. OCSD and OCSD will share 50/50 in the study's cost. The consulting firm CDM-Smith with Brown and Caldwell are performing the study.

OCSD staff would oversee the management of this contract and OCWD staff would participate in all major decisions. This includes review of all project deliverable and attendance at all project related meetings. A quarterly update of the study's progress will be given at the GWRS Steering Committee meetings until the study is complete.





## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 13, 2015

**To:** GWRS Steering Committee

**From:** Mike Markus

**Staff Contact:** E. Torres/G. Ayala

**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:** **QUARTERLY OUTREACH REPORT [APRIL–JUNE 2015]**

### SUMMARY

Outreach for OCWD and the GWRS continues with a major focus to build and maintain support, as well as field media interest and media coverage. The following is a report of activities from April through June 2015.

**Attachment(s):** 2015 Second quarter GWRS news clip report

### RECOMMENDATION

Informational

### DISCUSSION/ANALYSIS

#### Tour Update

From April through June 2015, OCWD conducted 50 tours for nearly 925 guests. Below is a monthly breakdown that shows the number of tours and guests:

Month	# of Tours	# of Guests
April	13	279
May	11	150
June	26	496

Following is a list of groups that toured the GWRS during this period:

- Five groups of nursing students from West Coast University
- Members of the American Society of Civil Engineers (ASCE)
- Three public tour groups
- Five groups of nursing students from California State University, Fullerton (CSUF)
- Students from Loma Linda
- Students from CSUF
- Students from Pomona College
- Two groups of nursing students from Vanguard University

- Three Prado Wetlands Spring Tour groups
- Students from Golden West College
- Nursing students from California State University, Long Beach (CSULB)
- Palmdale Water District board members
- Students from the University of California, Irvine (UCI)
- Students from Orange Coast College
- Members of the State Water Resources Control Board
- Students from Coastline Community College
- Representatives from the Energy Coalition
- Two groups of students from Godinez High School
- Representatives from the State Water Resources Control Board
- Members of the International Ecology Conference
- Attendees of the American Water Works Association ACE15 pre-conference workshop and general conference
- Representatives from the Korean Water & Wastewater Association
- The City of San Diego
- Representatives from Wedbush Securities
- Members of the NWRI-LADWP Independent Advisory Panel
- Representatives from Fluor
- Members of the Prado Wetlands Spring Tour
- The Orange County Association of Realtors
- The Disney Green Team Task Force
- An engineering class from UCI
- The City of San Mateo
- A Korean delegation
- Stakeholders from the Los Angeles County Sanitation District

#### **Upcoming Tours:**

- Godinez High School, July 7
- CSUF, July 8, 10 & 29
- Public Tour, July 10
- InterAmerican Network of Academies of Science, September 3
- International Desal Conference, September 4

#### **Speakers Bureau:**

As part of OCWD's standard to forge and maintain long-term, positive and proactive relationships with members of the community and be transparent about its operations and programs, OCWD board members and staff participate, regularly, at community events and speak before civic groups. Below is a listing of speakers bureau engagements. (Note: The GWRS is mentioned in all OCWD speakers bureau presentations.)

- U.S. Army Corps of Engineers
- Garden Grove Republican Federated Women
- St. Paul's Lutheran School
- Anaheim Caravan, a group of real estate professionals
- Nellie Gail Ranch Garden Club
- Delhi Neighborhood Association
- Irvine Ranch Water District's Michelson Treatment Plant
- Integrated Regional Water Management 2.0 Conference
- ASCE World Environmental & Water Resources Congress
- Kiwanis Club of La Palma
- Girls Scout Troop #12944
- Fountain Valley Summerfest
- Construction Management Association of America
- ARTIC Water Expo
- California Water Environment Association
- American Water Works Association Conference

**Upcoming Speakers Bureau:**

- Water Summit Expo, July 10
- International Desalination Association Conference (Education Day), September 2

**Media:**

- There were 433 global news hits for the GWRS. This number includes same source stories that ran in multiple media outlets. The news clips report for this quarter is attached.

**Other:**

- On June 26, a dedication ceremony for the Groundwater Replenishment System Initial Expansion was hosted. Nearly 250 attendees were present from OCWD; OCSD; the media; local water retail agencies; and local, county and state elected officials. Official program speakers included U.S. Congressman Dana Rohrabacher, U.S. Congresswoman Loretta Sanchez, California State Senator John Moorlach, California State Assemblymembers Travis Allen and Matthew Harper, Orange County Board of Supervisors Vice Chair Lisa Bartlett, Oliver Pacifico with the State Water Resources Control Board, OCWD Directors Cathy Green and Philip Anthony, and OCSD Director Tom Beamish.

GWRS Global Press			
Outlet/Publication	Country	Date	Headline
Daily Republic	United States	06/27/15	<a href="#">Orange County expands ground water replenishment</a>
Orange County Register	United States	06/27/15	<a href="#">Orange County's water recycling program expands</a>
Orange County Register	United States	06/27/15	<a href="#">O.C. water recycling expands</a>
Manteca Bulletin	United States	06/26/15	<a href="#">OC expands groundwater system</a>
Chron.com	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Santa Maria Times	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Hanford Sentinel	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
The Washington Times	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Ventura County Star (AP)	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Beaumont Enterprise(AP)	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
The Fresno Bee	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Seattlepi.com	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
WXXV25	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Crossroads Today	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
My Fox Lubbock	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
WDEF News 12	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Merced Sun-Star	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
The Modesto Bee	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
WTVQ	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
WesternSlopeNow	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
KPVI News 6	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
WTVB.com	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
My News 4	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Press-Telegram (AP)	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
MontereyHerald.com	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Santa Cruz Sentinel	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Vallejo Times Herald (AP)	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
San Jose Mercury News	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Paradise Post	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
The Reporter (AP)	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Chico Enterprise Record	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
SFGate	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
U-T San Diego	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
AP (Hosted)	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
The-Dispatch.com	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Lodi News-Sentinel	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
Gainesville.com	United States	06/26/15	<a href="#">Orange County expands groundwater system</a>
AP (Hosted)	United States	06/26/15	<a href="#">California Drought Groundwater</a>
Daily Journal	United States	06/26/15	<a href="#">Amid drought, Orange County district adds more purified wastewater to groundwater basin</a>
Daily Reporter	United States	06/26/15	<a href="#">Amid drought, Orange County district adds more purified wastewater to groundwater basin</a>
San Luis Obispo	United States	06/26/15	<a href="#">FOUNTAIN VALLEY, Calif.: Orange County expands groundwater system   State</a>
Columbia Daily Herald	United States	06/25/15	<a href="#">In Bay area, support grows for toilet water as tap water</a>
California News Feed	United States	06/25/15	<a href="#">California Drought: Support grows in Bay Area for toilet to daub water</a>
世界新聞網-北美華文新聞、華商資訊	United States	06/24/15	<a href="#">橙縣污水變淨水 全球最大</a>
Duluth News Tribune	United States	06/24/15	<a href="#">Support grows in San Francisco Bay Area to purify toilet water for drinking</a>
News - MSN CA	Canada	06/24/15	<a href="#">Would you drink water from the toilet?</a>
Thestar.com	Canada	06/24/15	<a href="#">Would you drink water from the toilet?</a>
Vallejo Times Herald (AP)	United States	06/24/15	<a href="#">Support grows in Bay Area to tap water from toilets</a>
Government Technology	United States	06/24/15	<a href="#">Toilet-to-Tap Water System Gaining Support in S.F. Bay Area</a>
USNewsDaily.net	United States	06/24/15	<a href="#">California Drought: Support grows in Bay Area for toilet to tap water</a>
San Jose Mercury News	United States	06/24/15	<a href="#">California Drought: Support grows in Bay Area for toilet to tap water</a>
Inside Bay Area	United States	06/24/15	<a href="#">California Drought: Support grows in Bay Area for toilet to tap water</a>
ContraCostaTimes.com	United States	06/24/15	<a href="#">California Drought: Support grows in Bay Area for toilet to tap water</a>
Inside Bay Area	United States	06/24/15	<a href="#">Support grows in Bay Area for toilet to tap water</a>
San Jose Mercury News	United States	06/24/15	<a href="#">Support grows in Bay Area for toilet to tap water</a>
ContraCostaTimes.com	United States	06/24/15	<a href="#">Support grows in Bay Area for toilet to tap water</a>
Mankato Free Press	United States	06/24/15	<a href="#">Support grows for toilet to tap water</a>
Reading Eagle	United States	06/24/15	<a href="#">Support grows in San Francisco Bay Area for toilet to tap water</a>
Lodi News-Sentinel	United States	06/24/15	<a href="#">Support grows in San Francisco Bay Area for toilet to tap water</a>
Santa Cruz Sentinel	United States	06/23/15	<a href="#">Bay Area residents OK with drinking purified toilet water</a>
The Daily Pilot	United States	06/17/15	<a href="#">Drought survival: O.C. makes 100 million gallons of wastewater a day drinkable</a>
Huntington Beach Independent	United States	06/17/15	<a href="#">Drought survival: O.C. makes 100 million gallons of wastewater a day drinkable</a>
California News Feed	United States	06/16/15	<a href="#">Disney, Irvine Co. tip a list of biggest H2O users in Orange County: See ...</a>
NzHealthTec.com	United States	06/15/15	<a href="#">Effluent Communities: Why Drought Will Mean Getting Used to Drinking Treated Sewage</a>
WaterWorld	United States	06/12/15	<a href="#">WaterTAP to host third World Water-Tech America Summit in October</a>

The Oakland Press	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Denver Post Economy	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Lincolncourier.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Mcpersonsentinel.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Star Courier	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
WickedLocal.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Dailyregister.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
The Shawnee News-Star	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Crookstontimes.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Peoria Journal Star	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Journalstandard.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Joshua Star	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
The Valley Dispatch	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Olney Daily Mail	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Fidelity	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Berksmont-News.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
West Hartford News	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
The Trentonian	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Leavenworthtimes.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Phoenixville	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Daily Freeman	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Shoreline Times	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Delco Times	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Carthagepress.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Daily Breeze	Canada	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Litchfield County Times	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
The Bulletin	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Cantonrep.com	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
Daily Tribune	United States	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling</a>
TheStreet	United States	06/09/15	<a href="#">California policymakers and industry executives gathered in San Francisco last week at the Economic Power of Water conference to discuss ways to</a>
Finanzen.at	Austria	06/09/15	<a href="#">What Will Save Drought-Struck California? New Tech, Plus Wastewater Recycling   09.06.15</a>
TheStreet	United States	06/09/15	<a href="#">New Technology Investment May Help Prevent the Next California Drought</a>
GreenBiz	United States	06/09/15	<a href="#">The economic power of water — and wastewater</a>
United States Senator Dianne Feinstein	United States	06/08/15	<a href="#">Dianne Feinstein: How DC can help fight the drought in California - Los Angeles Times</a>
AP (Hosted)	United States	06/06/15	<a href="#">One area not seeing a lot of storms, California</a>
Lodi News-Sentinel	United States	06/05/15	<a href="#">Joe Guzzardi: 'Toilet-to-tap' no longer quite so unthinkable</a>
Water Technology Online	United States	06/05/15	<a href="#">World Water-Tech Summit planned for October</a>
Orange County Register	United States	06/03/15	<a href="#">Turning off the tap: Lake Mission Viejo will soon be filled with treated sewage water</a>
Water Technology Ontario	Canada	06/03/15	<a href="#">WaterTAP to host third World Water-Tech Summit in October 2015: More than 30 international speakers confirmed</a>
Huntington Beach Independent	United States	06/03/15	<a href="#">Mailbag: Huntington's police foundations are not the same</a>
KBET 790 Talk Now	United States	06/03/15	<a href="#">Drought-Stricken Calif. Eyes 'Toilet-to-Tap' Water Choices</a>
Newsmax	United States	06/03/15	<a href="#">Drought-Stricken Calif. Eyes 'Toilet-to-Tap' Water Choices</a>
WorldNetDaily	United States	06/03/15	<a href="#">California considers toilet-to-tap water</a>
WBNS-10TV	United States	06/02/15	<a href="#">Toilet-to-tap water programs gain support in California</a>
CBS News	United States	06/02/15	<a href="#">Toilet-to-tap water programs gain support in California</a>
Working With Water	United Kingdom	06/02/15	<a href="#">Maximizing the synergies between energy and water</a>
Filtration + Separation	United Kingdom	06/02/15	<a href="#">Maximizing the synergies between energy and water</a>
AP (Hosted)	United States	06/01/15	<a href="#">WATER, 60 minutes</a>
LaPresse.ca	Canada	06/01/15	<a href="#">Sécheresse en Californie: un bon verre d'eau d'égout?</a>
CBS News	United States	05/31/15	<a href="#">Water</a>
California News Feed	United States	05/31/15	<a href="#">California H2O cuts omit past changes by some cities – U</a>
Digital Journal	Canada	05/29/15	<a href="#">Californians Find Creative Ways of Increasing Their Water Supply - Press Release - Digital Journal</a>
The Numbers - Marketplace from American Public Media	United States	05/29/15	<a href="#">Californians Find Creative Ways of Increasing Their Water Supply</a>
Stock - AZCentral.com	United States	05/29/15	<a href="#">Californians Find Creative Ways of Increasing Their Water Supply</a>
Tutorial Finder	United States	05/29/15	<a href="#">Californians Find Creative Ways of Increasing Their Water Supply</a>
Adeptpage	United States	05/29/15	<a href="#">Recycled wastewater: Get over the 'yuck factor'</a>
Los Angeles Times	United States	05/29/15	<a href="#">Recycled wastewater: Get over the 'yuck factor' - LA Times</a>
Thestar.com	Canada	05/29/15	<a href="#">California: Will drought affect your tourism plans?</a>
California News Feed	United States	05/26/15	<a href="#">Toilet-To-Tap Water Could Become A Reality For California</a>
Orange County Register	United States	05/25/15	<a href="#">Drought not expected to dry up state tourism</a>
Orange County Register	United States	05/24/15	<a href="#">Drought not expected to dry up tourism in California</a>
Orange County Register	United States	05/24/15	<a href="#">Orange County better as 34 cities than as one</a>
Orange County Register	United States	05/24/15	<a href="#">34 cities better than one</a>
Caribbean News Digital - EN	CW	05/23/15	<a href="#">Drought Puts a Damper on California Tourism</a>
Irish Examiner	Ireland	05/22/15	<a href="#">The Long Read: California is battling a devastating drought</a>
CNNnewz.com	United States	05/22/15	<a href="#">California Governor Prepares Citizens for Coming 'Toilet to Tap' Concept</a>
TheBlaze	United States	05/22/15	<a href="#">California Governor Prepares Citizens for Coming 'Toilet to Tap' Concept</a>
The Malay Mail Online	Malaysia	05/21/15	<a href="#">Drought puts a damper on California tourism</a>

Hospitality Times	United States	05/19/15	<a href="#">Drought Tests California Tourism</a>
Orange County Register	United States	05/19/15	<a href="#">A sea change at Lake Mission Viejo</a>
Water & Wastes Digest	United States	05/18/15	<a href="#">Orange County Water District Approves Term Sheet for Desalinated Water</a>
Colors Magazine	Italy	05/17/15	<a href="#">Toilet to tap</a>
Environment & Energy Publishing	United States	05/12/15	<a href="#">Californians tap technology -- and psychology -- to stretch water supplies</a>
AccuWeather.com	United States	05/12/15	<a href="#">Water Theft Becomes Common Consequence of Ongoing California Drought</a>
MSN.com	United States	05/12/15	<a href="#">8 Cost-Cutting Lessons from California's Drought Crisis</a>
Money Talks News	United States	05/12/15	<a href="#">8 Cost-Cutting Lessons from California's Drought Crisis</a>
Trivalleycentral.com	United States	05/11/15	<a href="#">Mandatory cuts ignore past investments to reclaim water</a>
Coeur D'Alene Press	United States	05/10/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Daily Jeffersonian	United States	05/10/15	<a href="#">California water cuts ignore past changes by some cities</a>
Indiana Gazette	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Quad-Cities Online	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Napa Valley Register (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Standard-Times Go San Angelo	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Denton Record Chronicle (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Aiken Standard	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Democratic Underground	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Santa Maria Times	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MyStatesman.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Columbia Missourian	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MarshallIndependent.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Advertiser-Tribune.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MorningJournalNews.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Marietta Times	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Timesleaderonline.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Adirondack Daily Enterprise	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
SalemNews.net	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Daily Herald (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Caribbean Business	Puerto Rico	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KCRA.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Sentinel - Cumberlink	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
News.Gnom.es	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MSN.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Capital Bay	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Olean Times Herald	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Morning Times	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Midland Daily News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
TheTrucker.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Southern California Public Radio	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Newsbug.info	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Northwest Herald	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Tri-City Herald	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Atlanta Journal-Constitution	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Olympian	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KMOV.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
FOX Carolina - WHNS 21	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WNCN	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Conservative Talk 94.5 FM	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
19 Action News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Kcentv.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KEYC-TV CBS-12 / FOX-12	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WJTV News Channel 12	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
StamfordAdvocate.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Bradenton Herald	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Fox29 WFLX TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Idaho Statesman	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Santa Clarita Valley Signal	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
My Fox Orlando	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
San Luis Obispo	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WTRF-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Vida en el Valle	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Bellingham Herald	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
News9.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Wichita Eagle and Kansas.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Chambersburg Public Opinion	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Fox 28	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Washington Times	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>

Kentucky.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WBTV 3 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
My Fox Chicago	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WDRB 41 Louisville	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Star-Telegram.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KPTV - FOX 12	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KWWL.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WGEM.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Chron.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Sun Herald	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WOWK-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KSWO-TV 7	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KHQ Right Now	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Fox 8 WVUE	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WSFA 12 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Timesfreepress.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Wsvn 7	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Wsoctv.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
HughesNet	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KLKNTV ABC-8	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WCAX.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KHGI-TV/KWNB-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
ABC6	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KSLA News 12	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Cable One	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WDAM - Channel 7	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WHDH-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTEN.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WKRG News 5	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NewsChannel 10	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Wsbtv.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KPLC 7 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The News Tribune	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WAFB.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WNEM TV 5	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WFMJ TV-21	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WVNS-TV 59	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WREX.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WFSB Channel 3	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KULR-8	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
9&10 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
FireEngineering.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Fox23	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTIV News Channel 4	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
14 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTTC Rochester	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WRBL News 3	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
My Fox Austin	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
FOX 14 TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WSET.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KATV ABC-7	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WAOW - News Line 9	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
TDS	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTVN Channel 2	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTVU	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Centre Daily Times	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WBOC.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
12 News KBMT and K-JAC	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NewsWest 9	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Merced Sun-Star	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTUL.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MyFoxAL.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WSAV.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WTVM.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KXXV-TV News Channel 25	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WALB.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The News & Observer	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Seattlepi.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>



ABC 33/40	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NewsTalk KRMG	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Live5News.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Wandtv.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTBS.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WTOC.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NBC-2.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
ABC-7.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NewsOn6.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WSPA.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Journal-News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
ABC 40 KRHD-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WAVE 3 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
ABC News 4	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WECT TV6	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MyFoxPhilly.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WIS News 10	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NBC4i (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KAIT ABC-8	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Wfla.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTRE ABC-9	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Hawaii News Now	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Toledo News Now	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KOAM-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KLTV 7 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
NewsTimes.com (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
StamfordAdvocate.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WAFF 48 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WTHR.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WLOX-TV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Mississippi News Now	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
San Antonio Express-News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WJAR NBC 10 (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
TBO.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WXOW News 19	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
CBS46 News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KAUZ-TV: NewsChannel 6 Now	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WMC Action News 5	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WPSD Local 6	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KCBD NewsChannel 11	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KFVS 12	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WMBF News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Reading Eagle	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MyNorthwest.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WRCBtv.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WNCT.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Tucson News Now	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The York Daily Record	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Lebanon Daily News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Lowell Sun Online (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WCBD News 2	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
GreenwichTime.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WWBT NBC-12	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
SFGate	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Connecticut Post	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Times Union	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Huffington Post	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Mydaytondailynews.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Palm Beach Post	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Shoreline Media Group	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Beloit Daily News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Watertown Daily Times Online (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Herald Journal	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
HarrisonDaily.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Statesman.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Wsbradio.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Huron Daily Tribune (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Gettysburgtimes.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>

WRAL.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
TWC Central	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
LancasterOnline.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Corvallis Gazette-Times	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Daily News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Beatrice Daily Sun	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
JournalStar.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Muscatine Journal	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Garden Island	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Herald Palladium	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Missoulian	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Moulton Advertiser	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Palm Beach Post	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Exponent Telegram	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Springfield News-Sun	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WPXI Live News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
WFTV	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Chico Enterprise Record	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Paradise Post	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
MontereyHerald.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Reporter (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Boulder DailyCamera.com (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
San Jose Mercury News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Brattleboro Reformer	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Graham Leader	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Burleson Star	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
ContraCostaTimes.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Evening Sun (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Bennington Banner	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
York Dispatch	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
AP (Hosted)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
KTAR.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Mail On Sunday	United Kingdom	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Watertown Public Opinion	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Rapidcityjournal.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Keloland.com	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
The Fresno Bee	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Yahoo! News	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Legal Pulse - FindLaw	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
DailyNews724	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Northern Star	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Yahoo! Maktoob News	United Arab Emirates	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Yahoo! India News	India	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Yahoo! India Lifestyle	India	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Yahoo! Singapore News	Singapore	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Yahoo! News Philippines	Philippines	05/09/15	<a href="#">California water cuts ignore past changes by some cities</a>
Vallejo Times Herald (AP)	United States	05/08/15	<a href="#">California water cuts ignore past changes by some cities</a>
Manteca Bulletin	United States	05/10/15	<a href="#">Water cuts ignore past changes by some SoCal cities</a>
NBC Bay Area	United States	05/10/15	<a href="#">California Water Cuts Ignore Past Changes by Some Cities, Like San Diego</a>
NBC San Diego	United States	05/09/15	<a href="#">California Water Cuts Ignore Past Changes by Some Cities, Like San Diego</a>
South Bend Tribune	United States	05/10/15	<a href="#">California water cuts ignore cities' changes</a>
Daily Republic	United States	05/10/15	<a href="#">Many local districts irked over drought criticism</a>
Mohave Daily News	United States	05/09/15	<a href="#">California water cuts ignore past changes</a>
The Paducah Sun	United States	05/09/15	<a href="#">Water cuts ignore past changes made in some California cities</a>
The Columbian	United States	05/09/15	<a href="#">California cities with water still must cut use</a>
Tribune-Review (AP)	United States	05/09/15	<a href="#">'90s efforts to prepare for California drought not enough</a>
The Epoch Times	United States	05/09/15	<a href="#">California Water Cuts Ignore Past Changes by Some Cities</a>
Anynewsonline.com	Armenia	05/09/15	<a href="#">California water cuts ignore past changes by some citiesvisitarticle-6252965lo-river_simple_list-4405311 - 270min</a>
Anynewsonline.com	Armenia	05/09/15	<a href="#">California water cuts ignore past changes by some cities - 271min</a>
The Guardian	United Kingdom	05/09/15	<a href="#">California drought rules frustrate regions that prepared for the worst</a>
The Guardian (eClips Web)	United Kingdom	05/09/15	<a href="#">California drought rules frustrate regions that prepared for the worst</a>
US News & World Report	United States	05/09/15	<a href="#">In California, water cuts disappoint cities that spent heavily to prepare for drought</a>
The Republic (AP)	United States	05/09/15	<a href="#">In California, water cuts disappoint cities that spent heavily to prepare for drought</a>
Daily Reporter	United States	05/09/15	<a href="#">In California, water cuts disappoint cities that spent heavily to prepare for drought</a>
TriTown.com	United States	05/09/15	<a href="#">In California, water cuts disappoint cities that spent heavily to prepare for drought</a>
The Denver Post (AP)	United States	05/09/15	<a href="#">California water cuts ignore past changes by some cities - The Denver Post</a>
The Huffington Post	United States	05/09/15	<a href="#">California Water Cutbacks Sparks Complaints By Cities</a>
Genetic Engineering & Biotechnology News	United States	05/07/15	<a href="#">California Drought Leaves Biopharma Thirsty for Answers</a>

Public Radio International	United States	04/27/15	<a href="#">How California is surviving its new water crisis</a>
National Federation of Independent Business	United States	04/27/15	<a href="#">California Drought Impacting Power Generation</a>
Water & Wastes Digest	United States	04/27/15	<a href="#">Grant Funds Research on Use of Treated Wastewater on Crops</a>
UCR Today	United States	04/23/15	<a href="#">Grant Funds Research on Use of Treated Wastewater on Crops</a>
Ag Professional	United States	04/27/15	<a href="#">UCR leads collaboration on cost-effective water reuse policies</a>
Sustainable Cities Collective	United States	04/27/15	<a href="#">How to Save Water, the Californian Way: Part 2</a>
中国水业网	China	04/26/15	<a href="#">迈向正能量的污水处理厂 AsSamra工厂从污水中回收能量的作法旨在回收污水中的潜在能源</a>
EnvironmentGuru.com	United States	04/24/15	<a href="#">How to Save Water, the Californian Way (Part 2)</a>
The Dirt	United States	04/24/15	<a href="#">How to Save Water, the Californian Way (Part 2)</a>
Erosion Control	United States	04/24/15	<a href="#">Grant Funds Research on Use of Treated Wastewater for Crops</a>
WaterWorld	United States	04/24/15	<a href="#">International collaboration leading to cost-effective agriculture water reuse policies</a>
Newsweek	United States	04/23/15	<a href="#">Drying Up: The Race to Save California From Drought</a>
Water Online	United States	04/23/15	<a href="#">Grant Funds Research On Use Of Treated Wastewater On Crops</a>
Eco-Business.com	Singapore	04/21/15	<a href="#">Lee Kuan Yew Water Prize: The journey to water sustainability</a>
Disney Parks Blog	United States	04/21/15	<a href="#">Disneyland Resort Uses Innovative Way to Recycle Water</a>
The Koobatra Home Safety Company	Singapore	04/21/15	<a href="#">SG/US: WHAT CALIFORNIA CAN LEARN FROM SINGAPORE ABOUT DROUGHT SOLUTIONS</a>
Viet Times	Australia	04/21/15	<a href="#">Mỹ đang xem trong nước tái xử lý</a>
Daily Titan	United States	04/20/15	<a href="#">Earth Day thirsts for attention during state's greatest drought crisis</a>
Báo Mới	Viet Nam	04/20/15	<a href="#">Mỹ xem trong nước tái xử lý</a>
Tuổi Trẻ Online	Viet Nam	04/20/15	<a href="#">Mỹ xem trong nước tái xử lý</a>
The Water Network	Switzerland	04/16/15	<a href="#">California Explores 'Toilet-to-Tap' Tech</a>
NBCNEWS.com	United States	04/15/15	<a href="#">California Takes Serious Look at 'Toilet to Tap' Tech</a>
DailyNews724	United States	04/15/15	<a href="#">'Toilet to Tap' Gets Serious Look in California</a>
Bullfax.com	Bulgaria	04/15/15	<a href="#">'Toilet to Tap' Gets Serious Look in California</a>
NBCNEWS.com	United States	04/15/15	<a href="#">'Toilet to tap' water process</a>
Orange Juice Blog	United States	04/13/15	<a href="#">Our celebrated Groundwater Replenishment System steals Poseidon's lunch money.</a>
Peak Oil	United States	04/11/15	<a href="#">LA: Groundwater Levels Plummet</a>
Development Initiative for South Asians	Bangladesh	04/05/15	<a href="#">Lee Kuan Yew Water prize 2016 is Open for Nominations</a>