

MEETING OF THE BOARD OF DIRECTORS OF THE
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Jointly with the

PLANNING & OPERATIONS COMMITTEE

August 7, 2017, 8:30 a.m.

MWDOC Conference Room 101

P&O Committee:

Director Dick, Chair

Director Tamaribuchi

Director Yoo Schneider

Staff: R. Hunter, K. Seckel, J. Berg,

H. De La Torre, K. Davanaugh

Ex Officio Member: W. Osborne

MWDOC Committee meetings are noticed and held as joint meetings of the Committee and the entire Board of Directors and all members of the Board of Directors may attend and participate in the discussion. Each Committee has designated Committee members, and other members of the Board are designated alternate committee members. If less than a quorum of the full Board is in attendance, the Board meeting will be adjourned for lack of a quorum and the meeting will proceed as a meeting of the Committee with those Committee members and alternate members in attendance acting as the Committee.

PUBLIC COMMENTS - Public comments on agenda items and items under the jurisdiction of the Committee should be made at this time.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED - Determine there is a need to take immediate action on item(s) and that the need for action came to the attention of the District subsequent to the posting of the Agenda. (Requires a unanimous vote of the Committee)

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING --
Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection in the lobby of the District's business office located at 18700 Ward Street, Fountain Valley, California 92708, during regular business hours. When practical, these public records will also be made available on the District's Internet Web site, accessible at <http://www.mwdoc.com>.

PRESENTATION ITEM

1. PRESENTATION - WATER LOSS CONTROL METHODOLOGIES AND TECHNICAL ASSISTANCE PROGRAM

ACTION ITEMS

2. MASTER AGREEMENTS FOR SHARED PROGRAMS AND SERVICES WITH ANAHEIM, SANTA ANA, AND FULLERTON

3. CONTRACT AUTHORIZATION FOR RAFTELIS FINANCIAL CONSULTANTS TO CONDUCT FIVE YEAR MONITORING OF THE BUDGET BASED TIERED RATE GRANT FROM DWR

INFORMATION ITEMS (The following items are for informational purposes only – background information is included in the packet. Discussion is not necessary unless a Director requests.)

4. WEROC EMERGENCY OPERATIONS CENTER SEISMIC STUDY
5. STATUS REPORTS
 - a. Ongoing MWDOC Reliability and Engineering/Planning Projects
 - b. WEROC
 - c. Water Use Efficiency Projects
 - d. Water Use Efficiency Programs Savings and Implementation Report
6. REVIEW OF ISSUES RELATED TO CONSTRUCTION PROGRAMS, WATER USE EFFICIENCY, FACILITY AND EQUIPMENT MAINTENANCE, WATER STORAGE, WATER QUALITY, CONJUNCTIVE USE PROGRAMS, EDUCATION, DISTRICT FACILITIES, and MEMBER-AGENCY RELATIONS

ADJOURNMENT

NOTE: At the discretion of the Committee, all items appearing on this agenda, whether or not expressly listed for action, may be deliberated, and may be subject to action by the Committee. On those items designated for Board action, the Committee reviews the items and makes a recommendation for final action to the full Board of Directors; final action will be taken by the Board of Directors. Agendas for Committee and Board meetings may be obtained from the District Secretary. Members of the public are advised that the Board consideration process includes consideration of each agenda item by one or more Committees indicated on the Board Action Sheet. Attendance at Committee meetings and the Board meeting considering an item consequently is advised.

Accommodations for the Disabled. Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning Maribeth Goldsby, District Secretary, at (714) 963-3058, or writing to Municipal Water District of Orange County at P.O. Box 20895, Fountain Valley, CA 92728. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.



PRESENTATION ITEM

August 7, 2017

TO: Planning & Operations Committee
(Directors Dick, Tamaribuchi, Yoo Schneider)

FROM: Robert Hunter, General Manager

Staff Contact: J. Berg, Director of Water Use Efficiency

SUBJECT: Water Loss Control Methodologies and Technical Assistance Program

STAFF RECOMMENDATION

Staff recommends the Planning & Operations Committee receive and file this presentation.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

Last September, staff provided the Planning & Operations Committee with a presentation describing water loss control methodologies and Year I Water Balance results from our technical assistance program.

DETAILED REPORT

At the August 2017 Committee meeting, Staff will provide the attached presentation as a refresher on water loss control methodologies and MWDOC's technical assistance program. Staff will return to the Committee in November 2017 to present Water Balance results for Year II of our technical assistance program.

Budgeted (Y/N): N/A	Budgeted amount: N/A	Core __	Choice __
Action item amount: N/A	Line item: N/A		
Fiscal Impact (explain if unbudgeted): N/A			

MWDOC Water Loss Control



Planning & Operations Committee

August 7, 2016

Regional Goal:

*Striving to Achieve an Economically
Optimized Level of Water Loss*

Presentation Content

- *Statewide Context*
- *Water Loss Control Introduction*
- *MWDOC Technical Assistance Program*

State Requirements

How does this fit with SB 1420 and SB 555?

SB 1420

submit water balance with UWMP

July 1, 2016

SB 555

submit validated water balance to DWR

must include documentation

October 1, 2017

Technical Assistance Program (CA-NV AWWA)

two tracks: New Learner and Early Adopter

Water Loss Control Intro

Water balance aims to...

1. Determine volumes of input, consumption, and **water loss**.
2. Study the reliability and accuracy of water balance **data sources**.
3. Communicate **system efficiency** with performance indicators.

AWWA Water Balance

WATER SUPPLIED	AUTHORIZED CONSUMPTION	BILLED AUTHORIZED CONSUMPTION	BILLED METERED CONSUMPTION	REVENUE WATER		
			BILLED UNMETERED CONSUMPTION			
	WATER LOSSES	UNBILLED AUTHORIZED CONSUMPTION	UNBILLED METERED CONSUMPTION		NONREVENUE WATER 💧💧💧 \$\$\$	
				UNBILLED UNMETERED CONSUMPTION		
		APPARENT LOSSES \$\$\$ 💧💧💧	CUSTOMER METER INACCURACIES			
			UNAUTHORIZED CONSUMPTION			
		DATA HANDLING ERRORS				
		💧💧💧 REAL LOSSES 💧💧💧				

How reliable is water balance data?

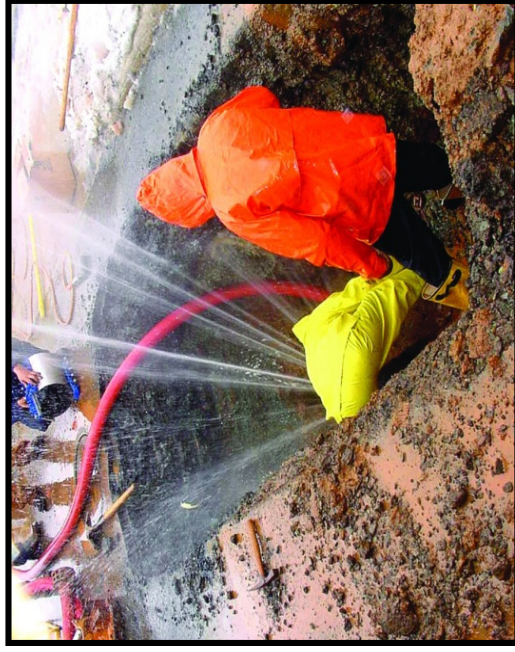
What are the volumes and values of water losses?

Types of Water Loss

Apparent Losses



Real Losses



Apparent Losses

water volume that reaches customers

but is not registered or properly tracked

(and so you're not paid)



Theft



Accuracy

often referred to as “paper losses”

reducing Apparent Losses ***increases revenue***

but creates ***no new water***

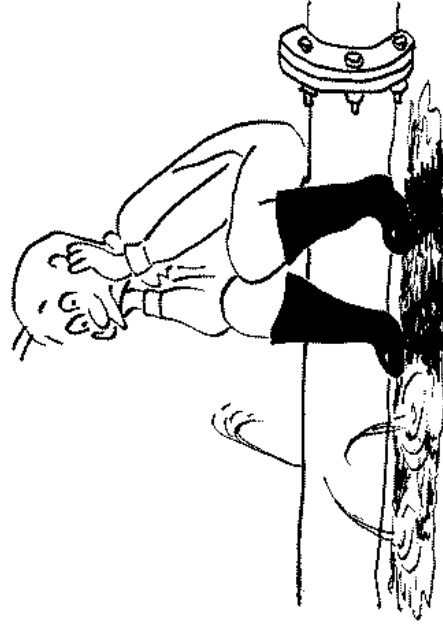
Real Losses

often referred to as “physical losses”

leaks

seeps

breaks



reducing Real Losses *creates an additional resource*

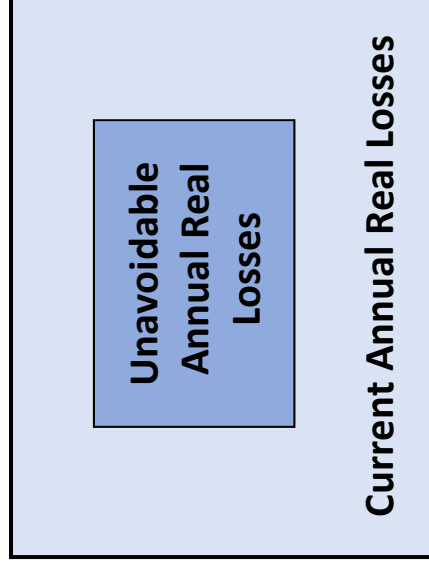
can reduce operating costs and defer capital expenditure

Performance Indicators

Better Than Percentages

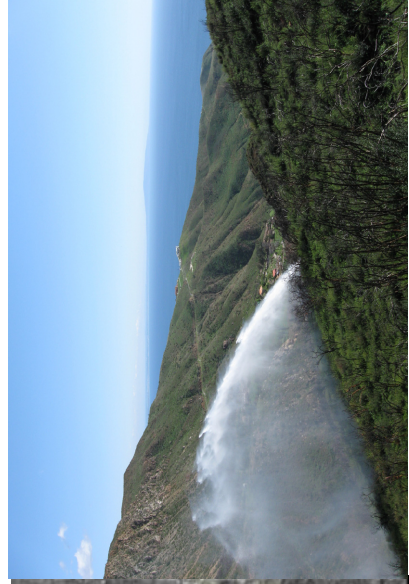
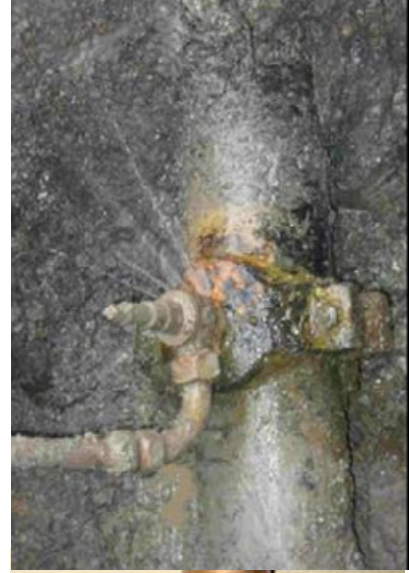
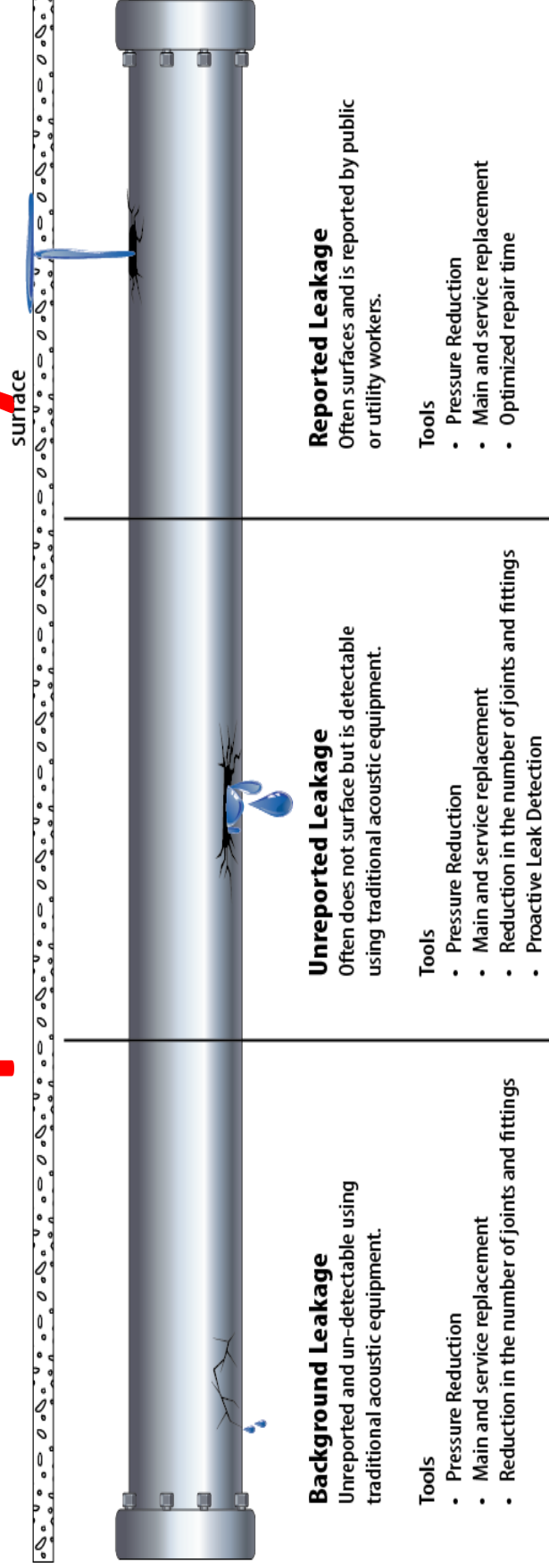
- Real Losses / service conn / day
- Apparent Losses / service conn / day
- Infrastructure Leakage Index (ILI)

$$ILI = \frac{\text{actual real losses}}{\text{technical minimum}}$$



After the Water Balance

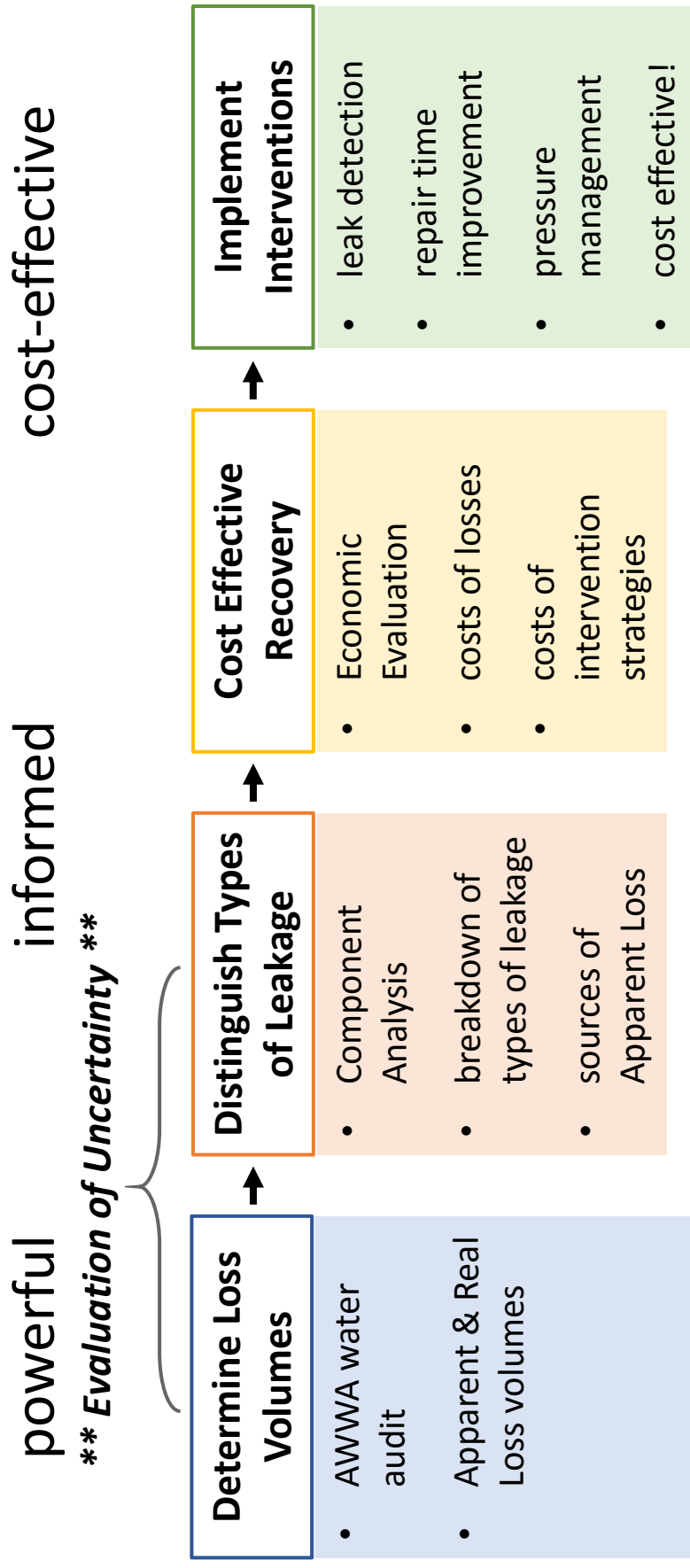
Component Analysis



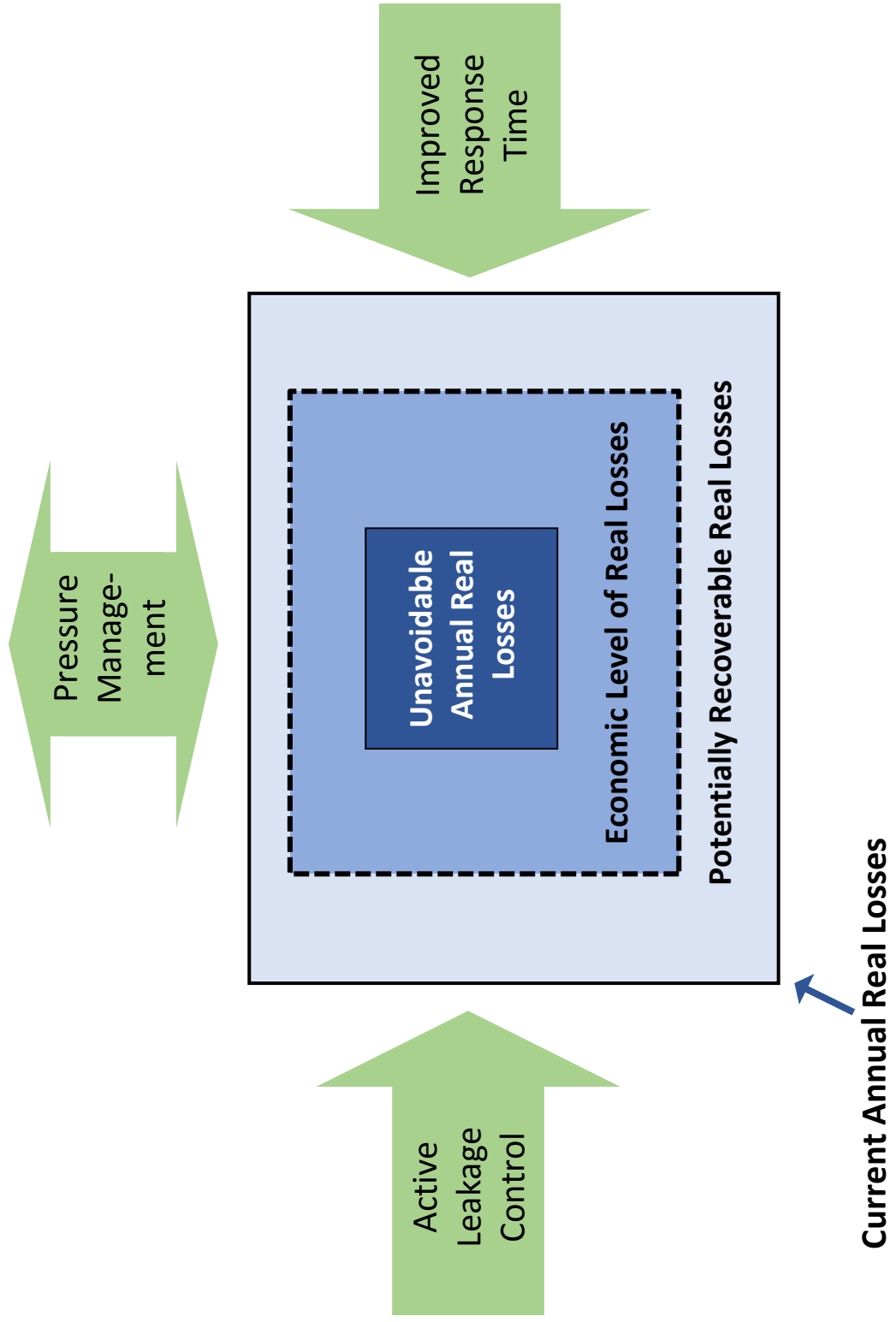
MWDOC Technical Assistance Program

WATER LOSS CONTROL PROGRAM

PROGRESSION!



Active Leakage Control



What Now?

Continue Water Loss Control Progression

OC work group and expanded shared services

Annual Water Balance Reporting

focus on future water balance protocols, data sources, documentation of uncertainty and data validity

Customer Meter Accuracy Testing

divides Total Losses into Real and Apparent Losses

Component Analysis of real losses

essential step for cost effective water loss control program design

Leak Detection

locate and repair leaks



Discussion

ACTION ITEM

August 7, 2017 (Committee)

August 16, 2017 (Board)

TO: Planning & Operations Committee
(Directors Dick, Tamaribuchi & Yoo Schneider)

FROM: Robert Hunter
General Manager

Staff Contact: Karl Seckel

**SUBJECT: MASTER AGREEMENTS FOR SHARED PROGRAMS AND SERVICES
WITH ANAHEIM, SANTA ANA AND FULLERTON**

STAFF RECOMMENDATION

Staff recommends the Board approve the 2017 version of the City of Anaheim Master Agreement and ratify the 2016 version of the Santa Ana Master Agreement and authorize staff to develop and execute a similar form of Master Agreement with the City of Fullerton.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

MWDOC works closely with the cities of Anaheim, Fullerton and Santa Ana in various activities and has found it to be beneficial to pursue joint funding of many of these activities over the years. In 2013, staff and legal counsel developed the first “master” Agreement for Shared Programs and Services with the City of Anaheim and the MWDOC Board took an action approving the agreement. Having such a “master” Agreement in place has streamlined participation, billing and invoices for the services between the two agencies. The Anaheim Agreement worked out so well, staff and legal counsel developed a “master” Agreement with the City of Santa Ana in 2016. A discussion item was taken to the Board regarding the Santa Ana Agreement but a specific authorization by the Board was not requested since the agreement was similar in nature to the Anaheim Agreement. Staff discussed this with Legal Counsel who suggested the appropriate action was for the Board to ratify the Santa Ana Agreement.

Budgeted (Y/N): Yes	Budgeted amount: As a cost recovery	Core ✓	Choice ✓
Action item amount: Variable		Line item:	
Fiscal Impact (explain if unbudgeted): These agreements allow for streamlining of participation by the Three Cities over the typical course of five years, with the potential for extensions if the funding commitment has not been exhausted.			

In addition, the original term of the Anaheim Agreement was up and an updated form of Agreement was just prepared. Staff recommends the Board authorize staff to enter into the updated 2017 version of the Anaheim Master Agreement. In addition, staff anticipates entering into a Master Agreement with the City of Fullerton. Staff is requesting authorization to do so as long as the form of agreement is similar to those provided in this action item for Anaheim and Santa Ana. As we progress over time, there will always be slight changes in the agreements so the exact form will likely change to some degree for each version prepared.

Key aspects of the Master Agreements are:

- The Master Agreements cover participation by the Three Cities in Water Use Efficiency Programs, WEROC, School Programs, mutual study efforts (can include the Urban Water Management Plans) and other efforts as mutually agreed upon.
- A key provision is that either the Three Cities or MWDOC may terminate the Agreements in its entirety at any time upon thirty (30) days written notice to the other Party; termination prior to the ending term of the agreement requires a reconciliation process for any funds committed up to the point of termination.

Attached is a copy of the 2016 Santa Ana Master Agreement and the City of Anaheim 2017 Master Agreement.

MWDOC/ANAHEIM AGREEMENT FOR SHARED PROGRAMS AND SERVICES

THIS AGREEMENT (the "Agreement") is made as of _____ 2017, by and between the Municipal Water District of Orange County ("MWDOC") and the City of Anaheim ("City") to provide for participation by the City in various programs and services administered by MWDOC, as described herein. The City and MWDOC are referred to jointly as "Parties" and individually as "Party."

RECITALS

WHEREAS, the Parties are both member agencies of the Metropolitan Water District of Southern California ("Metropolitan") and have many common interests related to water activities, programs and organizations within Orange County; and

WHEREAS, the Parties share many water planning characteristics, including location, climate history, demographics, water sources, water supplies and demand management measures; and

WHEREAS, the Parties share a long and successful history of collaborating on water resource activities, planning analysis and reports, water use efficiency programs, and other joint efforts; and

WHEREAS, the Parties desire to cooperate and pool resources to obtain economies of scale on joint studies and programs, share information developed independently, simplify the process of implementing water use efficiency measures, and maximize grant funding for all of these activities; and

WHEREAS, the Parties have prepared this Agreement to address the common goal of consolidating and streamlining the contracting procedures required for MWDOC's administration of, and the City's participation in, the programs and services referenced herein;

NOW, THEREFORE, the Parties agree as follows:

1. Water Use Efficiency Programs ("WUE Programs")

1.1 Notice Procedures

1.1.1 Subject to the limitations set forth in this section, the Parties shall work together to make WUE Programs available to water users throughout the City's water service area. In general, the City will have access to the same "choice" WUE Programs that are currently available to MWDOC member agencies. Within thirty (30) days of the Effective Date, MWDOC shall send a written notice to the City listing all available WUE Programs and the requirements for each along with enrollment forms for participation in those WUE Programs. This written notice shall contain the estimated costs of the WUE Program as well as that program's specific requirements and terms and conditions. Thereafter, MWDOC shall provide a written notice with this information for every upcoming fiscal year at the time of MWDOC's budget preparation or within thirty (30) days of new information being made available to MWDOC by Metropolitan. The notices to be provided by MWDOC shall be referred herein as

the WUE Program Notice. MWDOC shall also provide the City with any other information or documents, which are required for participation in WUE Programs or reasonably requested by the City in connection with WUE Programs. For each fiscal year, the City shall review the WUE Program Notice and choose the WUE Programs and the level of its participation that the City deems beneficial. In connection with the foregoing, the City will notify MWDOC in writing by indicating in the WUE Program Notice the level of the City's participation in any WUE Program for each fiscal year ("WUE Participation Notice").

1.1.2 If a new WUE Program is introduced or a material amendment is made to an existing WUE Program during a fiscal year, MWDOC shall provide the City with a written notice thereof ("Amended WUE Program Notice") as soon as reasonably possible prior to the date the new program or amendment is scheduled to commence. This Amended WUE Program Notice shall contain the program's specific requirements and terms and conditions and any costs that may be ascertainable at such time. Within thirty (30) days of receiving the Amended WUE Program Notice, the City will notify MWDOC in writing whether the City will participate in the new or amended WUE Program and the level of its participation ("Amended WUE Participation Notice").

1.1.3 Except to the extent of the elections made in the WUE Participation Notice and the Amended WUE Participation Notice, the City shall have no obligation to participate in any WUE Program, including, but not limited to, any obligation to provide financial contribution to such program.

1.1.4 The City understands that specific requirements and terms of conditions may apply to each WUE Program that the City chooses to participate in and agreeing to such requirements and terms and conditions is a prerequisite to the City's participation in such WUE Programs. In connection with the foregoing, MWDOC shall provide the City with all applicable specific requirements and terms and conditions in a WUE Program Notice or Amended WUE Program Notice.

1.1.5 The City understands that by entering into this Agreement it agrees to pay MWDOC for its proportionate share of MWDOC's costs for administering MWDOC's WUE Program based on and to the extent of the City's level of participation as more particularly described in Section 1.8. If the City elects to participate in any or all MWDOC WUE Programs, MWDOC will invoice the City for such costs as described in Section 1.8.

1.1.6 The City is responsible for monitoring its level of participation in any WUE Program and is responsible for payment of all funding contributions required of the City by the WUE Program as authorized by a WUE Participation Notice or Amended WUE Participation Notice. In connection therewith, MWDOC is not responsible for any of the City's required payments or funding contributions even if they are above any cost estimate or the City's budgeted amounts authorized by a WUE Program Notice or Amended WUE Program Notice.

1.1.7 In the event a WUE Program is terminated early, City is responsible for payment of any funding contributions required by the WUE Program to the extent of applications initiated prior to the effective date of the termination. For purposes of the preceding sentence, an application is deemed initiated when an application has been received by Metropolitan's rebate vendor, EGIA, by MWDOC, or a reservation has been made within any of MWDOC's online application portals that is pursuant to any of the WUE Programs described within this Agreement.

1.1.8 Notwithstanding any other provision of this Agreement, MWDOC providing funds for any of the MWDOC WUE Programs is conditioned upon the availability of funds and MWDOC is under no obligation to provide funding to City for any WUE Program if MWDOC determines, in its own discretion, that such funding is exhausted, reduced, eliminated, or unavailable from any funding source, for any reason. In the event MWDOC determines funding for a WUE Program has been exhausted, reduced or unavailable, City may immediately terminate its participation in that affected WUE Program with written notice.

1.2 WUE Programs Availability

1.2.1 Subject to the limitations set forth herein, the Parties agree that the WUE Programs chosen by the City for participation in the City's WUE Participation Notice or Amended WUE Participation Notice, shall be made available throughout the City's water service area for the Term, without the need for a separate agreement between the Parties in addition to this Agreement.

1.2.2 MWDOC shall involve the City in the WUE Program marketing to occur within the City, and the City agrees to assist in the marketing of WUE Programs it participates in under this Agreement; provided, City may override any marketing efforts within its water service area which City deems contrary to its best interests. If any marketing efforts will extend to areas outside of the City's water service area, MWDOC will work with the City to address City's concerns. In those cases where MWDOC and City do not reach a mutually acceptable compromise, MWDOC will make all reasonable efforts to remove the City from such objectionable marketing efforts at the City's written request.

1.3 Grant Funding

1.3.1 Subject to any grant requirements and conditions, Grant funding obtained by MWDOC for WUE Programs may be made available to end water users within the City's water service area. In order for end water users within the City to be eligible to receive such grant funds from MWDOC, MWDOC will provide the City with the applicable grant terms and conditions and, if acceptable to the City, the City will provide MWDOC written notice of its acceptance of those terms and conditions. The administration of any MWDOC grant funding will be on a program by program basis, contingent upon the terms and conditions of each program.

1.4 MWDOC-Administered Programs.

1.4.1 From time to time, funding may be made available from Metropolitan for MWDOC to operate a customized local water conservation incentive program or programs ("MWDOC Administered" or "MAA Program") in its service area, with access to the Metropolitan Base Incentives for such. As City is also a Metropolitan member agency, in order for MWDOC to administer the MAA Program for City, City would be required to apply to Metropolitan separately for funding. If the City desires MWDOC to administer a MAA Program, City will provide MWDOC a WUE Participation Notice or an Amended WUE Participation Notice. In such cases, MWDOC will administer the MAA Program for City and invoice City for activity in City's service area. City will reimburse MWDOC for any activity and the City will also be responsible for seeking and securing reimbursement directly from Metropolitan. Specific terms and conditions will be provided by MWDOC to the City in the annual WUE Program Notice or an Amended WUE Program Notice.

1.5 Supplemental Funding

1.5.1 If the City elects to provide supplemental funding or enhanced incentives for a WUE Program provided under this Agreement, the City is responsible for tracking the use of and the remaining availability of such supplemental funds. MWDOC will assist in every reasonable way, but the ultimate responsibility for tracking all City funding is the responsibility of City and City is responsible for any overuse of City funding. Supplemental funding designations should be indicated in the WUE Participation Notice or Amended WUE Participation Notice. In the event any City provided funding for any WUE Program is exhausted, and the City does not elect to add additional funding or transfer available funding from another WUE Program, MWDOC will discontinue offering the additional rebate funding for that Program in the City's service area.

1.5.2 City may also choose to provide additional supplemental funding of its own to augment the Metropolitan Base Incentives offered through SoCal Water\$mart. City will coordinate any such supplemental funding directly with Metropolitan.

1.6 Installation Verification and Inspection

1.6.1 The City shall be responsible for conducting installation verifications/inspections of items and devices installed, distributed, and/or rebated pursuant to this Agreement to ensure compliance with program requirements, and/or for paying all costs associated with this verification/inspection. Installation verification/inspection measures shall conform with MWDOC's Inspection and Verification Procedures attached hereto as Exhibit A ("Inspection and Verification Procedures") and incorporated herein by reference.

1.6.2 In connection with any selected WUE Programs that require installation verifications/inspection and to ensure compliance with program requirements, the City may elect to (1) conduct its own installation verifications/inspections by either utilizing its in-house staff or contracting with a third party vendor of its choice; or (2) utilize MWDOC's installation

verification/inspection contractor to conduct the installation verification/ inspections. MWDOC shall invoice the City monthly for any such inspection costs incurred by MWDOC on behalf of the City. In addition to the direct costs to MWDOC, reasonable staff time and overhead attributable to the verification/inspection services may be invoiced to the City.

1.6.3 Notwithstanding any other provision in this Agreement, City understands and agrees that if City utilizes MWDOC's verification/inspection vendor that MWDOC is in no way liable or responsible for the acts or omissions of such vendor and makes no representations or warranties regarding the quality of such vendor's work. City's sole recourse as to any action, claims or damages arising out of the acts or omissions of MWDOC's verification/inspection vendor is with the vendor and not with MWDOC.

1.6.4 MWDOC reserves the right to conduct installation verification/inspection of items and devices within the City's service area that are installed in connection with a WUE Program covered by this Agreement.

1.6.5 In connection with any WUE Program covered by this Agreement, the City acknowledges that any item or device receiving funding from Metropolitan may be subject to an installation verification/inspection to be performed by Metropolitan, or its agent(s), at Metropolitan's discretion.

1.6.6 The City shall promptly refund to MWDOC any amounts paid under any WUE Program for installed or distributed items or devices, including any grant funds, in the event MWDOC or Metropolitan establishes via installation verification/inspection and/or audit that the program items or devices were not installed in compliance with the requirements set forth in the Inspection and Verification Procedures and this Agreement.

1.6.7 For this section 1.6, "items" and "devices" includes, but is not limited to, plumbing fixtures, irrigation devices, turf (removal and replacement), and any other items, devices or materials that are installed in connection with a WUE Program covered by this Agreement.

1.6.8 At the time this Agreement is made, both the Turf Removal Program and the Spray to Drip Rebate Program require inspection services from the City.

1.7 Program With Matching Contribution Requirement

1.7.1 From time to time, WUE Programs may be developed that require a matching contribution from the City in order for the City to participate in such WUE Programs.

1.7.2 The amount of local match funding required for a particular device will be determined by the availability of other funding, and the City's share of the local matching fund will be set forth in the WUE Program Notice or Amended WUE Program Notice.

1.8 WUE Program Cost Allocation and Invoicing

1.8.1 During its annual budget process, MWDOC shall allocate to the City a proportionate share of MWDOC's estimated WUE Program costs ("Choice Costs"). This share of MWDOC's estimated WUE Program costs shall be determined by dividing the total outside funding provided during the previous calendar year to WUE Program participants within the City's service area by the total outside funding provided during the previous calendar year to WUE Program participants within the service area of all MWDOC member agencies and other agency participants. That percentage is then applied to MWDOC's total WUE "choice" program budget, including personnel and overhead costs.

1.8.2 MWDOC shall invoice the City for Choice Costs, which do not include the WUE Program administration and funding costs described below in Section 1.8.4, no later than September 30 of each year, and the City shall pay the amount due within thirty (30) days of receipt of the invoice. MWDOC must be notified of any disputed invoice within thirty (30) days of receipt. An invoice template is shown in Exhibit B, which is attached hereto and incorporated by reference.

1.8.3 With regard to the Choice Costs referenced in Section 1.8.3 above, a reconciliation of actual WUE Program costs will be performed at the end of each year during MWDOC's budget process and any debts or credits will be reflected in the invoice sent to the City the following year.

1.8.4 MWDOC shall invoice the City on a monthly basis for supplemental funding or enhanced incentives pursuant to Section 1.5.1. These costs are separate from the Choice Costs.

2. Shared Consulting Services

The Parties shall continue to participate in and fund collective efforts in planning, research, policy development and other activities that require engagement of an outside consultant. MWDOC shall provide the City a copy of each consultant's proposal for review and comments. For each consultant so engaged, the City will notify MWDOC in writing if it elects to participate in the consulting services and the limit of its financial participation. The City shall have no obligation to pay for any consultant unless City has agreed to participate in writing and shall not be responsible for paying any costs above the City's identified limit.

2.1 Water Resource Planning

2.1.1 Subject to the first paragraph of this Section 2, the Parties may participate, without the need for an additional agreement, in joint activities and studies designed to ensure water supply and system reliability, including water reliability analyses, water supply and demand projections, master planning for water use efficiency, water system loss analysis and leak detection studies, preparation of urban water management plans and studies related to water transfers, water recycling, groundwater recovery, and water storage programs.

2.1.2 The Parties may participate, without the need for an additional agreement, in joint activities and studies related to system reliability efforts for emergency response.

2.1.3 The City shall have no obligation to pay for consultant unless City has agreed to participate as set forth in the first paragraph of this Section 2.

2.2 Award and Administration of Consultant Agreements

2.2.1 When programs or services administered by MWDOC require MWDOC to engage a consultant, MWDOC will use its standardized professional services agreement as a form and will modify it as required for each particular engagement. MWDOC will award the agreement pursuant to its own Administrative Code and procedures, except as noted in this Agreement.

2.2.2 For each professional services agreement, MWDOC will determine appropriate insurance requirements. When MWDOC requires a consultant's insurer to name MWDOC, its directors, officers, agents, employees, attorneys, consultants and volunteers as additional insureds, the same requirement will be made for the City and its Council, officers, agents, employees, attorneys, consultants and volunteers. Other protections in MWDOC's insurance requirements, including waiver of subrogation rights, will also be extended to the City when practicable.

2.2.3 MWDOC shall administer such professional services agreements and coordinate all aspects of the proposed work. MWDOC shall communicate with the City regularly and upon request regarding the status of the agreement and the work for each professional services agreement in which the City has elected to participate.

2.2.4 MWDOC shall invoice the City for the City's share of total costs anticipated for each professional services agreement in which the City has elected to participate, as contemplated in this Agreement. Such invoices shall be mailed by the 10th day of each month for the preceding month and shall be paid by the City within thirty (30) days. The City shall have no obligation to pay for consultant unless City has agreed to participate as set forth in the first paragraph of this Section 2.

2.2.5 MWDOC shall inform the City on a timely basis of any proposed extra work under any professional service agreement being administered by MWDOC that would result in an increase in the City's payment under this Agreement. MWDOC shall obtain input and written concurrence from the City and any other participating agencies prior to the authorization of extra work by the consultant. City shall not have any obligation to pay for any extra work unless the Public Utilities General Manager (General Manager) has provided to MWDOC a written notice of City's agreement for the performance of the extra work. MWDOC will be responsible for paying consultants directly.

2.3 Water Loss Control Technical Assistance

2.3.1 MWDOC has entered into a professional services agreement with Water Systems Optimization, Inc. ("WSO") for WSO to provide water loss control technical assistance to MWDOC's member agencies ("WSO Services") and such is also available to City. Attached as Exhibit C is a copy of such WSO Services agreement. If City elects to participate in the WSO Services, City shall provide written notice to MWDOC setting forth its maximum participation costs and if such notice is provided, City may utilize the WSO Services.

2.3.2 MWDOC has entered into technical services agreements with McCall's Meters, Inc. and with Westerly Meter Service Company to provide meter testing accuracy services ("Meter Testing Services"). Attached as Exhibit D are copies of such Meter Testing Services agreements. If City elects to participate in these services, City shall provide written notice to MWDOC setting forth its maximum participation costs and if such notice is provided, City may utilize the Meter Testing Services.

3. Elementary and High School Water Education Program ("School Education Programs"), and Water Emergency Response Organization of Orange County

3.1 School Programs. The Parties agree that the School Education Programs shall be made available in City's water service area for the Term of this Agreement, without the need for a separate agreement between the Parties in addition to this Agreement. The City shall have no obligations to participate in any School Education Programs unless the City has agreed in writing to participate. There are two School Education Programs: (a) program for students Grade 1 through Grade 6 ("Elementary School Education Program"); and (b) program for students Grade 9 through Grade 12 ("High School Education Program").

The Elementary School Education Program will provide grade-specific water education programs for students in Grade 1 through Grade 6 in private and public schools located in the City of Anaheim. MWDOC will provide a specific water awareness and efficiency curriculum that meets state teaching standards and is organized and conducted by MWDOC through trained educational specialists. Prior to the commencement of any Elementary School Education Program during the Term, MWDOC shall provide City a detailed description of the program and MWDOC shall not commence that program without City's prior written consent. Each new school year shall require a new program description. Compensation to MWDOC shall be paid at the rate of \$3.91 per student participating ("Student Participation Rate") in any program of the Elementary School Education Program during the 2016-17 school year. For every school year thereafter during the Term, the Student Participation Rate shall be adjusted, typically by about three percent (3%). Other adjustments may be requested if additional Anaheim schools ask to participate in the Elementary School Program after the start of a budget year, but no additional costs shall be incurred by City without City's prior written approval. MWDOC does not guarantee the number of schools and students that will participate in the Elementary School Education Program and such may be limited by the amount of funding available. The program description required above will provide a budget

and expected targets, and will require the written consent of both parties prior to implementation.

The High School Education Program will provide grade-specific water education programs for students in Grade 9 through Grade 12 in private and public schools located in the City of Anaheim in conjunction with a digital program and teachers' training program. MWDOC will provide a specific water issues awareness and water use efficiency curriculum that meets state teaching standards and is organized and conducted by MWDOC through trained educational specialists. Prior to the commencement of any High School Education Program during the Term, MWDOC shall provide City a detailed description of the program and MWDOC shall not commence that program without City's prior written consent. Each new school year shall require a new program description. Compensation to MWDOC shall be paid based on an agreed upon level of participation and the program structure. For Fiscal Year 2016-17, the participation rate is \$4,120.00 per participating High School ("High School Participation Rate"). For every school year thereafter during the Term, the High School Participation Rate shall be adjusted, typically by about three percent (3%). Other adjustments may be requested during the course of the program, but City shall not incur additional costs without City's prior written agreement. MWDOC does not guarantee the number of schools and students that will participate in the High School Education Program and such may be limited by the amount of funding available and the level of engagement at each High School. The cost for the digital program and teachers' education is \$41,200 in 2016-17 for the total program cost. The total cost is apportioned over all agencies participating, including the City, based on the percentage of high school students within the service area of the City compared to the total number of high school students in the program (all cities and water agencies participating). The City cost for this portion is \$5,967 for the 2016-17 school year. The program description required above will provide a budget and expected targets, and will require the written consent of both parties prior to implementation.

3.2 School Program Invoices. MWDOC shall submit invoices to City in January and June of each year for the Services provided in accordance with the Agreement. City agrees to pay MWDOC for undisputed invoices within a period of thirty (30) days after receipt of the submittal. Notwithstanding anything to the contrary in this Agreement, City acknowledges that it has been participating in MWDOC's School Education Programs during the 2016-17 fiscal year and agrees to pay for the costs associated with such as described and consistent with Section 3.1 up to City's total agreed upon level of participation, which is Thirty-Nine Thousand and One Hundred and Forty-Six Dollars (\$39,146.00).

3.3 School Program Insurance. Without limiting City's right to indemnification, it is agreed that MWDOC shall secure prior to commencing any School Education Programs on behalf of City, and maintain during that period of the Term in which City is participating in a School Education Program, insurance coverage as follows:

3.3.1 Worker's Compensation Insurance as required by California statutes.

3.3.2 Comprehensive General Liability Insurance, or Commercial General Liability Insurance, including coverage for Premises and Operations, Contractual Liability, Personal Injury Liability, Products/Completed Operations Liability, and Broad-Form Property Damage (if applicable), in an amount of not less than One Million Dollars (\$1,000,000.00) per occurrence, combined single limit, written on an occurrence form.

3.3.3 Comprehensive Automobile Liability coverage, including, as applicable, owned, non-owned and hired autos, in an amount of not less than One Million Dollars (\$1,000,000.00) per occurrence, combined single limit, written on an occurrence form.

3.3.4 City's Risk Manager is hereby authorized to reduce the requirements set forth above in the event he or she determines that such reduction is in City's best interest.

3.3.5 Prior to commencing any School Education Programs on behalf of City, MWDOC shall deliver to City insurance certificates confirming the existence of the insurance required by this Agreement and the naming of the City of Anaheim as an additional insured.

3.3.6 In addition to any other remedies City may have if MWDOC fails to provide or maintain the insurance required by this Section, City may, at its sole option: (a) order MWDOC to stop work under this Agreement and/or withhold any payment(s) which become due to MWDOC hereunder until MWDOC demonstrates compliance with the requirements hereof; and/or (b) terminate this Agreement.

3.3.7 Exercise of any of the above remedies, however, is an alternative to other remedies City may have and is not the exclusive remedy for MWDOC's failure to maintain insurance or secure appropriate endorsements.

3.4 The Water Emergency Response Organization of Orange County ("WEROC")

3.4.1 City may participate, without the need for an additional agreement in WEROC operations. MWDOC provides the overall staff and support for WEROC and has historically allocated the costs for WEROC among MWDOC, Orange County Water District, the Cities of Anaheim, Fullerton and Santa Ana, the Orange County Sanitation District and the South Orange County Wastewater Authority. The purpose of WEROC is to assist water and wastewater services with preparedness and response coordination for mutual aid and other services and to represent water and wastewater entities at the Orange County Operational Area. In order to build the relationships needed for effective response, WEROC works with MWDOC member agencies, Metropolitan, the County Operational Area, the State Office of Emergency Services and other emergency response partners throughout the year to educate, network and train together. WEROC staff works with its member agencies and the City on emergency plans and standard operating procedure development, review of state and federal required trainings for grant eligibility, disaster readiness, disaster exercise development, grant identification and applications and response and recovery coordination. Lastly, WEROC staff maintains two emergency operation centers, its own response plans and the backbone of the WEROC radio communications system.

3.4.2 By executing this Agreement, City elects to participate in WEROC and MWDOC will charge City a percentage of WEROC's annual budget to the City to fund WEROC operations. The historical percentage allocated is 3.8% and is based on historical negotiations among the WEROC funding partners. The proposed program budget and funding agency charges will be submitted to City for budgetary consideration annually.

4. Term and Agreement Limit

4.1 This Agreement shall be effective immediately upon the Effective Date and shall continue through June 30, 2020 ("Initial Term"). The Parties may mutually agree in writing to extend this Agreement for two (2) additional one year terms (each, an "Extension Term") so long as the Parties agree to (1) the first extension on or before the expiration of the Initial Term; and (2) the second extension on or before the expiration of the first Extension Term. Further, the Extension Terms shall be on the same terms and conditions as the Initial Term. The Initial Term and each Extension Term shall be collectively referred herein as a "Term". The General Manager is authorized, on behalf of the City, to approve an Extension Term.

4.2 City's funding obligation for this Agreement shall not exceed Five Hundred Thousand Dollars (\$500,000.00) ("Agreement Limit") for all programs and services covered herein. The City is responsible for monitoring its costs pursuant to this Agreement and to the extent that it incurs obligations consistent with this Agreement that exceed the Agreement Limit, the City is responsible for paying such additional costs to MWDOC. If the City wishes to add or delete any programs, activities, or studies set forth in this Agreement, notice of such additions or deletions must be received by MWDOC prior to March 15th for the following fiscal year.

4.3 The City or MWDOC may terminate this Agreement in its entirety at any time upon thirty (30) days written notice to the other Party.

4.4 In the event either Party terminates this Agreement, any funds paid by the City in the year of termination for costs that had not yet been incurred by MWDOC as of the date of termination will be subject to reconciliation during MWDOC's budget process. At that time MWDOC will determine whether the funds will be credited or refunded to the City. Further, any costs incurred by MWDOC as of the date of termination that have not yet been invoiced to the City shall be invoiced by MWDOC promptly and paid by the City within thirty (30) days of invoice receipt.

5. Delivery of Notice

5.1 Except as expressly provided herein, all notices permitted or required under this Agreement shall be given to the respective Parties at the following address, or at such other address as the respective Party may provide in writing for this purpose:

- 5.2 If to MWDOC:
18700 Ward Street
Fountain Valley, CA 92708

Mailing Address: PO Box 20895
Fountain Valley, CA 92728
Phone: (714) 963-3058
Fax: (714) 964-9389
Attention: General Manager

- 5.3 If to City:
201 S. Anaheim Blvd. Suite 601
Anaheim, CA 92805
Attention: Michael Moore

5.3.1 Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

6. Accounting and General Manager Authorization

6.1 MWDOC shall keep a correct and current accounting of payroll costs, travel, subsistence, field and incidental expenses. MWDOC shall use recognized accounting methods in preparing such invoices and reports.

6.2 City reserves the right to request an audit of MWDOC records related to invoices prepared pursuant to this Agreement and to designate a representative(s) to examine any cost, revenue, payment, claim or any other records or procedures related to this Agreement. Any such audit(s) would be done at reasonable times with full cooperation from the MWDOC. If MWDOC fails to provide supporting documentation for any costs charged City to City's reasonable satisfaction, then MWDOC agrees to reimburse City for those disputed payments.

6.3 The right to audit shall be extended to three (3) years beyond the date of final payment, or longer if required by law. MWDOC agrees to retain all necessary records/documentation for the entire length of this audit period. Any required adjustments and/or payments resulting from the audit will be made within thirty (30) days of written notification to MWDOC.

6.4 The General Manager or his authorized designee is authorized to commit the City to any program or service covered by this Agreement as well as provide written notices on behalf of the City.

7. Independent Contractors

Any consultant engaged by MWDOC as contemplated in this Agreement will not be a party or third party beneficiary to this Agreement and will not be an employee or agent of MWDOC or the City, either as a result of this Agreement or as a result of any professional services agreement between MWDOC and the consultant. The professional services agreement between MWDOC and any consultant engaged by MWDOC as contemplated in this Agreement will specify that the consultant is an independent contractor. It is understood that these consultants may be required to enter into confidentiality agreements with the City in the event these consultants require information from the City to perform a service.

8. Indemnification

8.1 When WUE Programs provided in the City's water service area require participants to sign an application form that contains a release, waiver and/or indemnification, the application form shall specify that the release, waiver and/or indemnification covers both MWDOC and the City.

8.2 To the extent that MWDOC, including its staff or consultants, or the City, including its staff or consultants, performs any activities in connection with the programs or services provided as contemplated in this Agreement, each agrees to indemnify and hold the other harmless from any and all liability, claims, obligations, damages, and suits arising out of the activities it performs.

9. Jurisdiction and Venue

In all matters concerning the validity, interpretation, performance, or effect of this Agreement, the laws of the State of California shall govern and be applicable. The Parties hereby agree and consent to the exclusive jurisdiction of the courts of the State of California and that venue of any action brought hereunder shall be in Orange County, California.

10. Joint Drafting

All Parties have participated in the drafting of this Agreement. The Agreement may be signed in counterpart to facilitate processing.

11. Severability

If any provision of this Agreement shall be held illegal, invalid, or unenforceable, in whole or in part, the legality, validity, and enforceability of the remaining provisions shall not be affected thereby.

12. Other Invoice Payment.

City agrees to pay MWDOC in the amount of one thousand one hundred and eleven dollars and seventy-four cents (\$1,111.74) for water education as evidenced by MWDOC Invoice number 15559.

13. Effective Date.

The effective date of this Agreement shall be the latest date of execution hereinafter set forth opposite the names of the signators hereto ("Effective Date").

14. Entire Agreement

This Agreement contains the entire agreement of the Parties relating to the subject matter hereof, and the Parties have made no agreements, representations, or warranties, either written or oral, relating to the subject matter hereof that are not set forth herein. Except as provided herein, this Agreement may not be modified or altered without prior written approval from both Parties.

IN WITNESS WHEREOF, the Parties have executed this Agreement by and through their authorized officers.

1. MWDOC

Date _____

By: _____

Robert Hunter, General Manager
Municipal Water District of Orange County

Approved as to Form:

Date _____

By: _____

General Counsel

2. City of Anaheim

Date _____

By: _____

Dukku Lee,
Public Utilities General Manager

Approved as to Form:

Date _____

By: _____

Daniel A. Ballin,
Deputy City Attorney

Internal Use Only:

Program No. _____

Line Item: _____

Funding Year: _____

Contract Amt.: _____

Purchase Order #: _____

Exhibit “A”

Inspection and Verification Procedures

Exhibit "B"

Invoices

Exhibit "C"

WSO Services Agreement

Exhibit "D"

Meter Testing Services Agreement

FINAL 7-11-16

**MASTER AGREEMENT FOR PROGRAMS AND SERVICES
BETWEEN MUNICIPAL WATER DISTRICT OF ORANGE COUNTY (MWDOC)
AND THE CITY OF SANTA ANA**

THIS AGREEMENT (the "Agreement") is made as of Aug. 21, 2016 by and between the Municipal Water District of Orange County ("MWDOC") and the City of Santa Ana ("City") to provide for participation by the City in various programs and services administered by MWDOC, as described herein. The City and MWDOC are referred to jointly as "Parties" and individually as "Party." City Staff shall be defined as the City's Water Resources Manager or his designee. That role is currently filled by Nabil Saba, PE, City of Santa Ana Water Resources Manager.

RECITALS

WHEREAS, the Parties are both member agencies of the Metropolitan Water District of Southern California ("Metropolitan") and have many common interests related to water activities, programs and organizations within Orange County; and

WHEREAS, the Parties share many water planning characteristics, including location, climate history, demographics, water sources, water supplies and demand management measures; and

WHEREAS, the Parties share a long and successful history of collaborating on water resource activities, planning analyses and reports, water use efficiency programs, school education programs, emergency preparedness programs and other joint efforts; and

WHEREAS, the Parties desire to cooperate and pool resources to obtain economies of scale on joint studies and programs, share information developed independently, simplify the process of implementing water use efficiency measures, and maximize grant funding for all of these activities; and

WHEREAS, the Parties understand that all programs administered are done so that the ultimate decision to participate and seek a rebate is made by the end water user within the City; and

WHEREAS, the Parties have prepared this Agreement to address the common goal of consolidating and streamlining the contracting procedures required for MWDOC's administration of, and the City's participation in, the programs and services referenced herein;

NOW, THEREFORE, the Parties agree as follows:

1. OVERVIEW OF JOINT ACTIVITIES

- a) The Agreement shall cover those activities as can be agreed to between MWDOC and the City including the following:
 - Water Use Efficiency (WUE) Programs

- School Education Programs (Elementary and High School)
- Water Emergency Preparedness Activities including annual support of the Water Emergency Response Organization of Orange County (WEROC)
- Shared Consulting Agreements
- Water Resources Planning
- Strategic Services
- Water Loss Control Services
- Urban Water Management Plans

b) The provisions as described below shall apply to the above services.

2. WATER USE EFFICIENCY PROGRAMS ("WUE PROGRAMS")

- a) Subject to the limitations set forth in Sections 2 - 5, the Parties shall work together to make WUE Programs available to water users throughout the City's water service area. In general, the City will have access to the same "Choice" WUE Programs that are available to MWDOC's member agencies. Each year, as MWDOC's budget is developed, MWDOC shall provide notice to the City by submitting the WUE Program Participation cost estimate (budget) for the subsequent fiscal year (same as it provides to all of its member agencies) to allow the City to consider participation. City has the sole discretion to participate. MWDOC shall also provide City with any other information or documents which are required for participation in WUE Programs or reasonably requested by the City in connection with WUE Programs. For each fiscal year, the City shall review the WUE Program Participation cost estimate and choose the WUE Programs, the level of its participation, and funding levels that the City deems beneficial. In connection with the foregoing, the City will notify MWDOC via email regarding the City's financial participation in the upcoming fiscal year. Whenever NEW opportunities for WUE programs shall become available, MWDOC shall notify the City Staff and provide sufficient details and requirements for each, and estimated costs for City's review and decision regarding participation. The City Staff shall provide MWDOC an email confirmation regarding whether it intends to participate in the NEW opportunities and its level of participation.
- b) Except to the extent of the elections made in the WUE Participation Notification, the City shall have no obligation to participate in any WUE Program, including, but not limited to, any obligation to provide financial contribution to such program, unless elected to by the City Staff as outlined in Sections 2 - 5.

3. WUE PROGRAMS WITH NO MATCHING CONTRIBUTION REQUIREMENT

- a) Subject to the limitations set forth herein, the Parties agree that the WUE Programs chosen by the City for participation, with the exception of any WUE program that requires City funding, shall be made available throughout the City's water service area for the Term of this Agreement, without the need for a separate agreement between the Parties beyond this Agreement. City participation in any WUE program that requires City funding shall proceed only upon approval of the City, as provided herein.

- b) At the time this Agreement is made, the following WUE Programs are available to the City from MWDOC and they do not require local match funding from the City or any other contribution from the City. The City may voluntarily elect to provide, as described below, supplemental funding in order to enhance the level of incentive paid to the participant.

- Drought Response Turf Removal Program (SAWPA)
- Comprehensive CII Program (SAWPA)
- Comprehensive Landscape Program (USBR)
- Water Smart Landscape Program (aka - Landscape Performance Certification Program)

MWDOC will provide the City with support for these programs in the form of marketing materials and staff support. Grant funding obtained by MWDOC for WUE Programs will be made available to end water users within the City's water service area in the same manner it is made available to MWDOC member agencies.

- c) When required for any WUE Program, as determined by MWDOC and the program design, and subject to provisions in Sections 2 - 5, the City will be required to conduct pre- and post- installation verification inspections and will provide MWDOC with documentation showing inspection results. Personnel and equipment costs incurred by the City, if any, will not be reimbursed by MWDOC or any other third party. Such inspection obligations shall not exceed those levels or amounts set forth in the WUE Participation Notification, attached hereto as Exhibit A. If City has agreed to participate in any program that requires inspections, the City may, in the alternative to the foregoing, request in writing in response to the WUE Program Participation budget that MWDOC direct its inspection contractor to conduct pre- and post-installation verification inspections, at the City's cost, provided MWDOC provides City with an estimate for these costs and City Staff approves such costs. MWDOC shall invoice the City monthly for such inspection costs. In addition to the direct costs to MWDOC, reasonable staff time and overhead attributable to the inspection services may be invoiced to the City and the City is responsible for paying MWDOC for such.
- d) Should City request to add supplemental funding in order to increase incentive levels beyond the levels established, City may do so at its sole discretion by listing the per device and total funding amounts in its response to the WUE Program Participation budget. Submittal to MWDOC of the WUE Participation Notification document with changes by the 10th of the month will take effect by the first of the following month.

4. WUE PROGRAMS WITH MATCHING LOCAL CONTRIBUTION REQUIREMENT

- a) The Parties agree that MWDOC's WUE Programs that require a local contribution shall be made available throughout the City's water service area for the Term of this Agreement, without the need for a separate agreement between the Parties beyond this Agreement. Selection to participate by the City and the level of funding required for any MWDOC WUE

program device will be designated in the WUE Program Participation budget. Any changes, such as funding levels, program participation, and/or overall funding amounts, City wishes to make during the Term of this agreement will be made in response to the WUE Program Participation budget.

- b) The local contribution required under these Programs varies. The amount of local match funding required for any particular device will be determined by the availability of other funding, and the City's share of the local matching fund for each device installed shall be mutually agreed upon between the City and MWDOC prior to the commitment of City funds, which the City shall acknowledge by submitting a response to the WUE Program Participation budget.

5. WUE PROGRAM COST ALLOCATION AND INVOICING

- a) During its annual budget process, MWDOC shall allocate to the City a proportionate share of MWDOC's estimated WUE Program costs. This share is determined by calculating the percentage of total outside funding provided during the previous calendar year to WUE Program participants within the City's service area compared to the total of all outside funding under MWDOC's WUE Program. That percentage is then applied to MWDOC's total WUE "Choice" Program budget, including personnel and overhead costs. Based on the information provided, the City shall decide whether or not to participate and shall advise MWDOC. This allocation process is the same as the allocation process used to allocate costs to MWDOC's member agencies.
- b) For those programs included in the WUE Program Participation budget, MWDOC shall invoice the City for WUE Program costs no later than August 30 of each year, and the City shall pay the amount due within thirty (30) days of receipt of the invoice. MWDOC must be notified of any disputed invoice within 30 days of receipt.
- c) A reconciliation of actual WUE Program costs will be performed at the end of each year during MWDOC's budget process and reflected in the invoice sent to the City the following year.
- d) MWDOC shall invoice the City on a monthly basis for any local funding required, including the per device amounts, any inspection costs, and/or any provided supplemental funding, provided the City has agreed to participate in such programs. Such invoices shall be mailed by the 10th day of each month for the preceding month and shall be paid by the City within 30 days. The amount invoiced per device shall be determined by MWDOC and conveyed to City prior to City's participation. All funding amounts will be listed in the WUE Program Participation budget.

6. SCHOOL EDUCATION PROGRAMS (ELEMENTARY AND HIGH SCHOOL)

- a) MWDOC's School Education Programs are offered as a "Choice" program offering on a pay-for-service program manner for both MWDOC's member agencies and the Cities of Anaheim, Fullerton and Santa Ana. The programs and options are described below. Typically, these programs are structured and priced annually through MWDOC's

budgeting process. The School Education Program services offered by MWDOC and the City annually selects targets for both Elementary and the High School Programs. MWDOC and its contractors agree to attempt to fulfill the target amounts, but cannot guarantee such and will charge the City based on actual students and schools involved in the programs. For the School Programs, MWDOC will invoice for the total annual estimated costs and will provide a reconciliation at the year-end, based on the actual services provided.

b) Elementary School Grades 1-6

- i) Currently, the Elementary School Program is operated by the *Discovery Science Foundation* under contract with MWDOC and offers services based on the number of students desired by each of the member agencies. The program is offered to grades 1-6 with all students using the Keypad Program. The final billing is based on actual number of students that participate.

c) High School Program

Currently, the High School Program is being conducted by contract with MWDOC by *Inside the Outdoors*, a department of the Orange County Department of Education and is being conducted in partnership with *The Ecology Center*. The program offers two parts as follows:

- i) Basic Program - MWDOC structured the “digital portion” of the High School Program and the High School Teacher Training portion of the program, with costs allocated to member agencies and the City based on the High School Student Population count per water serving agency. This was done because the “digital” portion of the program involves development of a web-based program aimed at attracting and engaging high school students from all over the County and because the Teacher Training is open to all teachers in the County.
- ii) Specific Funding to a High School in the Member Agency Service Area - Agencies can elect to have at least one High School in their service area participate in the detailed program involving their entire student body. Agencies can opt in or out of this portion of the program if they do not want it offered for their service area.

7. THE WATER EMERGENCY RESPONSE ORGANIZATION OF ORANGE COUNTY (WEROC)

- a) The parties may participate, without the need for an additional agreement in WEROC operations. MWDOC provides the overall staff and support for WEROC and has historically allocated the costs for WEROC among MWDOC, Orange County Water District, the Cities of Anaheim, Fullerton and Santa Ana, the Orange County Sanitation District and the South Orange County Wastewater Authority. The purpose of WEROC is to assist water and wastewater services with preparedness and response coordination for mutual aid and other services and to represent water and wastewater entities at the Orange County Operational Area. In order to build the relationships needed for effective

response, WEROC works with member agencies, Metropolitan Water District of Southern California, the County Operational Area, the State Office of Emergency Services and other emergency response partners throughout the year to educate, network and train together. WEROC staff works with its member agencies (including the City) on emergency plans and standard operating procedure development, review of state and federal required trainings for grant eligibility, disaster readiness, disaster exercise development, grant identification and applications and response and recovery coordination. Lastly, WEROC staff maintains two emergency operation centers, its own response plans and the backbone of the WEROC radio communications system. In providing these services WEROC continues to lead the nation as a model for water and wastewater emergency coordination and response.

- b) MWDOC will charge a percentage of WEROC's annual budget to the City to fund WEROC operations. The historical percentage allocated is 3.80% and is based on historical negotiations among the WEROC funding partners. The proposed program budget and funding agency charges will be submitted to City for budgetary consideration annually.

8. SHARED CONSULTING SERVICES

- a) The Parties may participate, without the need for an additional agreement, in the planning, research, policy development, water resources planning, strategic processes and other activities that require engagement of an outside consultant. MWDOC shall provide the City a copy of each consultant's proposal for review and comments. For each consultant so engaged, the City will notify MWDOC if it elects to participate in the consulting services and the limit of its financial participation. These and other joint activities and studies related to water resources planning are basic and recurring functions for both MWDOC and the City, and the City's Water Resources Manager shall have discretion to authorize participation by the City in consulting contracts administered by MWDOC by giving written notice to MWDOC, provided the Agreement Limit (defined below) has not been reached.
- b) The City shall not have any obligation to pay for this consultant unless the City agrees to participate in the consultant's proposed costs.

9. AWARD AND ADMINISTRATION OF CONSULTANT AGREEMENTS

- a) When programs or services desired by the City and administered by MWDOC require MWDOC to engage a consultant, MWDOC will use its standardized professional services agreement as a form and will modify it as required for each particular engagement. MWDOC will award the agreement pursuant to its own Administrative Code and procedures, except as noted in this Agreement.
- b) For each professional services agreement, MWDOC will determine appropriate insurance requirements. When MWDOC requires a consultant's insurer to name MWDOC, its directors, officers, agents, employees, attorneys, consultants and volunteers as additional

insureds, the same requirement will be made for the City and its Council, officers, agents, employees, attorneys, consultants and volunteers. Other protections in MWDOC's insurance requirements, including waiver of subrogation rights, will also be extended to the City when practicable.

- c) MWDOC shall administer such professional services agreements and coordinate all aspects of the proposed work. MWDOC shall communicate with the City regularly and upon request regarding the status of the agreement and the work for each professional services agreement in which the City has elected to participate.
- d) MWDOC shall invoice the City for the City's share of total costs anticipated for each professional services agreement in which the City has elected to participate, as contemplated in this Agreement. The cost allocation among participants and the City will vary by project; the basis of the cost allocation and sharing to the City shall be provided and agreed upon prior to the initiation of the professional services agreement. MWDOC shall invoice the City for the full estimated cost of such services and shall provide a reconciliation at the end of each contract. Any invoices shall be mailed by the 10th day of each month for the preceding month and shall be paid by the City within 30 days.
- e) MWDOC shall inform the City on a timely basis of any proposed extra work under any professional service agreement being administered by MWDOC that would result in an increase in the City's payment under this Agreement. MWDOC shall seek input and written concurrence from the City and any other participating agencies prior to the authorization of extra work by the consultant. For the purpose of this section only, an e-mail from MWDOC staff to City staff, with an e-mail response from City staff, shall satisfy MWDOC's obligation to seek written concurrence.
- f) MWDOC will be responsible for all aspects of managing the consultant contract including making any payments required under the terms and conditions of the contract.

10. TERM

- a) This Agreement shall be effective immediately upon execution and shall continue through June 30, 2019 ("Expiration Date"). The Parties may mutually agree to renew this Agreement for an additional three years in writing made on or before the initial Expiration Date, said extension to be exercisable in writing by the City Manager and the City Attorney.
- b) This Agreement does not authorize the programs and services in excess of three hundred and thirty three thousand dollars (\$333,000) over the entire term of the agreement ("Agreement Limit"), as outlined below.
- c) If the City wishes to add any programs, activities, or studies set forth in this Agreement, notice of such additions can be given at any time acceptable to either Party. If the City wishes to delete any programs, activities, or studies set forth in this Agreement, notice of such deletions must be received by MWDOC prior to April 15th for the following fiscal year.
- d) The City or MWDOC may terminate this Agreement in its entirety at any time upon thirty

(30) days written notice to the other Party. In the event either Party terminates this Agreement, any funds paid by the City in the year of termination for costs that had not yet been incurred by MWDOC as of the date of termination will be subject to reconciliation during MWDOC's budget process. At that time MWDOC will determine whether the funds will be credited or refunded to the City. Further, any costs incurred by MWDOC as of the date of termination that have not yet been invoiced to the City shall be invoiced by MWDOC and promptly paid by the City within thirty (30) days. At the time of termination, the City shall remain obligated for any initiatives started that cannot be terminated without incurring costs. MWDOC and the City agree to work amicably to carry out any notice of termination.

11. LIMITATION OF FINANCIAL COMMITMENT BY THE CITY

- a) The financial limit by this agreement is outlined below. The below table provides the estimated current level of activities and projects out the future costs of these activities over the next five years, with future estimates of escalation. The limits provided below are for purposes of City Staff seeking authorization to carry-out these activities over a multiple year period and DO NOT imply any future commitment by the City to MWDOC. The City Staff will utilize this agreement, within their discretion and decision-making to engage on activities with MWDOC only as specifically outlined in this Agreement and only for the matters outlined in this Agreement. The City Staff has sole decision-making responsibility in determining whether or not to participate with MWDOC on any or none of the opportunities outlined in this Agreement.

Limitation of Cost of Services Over the Next Three Years		
Type of Service	Annual Estimate	Maximum Not to Exceed Over 3 Years
Water Use Efficiency (WUE) Programs	Varies	\$21,000
School Education Programs	\$70,000	\$210,000
Water Emergency Preparedness Organization of Orange County (WEROC)	\$15,000	\$45,000
Shared Consulting Agreements	Varies	\$45,000
Water Resources Planning	\$2,000	\$6,000
Strategic Services	\$2,000	\$6,000
Total		\$333,000

12. DELIVERY OF NOTICE

- a) Except as expressly provided herein, all notices permitted or required under this Agreement shall be given to the respective Parties at the following address, or at such other address as the respective Party may provide in writing for this purpose:

If to MWDOC:

Municipal Water District of Orange County
18700 Ward Street
Fountain Valley CA 92708
Phone: (714) 963-3058
Attention: General Manager, Rob Hunter
Email: Rhunter@mwdoc.com

If to City:

Public Works Agency
Water Resources Division
220 South Daisy Ave.
Santa Ana, CA 92702
Phone: (714) 647-3378
Attention: Water Resources Manager, Nabil Saba
Email: NSaba@santa-ana.org

- b) Such notice shall be deemed made when personally delivered or emailed and shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

13. ACCOUNTING

- a) Upon request of the City, MWDOC will provide copies of any specified consultant's agreements, invoices and MWDOC's related payment records.

14. INDEPENDENT CONTRACTORS

- a) Any consultant engaged by MWDOC as contemplated in this Agreement will not be a party or third party beneficiary to this Agreement and will not be an employee or agent of MWDOC or the City, either as a result of this Agreement or as a result of any professional services agreement between MWDOC and the consultant. The professional services agreement between MWDOC and any consultant engaged by MWDOC as contemplated in this Agreement will specify that the consultant is an independent contractor.

15. INDEMNIFICATION

- a) When WUE Programs provided in the City's water service area require participants to sign an application form that contains a release, waiver and/or indemnification, the application form shall specify that the release, waiver and/or indemnification covers both MWDOC and the City.
- b) To the extent that MWDOC, including its staff or consultants, or the City, including its staff or consultants, performs any activities in connection with the programs or services provided as contemplated in this Agreement, each agrees to indemnify and hold the other harmless from any and all liability, claims, obligations, damages, and suits arising out of the activities it performs.

16. JURISDICTION AND VENUE

- a) In all matters concerning the validity, interpretation, performance, or effect of this Agreement, the laws of the State of California shall govern and be applicable. The Parties hereby agree and consent to the exclusive jurisdiction of the courts of the State of California and that venue of any action brought hereunder shall be in Orange County, California.

17. JOINT DRAFTING

- a) All Parties have participated in the drafting of this Agreement. The Agreement may be signed in counterpart to facilitate processing.

18. SEVERABILITY

- a) If any provision of this Agreement shall be held illegal, invalid, or unenforceable, in whole or in part, the legality, validity, and enforceability of the remaining provisions shall not be affected thereby.

19. ENTIRE AGREEMENT

- a) This Agreement contains the entire agreement of the Parties relating to the subject matter hereof, and the Parties have made no agreements, representations, or warranties, either written or oral, relating to the subject matter hereof that are not set forth herein. Except as provided herein, this Agreement may not be modified or altered without prior written approval from both Parties.

[SIGNATURES ON NEXT PAGE]

IN WITNESS WHEREOF, the Parties have executed this Agreement by and through their authorized officers.

Date: 9-7-16

By: [Signature]
Rob Hunter
General Manager
MWDOC

Date: AUG 25 2016

By: [Signature]
David Cavazos
City Manager
City of Santa Ana

Approved as to Form

Date: 9/7/16

By: [Signature]
Legal Counsel:
Best, Best & Krieger

Approved as to Form

Date: July 12, 2016

By: [Signature]
City Attorney

RECOMMENDED FOR APPROVAL:

[Signature]
Fred Mousavipour
Executive Director
Public Works Agency

ATTEST:

[Signature]
MARIA D. HUIZAR
CLERK OF THE COUNCIL



ACTION ITEM
August 16, 2017

TO: Planning & Operations Committee
(Directors Dick, Finnegan & Yoo Schneider)

FROM: Robert Hunter, General Manager

Staff Contact: Karl Seckel

**SUBJECT: Contract Authorization for Raftelis Financial Consultants to Conduct
Five Year Monitoring of the Budget Based Tiered Rate Grant from DWR**

STAFF RECOMMENDATION

Staff recommends the Board authorize the General Manager to enter into a Contract with Raftelis Financial Consultants to carry out the five year monitoring work required as a condition of the DWR Grant at a cost not to exceed \$41,721.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

In July 2008, DWR advertised for Grants to deal with Urban Drought Assistance. MWDOC was able to partner with a number of its agencies and utilized the assistance of Raftelis Financial Consultants to submit a grant application. MWDOC was awarded a \$685,000 grant to assist a number of its agencies to examine and implement budget based tiered rates. The project involved MWDOC assisting 13 of its agencies with various aspects of implementing budget based tiered rates (irrigable area mapping, rate study development, billing system modifications, outreach, etc). The original proposal made to DWR included

Budgeted (Y/N): Yes	Budgeted amount: \$41,721	Core <input type="checkbox"/>	Choice <input checked="" type="checkbox"/>
Action item amount: \$41,721	Line item: 02-21-7010		
Fiscal Impact (explain if unbudgeted) The total grant funds brought in were \$685,000 with \$165,430 of the grant funds retained by MWDOC to cover the staff costs of Karl Seckel and Joe Berg to manage the grant and prepare the report and to cover the costs for Raftelis Financial Consultants to prepare the five year monitoring.			

total project costs for all agencies of \$2,390,695 and local costs of \$1,640,695 (71%). The difference was made up of DWR funds from the grant in the amount of \$685,000. The MWDOC Board authorized the General Manager to enter into an Agreement with DWR in November 2008 and various consultants.

The Final Grant Report documenting the project was completed and submitted to DWR in March 2015. The terms of the DWR Grant include five years of monitoring to document results following completion of the grant. We are at the point in time since the implementing agencies began utilizing Budget Based Tiered Rate in 2011 and 2012. The monitoring will be aimed directly at the three agencies who proceeded to implement Budget Based Tiered Rates in some format. This includes:

- MNWD
- ETWD
- EOCWD

In May 2017, MWDOC called together the Grant Participants and Raftelis Financial Consultants to discuss various approaches to meet the monitoring requirements of the Grant. The three Participants concurred with the evaluation procedure and indicated they could supply the necessary data to Raftelis. Raftelis put together the attached proposal to conduct the work. Funds brought into the Grant by MWDOC are sufficient to cover the costs of the follow-up work. Raftelis was originally scheduled to complete the monitoring work under their original authorization, but since so much time has passed since the original authorization, staff has brought the work back to seek an updated Board approval. Staff recommends award of the monitoring contract to Raftelis in the amount not to exceed \$41,721.

The Raftelis scope of work is attached.

June 30, 2017

Karl Seckel
Assistant Manager/District Engineer
Municipal Water District of Orange County
P.O. Box 20895
Fountain Valley, CA 92728

Subject: Proposal to Conduct Water Budget Evaluation for DWR Grant

Dear Mr. Seckler:

Raftelis Financial Consultants, Inc. (RFC) is pleased to submit this letter proposal to assist the Municipal Water District of Orange County (MWDOC) in conducting a five-year evaluation of the impacts of adopting budget-based tiered rates (BBTRs) in Orange County.

Three agencies—El Toro Water District (ETWD), Moulton Niguel Water District (MNWD), and East Orange County Water District (EOCWD)—are identified as Grant Participants and will be evaluated in terms of the savings in household water consumption that can be attributed to BBTR adoption. This study will satisfy the requirements of the DWR grant, which requires a quantitative evaluation of five years' worth of water demand savings for agencies implementing BBTRs as part of the grant. The methodology and scope of services presented in this proposal will provide robust estimates of the water savings occurring as a result of BBTR adoption, while controlling for other factors affecting household water demand.

Scope of Services

Task 1 – Kick-off Meeting & Methodology Discussion

- 1.1.** RFC and MWDOC will organize a meeting with the Grant Participants to review the grant requirements, discuss approaches to the evaluation work completed to this point, and decide on a recommended approach for meeting the reporting requirements of the grant by accurately estimating the savings occurring from BBTR adoption in OC.

Deliverables: *Meeting Minutes & Notes on Methodological Approaches*

Meetings: *One (1) in-person kickoff meeting*

Task 2 – Data Collection & Processing

2.1. RFC will submit data requests to El Toro Water District (ETWD), Moulton Niguel Water District (MNWD) and East Orange County Water District (EOCWD), as well as MWDOC to secure necessary data from the Center for Demographic Research. We will request account-level water budget data for the years 2007-2016, including the following variables:

- *Household water consumption*
- *Month of BBTR adoption*
- *Household size*
- *Irrigated area*
- *Evapotranspiration (ET) and evapotranspiration adjustment factors (ETAFs)*
- *Real price of water (average or marginal)*
- *Education*
- *Household income*
- *Read dates*

We will also request the following information at the agency or municipality level:

- *Conservation ordinances*
- *Previous rate structure(s)*
- *Weather data (e.g., precipitation)*

2.2. RFC will work with Moulton Niguel Water District (MNWD) to review the work previously completed by UC Riverside, including the quantitative approach, programming code, and interpretation of results.

2.3. RFC will carry out all necessary data processing and management to prepare the provided data for use in the study. This subtask may include processes such as normalization, filtering, resampling, outlier analysis, smoothing, and calculation of summary statistics.

Deliverables: *None*

Meetings: *Up to three (3) web meetings to discuss data collected and any relevant issues*

Task 3 – Initial Programming & Model Estimation

- 3.1. RFC will estimate demand models using a methodology adapted from the 2016 UC Riverside approach for the MNWD evaluation study and other related, publicly-available studies. The main aim of this approach is to estimate household water demand in a comprehensive, predictive statistical model, using data from before BBTRs were adopted. The predicted values of the model for months after BBTR adoption will then be compared with actual water consumption data to estimate the impact of BBTRs on water demand. This process will be carried out for both ETWD, MNWD and EOCWD using the provided data.
- 3.2. RFC will carry out sensitivity analysis to evaluate the degree to which the results might change in response to alternative model configurations, smoothing or filtering of the source data, the inclusion or exclusion of control variables, and other methodology adjustments. Sensitivity analysis will help to confirm that the selected method is appropriate for evaluating the variables of interest, and whether the overall results are robust despite certain changes in approach.

Deliverables: *None*

Meetings: *None*

Task 4 – Development & Review of Results

- 4.1. RFC will review the preliminary results of the model estimations, working with MWDOC and the participating agencies to develop a nuanced understanding and interpretation of the model results in the context of the original purpose of the DWR grant. Results for ETWD, MNWD and EOCWD will be compared with the results of the previous MNWD study to identify any commonalities, differences, and possible explanations for both.
- 4.2. Following discussions with the working group, RFC will finalize the results of our quantitative analysis and produce summaries, figures, and tables for presentation of the results to the working group and, ultimately, to DWR.

Deliverables: *Preliminary estimation results, including graphical representations*

Meetings: *Two (2) in-person meetings to review results & interpretations*

Task 5 – Report Development

- 5.1. RFC will compose a Draft Report that includes (1) an Executive Summary; (2) background information regarding the DWR grant and the factors leading to the development of BBTRs in Orange County; (3) the data and methods employed in our evaluation, with a detailed description of all variables and analytical approaches, (4) results of our differential demand analysis for ETWD, MNWD and EOCWD, along with a summary of the prior MNWD results; and (5) discussions, conclusions and implications of the work including recommendations for future research.
- 5.2. RFC will present the Draft Report to the working group and receive comments, questions, and feedback from all agencies.
- 5.3. RFC will incorporate feedback from the working group into a Final Report which will be submitted to DWR in conjunction with the grant requirement.

Deliverables: *Draft Report, Final Report*

Meetings: *One (1) web meeting to review Draft Report*

Task 6 – Public Outreach & Stakeholder Engagement

- 6.1. If desired, RFC will be available to communicate the results of the study to DWR, stakeholders, and the general public in either public or private meetings. We are also available to present the analytical approaches and results of this study at conferences or in other contexts.

Deliverables: *As needed/Optional*

Meetings: *Up to one (1) in-person meeting to present results*

Project Fees

RFC will complete the above scope of services for a not-to-exceed amount of **\$45,567** (as shown in the table below). RFC will invoice MWDOC monthly, based on time and materials.

MWDOC Water Budget Evaluation Study								
Proposed Hours & Fees								
Task	Task Descriptions	# of Meetings						Total Fees & Expenses
		WM	FM	SG	KH	Admin	Total	
HOURLY RATES				\$280	\$150	\$75		
1	Kick-off Meeting & Methodology Discussion		1	10	24		34	\$6,987
2	Data Collection & Processing	3		8	64		72	\$12,560
3	Initial Programming & Model Estimation				48		48	\$7,680
4	Development & Review of Results		2	16	20		36	\$8,334
5	Report Development	1		8	24		32	\$6,160
6	Public Outreach (Optional)		1	8	8		16	\$3,847
TOTAL ESTIMATED MEETINGS / HOURS		4	4	50	188	0	238	
PROFESSIONAL FEES				\$14,000	\$28,200	\$0	\$42,200	
WM - Web meeting FM - Face-to-face meeting SG - Sanjay Gaur KH - Karter Harmon		Total Fees						\$42,200
		Total Expenses						\$3,367
		TOTAL FEES & EXPENSES						\$45,567
		TOTAL FEES & EXPENSES (Without Optional Task 6)						\$41,721

We are delighted to have this opportunity to provide assistance to the Municipal Water District of Orange County. If you agree with the proposed fees and expenses documented in this proposal, please sign in the space on the following page and return one copy for our files. Please call me at (213) 327-4405 if you have any questions.

Sincerely yours,

RAFTELIS FINANCIAL CONSULTANTS, INC.



Sanjay Gaur

Vice President

We accept the terms of this engagement letter:

_____	_____
Signature	Name of authorized agent
_____	_____
Date	Title



INFORMATION ITEM

August 7, 2017

TO: Planning & Operations Committee
(Directors Dick, Tamaribuchi, Yoo Schneider)

FROM: Robert Hunter, General Manager

Staff Contact: Kelly Hubbard, WEROC Manager

SUBJECT: WEROC South Emergency Operations Center (EOC) Seismic Study

STAFF RECOMMENDATION

Staff recommends the Planning & Operations Committee receive and file the report.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

The WEROC Emergency Operations Center Site Facility Assessment recommended that the South EOC be evaluated for seismic stability with a specific emphasis on life safety concepts. The WEROC South EOC has never had a seismic assessment conducted. Staff hired IDS Group to conduct the seismic study and received their assessment. Below is a summary of that assessment and staff's actions to follow-up on the study recommendations.

DETAILED REPORT

The purpose of the WEROC South EOC seismic assessment was to evaluate the facility for its seismic stability, with the primary focus being:

1. Life safety protections of employees or volunteers working at the facility; and
2. Ability of the facility to continue to serve as an EOC following anticipated shaking.

Life safety protections involves reviewing what mitigation actions are needed to physically protect the safety of any employees within or immediately around the building during the actual shaking of an earthquake. The second area of focus is the ability of the facility to immediately continue to serve as an EOC after an event, or otherwise how much clean-up/restoration may be needed in order to function at this location. This concept of operations was evaluated based on building code designations for an Essential Facility. The

Budgeted (Y/N): NA	Budgeted amount: NA	Core X	Choice __
Action item amount: \$0	Line item: NA		
Fiscal Impact (explain if unbudgeted): NA			

mitigation actions related to this area, are often associated with the reduction of or elimination of down time created by damage from the shaking.

Results of the Assessment

In general the assessment found that “the risk of life-threatening injury as a result of structural damage is expected to be low.” The report raised concerns about potential building damage due to structural concerns that would not necessarily threaten life-safety, but may require repair work after substantial shaking. In addition, the report made some general recommendations in regards to life-safety performance. General recommendations to “substantially improve” staff safety could be achieved by bracing the following elements:

- Ceiling system
- Suspended lights
- Suspended mechanical registers (such as T.V.s and projectors)
- Equipment and contents (such as bookshelves, and wall mounted items).

Additional recommendations were made in regards to the ability of the EOC to continue to operate immediately following an earthquake. These recommendations were more significant in nature due to complexity and potential costs. These are actions the district may want to consider depending on costs and feasibility. It is important to note that most agencies EOCs do not meet the essential facility designation. However, that is why there is a recommended industry standard to designate an Alternate EOC to the Primary EOC for reliability purposes. The issues raised at the South EOC increase the importance of the MWDOC Administration Building being designated as an Alternate EOC for WEROC.

Next Steps

WEROC staff (Kelly Hubbard, Francisco Soto, and Janine Schunk) and Charles Busslinger (providing technical and engineering assistance) are working through the recommended mitigation actions to determine feasibility and costs for the suggested modifications or alternative options. Staff is in the process of reaching out to various contractors for price estimates and to other emergency managers who have dealt with similar projects for feedback on what has worked and not worked with their EOC modifications and improvement projects. Once various options for improvement are identified, Kelly and Karl Seckel will work with El Toro Water District on whether identified options are agreeable to them as the property and building owner.

Additionally, staff determined that it was important to complete the same study of the MWDOC administration building as the primary property for MWDOC staff's daily operations, as well as with consideration of its designation as the WEROC Alternate EOC. Staff completed a Change Order with IDS Group for the original Seismic Assessment of the South EOC to also include an assessment of the MWDOC Administration Building. This additional assessment should be completed in August.

Staff will use all of this information (studies, quotes, feedback from other EOC projects and discussions with ETWD) to develop a recommended plan of improvement for the WEROC South EOC, and possibly the MWDOC Administration Building. All of which will be brought back to the Board for review and approval.

Meanwhile, WEROC staff will continue to maintain the South EOC, North EOC and the materials at the MWDOC offices at a high level of readiness to provide the highest reliability possible until all recommended improvements are approved and implemented.

ENGINEERING & PLANNING	
Doheny Desalination Project	South Coast WD's Board approved a resolution in late June to submit an application for grant funding from the Department of Water Resources (Proposition 1 Water Desalination Grant Program) of up to \$10 million for the construction of the Doheny Ocean Desalination Project with the caveat that the application could be withdrawn if necessary. Major effort on the EIR is currently on hold, pending results of updated Slant Well Modeling. Pending results of the modeling, a 2 nd Scoping Meeting is anticipated in July 2017 and completion of the EIR anticipated in June 2018.
Poseidon Resources	Poseidon is still working on the permitting process. The public review period for the Draft Supplemental Environmental Impact Report (EIR) was extended to July 27, 2017. Poseidon anticipates a decision by the State Lands Commission on October 19 and then will continue working their way towards the Santa Ana Regional Water Quality Control permit and then on to the California Coastal Commission, likely in the first half of 2018. OCWD is still working on the system integration concepts.
Orange County Reliability Study	CDM-Smith and MWDOC staff are in the process of completing follow-up work to the 2016 study. The work includes modeling of more recently available information, updating Colorado River assumptions, assessment of additional scenarios for the Huntington Beach Desalination Plant, and assessment of the value of new storage. The work is expected to be completed in the next few months.
MET Metering Work Group	The Meter Workgroup is re-evaluating technology and criteria for measuring and accounting for low system flows to provide member agencies more flexibility. The intent is to expand the flow measurement range to better account for low flows than the current metering system provides. Charles Busslinger and Chris Lingad participated in a workgroup meeting on June 21, 2017. The workgroup is making progress on design policy guidance to recognize newer technology (i.e. such as the additional precision provided by mag meters at lower flows) and revisiting MET Administrative Code Section 4504(b) limitation [a.k.a. 10:1 turndown] which currently requires member agencies to pay for flows that are less than 10% of maximum design capacity of the meter as if they received 10% flows. Any final recommendations would be brought to the MET Board for consideration at the end of 2017 or early 2018
OC-28 Flow Metering Issue with MET	MWDOC, MET and OCWD have exchanged information and are continuing to discuss both the flow metering issues from June, July and August of last summer and the December 13 flow test conducted by MET. MWDOC and OCWD are still of the opinion that OCWD is owed an adjustment of water for the metering problems. Data is being reconfirmed at this time to make a case for the MET Auditor to consider.

Service Connection CM-1 Cost Issues with MET	Laguna Beach CWD and Newport Beach are continuing to study alternative methods of delivery of the water to avoid complications with the CM-1 meter. We are awaiting the outcome of the studies.
North and Central O.C. Integrated Regional Watershed Management Area	Charles Busslinger has been participating in weekly ad hoc committee meetings to develop the goals, objectives, and strategies for the North and Central IRWM Plan. The draft goals, objectives, and strategies will be presented to stakeholders for comments. The draft plan is anticipated by the end of Summer 2017.
San Juan Basin Authority	Charles attended San Juan Basin Authority Board Meeting on July 11, 2017 where Authority Board officers were appointed for 2017-18. Betty Olson and Wayne Rayfield have been re-appointed as Chair and Vice Chair respectively. Monitoring data from the Adaptive Management Plan lends support to the existence of a sub-surface hydraulic barrier (rock formation) just north of Stonehill Drive. Additional geotechnical investigation work is moving forward to define the extent of this barrier.

**Status of Ongoing WEROC Projects
July 2017**

Description	Comments
Coordination with WEROC Member Agencies	<p><i>WEROC Radio Replacement Update: Kelly Hubbard and Francisco Soto continue to work with member agencies, Motorola, and the Sheriff's Communications staff to implement the OC 800 MHz radio system for WEROC. Francisco is currently working with Motorola to sign a purchase agreement with MWDOC to commence work on the project.</i></p> <p>Local Hazard Mitigation Plan: Francisco worked with Michael Baker to mutually agree to the terms in the Consultant Agreement. The first of five monthly planning meetings was conducted on Wednesday, July 26, 2017 – it should be noted that 100% attendance of participating agencies was achieved for the kick-off meeting. The second planning meeting is scheduled to take place on August 30, 2017, and will focus on confirming the hazards identified in the first meeting and identifying each agencies current capabilities.</p> <p>Janine Schunk worked with our Member Agencies to update our IT contacts with each member agency. This list is used to share IT and Cyber Security specific information with our member agencies.</p> <p>Janine uploaded an agreed upon “Water Utility Communication Protocol with Fire Agencies” into the Safety Center App for our member agencies. This protocol was discussed and worked out with all of the Fire Agency’s that have dispatch centers within Orange County. This protocol largely applies to urban-wildland fires, however Kelly is continuing to work with OCFA on enhancing communications for standard urban fires as well.</p> <p>Claris Strategies is rewriting IRWD’s emergency operations plan. As part of the process Claris is interviewing primary staff at IRWD who have a role in disaster response. Claris asked to interview Kelly as a component of the plan revision in order to incorporate WEROC appropriately into IRWD’s plan. Kelly was also able to provide several templates and documents that have been developed specifically for OC water utilities and response.</p>
Training and Programs	<p><i>Ongoing: WEROC is hosting a series of trainings related to a year-long training program intended to lead up to a full field and EOC exercise in spring 2018 based on an unknown contaminate in the water system. Update: Francisco developed a 2 hour training for the</i></p>

	<p>WEROC EOC staff based on the 9 hours of training provided to member agencies. The training provides an overview of the concepts and then discusses WEROC's role in that type of response. The training includes an overview of the Emergency Water Quality Sample Kit (EWQSK), Water Quality Notifications and Public Information" and the Determination of a Credible Threat" trainings. Kelly delivered the finished training product.</p>
Emergency Plans	<p>Francisco submitted the revised WEROC Emergency Operations Plan to Kelly. The update included a streamlined approach, update to current information, and the incorporation of corrective actions from previous WEROC training and exercises. Currently, Francisco is working on the hazard specific annexes. Once Kelly completes her review and the hazard specific annexes are completed, the plan will be brought to the Board for approval. EOC staff and member agencies will receive training on the revised plan and copies.</p>
Coordination with the County of Orange	<p>Francisco & Kelly attended the July Orange County Emergency Management Organization (OCEMO) meeting at the Orange County Social Services Agency. Michelle Anderson from the Sheriff's Emergency Management Division, presented on the County's plan maintenance process and presented the group with a County Plans Revision Matrix that can assist jurisdictions when updating internal plans in conjunction with County Plans. The county maintains 32 various emergency plans, annexes and SOPs. Some of the plans that are applicable to WEROC and our member agencies would be the Debris Management Plan, the Flood Annex, County & Operations Area Emergency Operations Plan, and the Power Outage Annex, among a few others. Additionally, Richard Steele from John Wayne Airport gave a presentation on the recent 405 plane crash.</p> <p><i>Operational Area Agreement Revision Working Group Updates: The OA is currently making revisions to the OA Emergency Management Agreement. The OA Agreement is signed by 114 government entities in Orange County and hasn't been updated since it was originally created in the late 90's. A key topic of discussion during this month's meeting was "Section 2.3: Orange County Emergency Management Organization". OCEMO is the working body for emergency management within OC. Its purpose is to coordinate on the development of plans, procedures, and the training needed to ensure OC agencies are prepared for a disaster. The discussion was focused on the makeup of this group, its goals, governance, etc.</i></p>

Coordination with Outside Agencies	<p>Kelly was invited to take a Decommissioning Tour of SONGS. The tour was targeted to emergency managers and went into the various aspects of the decommissioning process, as well as possible emergency response procedures that remain in place. The emergency management group was invited back to do the internal containment area tour at a later date.</p> <p>Kelly and Robert Hunter attended a Cyber Meeting hosted by Senator Joe Dunn. The meeting was a preliminary discussion on what concepts of coordination could exist to help small to medium size agencies (cities, schools, water districts, etc.) tackle the concept of cyber security from the standpoint of protection, planning and response. The group agreed that some possible solutions exist and agreed to meet again.</p>
WEROC EOC Readiness	<p>Janine met with the cleaning company at the South and North EOC for facility cleanings.</p> <p>Janine also met with a door replacement company to receive quotes on new doors for the South EOC to meet current fire safety standards for safe exits of the facility.</p> <p>Charles Busslinger and Kelly met with the Emergency Managers of Disneyland and the City of Anaheim. The meeting was to discuss various pros and cons on different EOC remodel concepts that have worked and not worked.</p> <p>Janine participated in the MARS monthly radio test.</p>

Orange County

Water Use Efficiency Programs Savings and Implementation Report

Retrofits and Acre-Feet Water Savings for Program Activity

Program	Program Start Date	Retrofits Installed in	Month Indicated		Current Fiscal Year		Overall Program		
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Annual Water Savings[4]	Cumulative Water Savings[4]
High Efficiency Clothes Washer Program	2001	June-17	198	0.57	4,129	77.89	112,912	3,895	23,836
Smart Timer Program - Irrigation Timers	2004	June-17	583	23.28	3,003	869.69	20,485	7,657	38,732
Rotating Nozzles Rebate Program	2007	June-17	1,030	4.12	41,460	165.77	562,818	2,757	11,189
SoCal Water\$mart Commercial Plumbing Fixture Rebate Program	2002	June-17	2,960	8.81	14,997	226.85	85,279	3,518	39,421
Water Smart Landscape Program [1]	1997	November-15	12,677	904.62	12,677	3,615.21	12,677	10,621	72,668
Industrial Process Water Use Reduction Program	2006	June-17	0	0.00	0	0.00	0	25	2,237
Turf Removal Program ^[3]	2010	June-17	90,014	1.05	878,932	72	20,905,601	2,927	7,258
High Efficiency Toilet (HET) Program	2005	June-17	24	0.09	1,058	45.17	59,643	2,205	14,157
Home Water Certification Program	2013	November-15	0	0.000	53	0.251	312	7,339	15,266
Synthetic Turf Rebate Program	2007						685,438	96	469
Ultra-Low-Flush-Toilet Programs ^[2]	1992						363,926	13,452	162,561
Home Water Surveys ^[2]	1995						11,867	160	1,708
Showerhead Replacements ^[2]	1991						270,604	1,667	19,083
Total Water Savings All Programs			943		956,309	5,073	23,091,562	48,988	393,334

Water Smart Landscape Program participation is based on the number of water meters receiving monthly Irrigation Performance Reports.

Cumulative Water Savings Program To Date totals are from a previous Water Use Efficiency Program Effort.

Turf Removal Interventions are listed as square feet.

Cumulative & annual water savings represents both active program savings and passive savings that continues to be realized due to plumbing code changes over time.

HIGH EFFICIENCY CLOTHES WASHERS INSTALLED BY AGENCY through MWDOC and Local Agency Conservation Programs

Agency	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Total	Current FY Water Savings Ac/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years	15 yr. Lifecycle Savings Ac/Ft
Brea	156	42	186	144	93	115	114	76	57	1,867	1.01	398.29	966
Buena Park	146	59	230	145	105	106	91	76	54	1,518	0.97	307.73	785
East Orange CWD RZ	17	3	23	10	10	8	8	8	3	192	0.03	43.45	99
El Toro WD	130	32	162	112	134	121	111	65	47	1,521	0.83	310.81	787
Fountain Valley	243	72	289	158	115	102	110	76	65	2,400	1.31	532.91	1,242
Garden Grove	332	101	481	236	190	162	165	251	127	3,563	2.53	746.47	1,844
Golden State WC	447	168	583	485	265	283	359	260	138	5,015	2.91	1,053.71	2,595
Huntington Beach	751	211	963	582	334	295	319	225	180	8,246	3.24	1,869.56	4,267
Invine Ranch WD	1,844	1,394	2,621	2,170	1,763	1,664	1,882	1,521	1,373	24,666	26.42	4,900.29	12,763
La Habra	83	22	179	128	82	114	87	66	53	1,327	0.99	269.13	687
La Palma	51	25	76	46	34	25	34	29	10	458	0.18	92.82	237
Laguna Beach CWD	77	27	96	57	38	37	39	32	19	932	0.22	204.91	482
Mesa Water	246	73	232	176	114	86	89	113	80	2,518	1.68	569.06	1,303
Moulton Niguel WD	742	250	1,127	679	442	421	790	688	575	9,921	11.28	1,973.90	5,133
Newport Beach	259	57	197	142	116	92	95	66	61	2,624	1.18	609.94	1,358
Orange	403	111	349	262	218	163	160	124	80	3,898	1.52	887.94	2,017
Orange Park Acres	-	-	-	-	-	-	-	-	-	12	0.00	3.42	6
San Juan Capistrano	127	43	190	110	76	73	92	63	33	1,459	0.68	311.29	755
San Clemente	278	63	333	206	140	94	141	75	70	2,620	1.25	565.14	1,356
Santa Margarita WD	740	257	1,105	679	553	662	792	466	367	9,516	7.13	1,930.98	4,924
Seal Beach	57	7	81	51	31	29	38	23	9	602	0.11	129.60	311
Serrano WD	23	7	21	20	13	10	26	8	11	357	0.25	81.17	185
South Coast WD	148	43	183	112	89	79	68	43	44	1,584	0.88	339.00	820
Trabuco Canyon WD	62	28	82	62	30	45	47	34	28	798	0.49	168.16	413
Tustin	144	45	174	97	78	59	80	66	44	1,612	0.93	358.46	834
Westminster	233	74	329	208	121	82	109	149	84	2,586	1.82	553.65	1,338
Yorba Linda	367	117	394	273	181	167	156	123	56	3,752	1.14	851.72	1,941
MWDOC Totals	8,106	3,331	10,686	7,350	5,365	5,094	6,002	4,726	3,668	95,564	70.98	20,063.53	18,463

Orange County Totals	9,474	4,347	12,348	8,287	6,059	5,696	6,640	5,416	4,129	112,912	77.89	23,835.92	21,814
----------------------	-------	-------	--------	-------	-------	-------	-------	-------	-------	---------	-------	-----------	--------

Orange County Totals	9,474	4,347	12,348	8,287	6,059	5,696	6,640	5,416	4,129	112,912	77.89	23,835.92	21,814
----------------------	-------	-------	--------	-------	-------	-------	-------	-------	-------	---------	-------	-----------	--------

SMART TIMERS INSTALLED BY AGENCY through MWDOC and Local Agency Conservation Programs

Agency	FY 09/10		FY 10/11		FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY 16/17		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	
Brea	0	0	2	0	8	0	9	8	4	0	43	6	20	4	31	4	131	80	461.50
Buena Park	0	0	0	0	4	19	3	0	0	0	4	10	7	4	10	7	31	41	117.79
East Orange CWD RZ	0	0	1	0	5	0	2	0	0	0	2	0	1	0	11	1	25	1	11.15
El Toro WD	2	18	5	5	26	2	7	2	11	0	8	9	9	17	33	8	115	355	2,231.96
Fountain Valley	0	6	2	2	8	2	3	2	4	0	7	10	13	1	33	12	91	40	147.30
Garden Grove	6	0	5	4	7	0	5	2	9	0	10	14	13	11	28	0	101	38	142.54
Golden State WC	9	22	7	4	13	3	9	49	9	25	39	12	35	16	56	37	225	192	672.02
Huntington Beach	6	27	6	36	15	4	18	33	20	35	19	2	42	12	88	94	272	268	867.83
Invine Ranch WD	14	145	28	153	267	71	414	135	71	59	67	310	239	207	344	420	1,769	2,286	9,694.03
La Habra	0	21	0	0	3	0	4	7	2	0	4	7	3	1	12	7	36	44	171.76
La Palma	0	0	0	0	1	0	1	0	2	0	2	0	3	2	1	0	10	2	4.17
Laguna Beach CWD	2	14	4	1	109	2	76	2	71	0	86	0	86	1	27	0	497	20	198.55
Mesa Water	13	7	7	22	21	0	10	2	15	2	17	28	36	12	149	41	318	154	614.51
Moulton Niguel WD	17	162	36	60	179	31	51	74	40	45	46	95	163	100	236	129	914	801	2,993.18
Newport Beach	7	58	6	0	275	12	242	26	188	75	11	9	28	43	30	12	1,038	409	2,291.98
Orange	2	13	5	8	25	0	20	24	13	9	18	31	51	13	69	10	285	165	803.10
San Juan Capistrano	7	49	13	1	103	2	14	18	6	11	6	19	20	8	22	8	222	125	547.88
San Clemente	13	209	46	11	212	17	26	7	28	2	28	24	26	3	37	13	1,051	374	2,355.06
Santa Margarita WD	10	152	61	53	262	7	53	171	64	93	53	321	189	136	326	221	1,154	1,372	4,640.61
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Seal Beach	0	1	0	0	0	3	1	0	1	36	1	12	2	2,446	2	4	7	2,502	3,435.01
Serrano WD	11	0	4	0	3	0	1	0	0	0	4	0	11	2	4	0	38	2	10.86
South Coast WD	3	10	13	3	78	10	13	16	8	4	104	73	9	11	7	0	278	212	992.05
Trabuco Canyon WD	2	0	2	10	12	0	6	0	2	0	6	1	16	50	13	3	103	157	839.81
Tustin	10	14	10	0	11	0	8	4	9	1	18	14	33	8	33	23	143	80	278.60
Westminster	3	0	1	1	2	0	1	1	2	0	13	17	7	1	17	12	65	44	164.35
Yorba Linda	5	21	25	0	22	0	20	0	12	5	32	2	61	27	72	71	338	183	687.59
MWDOC Totals	142	949	289	374	1,671	185	1,017	583	571	402	648	1,026	1,123	3,136	1,691	1,137	9,257	9,947	35,375.21

Anaheim	5	46	12	11	23	60	19	10	9	26	7	52	30	34	87	10	244	457	2,287.20
Fullerton	2	39	9	33	22	51	9	29	8	0	40	26	32	12	53	7	199	199	790.40
Santa Ana	1	8	8	0	6	5	8	19	7	8	9	27	22	26	15	3	82	100	278.97
Non-MWDOC Totals	8	93	29	44	51	116	36	58	24	34	56	105	84	72	155	20	525	756	3,356.58

Orange County Totals	150	1,042	318	418	1,722	301	1,053	641	595	436	704	1,131	1,207	3,208	1,846	1,157	9,782	10,703	38,732
-----------------------------	------------	--------------	------------	------------	--------------	------------	--------------	------------	------------	------------	------------	--------------	--------------	--------------	--------------	--------------	--------------	---------------	---------------

ROTATING NOZZLES INSTALLED BY AGENCY
through MWDOC and Local Agency Conservation Programs

Agency	FY 11/12				FY 12/13				FY 13/14				FY 14/15				FY 15/16				FY 16/17				Total Program				Cumulative Water Savings across all Fiscal Years
	Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		
	Res	Comm.	Comm.	Res	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	
Brea	130	0	0	65	120	0	0	84	0	0	157	45	0	74	2,484	0	0	0	0	0	0	572	2,749	0	32.68				
Buena Park	32	0	0	65	0	0	248	0	0	53	0	0	45	98	0	0	0	0	0	0	509	173	2,535	453.42					
East Orange	340	0	0	55	0	0	30	0	0	221	0	0	0	0	0	0	0	0	0	0	751	0	0	10.83					
El Toro	357	76	0	23	6,281	0	0	56	3,288	0	1,741	28,714	0	730	4,457	0	55	242	0	3,369	46,222	890	820.63						
Fountain Valley	108	0	0	35	0	0	0	0	107	0	0	222	0	0	0	0	0	0	0	710	0	0	10.22						
Garden Grove	119	0	0	95	0	0	88	0	110	0	583	50	0	110	0	0	55	98	0	933	299	0	19.72						
Golden State	294	0	0	257	2,595	0	192	0	583	1,741	0	1,088	0	1,088	0	0	207	6,008	0	3,448	11,316	0	157.64						
Huntington Beach	458	0	0	270	0	0	798	1,419	1,345	2,836	0	1,989	5,047	0	335	9,511	0	47,137	94,561	2,004	2,920.22								
Irvine Ranch	1,715	4,255	0	25,018	1,014	0	11,010	4,257	1,421	632	0	1,989	5,047	0	335	9,511	0	47,137	94,561	2,004	2,920.22								
La Habra	33	90	0	0	0	0	15	0	109	338	0	300	0	0	0	0	481	1,236	900	221.65									
La Palma	0	0	0	0	0	0	0	0	0	0	0	46	505	0	0	2,385	0	56	2,890	0	14.18								
Laguna Beach	763	0	0	3,596	0	0	2,948	878	2,879	1,971	0	1,390	0	0	0	12,139	2,896	0	224.61										
Mesa Water	297	277	0	270	0	0	229	0	166	385	0	113	0	0	0	2,030	385	343	122.17										
Moulton Niguel	1,225	0	0	512	1,385	0	361	227	1,596	4,587	0	5,492	1,441	0	153	5,872	0	11,874	20,515	2,945	1,017.52								
Newport Beach	640	3,273	0	25,365	50	0	19,349	6,835	0	460	3,857	0	348	670	0	0	46,678	21,413	0	1,178.02									
Orange	343	0	0	264	0	0	245	120	304	668	0	631	91	0	0	3,170	1,072	0	69.27										
San Clemente	4,266	117	1,343	631	172	0	415	5,074	0	326	0	426	0	0	0	9,989	7,538	1,343	415.75										
San Juan Capistrano	949	0	0	684	30	0	370	0	495	737	0	310	593	0	75	123	0	5,495	8,852	0	257.03								
Santa Margarita	4,817	0	0	983	0	0	389	0	1,207	1,513	0	1,820	837	0	15	0	16,165	6,921	611	450.33									
Seal Beach	0	0	0	0	0	0	0	0	40	5,261	0	0	2,300	0	0	155	7,852	0	90.55										
Serrano	58	0	0	190	0	0	105	0	377	0	695	0	0	0	0	3,405	0	55.23											
South Coast	688	359	0	435	0	0	70	0	4,993	13,717	0	1,421	2,889	0	16	0	8,130	18,870	0	323.31									
Trabuco Canyon	379	0	0	34	0	0	0	0	56	0	130	0	0	0	4,339	0	2,086	5,130	0	70.87									
Tustin	476	1,013	0	378	0	0	329	0	408	0	317	386	0	65	-341	0	3,371	1,058	0	68.37									
Westminster	26	0	0	15	0	0	0	0	54	0	73	0	0	105	0	464	0	6.53											
Yorba Linda	559	0	0	730	0	0	40	990	921	0	1,715	0	0	213	0	6,081	4,359	500	278.38										
MWDOC Totals	19,072	9,460	1,343	59,970	11,647	0	36,622	21,669	0	19,818	65,250	0	20,883	24,634	0	1,556	31,599	0	192,995	278,833	14,752	10,087.19							

Anaheim	742	38,554	0	459	813	0	338	0	0	498	712	0	794	5,221	0	147	3,953	0	4,020	49,799	105	630.16
Fullerton	409	0	0	119	0	0	107	0	0	684	1,196	0	521	7,015	0	65	3,034	0	2,910	11,309	1,484	386.40
Santa Ana	22	65	0	99	0	0	86	2,533	0	310	0	0	0	1,420	0	0	1,106	0	859	5,752	0	85.35
Non-MWDOC Totals	1,173	38,619	0	677	813	0	531	2,533	0	1,492	1,908	0	1,315	13,656	0	212	8,093	0	7,789	66,860	1,589	1,101.91

Orange County Totals	20,245	48,079	1,343	60,647	12,460	0	37,153	24,202	0	21,310	67,158	0	22,198	38,290	0	1,768	39,692	0	200,784	345,693	16,341	11,189.10
-----------------------------	---------------	---------------	--------------	---------------	---------------	----------	---------------	---------------	----------	---------------	---------------	----------	---------------	---------------	----------	--------------	---------------	----------	----------------	----------------	---------------	------------------

SOCAL WATER\$MART COMMERCIAL PLUMBING FIXTURES REBATE PROGRAM^[1]
INSTALLED BY AGENCY
 through MWDOC and Local Agency Conservation Programs

Agency	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Totals	Cumulative Water Savings across all Fiscal Years
Brea	27	113	24	4	1	234	0	10	91	734	1,365	421
Buena Park	153	432	122	379	290	5	23	56	591	133	2,489	1,076
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0	0
El Toro WD	0	92	143	1	137	0	212	6	268	35	1,062	587
Fountain Valley	17	35	0	2	314	0	0	1	249	0	872	584
Garden Grove	5	298	130	22	0	4	1	167	676	410	2,451	1,484
Golden State WC	46	414	55	68	135	0	1	0	1,008	53	2,865	1,896
Huntington Beach	48	104	126	96	156	104	144	7	783	641	2,954	1,565
Irvine Ranch WD	121	789	2,708	1,002	646	1,090	451	725	11,100	5,958	27,866	7,340
La Habra	191	75	53	4	0	0	0	0	340	42	925	546
La Palma	0	140	21	0	0	0	0	0	0	509	675	103
Laguna Beach CWD	20	137	189	0	0	0	27	0	0	0	446	312
Mesa Water	141	543	219	669	41	6	0	79	661	782	4,254	2,069
Moulton Niguel WD	9	69	151	6	0	0	0	3	413	281	1,277	821
Newport Beach	98	27	245	425	35	0	0	566	0	0	1,834	1,279
Orange	18	374	67	1	73	1	271	81	275	2,851	5,030	1,801
San Juan Capistrano	2	1	1	0	0	0	14	0	0	0	260	397
San Clemente	2	18	43	0	19	0	0	1	0	0	432	381
Santa Margarita WD	6	23	11	0	0	0	0	2	90	743	950	235
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	1	2	124	0	0	0	0	0	0	184	538	427
Serrano WD	0	0	0	0	0	0	0	0	0	0	0	0
South Coast WD	9	114	56	422	84	148	0	382	0	0	1,320	509
Trabuco Canyon WD	0	4	0	0	0	0	0	0	0	0	11	15
Tustin	115	145	25	230	0	0	0	75	358	212	1,402	822
Westminster	40	161	16	63	35	1	28	0	146	177	1,138	998
Yorba Linda	10	24	8	30	0	1	0	0	226	84	595	559
MWDOC Totals	1,079	4,134	4,537	3,424	1,966	1,594	1,172	2,161	17,275	13,829	63,011	26,224
Anaheim	766	3,298	582	64	48	165	342	463	3,072	309	13,753	6,901
Fullerton	133	579	29	4	0	94	0	178	476	621	2,778	1,627
Santa Ana	493	815	728	39	12	16	17	5	1,293	238	5,737	4,668
Non-MWDOC Totals	1,392	4,692	1,339	107	60	275	359	646	4,841	1,168	22,268	13,196
Orange County Totals	2,471	8,826	5,876	3,531	2,026	1,869	1,531	2,807	22,116	14,997	85,279	39,421

[1] Retrofit devices include ULF Toilets and Urinals, High Efficiency Toilets and Urinals, Multi-Family and Multi-Family 4-Liter HETs, Zero Water Urinals, High Efficiency Clothes Washers, Cooling Tower Conductivity Controllers, Ph Cooling Tower Conductivity Controllers, Flush Valve Retrofit Kits, Pre-rinse Spray heads, Hospital X-Ray Processor Recirculating Systems, Steam Sterilizers, Food Steamers, Water Pressurized Brooms, Laminar Flow Restrictors, and Ice Making Machines.

Water Smart Landscape Program

Total Number of Meters
in Program by Agency

Agency	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Overall Water Savings To Date (AF)
Brea	0	0	0	0	22	22	22	22	22	0	64.37
Buena Park	0	0	17	103	101	101	101	101	101	0	462.69
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0.00
El Toro WD	352	384	371	820	810	812	812	812	812	0	4,856.93
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0.00
Garden Grove	0	0	0	0	0	0	0	0	0	0	0.00
Golden State WC	14	34	32	34	32	32	32	32	32	0	200.59
Huntington Beach	0	0	31	33	31	31	31	31	31	0	148.43
Irvine Ranch WD	708	1,008	6,297	6,347	6,368	6,795	6,797	6,769	6,780	0	38,304.89
Laguna Beach CWD	0	57	141	143	141	124	124	124	124	0	733.07
La Habra	0	23	22	24	22	22	22	22	22	0	136.72
La Palma	0	0	0	0	0	0	0	0	0	0	0.00
Mesa Water	165	286	285	288	450	504	511	514	515	0	2,943.57
Moulton Niguel WD	180	473	571	595	643	640	675	673	661	0	4,120.71
Newport Beach	58	142	171	191	226	262	300	300	300	0	1,501.19
Orange	0	0	0	0	0	0	0	0	0	0	0.00
San Clemente	227	233	247	271	269	269	299	407	459	0	2,368.77
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0.00
Santa Margarita WD	945	1,571	1,666	1,746	1,962	1,956	2,274	2,386	2,386	0	14,178.10
Seal Beach	0	0	0	0	0	0	0	0	0	0	0.00
Serrano WD	0	0	0	0	0	0	0	0	0	0	0.00
South Coast WD	62	117	108	110	118	118	118	164	164	0	829.91
Trabuco Canyon WD	12	49	48	62	60	60	60	60	60	0	350.52
Tustin	0	0	0	0	0	0	0	0	0	0	0.00
Westminster	10	18	18	20	18	18	18	18	18	0	116.46
Yorba Linda WD	0	0	0	0	0	0	0	0	0	0	0.00
MWDOC Totals	2,733	4,395	10,025	10,787	11,273	11,766	12,196	12,435	12,487	0	71,316.9
Anaheim	0	0	142	146	144	190	190	190	190	0	1,351.53
Fullerton	0	0	0	0	0	0	0	0	0	0	0.00
Santa Ana	0	0	0	0	0	0	0	0	0	0	0.00
Non-MWDOC Totals	0	0	142	146	144	190	190	190	190	0	1,351.53
Orange Co. Totals	2,733	4,395	10,167	10,933	11,417	11,956	12,386	12,625	12,677	0	72,668.45

INDUSTRIAL PROCESS WATER USE REDUCTION PROGRAM

Number of Process Changes by Agency

Agency	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Overall Program Interventions	Annual Water Savings[1]
Brea	0	0	0	0	0	0	0	0	0	0	0
Buena Park	0	0	0	0	0	0	1	0	0	2	54
East Orange	0	0	0	0	0	0	0	0	0	0	0
El Toro	0	0	0	0	0	0	0	0	0	0	0
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0
Garden Grove	0	0	0	0	0	0	1	0	0	1	0
Golden State	0	0	0	0	0	0	0	0	0	1	3
Huntington Beach	0	0	0	2	0	1	2	0	0	5	132
Irvine Ranch	2	1	1	1	1	0	2	0	0	8	102
La Habra	0	0	0	0	0	0	1	0	0	1	0
La Palma	0	0	0	0	0	0	0	0	0	0	0
Laguna Beach	0	0	0	0	0	0	0	0	0	0	0
Mesa Water	0	0	0	0	0	0	0	0	0	0	0
Moulton Niguel	0	0	0	0	0	0	0	0	0	0	0
Newport Beach	0	0	0	0	0	1	0	0	0	1	21
Orange	0	0	0	0	0	0	1	2	0	4	88
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0
San Clemente	0	0	0	0	0	0	0	0	0	0	0
Santa Margarita	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	0	0	0	0	0	0
Serrano	0	0	0	0	0	0	0	0	0	0	0
South Coast	0	0	0	0	0	0	1	0	0	1	0
Trabuco Canyon	0	0	0	0	0	0	0	0	0	0	0
Tustin	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	0	0	0	0	0	0	0	0	0
Yorba Linda	0	0	0	0	0	0	0	0	0	0	0
MWDOC Totals	2	1	1	3	1	2	9	2	0	24	401
Anaheim	0	0	0	0	0	0	0	0	0	0	0
Fullerton	0	0	0	0	0	0	0	0	0	0	0
Santa Ana	0	0	0	0	0	0	1	0	0	1	11
OC Totals	2	1	1	3	1	2	10	2	0	25	412

[1] Acre feet of savings determined during a one year monitoring period.
If monitoring data is not available, the savings estimated in agreement is used.

TURF REMOVAL BY AGENCY⁽¹⁾
through MWDOC and Local Agency Conservation Programs

Agency	FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY 16/17		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	3,397	9,466	7,605	0	5,697	0	71,981	30,617	118,930	404,411	8,354	479	215,964	444,973	210,18
Buena Park	0	0	0	0	0	0	11,670	1,626	77,127	16,490	3,741	0	92,538	18,116	32,32
East Orange	0	0	0	0	1,964	0	18,312	0	27,844	0	0	0	48,120	0	16,59
El Toro	4,723	0	4,680	72,718	4,582	0	27,046	221,612	63,546	162,548	13,139	48,019	117,716	504,897	237,01
Fountain Valley	1,300	0	682	7,524	4,252	0	45,583	5,279	65,232	0	3,679	0	120,728	12,803	49,36
Garden Grove	14,013	0	4,534	0	8,274	0	67,701	22,000	177,408	49,226	11,504	0	283,434	117,403	167,57
Golden State	42,593	30,973	31,813	3,200	32,725	8,424	164,507	190,738	310,264	112,937	0	0	581,902	346,272	377,04
Huntington Beach	27,630	48,838	9,219	12,437	20,642	0	165,600	58,942	305,420	270,303	9,560	21,534	538,872	415,705	355,17
Irvine Ranch	6,450	1,666	32,884	32,384	36,584	76,400	234,905	317,999	782,844	2,675,629	231,483	46,725	1,330,573	3,163,597	1,373.14
La Habra	0	8,262	0	0	0	0	14,014	1,818	49,691	72,164	0	0	63,705	90,019	53,33
La Palma	0	0	0	0	0	0	4,884	0	10,257	59,760	0	0	15,141	59,760	21,66
Laguna Beach	2,533	0	2,664	1,712	4,586	226	13,647	46,850	47,614	0	3,059	0	75,081	48,788	48,01
Mesa Water	6,777	0	10,667	0	22,246	0	131,675	33,620	220,815	106,896	4,173	77,033	396,353	217,549	198,16
Moulton Niguel	4,483	26,927	11,538	84,123	14,739	40,741	314,250	1,612,845	889,748	1,059,279	220,749	0	1,456,463	2,840,054	1,527,15
Newport Beach	3,454	0	3,548	2,346	894	0	33,995	65,277	76,675	375,404	2,924	0	121,490	443,027	176,21
Orange	12,971	0	15,951	8,723	11,244	0	120,093	281,402	289,990	106,487	12,847	2,366	463,096	398,978	316,23
San Clemente	21,502	0	16,062	13,165	18,471	13,908	90,349	1,137	215,249	438,963	4,267	0	365,900	467,173	278,85
San Juan Capistrano	22,666	103,692	29,544	27,156	12,106	0	101,195	32,366	197,290	143,315	2,624	40,748	365,415	347,277	310,13
Santa Margarita	1,964	11,400	10,151	11,600	17,778	48,180	211,198	514,198	534,048	550,420	17,010	28,094	796,632	1,169,453	687,85
Seal Beach	0	0	3,611	0	0	0	15,178	504	17,349	15,911	1,234	0	37,372	16,415	18,60
Serrano	0	0	0	0	2,971	0	41,247	0	127,877	4,403	5,450	0	177,545	4,403	56,79
South Coast	6,806	0	9,429	4,395	15,162	116,719	84,282	191,853	181,102	128,290	14,967	0	311,748	457,581	309,94
Trabuco Canyon	272	0	1,542	22,440	2,651	0	14,771	0	42,510	88,272	1,465	0	63,211	110,712	61,53
Tustin	0	0	9,980	0	1,410	0	71,285	14,137	232,697	33,362	11,173	0	326,545	47,499	119,71
Westminster	0	0	0	0	0	0	14,040	34,631	71,833	23,902	11,112	0	96,985	58,533	48,80
Yorba Linda	0	0	0	0	0	0	112,136	12,702	360,279	116,985	19,420	0	503,184	129,687	199,90
MWDOC Totals	183,524	241,224	216,104	303,923	238,978	304,598	2,195,544	3,692,153	5,493,639	7,015,357	613,934	264,998	8,965,713	11,930,674	7,253,22

Anaheim	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Fullerton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,16
Santa Ana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Non-MWDOC Totals	0	0	0	0	0	9,214	0	0	0	0	0	0	0	9,214	5,16

Orange County Totals	183,524	241,224	216,104	303,923	238,978	313,812	2,195,544	3,692,153	5,493,639	7,015,357	613,934	264,998	8,965,713	11,939,888	7,258
-----------------------------	----------------	----------------	----------------	----------------	----------------	----------------	------------------	------------------	------------------	------------------	----------------	----------------	------------------	-------------------	--------------

⁽¹⁾ Installed device numbers are listed as square feet

HIGH EFFICIENCY TOILETS (HETs) INSTALLED BY AGENCY through MWDOC and Local Agency Conservation Programs

Agency	FY05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	2	7	43	48	8	0	0	38	146	154	4	450	77.50
Buena Park	0	1	2	124	176	7	0	0	96	153	112	13	684	156.79
East Orange CWD RZ	0	0	10	12	1	0	0	0	0	26	24	0	86	16.77
El Toro WD	0	392	18	75	38	18	0	133	218	869	264	12	2,037	437.55
Fountain Valley	0	69	21	262	54	17	0	0	41	132	220	7	823	207.90
Garden Grove	0	14	39	443	181	24	0	0	63	350	363	7	1,484	348.22
Golden State WC	2	16	36	444	716	37	80	2	142	794	512	9	2,790	639.07
Huntington Beach	2	13	59	607	159	76	0	0	163	1,190	628	4	2,901	574.80
Irvine Ranch WD	29	1,055	826	5,088	2,114	325	0	1,449	810	1,777	2,798	638	16,909	4,564.12
Laguna Beach CWD	0	2	17	91	28	11	0	0	45	112	81	1	388	84.74
La Habra	0	3	18	296	34	20	0	0	37	94	83	5	590	165.55
La Palma	0	1	10	36	26	13	0	0	21	59	52	0	218	46.77
Mesa Water	0	247	19	736	131	7	0	0	147	162	162	7	1,618	512.11
Moulton Niguel WD	0	20	104	447	188	46	0	0	400	2,497	1,939	49	5,690	856.59
Newport Beach	0	5	19	163	54	13	0	0	49	168	243	11	725	146.06
Orange	1	20	62	423	79	40	0	1	142	978	416	17	2,179	422.48
San Juan Capistrano	0	10	7	76	39	11	0	0	35	140	202	3	523	94.48
San Clemente	0	7	22	202	66	21	0	0	72	225	246	11	872	181.13
Santa Margarita WD	0	5	14	304	151	44	0	0	528	997	1,152	114	3,309	509.35
Seal Beach	0	678	8	21	12	1	0	2	17	50	69	-1	857	348.77
Serrano WD	2	0	1	13	5	0	0	0	2	40	55	3	121	18.39
South Coast WD	2	2	29	102	41	12	23	64	102	398	235	11	1,021	179.05
Trabuco Canyon WD	0	0	4	23	23	0	0	0	10	108	169	2	339	48.30
Tustin	0	186	28	387	479	17	0	0	64	132	201	12	1,506	460.74
Westminster	0	17	25	541	167	23	0	0	35	161	359	3	1,331	346.73
Yorba Linda WD	0	14	89	323	96	18	0	0	40	280	379	12	1,251	281.53
MWDOC Totals	38	2,779	1,494	11,282	5,106	809	103	1,651	3,330	12,038	11,118	954	50,702	11,725.49
Anaheim	0	255	78	2,771	619	114	0	0	156	1,188	614	70	5,865	1,892.15
Fullerton	0	4	28	286	60	23	0	0	61	293	286	14	1,055	223.35
Santa Ana	0	11	25	925	89	23	0	0	33	602	293	20	2,021	515.52
Non-MWDOC Totals	0	270	131	3,982	768	160	0	0	250	2,083	1,193	104	8,941	2,431.02
Orange County Totals	38	3,049	1,625	15,264	5,874	969	103	1,651	3,580	14,121	12,311	1,058	59,643	14,156.51

HOME WATER SURVEYS PERFORMED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 13/14		FY 14/15		FY 15/16		Total		Cumulative Water Savings
	Surveys	Cert Homes	Surveys	Cert Homes	Surveys	Cert Homes	Surveys	Cert Homes	
Brea	1	0	2	0	0	0	3	0	0.16
Buena Park	0	0	1	0	0	0	1	0	0.05
East Orange	19	0	1	0	0	0	20	0	1.39
El Toro	0	0	3	0	0	0	3	0	0.14
Fountain Valley	3	0	4	0	1	0	8	0	0.42
Garden Grove	0	0	6	0	1	0	7	0	0.31
Golden State	0	0	0	0	0	0	0	0	0.00
Huntington Beach	2	0	5	0	2	0	9	0	0.42
Irvine Ranch	1	0	3	0	6	0	10	0	0.35
La Habra	0	0	1	0	0	0	1	0	0.05
La Palma	0	0	0	0	0	0	0	0	0.00
Laguna Beach	4	0	8	0	1	0	13	0	0.68
Mesa Water	0	0	0	0	0	0	0	0	0.00
Moulton Niguel	4	0	4	0	0	0	8	0	0.47
Newport Beach	2	0	8	0	6	0	16	0	0.66
Orange	2	0	18	0	1	0	21	0	1.01
San Clemente	15	0	13	0	0	0	28	0	1.67
San Juan Capistrano	4	0	13	0	2	0	19	0	0.94
Santa Margarita	15	0	40	1	14	0	69	1	3.27
Seal Beach	0	0	1	0	2	0	3	0	0.09
Serrano	0	0	2	0	0	0	2	0	0.09
South Coast	6	0	4	0	1	0	11	0	0.64
Trabuco Canyon	0	0	4	0	0	0	4	0	0.19
Tustin	0	0	10	0	5	0	15	0	0.59
Westminster	0	0	0	0	0	0	0	0	0.00
Yorba Linda	0	0	13	0	10	0	23	0	0.85
MWDOC Totals	78	0	164	1	52	0	294	1	14.44

Anaheim	0	0	0	0	0	0	0	0	0.00
Fullerton	0	0	17	0	1	0	18	0	0.82
Santa Ana	0	0	0	0	0	0	0	0	0.00
Non-MWDOC Totals	0	0	17	0	1	0	18	0	0.82

Orange County Totals	78	0	181	1	53	0	312	1	15.266
-----------------------------	-----------	----------	------------	----------	-----------	----------	------------	----------	---------------

SYNTHETIC TURF INSTALLED BY AGENCY^[1] through MWDOC and Local Agency Conservation Programs

Agency	FY 07/08		FY 08/09		FY 09/10		FY 10/11		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	0	0	2,153	2,160	500	0	0	0	2,653	2,160	3.30
Buena Park	0	0	1,566	5,850	0	0	0	0	1,566	5,850	5.19
East Orange	0	0	0	0	983	0	0	0	983	0	0.55
El Toro	3,183	0	2,974	0	3,308	0	895	0	10,360	0	6.98
Fountain Valley	11,674	0	1,163	0	2,767	0	684	0	16,288	0	12.46
Garden Grove	1,860	0	0	0	3,197	0	274	0	5,331	0	3.47
Golden State	6,786	0	13,990	0	15,215	0	2,056	0	38,047	0	24.88
Huntington Beach	15,192	591	12,512	0	4,343	1,504	0	0	32,047	2,095	25.29
Irvine Ranch	11,009	876	13,669	0	2,585	0	0	0	27,263	876	21.00
La Habra	0	0	0	0	0	0	0	0	0	0	-
La Palma	429	0	0	0	0	0	0	0	429	0	0.36
Laguna Beach	3,950	0	3,026	0	725	0	0	0	7,701	0	5.84
Mesa Water	4,114	0	3,005	78,118	4,106	0	2,198	0	13,423	78,118	63.46
Moulton Niguel	14,151	0	25,635	2,420	7,432	0	0	0	47,218	2,420	35.69
Newport Beach	2,530	0	6,628	0	270	0	0	0	9,428	0	6.92
Orange	4,169	0	7,191	0	635	0	0	0	11,995	0	8.89
San Clemente	9,328	0	11,250	455	2,514	1,285	500	0	23,592	1,740	18.37
San Juan Capistrano	0	0	7,297	639	2,730	0	4,607	0	14,634	639	9.02
Santa Margarita	12,922	0	26,069	0	21,875	0	7,926	0	68,792	0	44.68
Seal Beach	0	0	817	0	0	0	0	0	817	0	0.57
Serrano	7,347	0	1,145	0	0	0	0	0	8,492	0	6.97
South Coast	2,311	0	6,316	0	17,200	0	1,044	0	26,871	0	16.43
Trabuco Canyon	1,202	0	9,827	0	0	0	0	0	11,029	0	7.89
Tustin	6,123	0	4,717	0	2,190	0	0	0	13,030	0	9.67
Westminster	2,748	16,566	8,215	0	890	0	0	0	11,853	16,566	22.47
Yorba Linda	11,792	0	12,683	0	4,341	5,835	0	0	28,816	5,835	24.48
MWDOC Totals	132,820	18,033	181,848	89,642	97,806	8,624	20,184	0	432,658	116,299	384.83

Anaheim	4,535	0	7,735	20,093	13,555	65,300	4,122	0	29,947	85,393	69.18
Fullerton	4,865	876	5,727	0	6,223	0	105	0	16,920	876	12.36
Santa Ana	0	0	2,820	0	525	0	0	0	3,345	0	2.27
Non-MWDOC Totals	9,400	876	16,282	20,093	20,303	65,300	4,227	0	50,212	86,269	83.81

Orange County Totals	142,220	18,909	198,130	109,735	118,109	73,924	24,411	0	482,870	202,568	468.63
-----------------------------	----------------	---------------	----------------	----------------	----------------	---------------	---------------	----------	----------------	----------------	---------------

[1] Installed device numbers are calculated in square feet

ULF TOILETS INSTALLED BY AGENCY
through MWDOC and Local Agency Conservation Programs

Agency	Previous Years	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	Total	Cumulative Water Savings across all Fiscal Years
Brea	378	189	299	299	122	144	867	585	341	401	26	48	17	4	0	3,720	1,692.64
Buena Park	361	147	331	802	520	469	524	1,229	2,325	1,522	50	40	18	9	0	8,347	3,498.37
East Orange CWD RZ	2	0	33	63	15	17	15	50	41	44	19	18	13	2	0	332	138.23
El Toro WD	1,169	511	678	889	711	171	310	564	472	324	176	205	61	40	0	6,281	3,091.16
Fountain Valley	638	454	635	858	1,289	2,355	1,697	1,406	1,400	802	176	111	58	32	0	11,911	5,383.10
Garden Grove	1,563	1,871	1,956	2,620	2,801	3,556	2,423	3,855	3,148	2,117	176	106	67	39	0	26,298	12,155.41
Golden State WC	3,535	1,396	3,141	1,113	3,024	2,957	1,379	2,143	3,222	1,870	167	116	501	43	0	24,607	11,731.47
Huntington Beach	3,963	1,779	2,600	2,522	2,319	3,492	3,281	2,698	3,752	1,901	367	308	143	121	0	29,246	13,854.70
Irvine Ranch WD	4,016	841	1,674	1,726	1,089	3,256	1,534	1,902	2,263	6,741	593	626	310	129	0	26,700	11,849.23
Laguna Beach CWD	283	93	118	74	149	306	220	85	271	118	32	26	29	6	0	1,810	845.69
La Habra	594	146	254	775	703	105	582	645	1,697	1,225	12	31	6	7	0	6,782	2,957.73
La Palma	65	180	222	125	44	132	518	173	343	193	31	27	20	17	0	2,090	927.52
Mesa Water	1,610	851	1,062	2,046	2,114	1,956	1,393	1,505	2,387	988	192	124	56	14	0	16,288	7,654.27
Moulton Niguel WD	744	309	761	698	523	475	716	891	728	684	410	381	187	100	0	7,607	3,371.14
Newport Beach	369	293	390	571	912	1,223	438	463	396	1,883	153	76	36	16	0	7,219	3,166.77
Orange	683	1,252	1,155	1,355	533	2,263	1,778	2,444	2,682	1,899	193	218	88	53	4	16,600	7,347.93
San Juan Capistrano	1,234	284	193	168	323	1,319	347	152	201	151	85	125	42	39	0	4,663	2,324.42
San Clemente	225	113	191	65	158	198	667	483	201	547	91	66	37	34	0	3,076	1,314.64
Santa Margarita WD	577	324	553	843	345	456	1,258	790	664	260	179	143	101	29	0	6,522	3,001.01
Seal Beach	74	66	312	609	47	155	132	81	134	729	29	10	6	12	0	2,396	1,073.80
Serrano WD	81	56	68	41	19	52	95	73	123	98	20	15	14	2	0	757	338.66
South Coast WD	110	176	177	114	182	181	133	358	191	469	88	72	32	22	0	2,305	990.05
Trabuco Canyon WD	10	78	42	42	25	21	40	181	102	30	17	20	12	14	0	634	273.02
Tustin	968	668	557	824	429	1,292	1,508	1,206	1,096	827	69	89	26	12	0	9,571	4,423.88
Westminster	747	493	969	1,066	2,336	2,291	2,304	1,523	2,492	1,118	145	105	70	24	0	15,683	7,064.28
Yorba Linda WD	257	309	417	457	404	1,400	759	1,690	1,155	627	158	136	81	41	0	7,891	3,409.49
MWDOC Totals	24,256	12,879	18,778	20,765	21,136	30,242	24,918	27,175	31,827	27,568	3,654	3,242	2,031	861	4	249,336	113,878.61

Anaheim	447	1,054	1,788	3,661	1,755	7,551	4,593	6,346	9,707	5,075	473	371	462	341	1	43,625	18,359.52
Fullerton	1,453	1,143	694	1,193	1,364	2,138	1,926	2,130	2,213	1,749	172	77	44	23	2	16,321	7,435.23
Santa Ana	1,111	1,964	1,205	2,729	2,088	8,788	5,614	10,822	10,716	9,164	279	134	25	5	0	54,544	22,887.95
Non-MWDOC Totals	3,011	4,161	3,687	7,583	5,207	18,477	12,133	19,298	22,636	15,988	924	582	531	369	3	114,590	48,682.70

Orange County Totals	27,267	17,040	22,465	28,348	26,343	48,719	37,051	46,473	54,463	43,556	4,578	3,824	2,562	1,230	7	363,926	162,561.30
-----------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	--------------	--------------	--------------	--------------	----------	----------------	-------------------

Status of Water Use Efficiency Projects

July 2017

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Smart Timer Rebate Program	MWDSC	On-going	On-going	<p>In June 2017, 163 residential and 420 commercial smart timers were installed in Orange County.</p> <p>For program water savings and implementation information, see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
Rotating Nozzles Rebate Program	MWDSC	On-going	On-going	<p>In June 2017, 1,030 rotating nozzles were installed in Orange County.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
SoCal Water\$mart Residential Indoor Rebate Program	MWDSC	On-going	On-going	<p>In June 2017, 198 high efficiency clothes washers and 24 premium high efficiency toilets were installed through this program.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
SoCal Water\$mart Commercial Rebate Program	MWDSC	On-going	On-going	<p>In June 2017, 2,649 premium high efficiency toilets, 310 laminar flow restrictors, and 1 cooling tower conductivity controller were installed through this program.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Industrial Process Water Use Reduction Program	MWDOC	96%	September 2016	A total of 41 Focused Surveys and 19 Comprehensive Surveys have been completed or are in progress. To date, 15 companies have signed Incentive Agreements. Updated discharger lists have been obtained, and outreach is continuing to sites with feasible water savings potential. As a result of this program, 412 AFY of water savings is being achieved.
Turf Removal Program	MWDOC	On-going	On-going	<p>In June 2017, 440 rebates were paid, representing \$90,014 in rebates paid this month in Orange County. To date, the Turf Removal Program has removed approximately 20.9 million square feet of turf.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
California Sprinkler Adjustment Notification System – Base Irrigation Schedule Calculator	MWDOC	On-going	On-going	<p>The California Sprinkler Adjustment Notification System (CSANS) sends an e-mail or “push” an irrigation index to assist property owners with making global irrigation scheduling adjustments. Participants voluntarily register to receive this e-mail at www.csans.net and can unsubscribe at any time.</p> <p>An annual support contract with Enterprise Information Systems, the original developer of CSANS, was recently executed. Support will include annual web hosting, technical support, functional refinements, and ongoing application health and maintenance.</p>
Spray to Drip Conversion Program	MWDOC	75%	October 2017	This is a pilot program designed to test the efficacy of replacing conventional spray heads in shrub beds with low-volume, low-precipitation drip

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Spray to Drip Conversion Program (cont.)				<p>technology. Through a rebate program format, residential and commercial sites will be encouraged to convert their existing spray nozzles to drip.</p> <p>To date, 202 residential sites and 52 commercial sites have completed spray to drip conversion projects.</p>
Landscape Design Assistance Program (LDAP)	MWDOC	20%	December 2017	<p>This is a pilot program designed to offer free front yard landscape design assistance to customers who are participating in MWDOC's Turf Removal Rebate Program.</p> <p>To date, MWDOC has performed 15 one-on-one site consultations. Thirty-one questionnaires have been received and approved. Twelve of the 15 sites have received their custom designs and have been sent their Letters To Proceed to begin their projects. MWDOC will be visiting these sites to take photos once each project is complete. Photos will also be taken at 6 and 12 months after installation.</p>