REGULAR MEETING OF THE BOARD OF DIRECTORS

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY 18700 Ward Street, Board Room, Fountain Valley, California

May 18, 2016, 8:30 a.m.

AGENDA

PLEDGE OF ALLEGIANCE

ROLL CALL

PUBLIC COMMENTS/PARTICIPATION

At this time, members of the public will be given an opportunity to address the Board concerning items within the subject matter jurisdiction of the Board. Members of the public may also address the Board about a particular Agenda item at the time it is considered by the Board and before action is taken. If the item is on the Consent Calendar, please inform the Board Secretary before action is taken on the Consent Calendar and the item will be removed for separate consideration.

The Board requests, but does not require, that members of the public who want to address the Board complete a voluntary "Request to be Heard" form available from the Board Secretary prior to the meeting.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

Determine need and take action to agendize items(s) which arose subsequent to the posting of the Agenda. (ROLL CALL VOTE: Adoption of this recommendation requires a two-thirds vote of the Board members present, or, if less than two-thirds of the Board members are present, a unanimous vote of those members present.)

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.

NEXT RESOLUTION NO. 2029

CONSENT CALENDAR (Items 1 to 6)

(All matters under the Consent Calendar will be approved by one motion unless a Board member requests separate action on a specific item)

1. MINUTES

- a. April 6, 2016 Workshop Board Meeting
- b. April 7, 2016 Special Board Meeting
- c. April 20, 2016 Regular Board Meeting

Recommendation: Approve as presented.

2. COMMITTEE MEETING REPORTS

- a. Planning & Operations Committee: April 4, 2016
- b. Administration & Finance Committee: April 13, 2016

- c. Public Affairs & Legislation Committee: April 18, 2016
- d. Executive Committee Meeting: April 21, 2016
- e. MWDOC/OCWD Joint Planning Committee: April 27, 2016

Recommendation: Receive and file as presented.

3. TREASURER'S REPORTS

- a. MWDOC Revenue/Cash Receipt Register as of April 30, 2016
- b. MWDOC Disbursement Registers (April/May)

Recommendation: Ratify and approve as presented.

- c. Summary of Cash and Investment and Portfolio Master Summary Report (Cash and Investment report) as of March 31, 2016
- d. PARS Monthly Statement (OPEB Trust)
- e. Water Use Efficiency Projects Cash Flow

Recommendation: Receive and file as presented.

4. FINANCIAL REPORT

- a. Combined Financial Statements and Budget Comparative for the period ending March 31, 2016
- b. Quarterly Budget Report

Recommendation: Receive and file as presented.

5. APPROVAL OF SERVICE CONNECTION OC-33 AND OC-33-A WITH METROPOLITAN AND THE SANTIAGO AQUEDUCT COMMISSION

Recommendation: Approve the Service Connection Agreements OC-33 and OC-

33-A with Metropolitan and The Santiago Aqueduct Commission, substantially in the form presented.

6. CONCURRENCE REGARDING MWDOC INVOICING FOR BAKER TREATMENT PLANT DELIVERIES

Recommendation: Concur with the staff recommendation for MWDOC to provide

assistance in the invoicing for the Baker Water Treatment Plant

deliveries, as described in the staff report.

End Consent Calendar -

PUBLIC HEARING

7. CONDUCT PUBLIC HEARING ON MWDOC'S 2015 URBAN WATER MANAGEMENT PLAN

Recommendation: Open public hearing and receive comments on MWDOC's

2015 Urban Water Management Plan.

CLOSE PUBLIC HEARING

ACTION ITEMS

8-1 ADOPT MWDOC'S 2015 URBAN WATER MANAGEMENT PLAN RES. NO.

Recommendation: Adopt Resolution approving Municipal Water District of Orange

County's 2015 Urban Water Management Plan.

8-2 APPROVAL OF MWDOC RATE STUDY

Recommendation: Approve the rate structure labeled as Scenario 1A offered by

Raftelis, as presented.

8-3 APPROVAL OF MWDOC'S BUDGET FOR 2016-17 RES. NO.

Recommendation:

- (1) Adopt the budget Resolution as proposed, with a budget total of \$153,590,571 (expenses) and a consolidated general fund budget of \$8,914,735 (Revenue).
- (2) The total revenue amount for the consolidated operating budget (CORE + CHOICE) represents an increase of 5.8% (\$490.782).
- (3) The potential election expense is \$592,000 for all four divisions. The budget includes a planned draw on the Election Reserve of approximately \$475,000.
- (4) The building improvements expense is estimated at \$495,000 including a draw on the Building Reserve.
- (5) The total amount of Water Use Efficiency (WUE) outside funding for rebates and grants will decrease from a FY2015-16 budget of approximately \$22.8 million to a proposed budget of almost \$4.3 million. This is directly related to the decrease in the proposed rebate budget at the Metropolitan Water District of Southern California (MET). However, the \$4.3 million is approximately a 16% increase over the FY2014-2015 budget levels.
- (6) The total outside funding from WUE and Local Resource Project (LRP) sources will be approximately \$20.3 million in FY2016-17. This means that MWDOC will be bringing in outside revenue that is approximately 2.2 times its total consolidated operating budget and 2.7 times the CORE budget.
- (7) OPEB will be funded at the annual level pay amount of \$155,000. Combined with the estimates provided in our most recent actuarial evaluation, this level of annual contribution should allow satisfaction of the OPEB liabilities by the year 2023.
- (8) For dealing with the Pension Liability issue, staff is recommending continuation of the practice of increasing the staff contribution towards pension payments by 1% each year

- until a total of 7% has been achieved. This year, the budget was developed assuming the staff contribution is 5%.
- (9) Staffing levels include a marginal increase the total Full-Time Equivalent (FTE) staff by 0.14 FTEs with the total number of full-time MWDOC and WEROC employees increasing from 30 to 31.
- (10) The proposed budget for FY2016-17 incorporates the current 100% fixed rate structure which was implemented for the current fiscal year for the Core Budget, as well as Option A from the Rate Study (OCWD is charged for cost centers 21 and 23 (Planning and Resource Development, Met Issues and Special Projects) by 10-year historical water use (10.8%) and the remaining cost centers are equally divided (1/26) amongst OCWD and the remaining agencies (excluding WEROC).
- (11) The proposed increase in the fixed rate is \$0.10 per retail meter (.92%).
- (12) Significant project activities in FY2015-16 will include: Metropolitan activities and communication of those activities to our Member Agencies including policy issues from the Integrated Resource Plan, groundwater allocation and delivery models, business and investment models, the Carson IRP project, Local Resource Program (LRP) funding, and water reuse and groundwater recharge and storage issues including cyclic storage; Orange County Reliability Study continuing actions; Communication outreach programs related to drought, the California Water Fix (Bay Delta) and Met activities; Water Use Efficiency efforts on water savings potential and costefficient programs; Rebuilding the MWDOC website and implementation of communication surveys; Government Affairs activities at the local, state and federal level.
- (13) The CHOICE Activities for this year will include: School Program; Water Use Efficiency; Communications Plan (Public Affairs); Doheny Desal Site Closure; Poseidon; Water Loss Control Program.

8-4 PROPOSED MWDOC WATER RATE RESOLUTION FOR FISCAL YEAR 2016-17 RES. NO.

Recommendation:

(1) Increase the MWDOC Retail Meter Charge from \$10.85 to \$10.95 per meter, and (2) Assess a new Groundwater Customer Charge of \$392,666.00 to Orange County Water District, effective July 1, 2016, and (3) Adopt the Water Rate Resolution setting forth rates and charges to be effective July 1, 2016 and January 1, 2017 as identified in the Water Rate Resolution for Fiscal Year 2016-17.

8-5 ADOPTION OF MWDOC ORDINANCE TO ESTABLISH CLASSES OF WATER SERVICE AND TERMS AND CONDITIONS OF WATER SERVICE WTIHIN THE DISTRICT ORD. NO. 53

Recommendation: Adopt the attached Ordinance No. 53 to Establish Classes of

Water Service and Terms and Conditions of Water Service within the District. (MWDOC Administrative Code Section 1117 states that MWDOC shall provide at least ten days written notice that the Board will consider the adoption of a water service Ordinance and/or rates Resolution. Staff has met this requirement by emailing the Board letter and proposed

Ordinance and Resolution to the member agencies on May 5,

2016.)

8-6 ANNUAL REVIEW OF DISTRICT INVESTMENT POLICY AND GUIDELINES

RES. NO. _____

Recommendation: Adopt Resolution incorporating the changes made to the

Administrative Code (in June 2015).

8-7 ADOPT LEGISLATIVE POSITIONS

a. SB 163 (Hertzberg): Wastewater, Treatment, Recycled Water – Oppose

b. SB 1318 (Wolk): Local Government, Drinking Water Infrastructure -- Oppose

Recommendation: Adopt an oppose position on SB 163 and send a letter to the

author and the Orange County delegation expressing our position; and adopt an oppose position on SB 1318 and send a letter to the author and Orange County delegation expressing

our position.

8-8 ELECTION INFORMATION (CANDIDATE'S STATEMENTS)

Recommendation: The Public Affairs & Legislation Committee will review this item

on May 18, 2016 and make a recommendation to the Board.

8-9 CALIFORNIA SPECIAL DISTRICTS ASSOCIATION (CSDA) PROPOSED BYLAWS UPDATES

Recommendation: Authorize President Osborne or his designee to cast the vote

on behalf of MWDOC approving the amended and restated

CSDA bylaws.

INFORMATION CALENDAR (All matters under the Information Calendar will be Received/Filed as presented following any discussion that may occur)

9. GENERAL MANAGER'S REPORT, MAY 2016 (ORAL AND WRITTEN)

Recommendation: Receive and file report(s) as presented.

10. MWDOC GENERAL INFORMATION ITEMS

a. Board of Directors - Reports re: Conferences and Meetings and Requests for Future Agenda Topics

Recommendation: Receive and file as presented.

ADJOURNMENT

Note: 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 contacting 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.

MINUTES OF THE WORKSHOP BOARD MEETING OF THE BOARD OF DIRECTORS OF MUNICIPAL WATER DISTRICT OF ORANGE COUNTY (MWDOC) WITH THE MWDOC MET DIRECTORS

April 6, 2016

At 8:30 a.m. President Osborne called to order the Workshop Board Meeting of the Board of Directors of Municipal Water District of Orange County (MWDOC) at the District facilities located in Fountain Valley. Director Larry McKenney led the Pledge of Allegiance and Secretary Goldsby called the roll.

MWDOC DIRECTORS

Brett R. Barbre* Larry Dick* Joan Finnegan Susan Hinman Wayne Osborne Sat Tamaribuchi Jeffrey M. Thomas

MWDOC STAFF

Robert Hunter, General Manager Karl Seckel, Assistant General Manager Joe Byrne, Legal Counsel Maribeth Goldsby, Board Secretary Harvey De La Torre, Associate General Mgr. Kevin Hostert, Water Resources Analyst Joe Berg Dir. of Water Use Efficiency Melissa Baum-Haley, Sr. Water Resource Analyst

*Also MWDOC MET Directors

OTHER MWDOC MET DIRECTORS

Larry McKenney Linda Ackerman

OTHERS PRESENT

Bob Hill Mike Dunbar Ken Vecchiarelli **Brian Ragland** Steve LaMar Paul Shoenberger John Kennedy Dennis Erdman Bill Green **Andy Brunhart** Gary Melton Liz Mendelson-Goossens

Cathrene Glick

Ed Means

Kelly Rowe Richard Eglash

Samantha Waterman

El Toro Water District

Emerald Bay Service District Golden State Water Company City of Huntington Beach Irvine Ranch Water District

Mesa Water District

Orange County Water District South Coast Water District South Coast Water District South Coast Water District Yorba Linda Water District

San Diego County Water Authority

San Juan Basin Authority

Means Consulting

Water Resources Consultant

Brady & Associates

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ITEMS RECEIVED TOO LATE TO BE AGENDIZED - Determine need and take action to agendize item(s), which arose subsequent to the posting of the Agenda. (ROLL CALL VOTE: Adoption of this recommendation requires a two-thirds vote of the Board members present or, if less than two-thirds of the Board members are present, a unanimous vote.)

No items were presented.

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING

President Osborne inquired as to whether there were any items distributed to the Board less than 72 hours prior to the meeting with General Manager Hunter responding no items were distributed.

No items were distributed.

PUBLIC PARTICIPATION/PUBLIC COMMENTS

President Osborne inquired whether any members of the public wished to comment on agenda items.

Mr. Kelly Rowe, a water resources consultant and hydrogeologist, commented on the San Juan Basin Authority (SJBA) Facilities Management Plan and the geologic formation of the SESPE formation, noting that a study was completed to determine whether the SESPE formation could be used as an aquifer; he estimated that approximately two million acre-feet of storage might be utilized. Additional investigations will be performed.

PRESENTATION/DISCUSSION/INFORMATION ITEMS

OTHER INPUT OR QUESTIONS ON MET ISSUES FROM THE MEMBER AGENCIES/MET DIRECTOR REPORTS

President Osborne noted that this item is now placed first on the agenda; he requested comments/questions/input from the audience.

Mr. Steve LaMar (Irvine Ranch Water District) thanked the Board for placing this item first on the agenda, however, he noted that his main interest is to hear the report on Item No. 3 (Update on MET's Proposed Biennial Budget and Rates).

Mr. Dennis Erdman (South Coast Water District) requested an update on the MET/Sanitation Districts of Los Angeles County Demonstration-Scale Recycled Water Treatment Plant. Director Barbre advised that although the MET Board authorized moving forward on the demo project, the preliminary studies could take time. Director Barbre commented that the California Water Fix is MET's main focus.

Mr. Bill Green (South Coast Water District) asked if MET was looking at desalination as part of its reliability efforts; discussion was held regarding the cost differential between recycled water and desalination, as well as MET's approach to reliability (with the California Water Fix the main focus).

Considerable discussion ensued regarding the California Water Fix, its importance to the region, the cost, and water rights. Noting the importance of the Fix, Mr. Hunter encouraged all to support and promote.

President Osborne requested that (at the next meeting), the MWDOC MET Directors provide a report on issues under discussion by the MET Committees they participate in.

Director McKenney announced he would be hosting an inspection trip (one-day) on April 22nd to the Diemer Filtration Plant; he invited those interested in attending to contact him.

ORANGE COUNTY'S DROUGHT PERFORMANCE - JANUARY REPORT

Mr. Harvey De La Torre reported on Orange County's performance under the State Board's mandatory reduction, highlighting that the cumulative water savings for Orange County was 22% through January. Mr. De La Torre also provided information on MET's water storage levels, snow pack levels, and the Table A State Water Project allocations for 2016 (currently at 45%).

Considerable discussion ensued regarding pumping restrictions and ways to move more water through the Delta to avoid losing the water to the ocean (as a result of pumping restrictions).

The Board received and filed the report.

UPDATE ON MET'S PROPOSED BIENNIAL BUDGET AND RATES FOR FISCAL YEARS 2016/17 AND 2017/18

Mr. De La Torre provided an overview of MET's proposed Biennial Budget and Rates for fiscal years 2016/17 and 2017/18 noting that staff is recommending a 4% consolidated rate increases for each year.

Mr. De La Torre's presentation included information on key budget assumptions and drivers (significant increases to State Water Contract; low water sales), as well as the fixed treatment charge and other rate options that were presented to the MET Board. These options included (1a) ten-year rolling average with peaking; (1b) minimum fixed charge; and (2) status quo. Mr. De La Torre reviewed the pros/cons with each option, noting that MET staff is leaning toward Option 1a.

Considerable discussion ensued with specific emphasis on the reasons for the increased State Water Contract costs (labor, land acquisitions, infrastructure), the PAYGO fund, conservation funding, and the various options with regard to a fixed treatment charge, and possible tweaks to those options. It was noted that the MET Board has held 4 budget/rate workshops and that final Board adoption is anticipated in April.

Following a lengthy discussion, the Board received and filed the report as presented.

METROPOLITAN'S 2015 INTEGRATED RESOURCES PLAN (IRP) – PHASE 2: BOARD DISCUSSION ON RESOURCE IMPLEMENTATION

Mr. De La Torre advised that the MET Board adopted its 2015 IRP after a year-long review process. He advised that at this time MET is starting the IRP Phase 2 process which will include policy issues regarding regional and retail water supply reliability roles and responsibilities, future water conservation programs and approaches, LRP development and MET's regional role, storage management goals, and MET's approach to transfers and exchanges. Mr. De La Torre reported that MWDOC submitted an IRP policy priorities letter (addressed to Chairman Record and the IRP Committee Chair Atwater) which is included in the packet for the Board's information.

The Board received and filed the report.

MWD ITEMS CRITICAL TO ORANGE COUNTY

- a. MET's Water Supply Conditions
- b. MET's Finance and Rate Issues
- c. Colorado River Issues
- d. Bay Delta/State Water Project Issues
- e. MET's Ocean Desalination Policy and Potential Participation by MET in the Doheny Desalination Project
- f. Orange County Reliability Projects
- g. East Orange County Feeder No. 2

The Board received and filed the information as presented.

METROPOLITAN (MET) BOARD AND COMMITTEE AGENDA DISCUSSION ITEMS

- a. Summary regarding March MET Board Meeting
- b. Review Items of significance for the Upcoming MET Board and Committee Agendas

No new information was presented.

ADJOURNMENT

There being	no further	business to	come	before	the	Board,	the	meeting	adjourned	at	10:1
a.m.											

Maribeth Goldsby	
Board Secretary	

MINUTES OF THE SPECIAL MEETING OF THE BOARD OF DIRECTORS MUNICIPAL WATER DISTRICT OF ORANGE COUNTY April 7, 2016

At 6:00 p.m., President Osborne called to order the Special Meeting of the Municipal Water District of Orange County Board of Directors Board Room at the District facilities, 18700 Ward Street, Fountain Valley, California.

MWDOC DIRECTORS

Brett R. Barbre Larry Dick Joan Finnegan Susan Hinman Wayne Osborne Sat Tamaribuchi Jeffery M. Thomas

STAFF PRESENT

Robert Hunter, General Manager Karl Seckel, Assistant General Manager Maribeth Goldsby, Board Secretary Harvey De La Torre, Prin. Water Res. Planner Joe Berg, Water Use Eff. Programs Mgr. Jonathan Volzke, Public Affairs Manager Jake Vollebregt, Legal Counsel

ALSO PRESENT

Larry McKenney Fred Smith John Dulebohn John Sears Lisa Ohlund Mark Monin Jose Vergara **Bob Hill** Mike Dunbar **Cheryl Brothers** Mark Lewis Mark Sprague Peter Kim Jim Atkinson Ethan Temianka Fred Bockmiller Jim Fisler Mike Markus Gary Kurtz

Brian Probolsky
Scott Colton
Richard Fiore
Joone Lopez
Saundra Jacobs
Charles Gibson
Betty Olson
Justin McCusker
Dan Ferons
Mike Varipapa
Ellery Deaton

Sandra Massa-Lavitt Gary Miller MWDOC MET Director

City of Buena Park
East Orange County Water District
East Orange County Water District
East Orange County Water District

El Toro Water District El Toro Water District El Toro Water District

Emerald Bay Service District

City of Fountain Valley
City of Fountain Valley
City of Fountain Valley
City of La Palma

Mesa Water Mesa Water Mesa Water Mesa Water Mesa Water

Orange County Water District Moulton Niguel Water District Santa Margarita Water District

City of Seal Beach City of Seal Beach City of Seal Beach City of Seal Beach

David Spitz City of Seal Beach

Dennis Erdman South Coast Water District
Stephen Dopudja Trabuco Canyon Water District
Mike Safranski Trabuco Canyon Water District

Diana Carey City of Westminster

Robert Kiley

Michael Beveridge

Phillip Hawkins

Marc Marcantonio

Steve Gagnon

Liz Mendelson-Goossens

Yorba Linda Water District

PUBLIC COMMENTS

No public comments were received.

Following a brief introduction, President Osborne invited introductions around the room.

DISCUSSION ITEMS

DISCUSSION WITH REPRESENTATIVES FROM MWDOC'S MEMBER AGENCIES REGARDING KEY REGIONAL ISSUES AND KEY ORANGE COUNTY ISSUES, INCLUDING THE MWDOC BUDGET AND RATES, MET'S RATES, THE MWDOC RATE STUDY, MWDOC'S REILABILITY STUDY, AND WATER SUPPLY CONDITIONS AND ISSUES (PURSUANT TO THE TERMS OF THE AGREEMENT BETWEEN MWDOC AND ITS MEMBER AGENCIES)

President Osborne stated that the evening would consist of short presentations by General Manager Robert Hunter (and other staff), and the remainder of the meeting would consist of open dialogue/questions between the Board and audience. The following topics were covered:

MET's Biennial Budget and Rates MWDOC 2016-17 Budget and Rates OC Reliability Study Water Supply Issues Roundtable Discussion

Mr. Hunter began the evening with a presentation and overview of MET's proposed Biennial Budget and Rates, which included information on MET's 10-year financial forecast, MET's proposed budget revenue requirement, key budget observations, and MET's rates. He also provided information on MET's proposed treatment fixed charges, as well as alternatives to the treatment fixed charge and a financial comparison of fixed treatment options (1a and 1b), along with the financial impacts to both MET agencies and MWDOC agencies.

Considerable discussion ensued regarding both options 1a and 1b and which option was preferable to MWDOC's MET Directors, with Directors Dick and Barbre stating their belief that Option 1a would be the preferred option.

Mr. Hunter then provided an overview of MWDOC's 2016-17 draft budget including information on MWDOC's outside funding (grants and MET assistance), budget summary (expenses/purchases/core/choice/revenue reserves), major budget variances, key MWDOC projects, Choice activities, and proposed MWDOC rates. He also reviewed information on Proposition 26 Fee/Tax exceptions as they relate to the four rate scenarios coming out of MWDOC's rate study; the rate scenarios address (1) allocating costs to OCWD, and (2) allocating the remaining costs to retail member agencies. He advised that the MWDOC Board would consider the rate options at its meeting on May 18th.

Discussion ensued regarding the rate scenarios 1a (which would allocate \$356,313 to OCWD FY 2015-16 basis) and 1b (which would allocate \$251,725 to OCWD), and whether MWDOC was budgeting for spin off projects from the reliability study. Mr. Karl Seckel advised that study efforts for projects are included in the draft budget and that MWDOC's role would be to simply conduct studies, and act in the capacity of facilitator to help determine which projects go through at MET; he reiterated that no projects are in the budget, only study efforts.

Mr. Karl Seckel then provided information regarding the OC Reliability Study which highlighted potential projects which would aid in the effort to reduce shortages (MET projects, OC projects, and emergency needs), background information on the Reliability Study including the reasons it was commissioned, current observations as a result of the Study, and the great importance of the California Water Fix which would provide the largest improvement to the region's reliability. Mr. Seckel then provided the schedule for completion, indicating that the draft report should be circulated in May 2016.

Discussion ensued regarding the California Water Fix and rate impacts with and without a fix, and which projects will be chosen for further evaluation.

Noting the time, President Osborne advised that Mr. Harvey De La Torre was available to answer any questions regarding the current water supply issues. Discussion ensued regarding allocations, legislation, lobbying efforts and the need for water agencies to collectively work together toward solving the State's supply and reliability issues.

Santa Margarita Water District Director Saundra Jacobs commented that the Settlement Agreement is coming to a close, that good things have happened as a result of the Settlement Agreement, and she looks forward to a continued, positive relationship with MWDOC.

ADJOURNMENT

There being no further business to come before the Board, President Osborne adjourned the meeting at 8:00 p.m.

Respectfully submitted,						
Maribeth Goldsby, Secretary						

MINUTES OF THE REGULAR MEETING OF THE BOARD OF DIRECTORS MUNICIPAL WATER DISTRICT OF ORANGE COUNTY April 20, 2016

At 8:30 a.m. Vice President Barbre called to order the Regular Meeting of the Municipal Water District of Orange County in the Board Room at the District facilities located in Fountain Valley. Mr. Gary Melton led the Pledge of Allegiance and Secretary Goldsby called the roll.

MWDOC DIRECTORS

Brett R. Barbre Larry Dick Joan Finnegan Susan Hinman Wayne Osborne (abse

Wayne Osborne (absent) Sat Tamaribuchi (absent) Jeffery M. Thomas

STAFF

Robert Hunter, General Manager Karl Seckel, Assistant General Manager

Ruben Duran, Legal Counsel Maribeth Goldsby, Board Secretary

Harvey De La Torre, Associate General Mgr. Jonathan Volzke, Public Affairs Manager Cathy Harris, Admin. Services Manager Heather Baez, Government Affairs Manager

ALSO PRESENT

Larry McKenney Linda Ackerman David Aleshire William Kahn Ken Vecchiarelli Mary Aileen Mathias John Kennedy Dennis Erdman Rick Erkeneff

Gary Melton Richard Eglash

Andy Brunhart

MWDOC MET Director MWDOC MET Director Aleshire & Wynder El Toro Water District

Golden State Water Company Irvine Ranch Water District Orange County Water District South Coast Water District South Coast Water District South Coast Water District Yorba Linda Water District

Brady & Associates

PUBLIC PARTICIPATION/PUBLIC COMMENT

Vice President Barbre announced members of the public wishing to comment on agenda items could do so after the item has been discussed by the Board and requested members of the public identify themselves when called on. Mr. Barbre asked whether there were any comments on other items which would be heard at this time.

No comments were received.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

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

No items were added to the agenda.

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING

Vice President Barbre inquired as to whether there were any items distributed to the Board less than 72 hours prior to the meeting.

General Manager Hunter advised that revised staff reports for Item Nos. 14-2(a) (AB 1925 on Desalination, Statewide Goal), 14-2(b) (SB 1292 (Stone) on Grand Juries: Reports), and 14-2(c) (H.R. 4822 (Nunes) re Public Employee Pension Transparency Act) reflecting the Public Affairs & Legislation Committee's recommendations were distributed to the Board and made available to the public.

CONSENT CALENDAR

Vice President Barbre stated all matters under the Consent Calendar would be approved by one MOTION unless a Director wished to consider an item separately.

Director Hinman requested that Item No. 1(a) (March 2, 2016 Workshop Board meeting minutes) be revised to reflect that she was present at the meeting,

Upon MOTION by Director Hinman, seconded by Director Thomas, and carried (5-0), the Board approved the Consent Calendar items (as revised) as follows. Directors Barbre, Dick, Finnegan, Hinman, and Thomas voted in favor, with Directors Osborne and Tamaribuchi absent.

MINUTES

The following minutes were approved.

March 2, 2016 Workshop Board Meeting (revised) March 16, 2016 Regular Board Meeting March 26, 2016 Special Board Meeting

COMMITTEE MEETING REPORTS

The following Committee Meeting reports were received and filed as presented.

Planning & Operations Committee Meeting: March 14, 2016 Administration & Finance Committee Meeting: March 9, 2016 Public Affairs & Legislation Committee Meeting: March 23, 2016 Executive Committee Meeting: March 17, 2016

TREASURER'S REPORTS

The following items were ratified and approved as presented.

MWDOC Revenue/Cash Receipt Register as of March 31, 2016 MWDOC Disbursement Registers (March/April)

The following items were received and filed as presented.

MWDOC Summary of Cash and Investment and Portfolio Master Summary Report (Cash and Investment report) as of February 29, 2016

PARS Monthly Statement (OPEB Trust)

Water Use Efficiency Projects Cash Flow

FINANCIAL REPORT

The following items were received and filed as presented.

Combined Financial Statements and Budget Comparative for the period ending February 29, 2016

PUBLISHING THE OC CITIES AND WATER AGENCIES DIRECTORY

The Board received and filed the report, and voted to not print the Directory in hard copy.

ADOPT POSITION ON AB 2022 (GORDON) – ADVANCED PURIFICATION DEMONSTRATION WATER

The Board adopted a support position on AB 2022 (Gordon) and authorized sending a separate letter to the author and members of the Orange County delegation indicating our support.

ADOPT POSITION ON SB 885 (WOLK) - CONSTRUCTION CONTRACTS, INDEMNITY

The Board adopted an oppose position on SB 885 (Wolk), and authorized signing on to the California Special Districts Association (CSDA) coalition letter, and authorized sending a separate letter to the author and members of the Orange County delegation indicating our support.

AWARD A PROFESSIONAL SERVICES CONTRACT TO BLACK & VEATCH ENGINEERS FOR ENGINEERING AND OPERATIONS ASSISTANCE ON PIPELINES IN ORANGE COUNTY

The Board authorized the General Manager to award a contract with Black & Veatch Engineers in an amount not to exceed \$25,000.

MWDOC'S 2015 URBAN WATER MANAGEMENT PLAN NOTICE OF A PUBLIC HEARING ON MAY 18, 2016

The Board established May 18, 2016 as the public hearing date for Municipal Water District of Orange County's 2015 Urban Water Management Plan.

AUTHORIZE ATTENDANCE AT OCBC LEGISLATIVE TRIP, MAY 23-24, 2016, WASHINGTON, DC

The Board authorized attendance by the Board of Directors and members of staff as approved by the General Manager.

AUTHORIZE PURCHASE OF NEW COPIER

The Board authorized the General Manager to purchase a Ricoh Pro C5110 color copier at a cost of \$29,517 (including tax, software, installation, and training).

TRAVEL TO WASHINGTON, DC TO COVER FEDERAL INITIATIVES

The Board received and filed the report as presented.

TRAVEL TO SACRAMENTO TO COVER STATE INITIATIVES

The Board received and filed the report as presented.

END CONSENT CALENDAR

ACTION CALENDAR

AWARD OF PROFESSIONAL SERVICES CONTRACT FOR DOHENY SLANT WELL AND MOBILE TEST FACILITY DECOMMISSIONING

Upon MOTION by Director Thomas, seconded by Director Finnegan, and carried (5-0), the Board authorized the General Manager to contract with Geoscience Support Services in the amount of \$185,122 (as described in their proposal, and based on the revised cost proposal dated April 12, 2016) for the Doheny Slant Well and Mobile Test Facility Decommissioning work. The work is being funded from the 2008 Doheny Desal Project. Directors Barbre, Dick, Finnegan, Hinman, and Thomas voted in favor. Directors Osborne and Tamaribuchi were absent.

ADOPT LEGISLATIVE POSITIONS

a. AB 1925 (Chang) Desalination Statewide Goal

Vice President Barbre announced that the Public Affairs & Legislation Committee recommended this item be deferred until May at which time the amendments taken at the Assembly Water, Parks and Wildlife Committee will be in print and can be reviewed by the Board. This item will return to the May 16, 2016 Public Affairs & Legislation Committee. Directors Barbre, Dick, Finnegan, Hinman, and Thomas voted in favor. Directors Osborne and Tamaribuchi were absent.

b. SB 1292 (Stone) - Grand Juries: Reports

Upon MOTION by Director Finnegan, seconded by Director Thomas, and carried (5-0), the Board adopted a support position on SB 1292 (Stone), and authorized joining the California Special Districts Association (CSDA) Coalition letter supporting the measure. Directors Barbre, Dick,

Finnegan, Hinman, and Thomas voted in favor. Directors Osborne and Tamaribuchi were absent.

c. H.R. 4822 (Nunes) – Public Employee Pension Transparency Act

Vice President Barbre advised that the Public Affairs & Legislation Committee recommended the Board adopt a support position (by a 2-1 vote) and asked that a list of "pros and cons" regarding the bill be distributed to the Board and that said list was distributed to the Board.

Director Hinman expressed concern with a support position as it would provide the Federal government too much power over what is the State's responsibility. She advised that she would oppose the legislation as it is currently written.

Director Dick agreed with Director Hinman and suggested the Board adopt a "support if amended" position.

Upon MOTION by Director Thomas, seconded by Director Finnegan, and carried (3-2), the Board voted to support H.R. 4822 and authorized sending a separate letter to the author and members of the Orange County delegation indicating our support. Directors Barbre, Thomas, and Finnegan voted in favor; Directors Dick and Hinman opposed. Directors Osborne and Tamaribuchi were absent.

DISCUSSION CALENDAR

DISCUSSION REGARDING MWDOC'S RATE STUDY AND BUDGET

General Manager Hunter stated that the Administration & Finance Committee (A&F) recommended additional discussion on this matter by the full Board on whether to incorporate the Rate Study's Option 1(a) or 1(b) into the fiscal year 2016/17 rates and budget. He clarified that the options outline the amount Orange County Water District will be charged each year and that the difference between the two options is approximately \$100,000.

Following discussion regarding the options and which option the member agencies prefer, the Board asked staff to include Option 1(a) in the budget and rate resolution and ordinance, for Board consideration at the May 18, 2016 Board meeting.

Mr. Hunter then highlighted the budgeted membership in the California Council on Environmental and Economic Balance (CCEEB) for \$29,500 that the Committee discussed. The Board generally concurred that the membership be left in the budget until Director Tamaribuchi returns so that he may answer any questions from the Board.

INFORMATION CALENDAR

GENERAL MANAGER'S REPORT, APRIL 2016

General Manager Hunter advised that the General Manager's report was included in the Board packet.

Responding to an inquiry by Director Hinman, Mr. Hunter reported that an update to the Water Loss Control Report will be made to the Planning & Operations Committee in the fall of 2016.

Mr. Hunter announced that the OC Water Summit would be held on Friday, May 20 at the Westin South Coast Plaza. He also announced that voting on the Poster/Slogan contest was underway and encouraged the MWDOC Board to cast their votes.

The Board received and filed the report as presented.

MWDOC GENERAL INFORMATION ITEMS

BOARD OF DIRECTORS

The Board members each reported on their attendance at the regular (and special) MWDOC Board and Committee meetings. In addition to these meetings, the following reports were made on conferences and meetings attended on behalf of the District.

Director Hinman reported on attending the WACO and WACO planning meetings, the MWDOC Board and Committee meetings, the Elected Officials Forum, the San Juan Basin Authority meeting, the Laguna Beach County Water District Board meeting, the San Juan Capistrano City Council meeting, and the South Coast Water District hearing regarding the Doheny Desalination Project. Ms. Hinman commented that she attended an exhibit on the Nature of Water at the Irvine Museum which features many of Joan Irvine Smith's painting; she encouraged all to attend.

Director Thomas attended the MWDOC Board meeting, the Administration & Finance Committee meeting, the Workshop Board meeting, the Elected Officials Forum, and the OC Water Summit planning meetings; he provided an overview of the speakers/format of the Summit. He also noted that he was a guest speaker on the TBN radio show.

Director Dick advised that he attended the MET Board/Committee meetings, the MWDOC Board and Workshop Board meetings, the Special Board meeting, as well as the Executive, Planning & Operations, and Public Affairs & Legislation Committee meetings. Mr. Dick also attended the MET Executive Committee meeting, the MET Board budget and rate workshops, the South Orange County Economic Coalition meeting, the ISDOC and ISDOC Executive Committee meetings, the WACO and WACO Planning meetings, the MET Caucus, the MWDOC MET Director rate meeting, a meeting with Jim Leach, the Urban Water Institute planning meetings, and the Serrano Water District Board meeting.

Director Barbre reported on attending the MET Board/Committee meetings (including the fourth Tuesday Committee meetings), the MWDOC Board and Workshop Board meetings, the Special Board meeting, the Elected Officials Forum, as well as all of MWDOC Committee meetings (Executive, Administration & Finance, Planning & Operations, and Public Affairs & Legislation). Mr. Barbre also reported on attending the City of Yorba Linda/Yorba Linda Water District joint meeting, the MWDOC/OCWD/YLWD meeting, the YLWD Board meeting, the WACO meeting, the ISDOC luncheon, the Mesa Board meeting, a meeting with Dan Ferons and Ken Khachigian regarding MET/Cadiz issues., and a meeting with Gary Breaux (pre-Committee issues). Mr. Barbre advised that AB 1713 (Delta Fix to public vote) passed out of committee; he encouraged all agencies to oppose the bill.

Director Finnegan advised that she attended the MWDOC Board and Committee meetings, the ISDOC Executive Committee and ISDOC luncheon, the Elected Officials Forum, and the Mesa Water District Board meeting.

CLOSED SESSION

At 8:50 a.m., Legal Counsel Duran announced that the Board would adjourn to closed session on the following matters:

CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION

Pursuant to Paragraph (1) of subdivision (d) of Government Code Section 54956.9. One Case: San Diego County Water Authority v. Metropolitan Water District of Southern California; all persons interested in the validity of the rates adopted by the Metropolitan Water District of Southern California on April 13, 2010, et al., former Los Angeles Superior Court, Case No. BS 126888, transferred on October 21, 2010, to San Francisco Superior Court, Case No. CPF-10-510830.

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION

Pursuant to Paragraph (1) of subdivision (d) of Government Code 54956.9. One Case: San Diego County Water Authority v. Metropolitan Water District of Southern California; all persons interested in the validity of the rates adopted by the Metropolitan Water District of Southern California on April 10, 2012 to be Effective January 1, 2013 and January 1, 2014; and Does 1-10, et al., former Los Angeles Superior Court, Case No. BS137830, transferred on August 23, 2012, to San Francisco Superior Court, Case No. CPF-12-512466.

CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION

Pursuant to Paragraph (1) of subdivision (d) of Government Code Section 54956.9. One Case: San Diego County Water Authority v. Metropolitan Water District of Southern California; all persons interested in the validity of the rates adopted by the Metropolitan Water of Southern California on April 8, 2014, et al., former Los Angeles Superior Court, Case No. BC547139, transferred on December 2, 2014, to San Francisco Superior Court, Case No. CPF-14-514004.

RECONVENE

The Board reconvened at 9:36 a.m. and Vice President Barbre announced that no reportable action was taken in closed session.

ADJOURNMENT

There being no furthe	er business to come	before the Board,	Vice President Barbı	e adjourned the
meeting at 9:36 a.m.	ı.			-

Respectfully submitted,					
Maribeth Goldsby, Secretary					

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Jointly with the

PLANNING & OPERATION COMMITTEE

April 4, 2016 - 8:30 a.m. to 9:23 a.m. MWDOC Conference Room 101

P&O Committee:

Director Larry Dick Director Susan Hinman Director Finnegan Staff:

Robert Hunter, Karl Seckel, Joe Berg, Harvey DeLaTorre, Katie Davanaugh, Kevin Hostert, Jonathan Volzke,

Melissa Baum-Halev

Also Present:

Director Wayne Osborne Director Brett Barbre Director Sat Tamaribuchi

Linda Ackerman, MWDOC MET Director Paul Weghorst, Irvine Ranch Water District

Director Dick called the meeting to order at 8:30 a.m.

PUBLIC PARTICIPATION

No comments were received.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

No items were presented. It was noted, however, that a revised agenda had been posted with the addition of a Board Action Item (AB 2583).

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING

No items were presented.

Director Osborne convened the Board for the following item:

BOARD ACTION ITEM

AB 2583 (FRAZIER) – SACRAMENTO SAN JOAQUIN DELTA

Upon motion by Director Dick, seconded by Director Finnegan and carried (6-0), the Board adopted an "Oppose" position on AB 2583 (Frazier), and authorized staff to sign on to Metropolitan Water District's coalition letter, and send a separate letter to the author and members of the Orange County delegation indicating the District's opposition.

The Committee reconvened for the remainder of the agenda.

ACTION ITEMS

AWARD PROFESSIONAL SERVICES CONTRACT FOR DOHENY SLANT WELL AND MOBILE TEST FACILITY DECOMMISSIONING

Upon MOTION by Director Hinman, seconded by Director Finnegan, and carried (3-0), the Committee recommended approval of the Award of the Professional Services Contract for Doheny Slant Well and Mobile Test Facility Decommissioning at the April 20, 2016 Board meeting. Directors Dick, Hinman and Finnegan all voted in favor.

Mr. Seckel noted that the participants responsible for the decommissioning of the Doheny desalination site met recently for discussion on the award of the contract and this item is brought to the Committee to keep the project on track as MWDOC has been responsible for presenting the RFP and MWDOC would utilize existing funding from the project for the decommissioning work. Geoscience met all of the requirements in the RFP, and the cost that had been set aside to complete the work is \$356,000. Staff will continue to work with Geoscience and participants to move forward with the decommissioning.

AWARD A PROFESSIONAL SERVICES CONTRACT TO BLACK & VEATCH ENGINEERS FOR ENGINEERING AND OPERATIONS ASSISTANCE ON PIPELINES IN ORANGE COUNTY

Upon MOTION by Director Hinman, seconded by Director Finnegan, and carried (3-0), the Committee recommended approval of the Award of the Professional Services Contract for Engineering and Operations Assistance on Pipelines in Orange County at the April 20, 2016 Board meeting. Directors Dick, Hinman and Finnegan all voted in favor.

The proposed work relates to the operations and maintenance of large diameter MET pipelines and examining options and costs for segregating certain reaches of the EOCF#2 and the potential impact on MET operations, etc. Paul Weghorst, on behalf of Irvine Ranch Water District, expressed support for this work and urged the board to consider expanding the scope of services to include review of operations of the other capacity right holders in the EOCF#2 and the potential benefits, including integration of Poseidon water, moving groundwater, expansion of emergency services, etc. The agencies impacted by EOCF#2 are the south county agencies.

It was noted that this work is within the General Manager's authority of an amount not to exceed \$25,000.

MWDOC'S 2015 URBAN WATER MANAGEMENT PLAN NOTICE OF A PUBLIC HEARING ON MAY 18, 2016

Upon MOTION by Director Finnegan, seconded by Director Hinman, and carried (3-0), the Committee recommended approval of the Urban Water Management Plan Notice for a Public Hearing at the April 20, 2016 Board meeting. Directors Dick, Hinman and Finnegan all voted in favor. It was noted that this request is only for MWDOC to set their public hearing date as 5/18/16.

INFORMATION ITEMS

PUBLIC REVIEW OF MWDOC'S DRAFT 2015 URBAN WATER MANAGEMENT PLAN

Director Tamaribuchi expressed sensitivity with MET using the word "surplus" in its supply capability and project demands charts; Director Hinman concurred. MWDOC staff noted the request and also noted that Director Ackerman may be able to provide assistance with this request.

DOHENY DESALINATION PROJECT FOUNDATIONAL ACTION FUNDING PROGRAM REPORT

Mr. Seckel noted that copies of the foundational action funding plan are quite voluminous and are available for review upon request.

Director Hinman requested a status report regarding information received from the Science Advisory Council on this project.

SAN JUAN BASIN AUTHORITY FOUNDATIONAL ACTION FUNDING PROGRAM REPORT

No comments were received.

RESPONSE TO SOUTH COAST WATER DISTRICT NOTICE OF PREPARATION OF DOHENY OCEAN DESALINATION PROJECT ENVIRONMENTAL IMPACT REPORT

Mr. Seckel noted that the recent meeting held on this topic was well attended. Further, he defined "responsible agency" as a public agency, other than the lead agency, who has the responsibility for carrying out or approving a project, noting that MWDOC is not the responsible agency in this case. South Coast Water District is the responsible agency for this report and MWDOC has been included on the conversations due to their prior work and knowledge on this project.

STATUS UPDATE ON THE OC RELIABILITY STUDY - APRIL 2016

It was noted that the next meeting for this assignment is scheduled for April 14th and a presentation will be provided at the May 13th WACO meeting.

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

The staff reports were reviewed with Director Hinman, particularly pertaining to WEROC activities.

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

Mr. Berg noted that the Water Smart Landscape Program is currently on hold while a process and impact evaluation is conducted.

<u>ADJOURNMENT</u>

There being no further business to be brought before the Committee, the meeting adjourned at 9:23 a.m.

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Jointly with the ADMINISTRATION & FINANCE (A&F) COMMITTEE

April 13, 2016 – 8:45 a.m. to 10:20 a.m. MWDOC Conference Room 101

Committee Members:

Staff:

Director Jeff Thomas, Chair Director Joan Finnegan Director Brett Barbre (absent) Rob Hunter, Karl Seckel, Harvey De La Torre, Katie Davanaugh, Cathy Harris, Hilary Chumpitazi, Joe Berg

Also Present:

Director Susan Hinman Director Brett Osborne

Director Thomas called the meeting to order at 8:45 a.m. Director Osborne sat on the Committee in the absence of Director Barbre.

PUBLIC COMMENTS

No comments were received.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

No items were presented.

<u>ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING</u>

It was noted that the 2nd Draft of the Budget was distributed.

PROPOSED BOARD CONSENT CALENDAR ITEMS

TREASURER'S REPORT

- a. Revenue/Cash Receipt Report March 2016
- b. Disbursement Approval Report for the month of April 2016
- c. Disbursement Ratification Report for the month of March 2016
- d. GM Approved Disbursement Report for the month of March 2016
- e. Water Use Efficiency Projects Cash Flow March 31, 2016
- f. Consolidated Summary of Cash and Investment February 2016
- g. OPEB Trust Fund monthly statement

Upon MOTION by Director Finnegan, seconded by Director Osborne, and carried (3-0), the Committee recommended the Treasurer's Report for approval at the April 20, 2016 Board meeting. Directors Thomas, Osborne and Finnegan all voted in favor.

FINANCIAL REPORT - Combined Financial Statements and Budget Comparative for the period ending February 28, 2016

Upon MOTION by Director Osborne, seconded by Director Finnegan, and carried (3-0), the Committee recommended the Financial Report for approval at the April 20, 2016 Board meeting. Directors Thomas, Osborne and Finnegan all voted in favor.

ACTION ITEM

AUTHORIZE ATTENDANCE AT OCBC LEGISLATIVE TRIP, MAY 23-24, 2016, WASHINGTON, DC

Upon MOTION by Director Finnegan, seconded by Director Osborne, and carried (3-0), the Committee recommended authorizing Attendance at OCBC Legislative Trip, May 23-24, 2016 in Washington, DC at the April 20, 2016 Board meeting. Directors Thomas, Osborne and Finnegan all voted in favor.

It was noted that Director Barbre had expressed interest in attending this legislative trip and that the District is currently an OCBC member and wishes to increase participation with the organization. Director Hinman requested a staff report following attendance at the event.

AUTHORIZE PURCHASE OF NEW COPIER

Upon MOTION by Director Thomas, seconded by Director Finnegan, and carried (3-0), the Committee recommended the Purchase of New Copier for approval at the April 20, 2016 Board meeting. Directors Thomas, Osborne and Finnegan all voted in favor.

Mr. Hunter noted that a maintenance agreement is included in the action amount and that staff conducted a thorough review on volume, pricing, options, pricing, color vs black/white, durability, reliability, etc. prior to making the recommendation.

DISCUSSION ITEM

WATER DISTRIBUTION IN THE EVENT OF AN EMERGENCY

Kelly Hubbard provided a thorough report on current bottle water procurement and distribution planning measures currently in place as well as goals and needs that need to be met. Planning goals include working with water agencies and city emergency planning departments to focus on restoration efforts and community support through bottled water distribution. Disaster timeline assumptions, WEROC goals and timelines were also reviewed in the presentation. It was noted that the current "Flu Points of Distribution" available through the County of Orange Health Care Agency could easily be transitioned to a commodity distribution center during the event of an emergency for water, food, and other emergency supplies. Water agencies could provide water distribution through fire hydrants with spigots for a water supply once clean sources of water have been identified. WEROC staff will work with both water agencies and cities to develop a working plan in the coming months.

Ms. Hubbard reviewed the upcoming planning schedule of activities through September 29, 2016 which include a planning kick-off meeting, small group feedback, presentation of the plan to OCEMO, working with water utilities and cities, and a county-wide testing exercise on September 29th. Coordination and communication among all participants is critical to the

success of being effective during an actual emergency, as was clearly evident from the lessons learned during the Katrina hurricane.

SECOND DRAFT OF MWDOC'S BUDGET FOR 2016-17

Mr. Hunter reviewed the summary of the six major changes to the budget since the previous version which include revisions to 1) building expenses, 2) copier expenses, 3) records management activities, 4) capital acquisitions for the office remodel, 5) new hire costs and 6) membership, travel and conferences.

The Committee held considerable discussion on the California Council for Environmental & Economic Balance (CCEEB) proposed membership and whether it should be included or removed from the budget, information on membership benefits and activities, current members (Metropolitan Water District and Eastern MWD), the value of membership to MWDOC and its member agencies. Mr. Hunter reported that Director Tamaribuchi strongly supports membership in this organization, noting the value of statewide regulatory and legislative climate change activities. Other issues that are important to CCEEB include, California environmental issues, a water quality task force and an environmental justice task force.

At the conclusion of discussion, it was determined that this item would remain in the budget as it would be easier to include it now, rather than to add it back in at a later date. Additional information would be researched and Director Tamaribuchi would be available upon his return from vacation to provide more insight on the value of membership.

MWDOC RATE STUDY UPDATE

Steve Gagnon provided an update on activities of the rate study and comments from the March 17, 2016 Manager's meeting. The consensus from that meeting is that Orange County Water District should be charged an appropriate fee. Scenario 1 was the most favorable at that meeting, but had both strengths and weaknesses so a new scenario was developed and identified as Scenario 1B in which OCWD is allocated 1/26 of costs (as opposed to using historical water use as previously identified) and allocation of remaining cost to retail agencies based on the number of meters.

The Committee reviewed the summary of charges, change in dollars and percentage change charts and held discussion on the various scenarios and options. It was noted that this item was presented for discussion only and a decision or consensus from the Committee was not necessary today. One additional rate structure workshop will be held at the May A&F meeting and a final report presented at the May 18th Board meeting for consideration and adoption of the new MWDOC rate structure which is included with the 2016-17 budget which is anticipated to be adopted at the June Board meeting.

INFORMATION ITEMS

REBATE PROGRAM – 1099 UPDATE

The final filing date for MWDOC to file the 1099 forms is May 2nd. Approximately 80% of the rebate applicants have already responded and more are anticipated with the April tax filing deadline approaching.

MONTHLY WATER USAGE DATA, TIER 2 PROJECTION & WATER SUPPLY INFO

The report was received and filed without discussion.

DEPARTMENT ACTIVITIES REPORTS

- a. Administration
- b. Finance and Information Technology

The report was received and filed without discussion.

<u>ADJOURNMENT</u>

There being no further business to be brought before the Committee, the meeting adjourned at 10:20 a.m.

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

Jointly with the

PUBLIC AFFAIRS AND LEGISLATION COMMITTEE

April 18, 2016 - 8:30 a.m. to 9:35 a.m. MWDOC Conference Room 101

Committee: Staff:

Director Brett Barbre Robert Hunter, Karl Seckel, Heather Baez, Director Susan Hinman Jonathan Volzke, Joe Berg, Tiffany Baca, Pat Meszaros, Harvey De La Torre,

Director Larry Dick (in Director Tamaribuchi's

Absence)

Also Present:

Joan Finnegan, MWDOC Director Linda Ackerman, MWDOC MET Director Larry McKenney, MWDOC MET Director Dick Ackerman, Ackerman Consulting John Lewis, Lewis Consulting

Syrus Devers, BBK (via phone) Zeshaan Youmus, Discovery Cube Stacy Taylor, Mesa Water District

Director Barbre called the meeting to order at 8:30 a.m. and wished all a Happy Patriots Day.

PUBLIC PARTICIPATION

No items were presented.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

Determine need and take action to agendize items(s) which arose subsequent to the posting of the Agenda.

No items were presented.

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING

No items were presented.

DISCUSSION ITEMS

LEGISLATIVE ACTIVITIES

Federal Legislative Report (Barker) a.

Director Hinman inquired whether there were any updates on the House drought bill. Director Barbre responded that the House put a substantial portion of the Valadao bill in Appropriations bill and it got marked up, moved out to the floor, and it will go over to the Senate. He reported further that there's been no action on Senator Feinstein's bill.

State Legislative Report (BBK)

Mr. Syrus Devers of BBK stated that the report is rather short because the legislature has just been in session for two weeks since his last report. This week, two bills intended to put the brakes on the twin tunnels project are going up in the Assembly Water, Parks, and Wildlife Committee: AB 1713, which would mandate voter approval, and Assembly Bill 2583, which would put some new hurdles in front of the project, like tougher financing and environmental rules, before it can proceed.

Mr. Devers reported that the State Water Resources Control Board will be busy on April 20 with the workshop on drought regulations and there are rumors that the Board may move in a different direction.

Director Barbre inquired about Mr. Devers' research on an issue which is LAFCO-related and dealing with conflict of interest. Also the concept that, in counties which are 80-85% developed, with minimal boundary challenges, LAFCO ceases to exist and those boundary powers get shifted to the Board of Supervisors. Mr. Devers has been doing background research and he's come across other areas where a lack of conflict of interest provision has caused problems. He will continue to pursue these ideas as there are other interest groups to talk with.

b. County Legislative Report (Lewis)

Mr. John Lewis reported that at the LAFCO meeting on Wednesday, April 20, the vote was 6-1 in favor of EOCWD on the transfer of Orange County Sanitation District Area 7. Mr. Lewis stated that it was surprising how they voted and that no one knew how Supervisor Todd Spitzer would vote until the very end. His was the critical vote. Mr. Lewis thanked Directors Dick and Barbre for speaking on behalf of EOCWD. He also asked Ms. Stacy Taylor of Mesa Water to pass on thanks to Director Temianka for his powerful op-ed piece in the Register supporting EOCWD.

Discussion continued regarding LAFCO with Director Dick stating his amazement at the huge number of attendees at Wednesday's meeting. He was pleased to see the system work so well and happy with the outcome. Director Dick discussed the LAFCO budget and stated his concern that LAFCO plans to add an employee and he questioned why. If their responsibilities have been lessened, why would they need more staff? Mr. Hunter noted that the LAFCO budget is out and was pushed over to next month because of the EOCWD/IRWD issue. Director Hinman commented that a Conflict of Interest on the LAFCO Board enhances citizens' cynicism of publicly elected officials because it adds to mistrust. Director Barbre noted that each local LAFCO has the ability to put in a Conflict of Interest provision, however, they have not opted to do that.

d. Legal and Regulatory Report (Ackerman)

Mr. Dick Ackerman discussed the San Juan Water District, located near Folsom Lake, and its Board recently announcing it would not observe the mandates announced by the State for conservation. Their decision was based on the vastly improved conditions in their area

including the continuing release of water from Folsom Lake for flood control. Mr. Ackerman noted that it will be interesting to see what comes out of that.

- e. MWDOC Legislative Matrix
- f. Metropolitan Legislative Matrix

The report was received and filed.

ACTION ITEMS

TRAVEL TO WASHINGTON DC TO COVER FEDERAL INITIATIVES

Upon MOTION by Director Dick, seconded by Director Hinman, and carried (3-0), the Committee recommended receiving and filing the report at the April 20, 2016 Board meeting. Directors Dick, Hinman and Barbre all voted in favor.

TRAVEL TO SACRAMENTO TO COVER FEDERAL INITIATIVES

Upon MOTION by Director Dick, seconded by Director Hinman, and carried (3-0), the Committee recommended receiving and filing the report at the April 20, 2016 Board meeting. Directors Dick, Hinman and Barbre all voted in favor.

ADOPT LEGISLATIVE POSITIONS

a. AB 1925 (Chang) Desalination Statewide Goal

Mr. Hunter is concerned that this bill is establishing a goal of 500,000 acre feet per year regardless of whether the projects are financially viable. Mr. Devers stated that this goal is really an update to an existing goal and there's no legal impact or mandate behind it. AB 1925 was amended in committee on April 14, but the amendments are not yet in print.

The Committee recommended deferring this bill until next month when the amendments come back.

b. SB 1292 (Stone) Grand Juries

Ms. Heather Baez stated that CSDA is sponsoring SB 1292 (Stone) which would (1) require each grand jury to hold an interview with the subject of their investigation to discuss the findings; (2) allow a grand jury to provide a draft to the subject of the report; and (3) grant the subject of an investigation the option to provide comments on the report that will be released and posted with the grand jury report.

Upon MOTION by Director Hinman, seconded by Director Dick, and carried (3-0), the Committee recommended support of SB 1291 and signing on to a CSDA coalition letter at the April 20, 2016 Board meeting. Directors Dick, Hinman and Barbre all voted in favor.

c. H.R. 4822 (Nunes) Public Employee Pension Transparency Act

Upon MOTION by Director Dick, seconded by Director Barbre, and carried (2-1), the Committee recommend support of HR 4822 and sending a letter to the author and O.C.

Delegation at the April 20, 2016 Board meeting. Directors Dick and Barbre voted in favor; Director Hinman voted in opposition.

INFORMATION ITEMS

UPDATE ON THE TRANSFER OF ORANGE COUNTY SANITATION DISTRICT AREA 7

Ms. Baez reported that she attended the 4-hour LAFCO meeting where there were 47 public speakers; 35 of those spoke in favor of EOCWD and 12 spoke in favor of IRWD. All the elected officials who spoke were in favor of EOCWD; IRWD had no elected officials speaking. The repeated message from speakers on behalf of EOCWD was local control and a 50% rate cut. Those supporting IRWD repeated experience and certainty.

UPDATE ON POTENTIAL CONSOLIDATION OF SAN JUAN CAPISTRANO UTILITIES

Director Hinman stated that the San Juan Utilities Commission meeting for next Tuesday is canceled and that this potential consolidation has been challenging to keep up with. Mr. Volzke noted that there's been no discussion of the impact on rates.

UPDATE ON WATER SUMMIT (MAY 20, 2016)

Director Barbre stated he liked the collaterals and Mr. Volzke reported that Ms. Baca has done all of the collaterals this year.

PUBLIC AFFAIRS ACTIVITIES REPORT

Director Hinman stated that the Elected Officials Forum went exceptionally well as there was good interaction and worthwhile information. She complimented and thanked all those involved.

Director Barbre inquired when we started sending supervisors' info for their newsletters to which Mr. Volzke stated about 4 months ago. Director Barbre noted that the Board would like to have meetings scheduled with the Board of Supervisors. Mr. Hunter asked for their feedback on topics to discuss. Director Hinman mentioned the O.C. Water Reliability Study; Director Finnegan brought up WEROC and its relationship with the County and Director Dick added the LAFCO issues. Director Dick stated that, in the past, we used to give newly elected officials a map of the county with an overlay of their district over the water agencies they represent. It's an educational tool that would be an excellent leave-behind.

Director Hinman was pleased to see many articles in the Register with quotes from Mr. Hunter and she thanked Mr. Volzke for that.

SCHOOL PROGRAM PARTICIPATION REPORT

Director Barbre would like to see more statistics from the Ecology Center on what they're doing and what the actual reach is. Director Hinman mentioned what a great program DSC has and the interaction with students is exceptional but the numbers are low and she

questions whether they are contacting enough schools.

OTHER ITEMS

REVIEW ISSUES RELATED TO LEGISLATION, OUTREACH, PUBLIC INFORMATION ISSUES, AND MET

No items were presented.

ADJOURNMENT

There being no further business to be brought before the Committee, the meeting adjourned at 9:35 a.m.

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY jointly with the

EXECUTIVE COMMITTEE

April 21, 2016, 8:30 a.m. to 10:15 a.m. Conference Room 102

Committee:

Director Osborne, President (absent) Director Barbre, Vice President (absent) Director Dick Staff:

R. Hunter, M. Goldsby

Also Present:

Director Thomas
Director Hinman

At 8:30 a.m., in President Osborne's and Vice President Barbre's absence, Director Dick chaired the meeting, and Directors Thomas and Hinman acted as Committee members. The meeting was called to order at 8:30 a.m.

PUBLIC PARTICIPATION

No public comments were received.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

No comments were received.

ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING

At the beginning of the meeting, Staff distributed the draft agendas for the May Committee meetings.

EXECUTIVE COMMITTEE PROPOSALS FOR FUTURE AGENDAS

The Committee reviewed and discussed the draft agendas for each of the Committee meetings and made revisions/additions as noted below.

a. MWDOC/OCWD Joint Planning Committee

The Committee discussed possible storage in the groundwater basin, and the results of the Reliability Study relating to the basin. They suggested staff develop a conceptual outline for storage in the basin.

b. Planning & Operations Committee

No information was added.

c. Workshop Board Meeting

It was noted that due to a conflict with the ACWA Conference, the May Workshop Board meeting had been cancelled.

d. Administration & Finance Committee

With respect to the 1099 Rebate status, the Committee asked that staff include an update/report on where this issue stands at the Federal level.

Responding to an inquiry by Director Thomas, staff was asked to confirm that no 1099s were issued to anybody that did not receive a check/funds from the Turf Removal Program, and to contact the customer who called Director Thomas and provide assistance.

Considerable discussion was also held regarding the Water Rates Resolution and Ordinance and whether these would need to be changed again in the event a process is developed which would allow storage in the basin; staff advised that the details of the revised Ordinance and Resolution are under review by legal counsel,

e. Public Affairs & Legislation Committee

No new information was added to the agenda. It was noted however, that due to timing of the meetings, the Approval of the Fuel Trailer Vendor, and the EOC Facility Assessment Vendor Approval times was moved from the P&O agenda to the PAL agenda. Discussion ensued regarding WEROC and which agency is allotted the majority voting share in WEROC; staff was asked to review this issue with legal counsel.

Discussion was also held regarding the District's legal counsel, with General Manager Hunter advising that pursuant to the terms of the Administrative Code, the District would be issuing an RFQ/RFP in the near future.

The Committee commented on the request for individual meetings with the Board of Supervisors and suggested the issue be agendized and discussed at the PAL Committee. Considerable discussion ensued regarding MET's model for meetings (large breakfast type event) and suggested staff confer with Director Barbre.

f. Executive Committee

No new items were added to the agenda.

DISCUSSION REGARDING UPCOMING ACTIVITIES OF SIGNIFICANCE

Mr. Hunter advised that staff is in the process of preparing awards to those agencies that met their state mandated conservation targets.

Mr. Hunter also advised that MWDOC would be hosting the Women in Water breakfast on May 17th, featuring Debra Man as speaker. He advised that OCWD has also hosted this breakfast and that the cost would be approximately \$600; the Committee approved the expense.

MEMBER AGENCY RELATIONS

The Committee deferred considerations of a Settlement Agreement closure letter until the May meeting.

GENERAL MANAGER'S REPORTS

Mr. Hunter presented two late business expense reports for approval by the Executive Committee (Brandon Stock and Joe Berg); following discussion regarding the reason for tardiness, the Committee approved the reports.

REVIEW AND DISCUSS DISTRICT AND BOARD ACTIVITIES

No information was presented.

ADJOURNMENT

There being no further business to be brought before the Committee, the meeting adjourned at 10:15 a.m.

MEETING REPORT

JOINT PLANNING COMMITTEE WITH BOARD OF DIRECTORS
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY and
ORANGE COUNTY WATER DISTRICT
April 27, 2016 - 8:30 a.m.
MWDOC Conference Room 101

MWDOC DIRECTORS

Brett R. Barbre (absent) Larry Dick (absent) Joan C. Finnegan Susan Hinman Wayne Osborne Jeffery M. Thomas (absent)

MWDOC STAFF

Satoru Tamaribuchi

Rob Hunter (absent)
Karl Seckel
Pat Meszaros
Harvey De La Torre (absent)
Kevin Hostert
Melissa Baum-Haley
Jonathan Volzke

OCWD DIRECTORS
Shawn Dewane
Phil Anthony
Roger Yoh (absent)
Dina Nguyen (absent)
Denis Bilodeau
Roman Reyna
Jan Flory (absent)
Jordan Brandman (absent)
Steve Sheldon (absent)
Cathy Green (absent)

OCWD STAFF

Mike Markus (absent) John Kennedy

ALSO PRESENT

Brian Ragland
Peer Swan
Paul Weghorst
Paul Shoenberger
Liz Mendelson Goossens
Debbie Cook
Joe Geever
John Earl
Dan Rodrigo

City of Huntington Beach Irvine Ranch Water District Irvine Ranch Water District Mesa Water District San Diego County Water Authority

SurfRider Foundation

MWDOC President Wayne Osborne chaired the meeting.

PUBLIC COMMENTS

No public comments were received.

IMPORTED WATER ISSUES - MWD WATER SUPPLY UPDATE AND ALLOCATION

- a. MWD Water Supply Update
- b. Chance of a MET Allocation in FY 2016-17

MWDOC Water Resources Analyst Kevin Hostert presented the Orange County Drought Performance and Water Supply Report, which included updates on conservation efforts (cumulative savings for the County are 22.28%), local weather conditions, precipitation for the year (and comparisons to prior years), and regional supply conditions (snowpack, accumulated precipitation, reservoir storage), and the Table "A" allocations (currently set at 60%). Mr. Hostert also reported on the Colorado River Aqueduct (CRA) storage, noting that it is at a historical low.

The Boards received and filed the report as presented.

GROUNDWATER ISSUES

- a. Estimated OCWD Basin Overdraft as of June 30, 2016
- b. FY 2016-17 Basin Production Percentage
- c. Planned Imported Water Purchases

OCWD Assistant Manager John Kennedy provided an overview of the basin, noting an accumulated overdraft of 370 thousand acre-feet (end of June), that imported water purchases will be made to begin re-filling the basin in the next fiscal year, and that the total recharge into the groundwater basin is anticipated to be 311 thousand acre-feet (which will include 50,000 acre-feet of MET water).

Mr. Kennedy also reviewed the status of the final expansion to the Groundwater Replenishment System Project, noting that the plant will go from producing 100 mgd to 130 mgd, at the capital cost of \$253 million.

The Boards received and filed the report as presented.

ORANGE COUNTY WATER RELIABILITY STUDY UPDATE

MWDOC Assistant General Manager Karl Seckel updated the Boards on the OC Reliability Study. His presentation included information on how MET's reliability modeling was developed, MET and member agency portfolios (forecasting for the years 2020, 2030, and 2040), as well as a more in-depth overview of MET Portfolio B (moderate amounts of CRA transfers, small SWP transfers, Carson IPR (phases 1 and 2), and MET member agency projects through advance planning), which is the selected option for Orange County. Mr. Seckel then outlined the analysis of how MET Portfolio B would affect OCWD, along with the Reliability Study's observations regarding the basin, and what follow up is required with OCWD.

Mr. Seckel completed his report with an overview of the East Orange County Feeder No. 2 pump-in option of groundwater supplies in the event of an emergency (which was identified as a viable alternative, in the Reliability Study.

Mr. Seckel reviewed the various uncertainties which need to be considered, including, what happens with the California Water Fix and the MET Carson IRP Project, as well as water demands, climate change, and environmental regulations.

Following discussion regarding the various portfolios, and the use of the EOCF#2 in emergency situations, other options than B, and the Carson Project, the Boards received and filed the report as presented.

MWD LA COUNTY INDIRECT POTABLE REUSE PROJECT – NEXT STEPS/SCHEDULE

Mr. Seckel reported that MET's report regarding the LA County Sanitation District's Indirect Potable Reuse Project would be available later in the year. It was noted this item would be agendized in January 2017.

POTENTIAL CHANGES TO MWD LOCAL RESOURCES PROGAM (LRP) STUDY

Mr. Seckel advised that MET was currently holding a Board retreat and that one of the retreat discussions will be implementation of MET's IRP and how they will support local projects in the future, noting that this issue should be resolved in late 2016.

MWDOC RATE STUDY UPDATE

Mr. Seckel advised that in compliance with Prop 26, and in light of legal counsel's advice, MWDOC 's rate structure must allocate costs directly to OCWD and that the MWDOC Rate Study, will outline various options for a charge to OCWD (which is anticipated to be between \$250,000-\$350,000) with the MWDOC Board currently favoring the greater amount (1A). He advised that this item will be presented to the MWDOC Board on May 18, 2016 for consideration and adoption.

Responding to an inquiry by Director Anthony, staff advised that MWDOC's legal opinion, along with the various options outlined in the Rate Study, will be provided to the OCWD Board.

HUNTINGTON BEACH POSEIDON OCEAN DESALINATION PROJECT UPDATE

Mr. Kennedy reported that Poseidon's application has been deemed complete, however they are still working toward getting on a Coastal Commission agenda (July or October), and that OCWD is currently studying the best distribution option for the water.

NEXT COMMITTEE MEETING

President Osborne announced that the next MWDOC/OCWD Joint Planning Committee meeting was scheduled for July 27, 2016.

OTHER

No items were presented. There being no further business to come before the Committee, the meeting adjourned at 9:34 a.m.

Municipal Water District of Orange County REVENUE / CASH RECEIPT REPORT April 2016

WATER REVENUES

Date	From	Description	Amount
04/01/16	City of Huntington Beach	February 2016 Water deliveries	246,506.47
04/01/16	City of San Clemente	February 2016 Water deliveries	491,088.61
04/04/16	City of Fountain Valley	February 2016 Water deliveries	169,673.13
04/04/16	Serrano Water District	February 2016 Water deliveries	5,730.01
04/04/16	City of La Palma	February 2016 Water deliveries	5,801.91
04/04/16	City of San Juan Capistrano	February 2016 Water deliveries	312,512.34
04/08/16	City of Buena Park	February 2016 Water deliveries	180,484.76
04/08/16	City of La Habra	February 2016 Water deliveries	11,320.39
04/11/16	City of Seal Beach	February 2016 Water deliveries	10,136.96
04/11/16	City of Newport Beach	February 2016 Water deliveries	295,828.22
04/11/16	South Coast Water District	February 2016 Water deliveries	385,151.31
04/11/16	El Toro Water District	February 2016 Water deliveries	485,388.47
04/11/16	City of Garden Grove	February 2016 Water deliveries	423,226.27
04/13/16	City of Westminster	February 2016 Water deliveries	208,076.04
04/14/16	Santa Margarita Water District	February 2016 Water deliveries	1,511,980.38
04/14/16	Laguna Beach County Water District	February 2016 Water deliveries	266,974.80
04/14/16	East Orange County Water District	February 2016 Water deliveries	215,434.22
04/14/16	City of Orange	February 2016 Water deliveries	61,289.42
04/15/16	Yorba Linda Water District	February 2016 Water deliveries	294,361.41
04/15/16	Golden State Water Company	February 2016 Water deliveries	451,287.32
04/15/16	Moulton Niguel Water District	February 2016 Water deliveries	1,710,492.28
04/15/16	Irvine Ranch Water District	February 2016 Water deliveries	716,010.47
04/15/16	Santiago Aqueduct Commission	February 2016 Water deliveries	55,836.00
04/29/16	City of Huntington Beach	March 2016 Water deliveries	431,421.07
04/29/16	City of San Clemente	March 2016 Water deliveries	501,149.63
04/29/16	City of Brea	March 2016 Water deliveries	53,896.35

TOTAL REVENUES \$ 9,501,058.24

Municipal Water District of Orange County REVENUE / CASH RECEIPT REPORT April 2016

MISCELLANEOUS REVENUES

Date	From	Description	Amount
04/14/16	Pacific Advance Civil Engineering	1/22/16 Water Policy dinner	80.00
04/22/16	City of Huntington Beach	1/22/16 Water Policy dinner	90.00
04/08/16	Dudek	5/20/16 OC Water Summit	130.00
	City of Mission Viejo	5/20/16 OC Water Summit	130.00
04/13/16		5/20/16 OC Water Summit	130.00
04/25/16	Tetra Tech, Inc.	5/20/16 OC Water Summit registrations	8,293.05
04/29/16	Paypal	5/20/16 OC Water Summit - Luncheon sponsorship	7,500.00
04/04/16	Mesa Water	5/20/16 OC Water Summit sponsorship	1,600.00
04/04/16	Mesa Water	5/20/16 OC Water Summit sponsorship	1,600.00
04/04/16	Moulton Niguel Water District		1,600.00
04/08/16	Aleshire & Wynder	5/20/16 OC Water Summit sponsorship	1,600.00
04/22/16	Orange County Sanitation District	5/20/16 OC Water Summit sponsorship	19.12
04/29/16	Paypal	ISDOC Registrations	1,293.82
04/08/16	Darcy Burke	April 2016 COBRA insurance premium	211.41
04/08/16	Stan Sprague	April 2016 Retiree medical insurance premium	211.41
04/18/16	Stan Sprague	May 2016 Retiree medical insurance premium	304.74
04/13/16	Joan Finnegan	Jan-Mar 2016 Director's Health insurance contribution	
04/22/16	Susan Hinman	Jan-Mar 2016 Director's Health insurance contribution	304.74
04/11/16	Eastern Municipal Water District	Reimbursement for 25% of cost for 2/24/16 DC Briefing Luncheon	682.95
04/13/16	ACWA JPIA	RPA Insurance refund	13,384.32
04/22/16	CA Emergency Services Association	Refund for overchage of membership - Brandon Stock	35.00
04/22/16	Serrano Water District	February 2016 Smart Timer rebate program	75.00
	2 Checks	February 2016 Smart Timer rebate program	191.44
04/18/16		February 2016 Smart Timer rebate program	150.00
	2 Checks	February 2016 Smart Timer rebate program	450.00
04/25/16	Santa Margarita Water District	November 2015 Turf Removal rebate program	1,300.00
04/13/16	Irvine Ranch Water District	February 2016 Turf Removal rebate program	21,453.00
04/13/16	Irvine Ranch Water District	February 2016 Turf Removal rebate program	4,168.75
	2 Checks	February 2016 Turf Removal rebate program	307.93
04/29/16	City of Buena Park	February 2016 Full Removal rebate program	1,241.09
04/08/16	City of San Clemente	February 2016 Smart Timer and Turf Removal rebate	1,241.00
		program	1,248.15
04/11/16	City of Orange	February 2016 Smart Timer and Turf Removal rebate	1,240.13
		program	1 021 17
04/18/16	Golden State Water Company	February 2016 Smart Timer and Turf Removal rebate	1,031.47
		program	4 450 54
04/29/16	2 Checks	February 2016 Smart Timer and Turf Removal rebate	1,159.51
		program	0.5.5.4.05
04/29/16	City of Tustin	February 2016 Smart Timer and Turf Removal rebate	35,751.95
	,	program	
04/11/16	Moulton Niguel Water District	February 2016 Smart Timer, Rotating Nozzle and Turf	295,062.49
0		Removal rebate program	
04/04/16	Golden State Water Company	February 2016 So Cal Watersmart rebate program	400.00
04/11/16	2 Checks	February 2016 So Cal Watersmart rebate program	5,359.00
04/13/16	Irvine Ranch Water District	February 2016 So Cal Watersmart rebate program	7,660.55
04/18/16	Trabuco Canyon Water District	February 2016 So Cal Watersmart rebate program	150.00
04/14/16	Santa Margarita Water District	February 2016 Spray to Drip rebate program	107.40
	Irvine Ranch Water District	December 2015 Landscape Performance Certification	1,296.00
04/04/16	ITVINE Nation Water District	program	
04/18/16	Irvine Ranch Water District	January 2016 Landscape Performance Certification	1,296.00
		program	400 000 70
04/04/16	Irvine Ranch Water District	FY 14-15 O & M Costs of the EOCF #2	133,822.70
04/18/16	City of San Juan Capistrano	FY 14-15 O & M Costs of the EOCF #2	40,964.18
04/18/16	Mesa Water	FY 14-15 O & M Costs of the EOCF #2	38,643.62
04/25/16	Moulton Niguel Water District	FY 14-15 O & M Costs of the EOCF #2	122,892.54
04/01/16	and the second s	Jul-Dec 2015 School Billing	2,640.40
00 10			

Municipal Water District of Orange County REVENUE / CASH RECEIPT REPORT April 2016

MISCELLANEOUS REVENUES

Date	From	Description	Amount
04/04/16 04/15/16 04/18/16	City of Santa Ana City of Anaheim City of San Juan Capistrano City of Fountain Valley	Jul-Dec 2015 School Billing Jul-Dec 2015 School Billing Water Loss Control technical assistance - WSO, Inc. Water Loss Control technical assistance - WSO, Inc.	12,084.80 25,728.60 34,292.00 9,432.00
		TOTAL MISCELLANEOUS REVENUES \$ TOTAL REVENUES \$	839,561.13 10,340,619.37

Robert J. Hunter, General Manager

Hilary Chumpitazi, Treasurer

Invoice#	Vendor / Description	Amount to Pay
Core Expenditures:		
00 2 °C		
	Richard Ackerman	
1105	April 2016 Legal consulting on water policy issues	1,400.00
	*** Total ***	1,400.00
	ALTA FoodCraft	
516041569	4/20/16 Coffee & tea supplies	291.23
	*** Total ***	291.23
69.453		
	American Society of Civil Engineers	TO SECURE AND SECURISH
160412_MWD	Employment ad for Principal Engineer position	150.00
	*** Total ***	150.00
	Sam Ayala	
042716	April 2016 Atrium landscape maintenance	95.00
	*** Total ***	95.00
	Best Best and Krieger LLP	
55401-MAR16	March 2016 Legal services	10,505.00
770120	March 2016 State legislative advocacy services	7,500.00
	*** Total ***	18,005.00
	CDM Smith	
80551609/16	2/28/16-4/2/16 Engineering services for Water Reliability Investigation	8,124.40
	*** Total ***	8,124.40
	CDW Government	450.00
CSC5123	1 Network router for I.T. computer testing	150.82
	*** Total ***	150.82
	Hunter T. Cook	4 447 20
FEB-APR2016	February-April 2016 Coastal retiree health	1,447.38
	*** Total ***	1,447.38
	CSU Fullerton ASC	
AR165166	4th Quarter FY 15/16 CDR Support	9,934.86
7111202200	*** Total ***	9,934.86
	ews loat each	
	Executive Information Systems, LLC	
1-CJ6R8	2/15/16-2/14/17 Maintenance for JMP statistical software	648.00
50.00	*** Total ***	648.00
	Finley & Cook PLLC	
SI0015431	6/5/16-6/4/17 Annual maintenance and enhancements fee for Jet Reports software	957.60
SI0015431	6/5/16-6/4/17 Unlimited licenses for Jet Reports software	2,314.20
	*** Total ***	3,271.80

Invoice#	Vendor / Description	Amount to Pay
	Goin Native Therapeutic Gardens	
2016-042316	4/23/16-4/24/16 Eco Garden Expo registration fee	175.00
	*** Total ***	175.00
	Humanscale Corporation	
2138109	2 Ergonomic quick stands and 1 flex monitor arm with installation	2,271.73
	*** Total ***	2,271.73
	Immersiv Media, Inc.	
-018(MWDOC2016)	April-June 2016 Website hosting and maintenance	525.00
	*** Total ***	525.00
	Independent Special Dist. of OC	
042816	3/31/16 PayPal receipts for 3/31/16 meeting	19.12
	*** Total ***	19.12
	and the state of t	
	James C. Barker, P.C.	
105-0416	April 2016 Federal legislative advocacy services	8,000.00
	*** Total ***	8,000.00
	Lewis Consulting Group, LLC	
2016-121	April 2016 Consulting services	3,000.00
	*** Total ***	3,000.00
	(30)	
	Norco Delivery Services	245 W (CR)
702315	4/1/16 Delivery charges for Board packets	215.27
	*** Total ***	215.27
	Office Solutions	
I-00942391	4/12/16 Office supplies	243.73
I-00943012	4/13/16 Office supplies	50.76
I-00950804	4/27/16 Office supplies	304.06
I-00950823	4/27/16 Office supplies	213.84
7. Ok.	*** Total ***	812.39
	Orange County Water District	
16151	March 2016 Postage, shared office & maintenance expense	7,015.80
16135	March 2016 50% of WACO expenses	235.97
	*** Total ***	7,251.77
	Patricia Kennedy Inc.	
20811	May 2016 Plant maintenance	214.00
	*** Total ***	214.00
	PDC Interiors	
2344C-15	July 2015-April 2016 Design services for reconfiguration of offices	2,975.00
	*** Total ***	2,975.00

Invoice#	Vendor / Description	Amount to Pay
	Raftelis Financial Consultants	
OCCA1512-05.	April 2016 Services for Rate Study	11,690.34
OGCA1312 03.	*** Total ***	11,690.34
	San Juan Basin Authority	
139835-1	January-March 2016 MET Foundational Actions Funding for San Juan Basin Groundwater and Desalination Optimization program	29,089.15
	*** Total ***	29,089.15
	South Coast Water District	
139834-9	January-March 2016 MET Foundational Actions Funding for Overcoming Barriers to	11,331.67
	Slant Well Seawater Desalination *** Total ***	11,331.67
	U. S. HealthWorks Medical Group	
2894851-CA	4/7/16 Pre-employment exam	160.00
	*** Total ***	160.00
	USAFact, Inc.	
6043007	4/19/16 Pre-employment background inquiry *** Total ***	49.86 49.86
	Total	
1013	Water Systems Optimization, Inc. 3/23/16-4/24/16 Technical services for Water Loss Control program	67,559.36
1012	*** Total ***	67,559.36
	Z Cater	
47765	4/7/16 Food for Elected Officials meeting	1,067.86
60.5 (7,8)	*** Total ***	1,067.86
	Total Core Expenditures	189,926.01
Choice Expenditure	s:	
	The state of the s	
100.11.12.14	Bryton Printing Inc.	196.68
12626	Spring 2016 Bill Inserts for City of San Juan Capistrano *** Total ***	196.68
	3 de c. 1, 1 de c. 1, 2, 2, 3 de c. 1, 2, 3 de c. 1, 2, 3 de c. 1,	
DCOC/IV/44 4 F /0002 47	Discovery Science Center	19,589.55
DSOC/IV/14-15/000347	March 2016 School program *** Total ***	19,589.55
	Freedom Communications, Inc.	26,000.00
61990003-APR16	April 2016 Value of Water pages	26,000.00
	*** Total ***	20,000.00

Invoice#	Vendor / Description	Amount to Pay
	Orange County Water District	
16151	March 2016 Postage for rebate programs	797.09
A5,865	*** Total ***	797.09
	Ton Hot Broductions	
1527	Top Hat Productions 4/12/16 Lunch for Water Loss Control workgroup	403.38
11527	*** Total ***	403.38
	Total	403.30
	Total Choice Expenditures	46,986.70
Other Funds Expe	enditures:	
Street Turius Exp.		
	Advanced Electronics Inc.	
886000008-1	Update to MARS Radios at WEROC N. EOC & S. EOC	594.50
	*** Total ***	594.50
	Eagle & Globe, Inc.	
019	1 Automated external defibrillator with management plan for WEROC S. EOC	2,066.08
	*** Total ***	2,066.08
	The Ecology Center	
EC151601	1/29/16-4/4/16 Rain Barrel Distribution program	8,680.00
	*** Total ***	8,680.00
	Laguna Beach County Water District	
.000012033	September 2015-February 2016 Smart Timer & Nozzle Direct Installation program	9,552.00
	*** Total ***	9,552.00
	Mission RCD	
000		29,636.81
.980	March 2016 Field verifications for rebate programs *** Total ***	29,636.81
	Total ***	29,030.81
	Public Spaces Program	
/IV10-16-15	City of Mission Viejo	97,985.00
	*** Total ***	97,985.00
	Total Other Funds Expenditures	148,514.39
	Tatal Foresa dituras	205 427 40
	Total Expenditures	385,427.10

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
re Disburse	ments:			
133471	4/6/16	TIMEWA	Time Warner Cable	4 000 57
		5210-APR16	April 2016 Telephone and internet expense	1,280.57
			***Total ***	1,280.57
			gan ampleoff da ths abadid	
133473	4/6/16	VERIZO	Verizon Wireless	76.03
		9762667371	March 2016 4G Mobile broadband unlimited service	76.02 76.02
			***Total ***	76.02
		0.459	gravendes a differencia	
040816	4/8/16	BOARDE	Board of Equalization	1 200 01
		2015	2015 Sales tax on purchases	1,380.01
			***Total ***	1,380.01
			ger toakul diik dosid Mtu	
133478	4/15/16	C3OFFI	C3 Office Solutions LLC	323.34
		INV49758	April 2016 Canon copier maintenance	
			***Total ***	323.34
			and a girl disapprey and additional and a second a second and a second a second and	
133481	4/15/16	DELAGE	De Lage Landen Public Finance	509.00
		49417877	April 2016 Canon copier lease	509.00
			***Total ***	509.00
			700 - 1 (d. 1976)	
133483	4/15/16	IRONMO	Iron Mountain	548.66
		MLP2706	April 2016 Storage/retrieval of archived document	548.66
			***Total ***	346.00
		1.171	c = 1.25meetr 0.001.15ms.Ni	
133494	4/15/16	TAMARI	Satoru Tamaribuchi	77.76
		033116	March 2016 Business expense	77.76
			***Total ***	//./(
133495	4/15/16	TIMEWA	Time Warner Cable	143.69
		3564-APR16	April 2016 Telephone expense for 4 analog fax lines	143.69
			***Total ***	143.03
			gar school de transport	
133497	4/15/16	VOLZKE	Jonathan Volzke	170.69
		032816	March 2016 Business expense	170.69
			***Total ***	170.0.
			Later to the second	
ACH001929	4/15/16	BARBRE	Brett Barbre	249.4
		033116	March 2016 Business expense	249.4
			***Total ***	273,40
4.0110.0100	4/4=/45	DALIBALIA	Molissa Paum Halov	
ACH001930	4/15/16		Melissa Baum-Haley	36.0
		033116	March 2016 Business expense	36.0

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
ACH001933	4/15/16	DELATO	Harvey De La Torre	
AC(1001333	4,15,10	040116	April 2016 Business expense	58.86
		040110	***Total ***	58.86
			to a management for the transport of the contract of the contr	36.60
ACH001934	4/15/16	DICKEX	Larry Dick	
71071001334	-1, 13, 10	033116	March 2016 Business expense	146.34
		000110	***Total ***	146.34
				140.54
ACH001936	4/15/16	FINNEG	Joan Finnegan	
	,, _0, _0	033116	March 2016 Business expense	92.17
		000220	***Total ***	92.17
				32.17
ACH001938	4/15/16	HINMAN	Susan Hinman	
7.07.002330	., 25, 25	033116	March 2016 Business expense	412.13
		033110	***Total ***	412.13
				412.13
ACH001939	4/15/16	HUNTER	Robert J. Hunter	
71011001333	4, 23, 20	031916	February-March 2016 Business expense	83.28
		031310	***Total ***	83.28
				05.20
ACH001951	4/15/16	ROBERT	Bryce Roberto	
AC(1001331	4/15/10	033116	March 2016 Business expense	148.51
		033110	***Total ***	148.51
				146.51
ACH001953	4/15/16	THOMAS	Jeffery Thomas	
AC(1001555	4, 13, 10	033116	March 2016 Business expense	86.40
		033110	***Total ***	86.40
			Total	80.40
133499	4/20/16	STAPLC	Staples Credit Plan	
133433	4,20,10	4362-APR16-55660	5/20/16 OC Water Summit flyers printed	193.81
		4302 AI N10 33000	***Total ***	193.81
				155.01
134205	4/29/16	ACKFFX	Linda Ackerman	
134203	4/25/20	033116	March 2016 Business expense	45.36
		033110	***Total ***	45.36
				45.50
134213	4/29/16	МЕТОТН	Metropolitan Water District	
20-72-20	-1, 23, 20	42780	FY14-15 Operation & Maintenance cost for East Orange	493,651.04
		12700	County Feeder #2	. 433,031.04
			***Total ***	493,651.04
			, otal	755,051.04
134219	4/29/16	USBANK	U.S. Bank	
157215	7/23/10	5783/6533-MAR16	2/22/16-3/22/16 Cal Card charges	19,174.42
		3,03,0333 WANTO	***Total ***	19,174.42
			i Otal	15,174.42

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amour
134220	4/29/16	VANDYK	Corinne Van Dyke	
134220	4/23/10	031916	March 2016 Business expense	32.7
		042416	April 2016 Business expense	41.6
		042410	***Total ***	74.4
ACH001956	4/29/16	BERGJO	Joseph Berg	
		031716	February-March 2016 Business expense	248.2
			***Total ***	248.2
ACH001958	4/29/16	CHUMPI	Hilary Chumpitazi	
		033116	March 2016 Business expense	13.0
			***Total ***	13.0
			Trible: Vergena	
PP042916	4/29/16	OCPUB1	Orange County Public Affairs Association	
		042416	Time and the control of the control	50.0
			***Total ***	50.0
			Total Core Disbursements	519,273.2
09,000,7				
Choice Disbu	rsements:	, ,		
			ers. V railaile la viii . Odel 8236 63 811 - 214	
134215	4/29/16	SDGE	San Diego Gas and Electric	222.4
		7768-APR16	3/21/16-4/20/16 Electrical service for Doheny Ocean	222.1
			Desal project	
			***Total ***	222.1
	and the second		Sand A VSan Fin Wall San	
ACH001956	4/29/16	BERGJO	Joseph Berg	445
		031716	February-March 2016 Business expense	
			***Total ***	115.2
			Total Choice Disbursements	337.4
			Total Choice Disbursements	337.
Other Frends				
Other Funds	Dispursen	nents:		
400470	4/5/45	TUDEDD	Turf Removal Program	
133472	4/6/16	TURFRP		1,245.0
		TR6-MNT-7408-45	M. Lucio	1,245.0
			***Total ***	1,245.0
			Manufacture Wilesdage 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
133473	4/6/16	VERIZO	Verizon Wireless	38.0
		9762667371	March 2016 4G Mobile broadband unlimited service	
			***Total ***	38.0
040016	4/8/16	BOARDE	Board of Equalization	
040816	4/0/10	2015	2015 Sales tax on purchases	1.0
		2013	***Total ***	1.0
			Total Cambridge Control of the Contr	

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133477	4/15/16	ATTUVEOC	AT&T	
133477	4, 23, 20	8599-APR16	April 2016 U-verse internet service for WEROC N. EOC	55.00
			***Total ***	55.00
133485	4/15/16	MESAWA	Mesa Water	
		8802	February 2016 Credit for Local Resources program	111,441.00
			***Total ***	111,441.00
133487	4/15/16	OCWD	Orange County Water District	
		16071	February 2016 GWRS MET credit	498,881.95
			***Total ***	498,881.95
		TURFRP	Turf Removal Program	
133500	4/20/16	TR6-SC-10297-221A	City of San Clemente	9,532.00
133501	4/20/16	TR5W-ETWD-5237	SouthWest Landscape, Inc. (Santa Ana)	4,522.00
133502	4/20/16	TR6-GG-10590-12882	L. Tran	2,000.00
			***Total ***	16,054.00
		TURFRP	Turf Removal Program	
133504	4/20/16	TR7-ETWD-11814-	City of Mission Viejo	3,000.00
133505	4/20/16	TR7-ETWD-11814-2	City of Mission Viejo	4,589.33
133506	4/20/16	TR6-SM-8838-1ADD	City of Mission Viejo	12,157.09
			***Total ***	19,746.42
		ari yeorosi ne po iase jeop		
40000	4/0=/45	TURFRP	Turf Removal Program	2.766.00
133507	4/25/16	TR6-BP-6475-6098	C. Tsao	2,766.00
133508	4/25/16	TR5W-HB-4527	K. Shah	1,530.00
133509	4/25/16	TR6-HB-8958-18591	City of Huntington Beach	7,579.00
133510	4/25/16	TR6-HB-8960-3831	City of Huntington Beach	6,931.00
133511	4/25/16	TR6-SC-6514-224	M. Mackey	1,628.00
133512	4/25/16	TR6-SJC-7366-26892	S. Worthington	2,410.00
133513	4/25/16	TR7-ETWD-11663-26035 TR6-GSWC-9684-10172	A. Twork	2,000.00
133514	4/25/16		L. Kisner	3,802.00
133515 133516	4/25/16	TR5-IRWD-297	Bonita Canyon Maintenance Assn. (Newport Beach)	62,780.00
133516	4/25/16	TR5W-IRWD-4037	C. Payne	3,228.00
133517	4/25/16	TR5W-IRWD-4604	L. Lin B. Plass	1,618.00
133518	4/25/16 4/25/16	TR6-IRWD-10018-1 TR6-IRWD-10191-7	G. Hecht	2,884.00
133519	4/25/16	TR6-IRWD-6095-21238	Vista Del Flores HOA (Lake Forest)	556.00 11,269.00
133520	4/25/16	TR6-IRWD-6621-11	J. Thi	620.00
133521 133522	4/25/16	TR6-IRWD-7131-3671	J. Schroeder	782.00
133523	4/25/16	TR6-IRWD-8314-20	R. Anno	1,732.00
133524	4/25/16	TR6-IRWD-8565-5	S. Ono	2,282.00
133525	4/25/16	TR6-IRWD-9102-9	D. Rutledge	878.00
133525 133526	4/25/16	TR6-IRWD-9194-24932	K. Seferian	1,006.00
133527	4/25/16	TR6-IRWD-9332-125	T. Doan	3,402.00
133528	4/25/16	TR6-IRWD-9524-46	S. Truong	2,198.00
133529	4/25/16	TR6-IRWD-9574-21472	J. Lopez	552.00
133530	4/25/16	TR6-IRWD-9717-2309	M. Johnson	1,864.00
133330	7/23/10	TNO-II(VVD-3/1/-2303	141. 301113011	1,004.00

133532	Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133532	122521	1/25/16	TR7-IRW/D-11106-22542	I White	1,214.00
133533					784.00
133534		-			870.00
133535					696.00
133536					548.00
133337					830.00
133538					3,054.00
133539					1,040.00
133540					2,308.00
133541					1,006.00
133542					1,158.00
133543 4/25/16 TRS-MESA-087 R. Pina 3,808. 133544 4/25/16 TRSW-MESA-4021 J. Millian 1,782. 133545 4/25/16 TRSW-MESA-6031 C. McCann 1,952. 133546 4/25/16 TR6-MESA-6580-1701 Mesa Verde Partners (Costa Mesa) 25,000. 133548 4/25/16 TR6-MESA-670-957 G. Prechel 344. 133549 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,744. 133550 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,744. 133551 4/25/16 TR6-MESA-87020-389 K. Campbell 3,078. 133551 4/25/16 TR6-MESA-8871-2080 M. Ready 948. 133553 4/25/16 TR6-MESA-9067-208 J. Anthony 4,272. 133554 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236. 133555 4/25/16 TRS-MMT-239 C. Ellingburgh 3,180. 133557 4/25/16 TRSW-MMT-4902 S. Gryske 625. 133558 4/25/16 TRSW-MMT-4902 S. Gryske 625. 133559 4/25/16 TRSW-MMT-4902 S. Gryske 625. 133550 4/25/16 TRSW-MMT-5712 B. Camp 133561 4/25/16 TRSW-MMT-514 J. Stover 1,491. 133561 4/25/16 TRSW-MMT-514 J. Stover 1,491. 133563 4/25/16 TRSW-MMT-514 J. Stover 1,491. 133564 4/25/16 TRSW-MMT-514 J. Stover 1,491. 133564 4/25/16 TRSW-MMT-514 J. Stover 1,491. 133569 4/25/16 TRSW-MMT-592 J. And D. Anderson 8,942. 133569 4/25/16 TR6-MNT-10014-25421 E. Gost 1,33569 4/25/16 TR6-MNT-1014-25421 E. Gost 1,33569 4/25/16 TR6-MNT-10405-26512 S. Zand 1,225 1,33569 4/25/16 TR6-MNT-10405-26512 S. Zand 1,225 1,33579 4/25/16 TR6-MNT-10405-26512 S. Zand 1,225 1,425/16 TR6-MNT-1040					240.00
133544 4/25/16 TR5W-MESA-6033					3,808.00
133545 4/25/16 TR6-MESA-10091-1004 L. Lobdell 133547 4/25/16 TR6-MESA-10091-1004 L. Lobdell 133548 4/25/16 TR6-MESA-6580-1701 Mesa Verde Partners (Costa Mesa) 25,000 133549 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,744 133550 4/25/16 TR6-MESA-67020-389 K. Campbell 3,078 133551 4/25/16 TR6-MESA-8023-988 A. Brancheau 1,140 133552 4/25/16 TR6-MESA-8871-2080 M. Ready 948 133553 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236 133554 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236 133555 4/25/16 TR5-MNT-239 C. Ellingburgh 3,180 133556 4/25/16 TRSW-MNT-4902 S. Gryske 625 133559 4/25/16 TRSW-MNT-5314 J. Stover 1,491 133559 4/25/16 TRSW-MNT-55742 B. Camp 5,280 133550 4/25/16 TRSW-MNT-5742 B. Camp 5,280 133561 4/25/16					1,782.00
133546 4/25/16 TR6-MESA-10091-1004 L. Lobdell 4,432. 133547 4/25/16 TR6-MESA-6580-1701 Mesa Verde Partners (Costa Mesa) 25,000. 133548 4/25/16 TR6-MESA-6570-957 G. Prechel 384. 133549 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,744. 133550 4/25/16 TR6-MESA-7020-389 K. Campbell 3,078. 133551 4/25/16 TR6-MESA-8021-988 A. Brancheau 1,140. 133552 4/25/16 TR6-MESA-8071-2080 M. Ready 948. 133553 4/25/16 TR6-MESA-9667-208 J. Anthony 4,272. 133554 4/25/16 TR6-MESA-9668-257 N. Shultz 5,236. 133555 4/25/16 TR5-MNT-239 C. Ellingburgh 3,180. 133556 4/25/16 TR5-MNT-4902 S. Gryske 625. 133557 4/25/16 TR5W-MNT-4706 M. Schmit 3,951. 133559 4/25/16 TR5W-MNT-4902 D. Key 4,555. 133559 4/25/16 TR5W-MNT-5314 J. Stover 1,491. 133560 4/25/16 TR5W-MNT-5573 Oso Medical Plaza LP (Mission Viejo) 14,677. 133561 4/25/16 TR6-MNT-10014-25921 E. Gost 133564 4/25/16 TR6-MNT-10014-25921 J. and D. Anderson 8,942. 133564 4/25/16 TR6-MNT-10014-25921 J. and D. Anderson 8,942. 133569 4/25/16 TR6-MNT-10014-25921 J. and D. Anderson 14,510. 133570 4/25/16 TR6-MNT-10010-26512 S. Zand 1,225. 133570 4/25/16 TR6-MNT-10010-26612 S. Park 1,510. 133571 4/25/16 TR6-MNT-7130-10 L. Brown 1,777. 133572 4/25/16 TR6-MNT-7130-10 L. Brown 1,777. 133573 4/25/16 TR6-MNT-7130-10 L. Brown 1,777. 133574 4/25/16 TR6-MNT-7130-10 L. Brown 1,777. 133576 4/25/16 TR6-MNT-7130-10 L. Brown 1,777. 133577 4/25/16 TR6-MNT-849-9712 A. Afrookhteh 1,1,418. 133578 4/25/16 TR6-MNT-9125-24465 M. Burnett 2,054					1,952.00
133547 4/25/16 TR6-MESA-6580-1701 Mesa Verde Partners (Costa Mesa) 25,000. 133548 4/25/16 TR6-MESA-6670-957 G. Prechel 384. 133559 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,744. 133550 4/25/16 TR6-MESA-8023-988 A. Brancheau 1,140. 133551 4/25/16 TR6-MESA-8023-988 A. Brancheau 1,140. 133553 4/25/16 TR6-MESA-8023-988 A. Brancheau 1,140. 133554 4/25/16 TR6-MESA-9687-200 J. Anthony 4,272. 133555 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236. 133555 4/25/16 TR5-MNT-239 C. Ellingburgh 3,180. 133557 4/25/16 TR5W-MNT-4902 S. Gryske 625. 133558 4/25/16 TR5W-MNT-4992 D. Key 4,555. 133559 4/25/16 TR5W-MNT-5912 D. Key 4,555. 133560 4/25/16 TR5W-MNT-5573 Oso Medical Plaza LP (Mission Viejo) 14,677. 133561 4/25/16 TR6-MNT-10014-25421 E. Gost 133564 4/25/16 TR6-MNT-10134-5 S. Park 654. 133566 4/25/16 TR6-MNT-10134-5 S. Park 654. 133568 4/25/16 TR6-MNT-10134-5 S. Park 654. 133568 4/25/16 TR6-MNT-10024-25921 J. and D. Anderson 14,510. 133568 4/25/16 TR6-MNT-1003-26682 R. Nimtz (Costa Mesa) 19,511. 133570 4/25/16 TR6-MNT-10450-26722 C. Stockton 3,450. 133571 4/25/16 TR6-MNT-10450-26722 C. Stockton 3,350. 133573 4/25/16 TR6-MNT-7139-26791 R. Bley 3,230. 133574 4/25/16 TR6-MNT-739-26791 R. Bley 3,230. 133577 4/25/16 TR6-MNT-890-24465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-890-24465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-890-24465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054.					4,432.00
133548 4/25/16 TR6-MESA-6670-957 G. Prechel 384. 133549 4/25/16 TR6-MESA-6670-957 G. Prechel 1,744. 133550 4/25/16 TR6-MESA-7020-389 K. Campbell 3,078. 133551 4/25/16 TR6-MESA-8871-2080 M. Ready 948. 133552 4/25/16 TR6-MESA-967-208 J. Anthony 4,272. 133553 4/25/16 TR6-MESA-9667-208 J. Anthony 4,272. 133554 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236. 133555 4/25/16 TR5-MNT-239 C. Ellingburgh 3,180. 133556 4/25/16 TRS-MNT-4902 S. Gryske 625. 133558 4/25/16 TRSW-MNT-4902 D. Key 4,555. 133559 4/25/16 TRSW-MNT-4982 D. Key 4,555. 133559 4/25/16 TRSW-MNT-5314 J. Stover Oso Medical Plaza LP (Mission Viejo) 14,677. 133561 4/25/16 TR6-MNT-10014-25421 E. Gost 133564 4/25/16 TR6-MNT-10134-5 S. Park 654. 133564 4/25/16 TR6-MNT-10134-5 S. Park 654. 133566 4/25/16 TR6-MNT-10134-5 S. Park 654. 133567 4/25/16 TR6-MNT-1024-25291 J. and D. Anderson 8,942. 133568 4/25/16 TR6-MNT-10134-5 S. Park 654. 133569 4/25/16 TR6-MNT-10405-26512 S. Zand 1,225. 133570 4/25/16 TR6-MNT-10405-26512 S. Zand 1,225. 133571 4/25/16 TR6-MNT-10603-26682 N. Nimtz 2,270. 133573 4/25/16 TR6-MNT-7379-26791 R. Bley 3,230. 133574 4/25/16 TR6-MNT-8790-24465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687.					25,000.00
133549 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,744. 133550 4/25/16 TR6-MESA-6736-467 L. Bradburne 1,140. 133551 4/25/16 TR6-MESA-8023-988 A. Brancheau 1,140. 133552 4/25/16 TR6-MESA-8871-2080 M. Ready 948. 133553 4/25/16 TR6-MESA-9687-208 J. Anthony 4,272. 133554 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236. 133555 4/25/16 TR5-MNT-399 C. Ellingburgh 3,180. 133556 4/25/16 TR5W-MNT-4706 M. Schmit 3,951. 133557 4/25/16 TR5W-MNT-4902 S. Gryske 625. 133558 4/25/16 TR5W-MNT-4902 D. Key 4,555. 133559 4/25/16 TR5W-MNT-5314 J. Stover 1,491. 133560 4/25/16 TR5W-MNT-5573 Oso Medical Plaza LP (Mission Viejo) 14,677. 133561 4/25/16 TR6-MNT-10014-25421 E. Gost 10,358. 133563 4/25/16 TR6-MNT-10014-25421 E. Gost 10,358. 133563 4/25/16 TR6-MNT-1014-55921 J. and D. Anderson 8,942. 133564 4/25/16 TR6-MNT-1014-5501 J. and D. Anderson 8,942. 133569 4/25/16 TR6-MNT-10024-25921 J. and D. Anderson 14,510. 133569 4/25/16 TR6-MNT-100405-26512 J. and D. Anderson 14,510. 133569 4/25/16 TR6-MNT-10405-26512 S. Park 654. 133569 4/25/16 TR6-MNT-10405-26512 Tay Partners (Costa Mesa) 19,511. 133570 4/25/16 TR6-MNT-10603-26682 R. Nimtz 2,270. 133571 4/25/16 TR6-MNT-1030-1272 K. Leigeber 6,742. 133573 4/25/16 TR6-MNT-7130-10 L. Brown 1,977. 133574 4/25/16 TR6-MNT-7717-27212 K. Leigeber 6,742. 133573 4/25/16 TR6-MNT-7717-27212 K. Leigeber 6,742. 133574 4/25/16 TR6-MNT-739-26791 R. Bley 3,230. 133577 4/25/16 TR6-MNT-8794-31 A. Aparicio 6,583. 133577 4/25/16 TR6-MNT-890-22465 N. Soafer 1,687. 133578 4/25/16 TR6-MNT-890-24465 M. Burnett 2,054.					384.00
133550					1,744.00
133551 4/25/16 TR6-MESA-8023-988 A. Brancheau 1,140 133552 4/25/16 TR6-MESA-9067-208 M. Ready 948 133553 4/25/16 TR6-MESA-9067-208 J. Anthony 4,272 133554 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236 133555 4/25/16 TR5-MNT-239 C. Ellingburgh 3,180 133556 4/25/16 TR5-MNT-4002 S. Gryske 625 133557 4/25/16 TR5W-MNT-4902 D. Key 4,555 133559 4/25/16 TR5W-MNT-5314 J. Stover 1,491 133560 4/25/16 TR5W-MNT-5314 J. Stover 1,491 133561 4/25/16 TR5W-MNT-5314 B. Camp 5,280 133562 4/25/16 TR6-MNT-10014-25421 E. Gost 10,358 133563 4/25/16 TR6-MNT-10014-25421 E. Gost 10,358 133564 4/25/16 TR6-MNT-1014-25421 E. Gost 133563 4/25/16 TR6-MNT-1014-25421 J. and D. Anderson 8,942 133564 4/25/16 TR6-MNT-1014-25421 A. Oppedisano 14,510 133568 4/25/16 TR6-MNT-10405-26512 S. Zand 1,225 133567 4/25/16 TR6-MNT-10603-26682 R. Nimtz 2,270 133570 4/25/16 TR6-MNT-10603-26682 R. Nimtz 2,270 133571 4/25/16 TR6-MNT-717-72712 L. Brown 2,710 133573 4/25/16 TR6-MNT-777-72712 R. Bley 3,230 133574 4/25/16 TR6-MNT-777-72712 R. Bley 3,230 133574 4/25/16 TR6-MNT-7773-26791 R. Bley 3,230 133577 4/25/16 TR6-MNT-7890-24465 M. Burnett 2,054 133577 4/25/16 TR6-MNT-8902-24465 M. Burnett 2,054 133578 4/25/16 TR6-MNT-8902-24465 M. Burnett 2,054					3,078.00
133552 4/25/16 TR6-MESA-891-2080 M. Ready 948 133553 4/25/16 TR6-MESA-9067-208 J. Anthony 4,272 133554 4/25/16 TR6-MESA-9685-257 N. Shultz 5,236 133555 4/25/16 TR5-MNT-239 C. Ellingburgh 3,180 133557 4/25/16 TR5W-MNT-4706 M. Schmit 3,951 133558 4/25/16 TR5W-MNT-4902 S. Gryske 625 133559 4/25/16 TR5W-MNT-4982 D. Key 4,555 133560 4/25/16 TR5W-MNT-5314 J. Stover 1,491 133561 4/25/16 TR5W-MNT-5742 B. Camp 5,280 133562 4/25/16 TR6-MNT-10014-25421 E. Gost 10,358 133563 4/25/16 TR6-MNT-10042-25921 J. and D. Anderson 8,942 133564 4/25/16 TR6-MNT-10142-5921 J. and D. Anderson 14,510 133565 4/25/16 TR6-MNT-10405-26512 S. Park 654 133568 4/25/16 TR6-MNT-10405-26612 S. Zand 1,225 133569					1,140.00
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133570 4/25/16 TR6-MNT-6207-26631 A. Oz 5,800 133571 4/25/16 TR6-MNT-6793-26151 H. Williams 1,977 133572 4/25/16 TR6-MNT-7130-10 L. Brown 2,710 133573 4/25/16 TR6-MNT-7717-27212 K. Leigeber 6,742 133574 4/25/16 TR6-MNT-7739-26791 R. Bley 3,230 133575 4/25/16 TR6-MNT-8449-29712 A. Afrookhteh 11,418 133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054				C. Stockton	2,270.00
133571 4/25/16 TR6-MNT-6793-26151 H. Williams 1,977 133572 4/25/16 TR6-MNT-7130-10 L. Brown 2,710 133573 4/25/16 TR6-MNT-7717-27212 K. Leigeber 6,742 133574 4/25/16 TR6-MNT-7739-26791 R. Bley 3,230 133575 4/25/16 TR6-MNT-8449-29712 A. Afrookhteh 11,418 133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054					
133572 4/25/16 TR6-MNT-7130-10 L. Brown 2,710 133573 4/25/16 TR6-MNT-7717-27212 K. Leigeber 6,742 133574 4/25/16 TR6-MNT-7739-26791 R. Bley 3,230 133575 4/25/16 TR6-MNT-8449-29712 A. Afrookhteh 11,418 133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054					
133572 4/25/16 TR6-MNT-7717-27212 K. Leigeber 6,742 133574 4/25/16 TR6-MNT-7739-26791 R. Bley 3,230 133575 4/25/16 TR6-MNT-8449-29712 A. Afrookhteh 11,418 133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054			Agreement and the second secon		
133574 4/25/16 TR6-MNT-7739-26791 R. Bley 3,230 133575 4/25/16 TR6-MNT-8449-29712 A. Afrookhteh 11,418 133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054					
133575 4/25/16 TR6-MNT-8449-29712 A. Afrookhteh 11,418 133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054				K. EciBebei	3,230.50
133576 4/25/16 TR6-MNT-8749-13 A. Aparicio 6,585 133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054				A SECTION OF THE SECT	
133577 4/25/16 TR6-MNT-8902-24465 N. Soafer 1,687 133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054					
133578 4/25/16 TR6-MNT-9125-24645 M. Burnett 2,054					
133576 4725710 THO WINT 5125 2 TO 15				N. Sourci	
133579 4/25/16 TR6-MNT-9212-2 J. Sanchez					
	133579	4/25/16	TR6-MNT-9212-2	J. Sanchez	3,000.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133580	4/25/16	TR6-MNT-9222-26712	S. Venable	6,307.00
133581	4/25/16	TR6-MNT-9325-25771	J. Laurie	2,481.50
133582	4/25/16	TR6-MNT-9476-29791	W. Daluiski	2,982.00
133583	4/25/16	TR6-MNT-9550-24781	D. Pufahl	3,020.00
133584	4/25/16	TR6-MNT-9948-25301	L. Morgan	10,216.50
133585	4/25/16	TR7-MNT-11001-29072	D. Cowan	2,416.00
133586	4/25/16	TR7-MNT-11145-2	R. Yould	1,606.00
133587	4/25/16	TR7-MNT-11574-24201	B. Edwards	3,305.00
133588	4/25/16	TR7-MNT-11696-25461	I. Horwitz	2,975.00
133589	4/25/16	TR7-MNT-11735-29461	L. Osborn	1,766.00
133590	4/25/16	TR7-MNT-11870-23272	X. Shi	3,573.50
133591	4/25/16	TR7-MNT-11952-26811	R. Hennen	1,662.50
133592	4/25/16	TR7-MNT-11988-41	E. Chao	3,937.50
133593	4/25/16	TR7-MNT-23478-34	M. Fischetti	1,984.50
133594	4/25/16	TR7-MNT-23498-23621	J. Wu	1,029.00
133595	4/25/16	TR7-MNT-23598-29861	S. Man	1,606.50
133596	4/25/16	TR7-MNT-23672-34	R. Juel	1,600.00
133597	4/25/16	TR7-MNT-23711-25071	M. Tran	6,468.00
133598	4/25/16	TR7-MNT-23722-24265	S. Kinum	1,505.00
133599	4/25/16	TR7-MNT-23740-27161	R. Milo	6,461.00
133600	4/25/16	TR7-MNT-23902-25762	J. Lam	910.00
133601	4/25/16	TR5-SM-207	Rancho Santa Margarita Landscape & Recreation Corp.	25,000.00
133602	4/25/16	TR5W-SM-4924	A. Hernandez	402.09
133603	4/25/16	TR5W-SM-5317	R. Swain	2,444.00
133604	4/25/16	TR6-SM-27782	E. Garcia	1,776.00
133605	4/25/16	TR6-SM-6227-18	A. Schmidt	1,566.00
133606	4/25/16	TR6-SM-7745-53	Sutters Mill Neighborhood Corp. (Santa Margarita)	3,091.00
133607	4/25/16	TR6-SM-7746-29	Sutters Mill Neighborhood Corp. (Santa Margarita)	3,217.00
133608	4/25/16	TR6-SM-8329-9	C. Frank	1,070.00
133609	4/25/16	TR6-SM-9665-27781	G. Waite	994.00
133610	4/25/16	TR6-SOCO-7522-33712	Selva Hills HOA (Dana Point)	9,912.00
133611	4/25/16	TR6-SOCO-8301-34431	B. Gilbert	4,776.00
133612	4/25/16	TR5W-YLWD-5547	N. Caplin	3,874.00
133613	4/25/16	TR6-YLWD-10093-3360	D. Shin	3,326.02
133614	4/25/16	TR6-YLWD-7485-20270	N. Ahadiat	950.00
133615	4/25/16	TR6-SM-9762-31141	CZ Master Association (Trabuco Canyon)	25,000.00
133616	4/25/16	TR6-SM-9882-100	Terrace View Community Association (Mission Viejo)	19,848.00
133617	4/25/16	TR6-YLWD-7638-701	Fruth Custom Plastics Inc. (Placentia)	9,820.00
	,, _0, _0		***Total ***	518,666.11
				010/000111
		TURFRP	Turf Removal Program	
133619	4/25/16	TR6-BREA-9757-1308	M. Knutson	1,224.00
133620	4/25/16	TR6-BP-7619-6444	J. Temple	3,596.00
133621	4/25/16	TR6-BP-8590-7971	E. Uranga	912.00
133622	4/25/16	TR6-HB-8530-8662	J. Morse	2,559.99
133623	4/25/16	TR6-LH-7329-1640	S. DeBoever	2,252.00
133624	4/25/16	TR5W-NWPT-5627	L. Giger	2,136.00
133625	4/25/16	TR6-NWPT-8255-1121	P. Perkins	1,146.00
133626	4/25/16	TR6-NWPT-8735-2248	L. Schumann	854.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133627	4/25/16	TR6-NWPT-9566-2	One Ford Road Community Assoc. (Newport Beach)	25,000.00
133628	4/25/16	TR5W-O-5485	T. Russell	8,736.00
133629	4/25/16	TR6-O-10480-2525	T. Huynh	2,070.00
133630	4/25/16	TR6-O-6734-447	S. Hines	2,538.00
133631	4/25/16	TR6-O-8272-578	P. Nguyen	800.00
133632	4/25/16	TR6-O-8361-7549	A. Vivar Shand Shees Scene dword year adjusts	1,830.00
133633	4/25/16	TR6-O-9954-2391	D. Banning wows W. E. St-State-dvv/sl-3787 accessor	2,870.00
133634	4/25/16	TR5W-SC-4273	D. Jan Stall M. S. 23211 OWN TET BELESAN	3,858.00
133635	4/25/16	TR5W-SC-4689	C. Burk Nucleon Veec Oball Over Sat Salasian	1,856.00
133636	4/25/16	TR5W-SC-5778	D. Colapinto	1,190.00
133637	4/25/16	TR6-SC-10359-5636	D. Ethridge	3,110.00
133638	4/25/16	TR6-SC-6496-113	B. Tobia months a passer coast cover and an analysis	1,678.00
133639	4/25/16	TR6-SC-8355-222	BCVN (San Clemente)	10,199.00
133640	4/25/16	TR5W-SC-4109	Pelican Cove LLC (San Clemente)	1,966.00
133641	4/25/16	TR5W-SJC-5439	L. Palmer	1,362.00
133642	4/25/16	TR5W-SJC-5846	J. Gatlin	2,650.00
133643	4/25/16	TR6-SJC-8901-26762	A. Yamashiro	5,824.00
133644	4/25/16	TR6-SJC-9413-33342	W. Linaweaver	2,166.00
133645	4/25/16	TR5W-TUST-4235	M. Canfield	8,154.00
133646	4/25/16	TR6-TUST-6823-18421	M. Lerner	1,887.00
133647	4/25/16	TR6-TUST-7898-12351	G. Ishino application of the state of the st	2,715.00
133648	4/25/16	TR6-TUST-8820-1522	G. Ness general access escas apparation artistics	2,531.13
133649	4/25/16	TR5W-WEST-4179	J. Maclay	4,518.00
133650	4/25/16	TR6-ETWD-6112-24281	B. Davis	834.00
133651	4/25/16	TR6-ETWD-9726-22821	L. Casey	1,957.43
133652	4/25/16	TR5W-GSWC-4335	Yamaha Motor Corporation USA (Cypress)	25,000.00
133653	4/25/16	TR6-GSWC-10560-1501	L. Schmidt	2,982.00
133654	4/25/16	TR6-GSWC-6769-313	G. Hertzler	2,312.00
133655	4/25/16	TR6-GSWC-7113-6899	C. Cuellar (1510-5) 8 (1500-8) 800-ABMA 1511 81A	1,290.00
133656	4/25/16	TR6-GSWC-7218-413	J. Crawford hadost a USBC Classic and Diff. Accessor	4,292.00
133657	4/25/16	TR6-GSWC-7704-1708	J. Younger consert of STATE BLANCAS ASSAULTED A STATE BANCAS ASSAULTED A STATE BLANCAS ASSAULTED A STATE BANCAS ASSAULTED A STATE BANCAS ASSAULTED A STATE BANCAS ASSAULTED A STATE BANCAS ASSAULTED A S	3,130.00
133658	4/25/16	TR6-GSWC-7798-10602	M. Brown 1000019 \$1500 1300 7.0015 5.00 1000 1000	3,648.00
133659	4/25/16	TR6-GSWC-9157-3102	Rossmoor Community Service District (Los Alamitos)	2,296.44
133660	4/25/16	TR6-GSWC-9161-3021	Rossmoor Community Service District (Los Alamitos)	5,996.87
133661	4/25/16	TR6-GSWC-9163-12590	Rossmoor Community Service District (Los Alamitos)	3,802.00
133662	4/25/16	TR6-GSWC-9168-11320	Rossmoor Community Service District (Cypress)	5,996.87
133663	4/25/16	TR6-GSWC-9712-1432	S. DuPont And Annual Residual Available Services	6,000.00
133664	4/25/16	TR5W-IRWD-5603	M. Loth manage at the first water or years	1,044.00
133665	4/25/16		Northwestern Mutual Life Insurance (Irvine)	12,650.00
133666	4/25/16	TR6-IRWD-10323-2405	M. Ewing 0.7018.31 0.7018.30 0.7018.30 0.7018.30 0.7018.30	1,353.07
133667	4/25/16	TR6-IRWD-7041-17	R. Brannigan	2,924.43 1,006.00
133668	4/25/16	TR6-IRWD-7551-21952	D. Baker	586.42
133669	4/25/16	TR6-IRWD-7841-8	J. Littman	1,326.00
133670	4/25/16	TR6-IRWD-8393-15451	A. Haghighimehmandary	1,326.00
133671	4/25/16	TR6-IRWD-8441-15316	M. Howe	674.00
133672	4/25/16	TR6-IRWD-8667-5042	M. Camacho	1,396.00
133673	4/25/16	TR6-IRWD-9521-1	M. Sallus	4,126.00
133674	4/25/16	TR6-IRWD-9581-10621	L. Fields	6,000.00
133675	4/25/16	TR6-IRWD-9585-7	J. Witt	0,000.00

		Vendor#	Name /		
Check #	Date	Invoice/CM #	Description	No Self-Virtual (Med.	Net Amount
400676	4/25/46	TD7 IDWD 44460 40345	D Frience		2,010.00
133676	4/25/16	TR7-IRWD-11160-19345	B. Friesen		802.00
133677	4/25/16	TR7-IRWD-11183-8	D. McDougald		
133678	4/25/16	TR7-IRWD-11276-26152	S. Tiedge		2,790.00
133679	4/25/16	TR7-IRWD-11324-74	R. Arora		4,200.00
133680	4/25/16	TR7-IRWD-11343-8	R. Villalba		1,530.00
133681	4/25/16	TR7-IRWD-11359-23942	D. Ruiz		1,330.00
133682	4/25/16	TR7-IRWD-11418-18	J. Weaver		1,536.00
133683	4/25/16	TR7-IRWD-11569-5	M. Hsia		4,534.00
133684	4/25/16	TR7-IRWD-11680-1387	D. LeMieux		1,284.00
133685	4/25/16	TR7-IRWD-11702-28092	M. Nolan-Riegle		4,142.00
133686	4/25/16	TR7-IRWD-11764-15	A. Teunis		598.00
133687	4/25/16	TR7-IRWD-11809-19251	S. Minami		6,000.00
133688	4/25/16	TR7-IRWD-11946-6102	E. Pope		1,942.00
133689	4/25/16	TR7-IRWD-12033-81	T. Dasgupta		544.00
133690	4/25/16	TR7-IRWD-12043-21342	M. Takier		2,386.00
133691	4/25/16	TR7-IRWD-23519-20242	G. Kirk		1,966.00
133692	4/25/16	TR7-IRWD-23647-30	Y. Xie		1,280.00
133693	4/25/16	TR7-IRWD-23682-5	P. Pongco		624.00
133694	4/25/16	TR7-IRWD-23714-4061	B. Pasinli		382.00
133695	4/25/16	TR7-IRWD-23795-22691	G. Temel		2,548.00
133696	4/25/16	TR7-IRWD-23859-21631	M. Lindquist		906.00
133697	4/25/16	TR7-IRWD-24729-22256	T. Huang		752.00
133698	4/25/16	TR5-LB-028	M. Hennessy		6,066.00
133699	4/25/16	TR6-LB-6175-353	B. Acosta		1,761.00
133700	4/25/16	TR6-LB-7450-100	S. Weiss		7,446.00
133701	4/25/16	TR5W-MESA-5662	D. Ray		9,365.00
133702	4/25/16	TR5W-MESA-5890	D. Paun		1,766.73
133703	4/25/16	TR6-MESA-10397-963	M. McLean-Crawford		480.00
133704	4/25/16	TR6-MESA-10545-1640	S. Guich		1,552.00
133705	4/25/16	TR6-MESA-6141-1940	S. Robertson		5,504.00
133706	4/25/16	TR6-MESA-6615-1773	R. Isaacson		3,798.00
133707	4/25/16	TR6-MESA-7081-1612	C. Brockert		831.63
133708	4/25/16	TR6-MESA-7796-2437	M. Stieger		2,892.00
133708	4/25/16	TR6-MESA-9098-3030	C. Gardner		3,430.00
		TR5W-MNT-3675	Nellie Gail Ranch HOA (Laguna Hille)	5,502.00
133710	4/25/16	TR5W-MNT-3696	Nellie Gail Ranch HOA (9,500.00
133711	4/25/16				4,693.50
133712	4/25/16	TR5W-MNT-4099	Pinnacle At Monarch (L B. Gorman	aguila Nigueij	3,580.50
133713	4/25/16	TR5W-MNT-5140			
133714	4/25/16	TR5W-MNT-5661	K. Craven		6,086.50
133715	4/25/16	TR6-MNT-6739-16	E. Brown		1,635.00
133716	4/25/16	TR6-MNT-6911-25261	A. Soltani		11,739.50
133717	4/25/16	TR6-MNT-6999-11	R. Wallace		1,347.50
133718	4/25/16	TR6-MNT-7595-25222	M. Haddadin		6,776.00
133719	4/25/16	TR6-MNT-7901-27792	J. Fraser		2,840.00
133720	4/25/16	TR7-MNT-11884-26012	C. Wallace		1,400.00
133721	4/25/16	TR7-MNT-23435-28612	V. Sheed		2,088.00
133722	4/25/16	TR7-MNT-23721-26971	T. Yapp		2,823.50
133723	4/25/16	TR7-MNT-23739-23792	T. Heller		3,946.00
133724	4/25/16	TR7-MNT-24109-29092	N. Smith		2,184.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	is alterial NCAssload	920	Net Amount
133725	4/25/16	TR7-MNT-24114-19	S. Fier			1,036.00
133726	4/25/16	TR5W-SM-4222	G. Ryder			4,388.00
133727	4/25/16	TR5W-SM-4247	Y. Lu vilina Dolli 2			7,639.86
133728	4/25/16	TR6-SM-6224-59	L. Pham			1,672.00
133729	4/25/16	TR6-SM-6320-5	D. Stapleton			2,170.00
133730	4/25/16	TR6-SM-6692-1	G. Lewis			4,174.00
133731	4/25/16	TR6-SM-7398-23291	R. Lau			4,184.00
133732	4/25/16	TR6-SM-9682-27632	E. Quigley			2,074.00
133733	4/25/16	TR6-SWD-10493-10001	M. Doyle			6,000.00
133734	4/25/16	TR6-SOCO-7792-27032	T. Peacock			1,860.00
133735	4/25/16	TR6-SOCO-8721-18	A. Bernstein			830.00
133736	4/25/16	TR6-SOCO-9477-25	D. Radbone			2,032.00
133737	4/25/16	TR6-YLWD-10485-21735	T. Block			2,150.00
133738	4/25/16	TR6-YLWD-6163-17700	D. Vandemortel			6,000.00
133739	4/25/16	TR5W-SM-5925	J. Lutz SomeH.4			2,862.00
133740	4/25/16	TR5W-LH-4148	Heritage Village HOA (La	a Habra)		25,000.00
133741	4/25/16	TR6-TUST-9331-18371	M. Halleran	TRSW-SEC-5325		723.75
00.880.1	4/25/10	1110 1001 5002 20072	***Total ***			447,891.62
			rodell O			
133757	4/25/16	TURFRP	Turf Removal Program			
00.000	4/23/10	TR6-SB-9969-13720B	Seal Beach Mutual No. C			14,721.00
		1110-30 3303 137200	***Total ***	127.17.4908-39423-344		14,721.00
			the birning of			
		DRIPPR	Spray to Drip Program			
133743	4/26/16	S2D-ETWD-3875	L. Ortega			350.00
133743	4/26/16	S2D-IRWD-3864	X. Wang			525.00
	4/26/16	S2D-IRWD-3881	D. Prescott			350.00
133745	4/26/16	S2D-IRWD-3883	C. Prough			175.00
133746	4/26/16	S2D-ORGE-3923	C. Prough			350.00
133747	4/26/16	S2D-SMWD-3092				203.00
133748		S2D-SMWD-3092	J. Dei B			525.00
133749	4/26/16 4/26/16	S2D-SMWD-3866	J. Lu gollid A			429.76
133750	and the second	S2D-SMWD-3918	D. Tong			631.50
133751	4/26/16 4/26/16	S2D-SCWD-3886	R. Wiltse			175.00
133752		S2D-YLWD-3884	W. Curl			127.34
133753	4/26/16 4/26/16		M. Melnick			525.00
133754	4/26/16		L. Forsythe			525.00
133755 133756	4/26/16		Emerald Cove LP (Hunti			1,896.60
00.8(8, £	4/20/10	32DC-11DC11-4200	***Total ***	20001-0000 (000-091)		6,788.20
			nayasii i			65.651.5
		TURFRP	Turf Removal Program			
	4/27/16	TR6-BREA-7545-1022	D. Rosell			2,556.00
133758		TR5W-HB-4170	M. Belcher			2,220.00
133759	4/27/16	TR5W-HB-4260	C. Cooper			1,404.00
133760	4/27/16	1 NJ VV-111D-44 ZUU	***Total ***			6,180.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	1.48	Net Amount
		TURFRP	Turf Removal Program		
133762	4/27/16	TR5W-HB-6043	J. Nguyen		2,070.00
133763	4/27/16	TR6-HB-10176-20891	S. McCarthy		2,138.00
133764	4/27/16	TR6-HB-8032-8321	J. Howard		3,208.00
133765	4/27/16	TR6-NWPT-6934-1766	C. Yasukochi		2,148.00
133766	4/27/16	TR5W-O-4097	T. Ngo		2,580.00
133767	4/27/16	TR5W-O-5712	Z. Wheatley		1,280.20
133768	4/27/16	TR6-O-10138-711	P. Paulsen		3,558.00
133769	4/27/16	TR6-O-6354-1132	M. Olsgaard		2,064.00
133770	4/27/16	TR6-O-7623-1527	M. Rohrer		1,206.00
133771	4/27/16	TR6-O-8560-165	D. Sistrunk		1,480.00
133772	4/27/16	TR6-O-9001-1056	K. Kennedy		3,376.00
133773	4/27/16	TR6-O-9147-5723	Canyon Glen HOA (Orange)		25,000.00
133774	4/27/16	TR5W-SC-4343	C. Bettencourt		2,254.00
133775	4/27/16	TR5W-SC-5384	P. Hannock		2,464.00
133776	4/27/16	TR6-SC-8166-124	J. Valencia		712.00
133777	4/27/16	TR5W-SJC-5325	K. Connors		568.00
133778	4/27/16	TR7-ETWD-23528-23482	R. Guevarra		1,688.00
133779	4/27/16	TR5W-GSWC-4069	C. Lieber		1,284.00
133780	4/27/16	TR5W-GSWC-4532	M. Hollingworth		1,744.00
133781	4/27/16	TR6-GSWC-7894-12291	S. Petersen		1,426.00
133782	4/27/16	TR6-GSWC-8201-11121	J. Do		1,498.00
133783	4/27/16	TR6-GSWC-8555-1771	L. Lindstedt		2,520.00
133784	4/27/16	TR6-GSWC-9082-11292	S. Carlson		6,000.00
133785	4/27/16	TR6-GSWC-9089-11921	T. Howe		2,626.00
133786	4/27/16	TR6-GSWC-9531-1432	S. Lambert		2,050.00
133787	4/27/16	TR5-IRWD-346	J. Gough		2,160.00
133788	4/27/16	TR5W-IRWD-5128	G. Bair		674.00
133789	4/27/16	TR5W-IRWD-5946	V. Gardner		652.00
133790	4/27/16	TR6-IRWD-10155-29295	L. Coyte		1,490.00
133791	4/27/16	TR6-IRWD-10465-26091	S. Williams		2,234.00
133792	4/27/16	TR6-IRWD-6256-21762	R. Dillon		725.67
133793	4/27/16	TR6-IRWD-6422-27	W. Tseng		1,734.00
133794	4/27/16	TR6-IRWD-6673-26834	Vista Terrace Owners Assn (Lake Forest)		1,363.00
133795	4/27/16	TR6-IRWD-8004-19	M. Blew		3,342.00
133796	4/27/16	TR6-IRWD-8048-186	The Lakes Master Association (Irvine)		23,131.65
133797	4/27/16	TR6-IRWD-8317-4361	T. Wong		1,292.00
133798	4/27/16	TR6-IRWD-8589-7825	J. Richmond		1,200.00
133799	4/27/16	TR6-IRWD-9202-10965	B. Kusal		1,348.00
133800	4/27/16	TR6-IRWD-9929-10	T. Nguyen		532.79
133801	4/27/16	TR7-IRWD-11540-36	J. We		2,014.00
133802	4/27/16	TR7-IRWD-11783-5	F. Khajavi		2,808.00
133803	4/27/16	TR7-IRWD-11784-6	L. Li		182.11
133804	4/27/16	TR7-IRWD-11892-35	S. Roth		1,642.00
133805	4/27/16	TR7-IRWD-11979-19972	R. Eldridge		2,284.00
133806	4/27/16	TR7-IRWD-12007-24366	B. Medeiros		2,592.00
133807	4/27/16	TR7-IRWD-23725-9	G. Lueker		1,492.00
133808	4/27/16	TR7-IRWD-23727-1	R. Bailey		1,536.00
133809	4/27/16	TR7-IRWD-23817-11	N. Boucher		530.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133810	4/27/16	TR7-IRWD-24022-4832	R. Montemayor	500.00
133811	4/27/16	TR5-MESA-079	E. Shepard	2,746.00
133812	4/27/16	TR5-MESA-080	J. Dickens	1,098.00
133813	4/27/16	TR5W-MESA-4255	R. Nunn	1,426.00
133814	4/27/16	TR6-MESA-6340-1923	D. Lucas	1,926.00
133815	4/27/16	TR6-MESA-6413-1631	Trico Costa Mesa Properties, L.P. (Costa Mesa)	2,210.00
133816	4/27/16	TR6-MESA-6904-755	R. Gardner	4,897.00
133817	4/27/16	TR6-MESA-7969-2222	I. Morris	1,820.00
133818	4/27/16	TR6-MESA-8490-303	L. Wulfing	2,606.00
133819	4/27/16	TR6-MESA-8950-1691	J. Dostal	6,000.00
133820	4/27/16	TR6-MESA-9180-363	K. Thomas	2,188.00
133821	4/27/16	TR6-MESA-9376-1246	J. Kashgradnomoti A. j. takiya yantas dogon sar ili katyaya	2,550.00
133822	4/27/16	TR6-MESA-9842-2941	S. OMeara	5,364.00
133823	4/27/16	TR6-MESA-9884-599	Villa Maple HOA (Costa Mesa)	2,665.00
133824	4/27/16	TR6-HB-7372-9862	Villa Pacific Community Association (Huntington Beach)	11,625.00
133825	4/27/16	TR5W-MNT-3706	Casa Loma HOA (Mission Viejo)	37,255.00
133826	4/27/16	TR5W-MNT-5209	F. Maleki	3,766.00
133827	4/27/16	TR5W-MNT-5576	Monarch Point HOA (Laguna Niguel)	51,605.00
133828	4/27/16	TR5W-MNT-5697	A. Avellan	2,600.50
133829	4/27/16	TR5W-MNT-5790	M. Parhizgari	3,165.00
133830	4/27/16	TR6-MNT-10116-26861	M. Hajiali saasii (jasi	2,940.00
133831	4/27/16	TR6-MNT-10579-25341	D. Reukema	9,160.00
133832	4/27/16	TR6-MNT-7036-24561	J. Lauterjung	2,831.50
133833	4/27/16	TR6-MNT-8131-21	W. Niemann	1,725.35
133834	4/27/16	TR6-MNT-8488-24012	R. Whitehouse	3,710.00
133835	4/27/16	TR6-MNT-9692-24212	P. Owens 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3,328.50
133836	4/27/16	TR6-MNT-9870-28722	J. Carlson	5,512.50
133837	4/27/16	TR7-MNT-11499-29801	J. Harms hold in hold and hold and hold in hol	2,696.00
133837	4/27/16	TR7-MNT-11533-29191	A. Nguyen	2,296.00
133839	4/27/16	TR7-MNT-11561-26	D. Delany	3,884.00
133840	4/27/16	TR7-MNT-11899-70	K. Vestermark	878.00
133841	4/27/16	TR7-MNT-11985-10	B. Elpedes All Mary Mary Mary Mary Mary Mary Mary Mary	1,030.00
	4/27/16	TR7-MNT-12010-27202	C. Jahn	570.00
133842 133843	4/27/16	TR7-MNT-12010-27202	K. Pearlman	1,690.00
			M. Pomerleau	3,230.50
133844		TR7-MNT-12059-49 TR7-MNT-23474-26591	P. Riserbato	1,200.00
133845	4/27/16			1,277.50
133846	4/27/16	TR7-MNT-23643-8	W. Mertes N. Cambron	686.00
133847	4/27/16	TR7-MNT-23648-26762		4,527.00
133848	4/27/16	TR7-MNT-23664-24875		3,704.00
133849	4/27/16	TR7-MNT-23690-29301	5. 2.00.1	4,039.00
133850	4/27/16	TR7-MNT-24052-23721	C. Ackerman	1,140.00
133851	4/27/16	TR5W-SM-4772	71 Danie	682.00
133852	4/27/16	TR5W-SM-5958	R. Lammers	3,556.00
133853	4/27/16	TR6-SM-10029-26131	A. Majlessi	
133854	4/27/16	TR6-SM-10479-33	J. Liao	2,490.00 5,142.00
133855	4/27/16	TR6-SM-10561-5	Mission Greens (Santa Margarita)	5,142.00
133856	4/27/16	TR6-SM-10565-8	Mission Greens (Santa Margarita)	5,120.00
133857	4/27/16	TR6-SM-10568-18	Mission Greens (Santa Margarita)	
133858	4/27/16	TR6-SM-7832-22106	Z. Boyer	1,294.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133859	4/27/16	TR6-SM-8927-23498	P. MacNeill	1,400.00
133860	4/27/16	TR6-SM-9425-21772	M. LaBrie	2,388.00
133861	4/27/16	TR6-SM-9927-26966	L. Cludy	784.00
133862	4/27/16	TR6-TC-7799-21221	J. Snyder	3,760.00
133863	4/27/16	TR6-YLWD-8372-19000	J. Davis	6,000.00
133864	4/27/16	TR6-YLWD-8766-4152	D. Koutzoukis	2,980.00
133865	4/27/16	TR7-MNT-11859-25456	A. Silbernagel	742.00
			***Total ***	385,471.77
				77.1
		TURFRP	Turf Removal Program	
134025	4/27/16	TR5W-HB-5477A	S. Litvak (Huntington Beach)	695.00
134026	4/27/16	TR7-IRWD-23444-10991	A. Kronenberg	6,000.00
			***Total ***	6,695.00
133866	4/28/16	STOCKB	Brandon Stock	
		012116	January 2016 Business expense	67.60
		033116	March 2015 Business expense	115.22
		042816	April 2016 Business expense	123.41
			***Total ***	306.23
2.1.0423.1 1.102.04.04.1		TURFRP	Turf Removal Program	
133867	4/29/16	TR5W-BREA-4709	R. Todd	8,590.00
133868	4/29/16	TR6-BREA-10368-835	M. New	1,856.00
133869	4/29/16	TR5W-BP-4583	M. Le spanish W spanish and spanish	1,958.00
133870	4/29/16	TR6-BP-10339-2	Lakeside Master HOA (Buena Park)	1,934.00
133871	4/29/16	TR6-BP-10341-2	Lakeside Master HOA (Buena Park)	787.00
133872	4/29/16	TR6-BP-9105-8242	M. Humes	2,192.00
133873	4/29/16	TR5W-FV-5028	R. Dion J. Buckle	3,472.00 4,302.00
133874	4/29/16	TR6-GG-8840-5371 TR6-HB-10248-8316	Landmark HOA (Huntington Beach)	3,722.00
133875 133876	4/29/16 4/29/16	TR6-HB-6436-8411	P. Lam	3,932.00
133877	4/29/16	TR6-HB-8651-2000	City of Huntington Beach	28,430.00
133878	4/29/16	TR6-HB-9220-21134	Huntington Place (Huntington Beach)	5,079.87
133879	4/29/16	TR6-LH-10305-1520	D. Reeser	2,608.00
133880	4/29/16	TR6-LH-7247-2241	D. Alvarez	5,758.00
133881	4/29/16	TR6-LH-8169-770	M. Hussain	6,000.00
133882	4/29/16	TR5W-NWPT-5825	Signature Services (Newport Beach)	25,000.00
133883	4/29/16	TR6-NWPT-7995-1936	S. Kawata	1,922.00
133884	4/29/16	TR5W-O-5757	G. Helton	2,782.00
133885	4/29/16	TR6-O-6602-957	W. Earl	2,838.00
133886	4/29/16	TR6-O-8976-1601	C. Hillgren (Orange)	11,169.00
133887	4/29/16	TR6-O-9068-518	R. Donley	4,476.00
133888	4/29/16	TR6-O-9561-4741	SOTW LLC (Orange)	3,490.00
133889	4/29/16	TR6-O-9735-4219	J. Toro	2,188.00
133890	4/29/16	TR5W-SC-5256	Rainbow Sandals (San Clemente)	618.00
133891	4/29/16	TR6-SC-6326-2929	R. Beverly	602.00
133892	4/29/16	TR6-SC-7935-2700	C. Veldkamp	3,514.00
133893	4/29/16	TR6-SC-8450-157	R. McCrae	884.00
133894	4/29/16	TR5-SJC-063	J. Steines	4,248.00

Check# Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133895 4/29/1	6 TR5W-SJC-4640	R. Zaleski	1,602.00
133896 4/29/1		San Juan Hills West HOA # 1 (San Juan Capistrano)	346.00
133897 4/29/1		D. Ward	2,434.00
133898 4/29/1		T. Colburn	2,292.00
133899 4/29/1		D. Gardiner	940.00
133900 4/29/1		S. McKibben	2,964.00
133901 4/29/1		C. Conlin	10,805.00
133902 4/29/1		A. Davalos	4,968.00
133903 4/29/1		J. Rubio	3,753.00
133904 4/29/1		B. Cline	6,000.00
133905 4/29/1		Resco Properties (Laguna Hills)	4,186.00
133906 4/29/1			1,858.00
133907 4/29/1		L. Ortega	2,278.00
133908 4/29/1		Third Laguna Hills Mutual (Laguna Woods)	3,000.00
133909 4/29/1		J. Thompson	2,034.00
133910 4/29/1		A. Tran	1,320.00
133911 4/29/1		Bejac Corporation (Placentia)	5,626.00
133912 4/29/1		C. Martin	495.17
133913 4/29/1		T. Carson	2,296.00
133914 4/29/1		S. Wong	456.00
133915 4/29/1		M. McMillan	1,258.00
133916 4/29/1		P. Rosol-Cary	1,314.00
133917 4/29/1		C. Likens	396.00
133918 4/29/1		Z. Jiang	2,948.00
133919 4/29/1		D. Speirs	2,091.00
133920 4/29/1		C. Ross	568.00
133921 4/29/1		C. Park	2,492.00
133922 4/29/1		D. Scott	788.00
133923 4/29/1	6 TR6-IRWD-6145-1	M. Walsh	1,920.00
133924 4/29/1	6 TR6-IRWD-6190-21622	D. Palmer	4,940.00
133925 4/29/1	6 TR6-IRWD-6394-7	R. Constantian	1,270.00
133926 4/29/1	6 TR6-IRWD-7117-24752	Lake Forest II MHOA (Lake Forest)	19,060.00
133927 4/29/1	6 TR6-IRWD-8089-24122	C. DeLorm	3,688.00
133928 4/29/1	6 TR6-IRWD-8694-90	L. Charpentier	830.00
133929 4/29/1	6 TR6-IRWD-9655-54	D. Lieberman	2,986.00
133930 4/29/1	6 TR6-IRWD-9732-20921	H. Lam	
133931 4/29/1	6 TR7-IRWD-11094-3	R. Mayercheck	576.00
133932 4/29/1	6 TR7-IRWD-11107-2524	D. Hoffmann	4,214.00
133933 4/29/1	6 TR7-IRWD-11246-25181	T. Leka	1,422.00
133934 4/29/1	6 TR7-IRWD-11364-46	J. Harker	3,056.00
133935 4/29/1	6 TR7-IRWD-11433-76	L. Malazarte	2,106.00
133936 4/29/1		V. McDonell	3,784.00
133937 4/29/1		A. Nguyen	2,236.00
133938 4/29/1		P. Skinner	934.00
133939 4/29/1		D. Branca	1,854.00
133940 4/29/1		K. Van Gorder	1,960.00
133941 4/29/1		P. Sparks	512.00
133942 4/29/1		Z. Vakharia	922.00
133943 4/29/1	6 TR7-IRWD-11769-8	K. Kaino	906.00

		Vendor#	Name /	Not Assessed
Check #	Date	Invoice/CM #	Description	Net Amount
422044	4/20/46	TD7 IDWD 44774 4000	O. Hassan	1 500 00
133944	4/29/16	TR7-IRWD-11774-4006	O. Hasson	1,508.00 1,002.00
133945	4/29/16	TR7-IRWD-11974-26371	K. Morgan	1,434.00
133946	4/29/16	TR7-IRWD-11978-7	L. Tran	
133947	4/29/16	TR7-IRWD-11989-24772	G. Clark	1,630.00
133948	4/29/16	TR7-IRWD-12054-13759	C. Nguyen	714.00
133949	4/29/16	TR7-IRWD-23481-30	C. Stewart	3,632.00 2,376.00
133950	4/29/16	TR7-IRWD-23515-14	I. Hwang-Dorman	1,480.00
133951	4/29/16	TR7-IRWD-23523-9 TR7-IRWD-23671-2342	D. Glickman M. Murphy	916.00
133952	4/29/16	TR7-IRWD-23684-12890	M. Martinelli	2,472.00
133953	4/29/16		D. Chen	704.00
133954	4/29/16	TR7-IRWD-23694-18981 TR7-IRWD-23736-33		2,124.00
133955	4/29/16 4/29/16	TR7-IRWD-23730-33	J. Truong A. Chin	184.00
133956	4/29/16	TR7-IRWD-23991-46	P. Martz	902.00
133957		TR7-IRWD-23992-1	A. Avestruz	2,066.00
133958	4/29/16 4/29/16	TR7-IRWD-24048-13212	N. Chen	1,042.00
133959	4/29/16	TR7-IRWD-24048-13212	M. Pfeil	440.00
133960		TR7-IRWD-24061-33	M. or M. Thomson	1,458.00
133961	4/29/16 4/29/16	TR7-IRWD-24097-14851	R. Bregler	1,106.00
133962 133963	4/29/16	TR7-IRWD-24115-21481	M. Pollreisz	1,560.00
	4/29/16	TR7-IRWD-24715-21481		17,344.00
133964		TR7-IRWD-24803-5732	Rancho San Joaquin, L.P. (Irvine)	1,388.00
133965	4/29/16	TR5W-LB-4209	P. Harvey G. Supple	3,375.00
133966	4/29/16 4/29/16		S. Fenzl	2,600.00
133967		TR5W-MESA-4074 TR5W-MESA-7022	L. Smith	2,098.00
133968	4/29/16	TR6-MESA-10129-2821	K. Melgar	2,192.00
133969	4/29/16 4/29/16	TR6-MESA-6281-1969	T. Slunaker	3,824.00
133970 133971	4/29/16	TR6-MESA-7369-276	S. Allee	1,526.00
133971	4/29/16	TR6-MESA-8014-2089	J. Garrett	3,176.00
133972	4/29/16	TR5W-MNT-4094	D. Mershimer	1,320.00
133974	4/29/16	TR5W-MNT-4468	R. Gaudino	1,659.00
133975	4/29/16	TR5W-MNT-5934	R. Smit	4,105.50
133976	4/29/16	TR5W-MNT-8568	S. Baker	7,715.90
133977	4/29/16	TR6-MNT-10373-27206	J. Ward	3,060.00
133978	4/29/16	TR6-MNT-6097-82	S. Miller	1,866.50
133979	4/29/16	TR6-MNT-6795-25036	C. Crebar	6,580.00
133980		TR6-MNT-7895-25151	L. Morgan	2,711.22
133981	4/29/16	TR6-MNT-8674-28951	A. Suarez	4,056.50
133982	4/29/16	TR6-MNT-9450-4	E. Higley	9,040.50
133983		TR6-MNT-9536-1	Ocean Ranch at Bear Brand (Laguna Niguel)	42,179.75
133984		TR6-MNT-9569-27500	R. Isaac	1,669.50
133985		TR6-MNT-9589-28741	C. Fortmann	4,530.00
133986		TR7-MNT-11502-27761	A. Bohl	1,491.00
133987		TR7-MNT-11626-28121	F. Menendez	2,488.50
133988		TR7-MNT-11628-25541	A. Cooney	3,296.00
133989		TR7-MNT-11768-25822	D. Pratt	4,987.50
133990		TR7-MNT-12056-27985	L. Williams	1,813.00
133991	4/29/16	TR7-MNT-23770-25112	F. Blacketer	2,194.50
133992		TR7-MNT-23809-14	M. Barnett	1,890.00
133332	7/23/10	11.7 141141 25005 14	THE DUTING CO.	2,050.00

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
133993	4/29/16	TR7-MNT-23946-26581	R. Valdez	6,316.00
133994	4/29/16	TR7-MNT-23994-24591	J. Reynolds	3,307.50
133995	4/29/16	TR7-MNT-23997-25221	R. Naghibi	2,380.00
133996	4/29/16	TR7-MNT-24013-28312	W. OConnell	1,837.50
133997	4/29/16	TR7-MNT-24015-5	K. Cynn	1,092.00
133998	4/29/16	TR7-MNT-24037-14	R. Erickson	900.00
133999	4/29/16	TR7-MNT-24055-30232	R. Jerrells	1,050.00
134000	4/29/16	TR7-MNT-24077-26321	M. Goodman	2,800.00
134001	4/29/16	TR7-MNT-24096-4	S. Ighani	1,893.50
134002	4/29/16	TR7-MNT-24117-33	S. Tsukui	3,150.00
134003	4/29/16	TR7-MNT-24797-30812	C. SteckiTakeda	2,359.00
134004	4/29/16	TR7-MNT-24800-29502	D. Reinert	1,120.00
134005	4/29/16	TR5W-SM-4338	Arroyo Maintenance Corp. (Mission Viejo)	7,880.00
134006	4/29/16	TR5W-SM-5504	A. Chawa	1,894.00
134007	4/29/16	TR5W-SM-5691	S. and S. Ratner	5,340.00
134008	4/29/16	TR6-SM-10411-61	First Service Residential (Rancho Santa Margarita)	11,433.00
134009	4/29/16	TR6-SM-10642-27416	A. Spencer	1,582.00
134010	4/29/16	TR6-SM-6855-28261	Y. Yoseph	3,420.00
134011	4/29/16	TR6-SM-7974-26322	I. Karkoutli	1,432.00
134012	4/29/16	TR6-SM-8728-4	D. Hawkins	1,512.00
134013	4/29/16	TR6-SM-8747-8	F. Gonzalez	1,342.86
134014	4/29/16	TR6-SM-9279-5	Mission Courts II (Rancho Santa Margarita)	25,000.00
134015	4/29/16	TR6-SWD-7763-9492	D. Wold	6,000.00
134016	4/29/16	TR6-SOCO-7335-7	R. Lippert	1,576.00
134017	4/29/16	TR6-SOCO-8339-33021	J. Landeros	2,160.00
134018	4/29/16	TR6-SOCO-9577-24591	D. Conry	3,670.00
134019	4/29/16	TR6-TC-10161-31941	W. Hunt	4,400.00
134020	4/29/16	TR6-YLWD-10074-3820	D. Topel	2,040.00
134021	4/29/16	TR6-YLWD-6764-5451	A. Harris	2,800.00
134022	4/29/16	TR6-YLWD-6920-23425	Yorba Linda Villages (Yorba Linda)	16,711.00
134023	4/29/16	TR6-YLWD-8883-4845	C. Peterson	1,582.00
134024	4/29/16	TR6-YLWD-9545-5212	P. Adams	950.00
			***Total ***	583,556.27
		TURFRP	Turf Removal Program	
134027	4/29/16	TR6-BP-7111-7097	D. Fisher	1,598.00
134028	4/29/16	TR6-BP-7788-8382	W. Schenet	860.00
134029	4/29/16	TR6-BP-8095-6778	M. Agrusa	2,302.00
134030	4/29/16	TR6-BP-8505-6812	R. Mote	5,020.00
134031	4/29/16	TR6-BP-9367-6611	M. Mills	1,640.00
134032	4/29/16	TR6-BP-9621-8433	J. Bhavsar	3,350.00
134033	4/29/16	TR5W-GG-4402	PPF Industrial (Garden Grove)	19,857.00
134034	4/29/16	TR5W-GG-5005	K. Hoang	3,378.00
134035	4/29/16	TR5W-GG-5213	N. Chavez	5,058.00
134036	4/29/16	TR5W-GG-5622	A. Shima	1,313.88
134037	4/29/16	TR5W-GG-5865	K. Jacqmin	1,436.00
134038	4/29/16	TR6-GG-10190-12812	D. and M. Johnson	2,842.00
134039	4/29/16	TR6-GG-6522-12202	M. Beck	730.00
134040	4/29/16	TR6-GG-7286-11692	T. Nguyen	1,718.00

Check#	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
134041	4/29/16	TR6-GG-7506-9571	C. Hy	2,278.00
134042	4/29/16	TR6-GG-7611-8862	T. Phan	2,582.00
134043	4/29/16	TR6-GG-8182-11612	T. Dao	3,882.00
134044	4/29/16	TR6-GG-8305-13941	H. Nguyen	1,864.00
134045	4/29/16	TR6-GG-8452-9272	A. Do	4,358.00
134046	4/29/16	TR6-GG-9241-9661	D. Ngo	2,520.00
134047	4/29/16	TR6-GG-9372-11831	E. Morales	1,943.30
134048	4/29/16	TR6-GG-9630-11242	L. Trinh	3,094.00
134049	4/29/16	TR6-GG-9938-12151	J. Burch	2,378.00
134050	4/29/16	TR6-HB-8951-18301	City of Huntington Beach	3,476.00
134051	4/29/16	TR6-HB-8953-16221	City of Huntington Beach	6,721.00
134052	4/29/16	TR6-HB-8957-530	City of Huntington Beach	5,552.00
134053	4/29/16	TR6-HB-9338-19711	City of Huntington Beach	4,672.00
134054	4/29/16	TR5W-LH-5193	M. Mason	2,978.00
134055	4/29/16	TR5W-LH-5741	E. Martin	1,090.00
134056	4/29/16	TR6-LH-6980-941	J. MacLowry	3,060.00
134057	4/29/16	TR5W-NWPT-4989	V. Wahler	2,530.00
134058	4/29/16	TR5W-NWPT-5785	City of Newport Beach	886.00
134059	4/29/16	TR6-NWPT-6247-110	Jasmine Creek Community Assoc. (Corona Del Mar)	25,000.00
134060	4/29/16	TR6-NWPT-7284-1856	E. Krout	1,772.00
134061	4/29/16	TR6-NWPT-7430-3232	J. Bailey	1,082.00
134062	4/29/16	TR6-NWPT-8187-2407	S. Hufford	2,160.00
134063	4/29/16	TR5W-O-4209	Orange Main Business Park (Orange)	13,047.00
134064	4/29/16	TR5W-O-5318	C. Wasson	1,228.00
134065	4/29/16	TR5W-O-5574	J. Vallejo	1,016.00
134066	4/29/16	TR6-O-6357-4201	L. Sampson	3,848.00
134067	4/29/16	TR6-O-6915-1402	K. Senkbeil	680.00
134068	4/29/16	TR6-O-7607-223	K. Dinh	1,618.00
134069	4/29/16	TR6-O-7813-4439	D. or L. Wommackj	1,926.00
134070	4/29/16	TR6-O-7890-7548	L. Williams	4,316.00
134071	4/29/16	TR6-O-8319-1316	M. McGlone	2,526.00
134072	4/29/16	TR6-O-8335-789	B. Kunisch	1,182.00
134073	4/29/16	TR6-O-8598-2466	W. Chau	5,176.00
134074	4/29/16	TR6-O-9064-1324	R. Kays	1,440.00
134075	4/29/16	TR6-O-9074-2233	J. Switzer	1,772.00
134076	4/29/16	TR6-O-9836-1139	N. Nichols	3,694.00
134077	4/29/16	TR6-O-9928-535	H. Young	370.00
134078	4/29/16	TR6-O-9951-3530	E. Sasaki	6,000.00
134079	4/29/16	TR6-O-9965-1142	M. Minert	1,210.00
134080	4/29/16	TR6-O-9993-907	J. Vaught	1,004.00
134081	4/29/16	TR5W-SC-4725	J. Wolter	1,068.00
134082	4/29/16	TR6-SC-10330-3531	Ocean Hills Homeowners Association (San Clemente)	25,000.00
134083	4/29/16	TR6-SC-7699-414	J. Hutak	896.00
134084	4/29/16	TR6-SC-8308-2163	Faire Harbor (San Clemente)	8,065.00
134085	4/29/16	TR6-SC-8690-5512	D. Hall	2,152.00
134086	4/29/16	TR6-SC-9887-2874 TR5W-SJC-5341	R. Newkirk Marhalla Broporty Owners Assoc (San Juan Capistrane)	4,786.00 5,980.00
134087	4/29/16	TR5W-SJC-5965	Marbella Property Owners Assoc. (San Juan Capistrano) P. Jones	820.00
134088	4/29/16 4/29/16	TR6-SJC-7089-30171	G. Watson	6,000.00
134089	4/23/10	110-310-7003-30171	G. vvaisuli	6,000.00

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134090	4/29/16	TR6-SJC-7120-30201	Mission Hills Ranch Assoc. (San Juan Capistrano)	7,461.0	00
134091	4/29/16	TR6-SJC-7672-35	Golf Villas of Marbella Assoc. (San Juan Capistrano)	2,319.0	00
134092	4/29/16	TR6-SJC-7673-3	Golf Villas of Marbella Assoc. (San Juan Capistrano)	367.0	00
134093	4/29/16	TR6-SJC-8292-30701	O. Castillo	5,880.0	00
134094	4/29/16	TR6-SJC-9150-27911	R. Dempsey	553.9	14
134095	4/29/16	TR5W-TUST-4122	A. Roberts	1,522.7	
134096	4/29/16	TR5W-TUST-5469	L. Karim	1,680.0	
134097	4/29/16	TR6-TUST-10047-17662	J. Smith odstalliggers and GS 2004 to GWAR 4.900 835.855	7,311.0)0
134098	4/29/16	TR6-TUST-6391-1221	K. Andersen	4,737.0	
134099	4/29/16	TR6-TUST-6787-13551	P. Ebright	632.3	
134100	4/29/16	TR6-TUST-8873-14062	K. Patel	6,000.0	
134101	4/29/16	TR6-EOCWD-9502-12666	T. Ulemek	6,000.0	
134102	4/29/16	TR7-ETWD-11407-25432	A. Rasem	1,364.0	
134103	4/29/16	TR7-ETWD-23531-23275	W. Culbertson	1,454.0	
134104	4/29/16	TR5W-GSWC-4180	S. Buchanan	1,428.	
134105	4/29/16	TR6-GSWC-6150-10392	F. Clayton	2,700.0	
134106	4/29/16	TR6-GSWC-6382-9293	C. Lou on the same of the same	1,538.	
134107	4/29/16	TR6-GSWC-6538-2134	T. Maraldo	1,066.	
134108	4/29/16	TR6-GSWC-7662-6200	Cypress Management Company (Cypress)	22,343.	
134109	4/29/16	TR6-GSWC-8678-3112	G. Teel	508.	
134110	4/29/16	TR6-GSWC-8821-6636	Charter Hill HOA (Yorba Linda)	13,347.	
134111	4/29/16	TR5W-IRWD-2170	V. Kagawan	2,532.	
134112	4/29/16	TR5W-IRWD-4052	B. Burde	942.	
134113	4/29/16	TR5W-IRWD-4667	T. Logan	1,288.	
134114	4/29/16	TR5W-IRWD-5551	J. Wilhelm	906.	
134115	4/29/16	TR5W-IRWD-5636	J. Christopoulos	2,264.	
134116	4/29/16	TR6-IRWD-10001-7	J. Zappala	3,638.	
134117	4/29/16	TR6-IRWD-10006-3	C. Rowe	1,596.	
134118	4/29/16	TR6-IRWD-10141-64	R. Krothapalli	2,294.	
134119	4/29/16	TR6-IRWD-10309-2068	K. Venkataraman	1,700.	
134120	4/29/16	TR6-IRWD-10454-20112	G. Robertson	947.	
134121	4/29/16	TR6-IRWD-10535-8	J. Tien and Inspire In	1,018.	
134122	4/29/16	TR6-IRWD-10578-22091	B. Maestas	920.	
134123	4/29/16	TR6-IRWD-6221-34	J. Long	1,478. 2,812.	
134124	4/29/16	TR6-IRWD-6341-14571	L. Tieman	4,404.	
134125	4/29/16	TR6-IRWD-6807-2200	Schiffman Alton Property (Irvine)	3,967.	
134126	4/29/16	TR6-IRWD-6808-17138	Schiffman Alton Property (Irvine)	1,132.	
134127	4/29/16	TR6-IRWD-7495-21131	S. Azarhoosh	5,200.	
134128	4/29/16	TR6-IRWD-7934-20196	P. Escalera	1,290.	
134129	4/29/16	TR6-IRWD-8073-5032	D. MacDonald	598.	
134130	4/29/16	TR6-IRWD-8468-12	J. Sortais	000	
134131	4/29/16	TR6-IRWD-8487-22085	K. Parry A. Davari	4 000	
134132	4/29/16	TR6-IRWD-8697-5	/ L Durum	982.	
134133	4/29/16	TR6-IRWD-8760-17	C. Jeng	1,288	
134134	4/29/16	TR6-IRWD-8801-13701	D. Karnes	1,352	
134135	4/29/16	TR6-IRWD-8980-3851	R. Patton D. Steele	180	
134136	4/29/16	TR6-IRWD-9028-3	K. Shutt	114	
134137	4/29/16	TR6-IRWD-9086-2225 TR6-IRWD-9099-21031	E. Pham	734	
134138	4/29/16	1 VO-1V W D-3033-51031	L. I HOIH		

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
134139	4/29/16	TR6-IRWD-9319-28622	A. Wofford	592.00
134140	4/29/16	TR6-IRWD-9340-11	H. Do	1,646.00
134141	4/29/16	TR6-IRWD-9412-5	J. Tran	1,234.00
134142	4/29/16	TR7-IRWD-11207-12	B. Loaiza	962.00
134143	4/29/16	TR7-IRWD-11256-20	G. Moon	1,356.00
134144	4/29/16	TR7-IRWD-11272-27	G. Kawanami	816.00
134145	4/29/16	TR7-IRWD-11303-2	S. Hanks	1,884.00
134146	4/29/16	TR7-IRWD-11469-23	L. Fujitsubo	592.00
134147	4/29/16	TR7-IRWD-11861-15282	J. Cook	2,680.00
134148	4/29/16	TR7-IRWD-11874-3892	R. Beck	4,088.00
134149	4/29/16	TR7-IRWD-11912-230	S. Davenport	972.00
134150	4/29/16	TR7-IRWD-11915-21991	T. Dang	1,000.00
134151	4/29/16	TR7-IRWD-11921-12	G. Witter	1,304.00
134152	4/29/16	TR7-IRWD-11924-5	E. Hailemariam	1,200.00
134153	4/29/16	TR7-IRWD-23453-21461	T. Zack	1,702.00
134154	4/29/16	TR7-IRWD-23516-4311	M. Simber	1,376.00
134155	4/29/16	TR7-IRWD-23535-2	R. Veeranna	1,206.00
134156	4/29/16	TR7-IRWD-23553-17592	E. Arthur	1,144.00
134157	4/29/16	TR7-IRWD-23788-4	F. Solomon	712.00
134158	4/29/16	TR5-LB-032	A. Earthart	5,472.00
134159	4/29/16	TR5W-LB-5171	E. Van Meter	1,749.00
134160	4/29/16	TR6-LB-10496-1275	B. Lund	3,981.00
134161	4/29/16	TR6-LB-8988-1545	F. Moritz	1,767.00
134162	4/29/16	TR6-MESA-10610-1725	Allen Tire Co. (Costa Mesa)	1,743.00
134163	4/29/16	TR5-MNT-257	D. Downs	2,215.50
134164	4/29/16	TR5W-MNT-5054	M. Binnendyk	6,810.00
134165	4/29/16	TR5W-MNT-5708	A. Stoops	7,860.00
134166	4/29/16	TR5W-MNT-6052	S. Bleakley	539.00
134167	4/29/16	TR6-MNT-10123-24892	J. Cooper	3,400.00
134168	4/29/16	TR6-MNT-10434-26952	H. Boyajian	7,260.00
134169	4/29/16	TR6-MNT-6551-14	S. Lucas	2,548.00
134170	4/29/16	TR6-MNT-6748-1	El Niguel Heights Community Assoc. (Laguna Niguel)	4,105.00
134171	4/29/16	TR6-MNT-6749-1	El Niguel Heights Community Assoc. (Laguna Niguel)	22,325.00
134172	4/29/16	TR6-MNT-6751-1	El Niguel Heights Community Assoc. (Laguna Niguel)	3,700.00
134173	4/29/16		El Niguel Heights Community Assoc. (Laguna Niguel)	6,250.00
134174	4/29/16 4/29/16	TR6-MNT-6754-1 TR6-MNT-6867-17	El Niguel Heights Community Assoc. (Laguna Niguel) M. Brantley	6,250.00 1,225.00
134175 134176	4/29/16	TR6-MNT-6897-26722		1,725.00
134177	4/29/16	TR6-MNT-7760-26831	J. Hornbuckle D. Johnson	6,462.00
134177	4/29/16	TR6-MNT-7869-11	K. Draper	2,005.50
134178	4/29/16	TR6-MNT-8367-26772	K. Schmutz	4,522.00
134179	4/29/16	TR6-MNT-8445-25242	P. Bras	4,067.00
134181	4/29/16	TR6-MNT-9090-97	T. Rybak	4,291.80
134182	4/29/16	TR6-MNT-9623-24402	J. Jenkins	4,515.00
134182	4/29/16	TR6-MNT-9942-28476	L. Lawler	1,000.00
134184	4/29/16	TR6-MNT-9959-25741	P. Young	1,825.00
134185	4/29/16	TR7-MNT-11073-11	D. Van Hoomissen	2,415.00
134186	4/29/16	TR7-MNT-11568-26542	G. Venanzi	900.00
134187	4/29/16	TR7-MNT-23726-24841	T. Bennett	2,089.50

Check #	Date	Vendor # Invoice/CM #	Name / Description	is and a second of the second	Net Amount
134188	4/29/16	TR5W-SM-4347	C. Simard		1,936.00
134189	4/29/16	TR5W-SM-4501	K. Palmquist		1,736.00
134190	4/29/16	TR5W-SM-5030	L. Holmes		2,298.00
134191	4/29/16	TR5W-SM-5135	M. Newton		1,070.00
134192	4/29/16	TR6-SM-6952-19	S. Palmer		1,562.00
134193	4/29/16	TR6-SM-7615-3	C. Campanile		1,226.00
134194	4/29/16	TR6-SM-8700-15	M. Riley		1,150.00
134195	4/29/16	TR6-SM-9262-29809	Arbours I LLC		7,916.00
134196	4/29/16	TR5W-SWD-5552	T. Pham		3,650.00
134197	4/29/16	TR5W-SOCO-4040	H. Kaufman		2,724.00
134198	4/29/16	TR5W-SOCO-4135	M. McCullough		6,000.00
134199	4/29/16	TR5W-SOCO-5423	J. Martin		1,372.00
134200	4/29/16	TR5W-SOCO-5523	V. Aird		2,064.00
134201	4/29/16	TR6-SOCO-6329-13	L. Jaeger		1,570.00
134202	4/29/16	TR6-SOCO-7930-33122	C. Reeder		2,140.00
134203	4/29/16	TR6-SOCO-8688-24431	D. Harline		6,000.00
134204	4/29/16	TR5W-TC-5725	M. Park		1,800.00
			***Total ***		580,133.87
134209	4/29/16	ATTEOC	AT&T		
		0532-APR16	April 2016 WEROC N. EO	C dedicated phone line	64.44
		8200-APR16	April 2016 WEROC S. EO	C telephone expense	179.93
		4492-APR16	April 2016 WEROC N. EO	C telephone expense	250.03
			***Total ***		494.40
134210	4/29/16	CATALI	Catalina Island Conserva	ncy	
	,	0012662	April 2016 WEROC radio	repeater site lease	1,636.47
			***Total ***		1,636.47
134219	4/29/16	USBANK	U.S. Bank		
		5783-MAR16	Cal Card charges 2/23/16 ***Total ***	5-3/22/16	531.51 531.51
		TURFRP	Turf Removal Program		
134221	4/29/16	TR6-GG-7715-5422	J. Caulfield		1,359.59
134222	4/29/16	TR6-TUST-6978-	A. Kendall		549.00
134223	4/29/16	TR6-IRWD-7828-2052	D. Wride		982.00
134224	4/29/16	TR5W-MESA-4655	S. Arnold		2,964.00
134225	4/29/16	TR6-MNT-10313-24612	J. Curtner		5,025.00
134226	4/29/16	TR6-MNT-6828-15ADD	S. Grabske		2,927.00
134227	4/29/16	TR6-MNT-6845-28101	M. Namazi		7,965.00
134228	4/29/16	TR6-MNT-6850-23746	S. Dole		1,722.00
134229	4/29/16	TR6-MNT-8507-	B. Finch		1,600.50
134230	4/29/16	TR6-MNT-9349-25312	W. Wu		11,121.00
134231	4/29/16	TR6-MNT-9486-	S. Poulalion		740.34
134232	4/29/16	TR6-MNT-9760-28102	R. Hansen		10,447.50
134233	4/29/16	TR5W-YLWD-5798	T. Koniniec		5,898.00
134234	4/29/16	TR5W-SM-4481	R. Bailey		858.00
134235	4/29/16	TR6-BREA-7044-574	K. Norcia		590.00

Check #	Date	Vendor# Invoice/CM#	Name / Description	5340	Net Amount
134236	4/29/16	TR6-MNT-7421-5	L. Geiler (Aliso Viejo)		3,152.50
00.38%	.,,		***Total ***		57,901.43
ACH001956	4/29/16	BERGJO	Joseph Berg		
00.500	,,	031716	February-March 2016 Business expense		9.00
			***Total ***		9.00
ACH001966	4/29/16	SANTAM	Santa Margarita Water District		
ON BROOK	,,	FEB2016	February 2016 SCP Operation surcharge		19,047.60
			***Total ***		19,047.60
WIRE-160429	4/29/16	METWAT	Metropolitan Water District		
2,064,06	.,,	8624	February 2016 Water deliveries		3,534,250.25
			***Total ***		3,534,250.25
				25/05/26	502007
			Total Other Funds Disbursements	41/0 16	6,811,743.86
				•	1
			Total Disbursements		7,331,354.52
				and the state of the	- 6 A 7 A 15

Robert J. Hunter, General Manager

Hilary Chumpitazi, Treasurer

Cal Card Statement Detail

Statement Date: March 22, 2016

Payment Date: April 29, 2016

Date	Description	Amount
K. Seckel Card		
02/22/16	ACWA DC2016 conference in Washington, DC from Feb 23-25, 2016 - Airline seat fee for R. Hunter	\$ 67.83
02/23/16	Legislative luncheon in Washington, DC on 2/24/16 - Catering	2,541.83 1
02/23/16	UPS delivery charges for Board & Committee packets on 2/8/16,	22.12 2
80.140	R. Hunter on 2/17/16 & Crocker & Crocker on 2/19/16	
02/23/16	Legislative luncheon in Washington, DC on 2/24/16 - Printing	147.68 1
02/24/16	Lunch for Orange County MET Managers' meeting	224.00
02/26/16	Legislative activities in Sacramento, CA on Feb. 26, 2016 - Accommodations for H. Baez	344.45
02/26/16	ACWA DC2016 conference in Washington, DC from Feb 23-25, 2016 - Accommodations for H. Baez	730.24
02/26/16	ACWA DC2016 conference in Washington, DC from Feb 23-25, 2016 - Accommodations for R. Hunter	753.68
02/26/16	Legislative activities in Washington, DC from Feb. 23-25, 2016 - Accommodations for Director Barbre	1,044.50 3
02/26/16	Annual subscription for SurveyMonkey software	228.00
03/01/16	UPS delivery charges for Board & Committee packets on 2/26/16 & Crocker & Crocker on 2/19/16	21.29
03/01/16	California Emergency Services Association 2016 membership for B. Stock	110.00 4
03/02/16	4 Toner cartridges	256.39
03/05/16	Office supplies	92.80
03/05/16	FedEx delivery charges for J. Barker on 3/1/16	59.72
03/07/16	ACWA DC2016 conference in Monterey, CA from May 3-6, 2016 - Registration for H. De La Torre	695.00
03/08/16	UPS delivery charges for Board & Committee packets on 2/8/16 & Custom Imprints on 2/29/16	83.18
03/08/16	California Urban Water Conservation Council committee meeting in Sacramento, CA on Mar. 14, 2016 - Airfare for J. Berg	475.46
03/08/16	Legislative activities in Sacramento, CA from Mar. 8-9, 2016 - Canceled accommodations for Director Barbre refunded	(195.03)
03/09/16	California Society of Municipal Finance Officers - Governmental Accounting training in Santa Ana, CA on Mar. 31, 2016 - Registration for H. Chumpitazi	150.00
03/09/16	WEROC New staff training lunch	165.12
03/12/16	FedEx delivery charges for Best Best & Krieger on 3/8/16 & Board of Supervisors on 3/10/16	32.94
03/14/16	5 Toner cartridges	294.55
03/14/16	Association of Metropolitan Water Agencies conference in Washington, DC from Mar. 20-22, 2016 - Airfare for R. Hunter	2,648.19
03/14/16	Legislative activities in Sacramento, CA on Mar. 18, 2016 - Airfare for H. Baez	472.36

Cal Card Statement Detail Statement Date: March 22, 2016

Payment Date: April 29, 2016

Date	Description	Amount
03/15/16	UPS delivery charges for Board & Committee packets on 1/26/16, 2/8/16 & 3/9/16	113.78
03/15/16	Legislative activities in Washington, DC from Apr. 20-22, 2016 - Airfare change for Director Barbre	251.99 5
03/17/16	Computer supplies	97.10
03/17/16	FedEx delivery charges for Board of Supervisors on 3/15/16	15.74
03/17/16	Lunch for Managers' meeting	541.03
03/17/16	Staff development lunch	112.05
03/17/16	Orange County Business Council Advocacy trip in Washington DC from May 23-25, 2016 - Registration & accommodations for Director Barbre	1,785.00
03/18/16	Legislative activities in Sacramento, CA from Mar. 17-18, 2016 - Accommodations for H. Baez	219.10
03/20/16	FedEx delivery charges for Best Best & Krieger on 3/17/16	25.51
	Total	14,627.60

¹ Cost of Legislative luncheon will be divided among MWDOC and 3 other agencies

² R. Hunter reimbursed MWDOC \$7.04

³ Director Barbre reimbursed MWDOC \$336.88

⁴ CESA Reimbursed MWDOC for \$35.00 overcharge, on 4/22/16

⁵ Director Barbre to reimburse MWDOC \$251.99

Cal Card Statement Detail Statement Date: March 22, 2016

Payment Date: April 29, 2016

Date	Description	Amount
R. Hunter Card		
02/22/16	Meal for R. Hunter's meeting	60.26
02/23/16-02/25/16	ACWA DC2016 conference in Washington, DC from Feb 23-25, 2016 - Transportation & parking for R. Hunter	104.88
02/25/16	ACWA DC2016 conference in Washington, DC from Feb 23-25, 2016 - Meals for Director Ackerman, R. Hunter and guest	80.43
02/25/16	ACWA DC2016 dinner in Washington, DC on Feb. 24, 2016	1,146.24 1
03/07/16	ACWA DC2016 conference in Monterey, CA from May 3-6, 2016 - Registration for Director Hinman	695.00
03/07/16	ACWA DC2016 conference in Monterey, CA from May 3-6, 2016 - Registration for R. Hunter	695.00
03/07/16	ACWA DC2016 conference in Monterey, CA from May 3-6, 2016 - Registration for H. Baez	695.00
03/08/16	ACWA DC2016 conference in Monterey, CA from May 3-6, 2016 - Registration for K. Seckel	695.00
03/09/16	ACWA DC2016 conference in Monterey, CA from May 3-6, 2016 - Registration for Director Tamaribuchi	695.00
03/16/16	Fastrak toll roads deposit	100.00
03/19/16	Association of Metropolitan Water Agencies conference in Washington, DC from Mar. 20-22, 2016 - Transportation for R. Hunter	21.52
03/21/16	Association of California Cities-Orange County Infrastructure tour in Mission Viejo, CA on Mar. 31, 2016 - Registration for J. Berg & J. Volzke	90.00
	Total _	5,078.33

¹ ACWA DC2016 dinner guest M. Matheis reimbursed MWDOC \$80.00 for daughter's dinner

Municipal Water District of Orange County GM Approved Disbursement Report (1) For the month of April 2016

Check #	Date	Vendor # Invoice/CM #	Name / Description	Net Amount
Core Disburs	ements:			
134212	4/29/16	MAYDWE 2466A	Maydwell Mascots Inc. 1 Ricki Raindrop mascot costume final payment	2,350.00
			***Total ***	2,350.00
134217	4/29/16	TONYWA	<i>Tony Wayne Burgess</i> 5/20/16 OC Water Summit audio visual services deposit	9,714.50
		OCWD-006	***Total ***	9,714.50
			Total Core Disbursements	12,064.50
Choice Disbu	ırsements:			
			Total Choice Disbursements	0.00
Other Funds	Disbursen	nents:		
			Total Other Funds Disbursements	0.00
			Total Disbursements	12,064.50

Robert J. Hunter, General Manager

Hilary Qhumpitazi, Treasurer

⁽¹⁾ For disbursements that did not make the cut-off of previous month's Disbursement Approval report. Disbursements are approved by GM for payment and need A & F Committee ratification.



Street Address: 18700 Ward Street Fountain Valley, California 92708

Mailing Address: P.O. Box 20895 Fountain Valley, CA 92728-0895

> (714) 963-3058 Fax: (714) 964-9389 www.mwdoc.com

Wayne S. Osborne
President

Brett R. Barbre Vice President

> Larry D. Dick Director

Joan C. Finnegan Director

> Susan Hinman Director

Sat Tamaribuchi Director

Jeffery M. Thomas Director

Robert J. Hunter General Manager

MEMBER AGENCIES

City of Brea City of Buena Park East Orange County Water District El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange **Orange County Water District** City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District Trabuco Canyon Water District City of Tustin City of Westminster

Yorba Linda Water District

Municipal Water District of Orange County Consolidated Summary of Cash and Investment

March 31, 2016

District investments and cash balances are held in various funds designated for certain purposes as follows:

Fund	Book Value	% of Portfolio
Designated Reserves	2 2 20	
General Operations	\$2,494,603	38.75%
Grant & Project Cash Flow	1,480,000	22.99%
Election Expense	215,463	3.35%
Building Repair	<u>500,407</u>	<u>7.77%</u>
Total Designated Reserves	4,690,473	72.86%
General Fund	5,403,734	83.94%
Water Fund	2,412,019	37.46%
Conservation Fund	(6,409,861)	(99.56%)
Desalination Feasibility Study Fund	222,385	3.45%
WEROC Fund	110,566	1.72%
Trustee Activities	8,631	0.13%
Total	\$6,437,947	100.00%

The funds are invested as follows:

Term of Investment	% of Portfolio	Book Value	Market Value
Cash	1.97%	\$126,977	\$126,977
Short-term investment			
• LAIF	2.44%	\$157,381	\$157,381
OCIP	47.38%	3,050,273	3,050,273
Long-term investment			
 Misc. Securities 	11.70%	753,316	758,537
 Certificates of Deposit 	36.50%	2,350,000	2,372,438
Total	100.00%	\$6,437,947	\$6,465,606

The average number of days to maturity/call as of March 31, 2016 equaled 487 and the average yield to maturity is 1.211%. During the month, the District's average daily balance was \$11,616,826.26. Funds were invested in Federal Agency Issues, Certificates of Deposit, Negotiable CD's, Miscellaneous Securities, the Local Agency Investment Funds (LAIF) and the Orange County Investment Pool (OCIP) during the month of March 2016.

The \$27,659 difference between the book value and the market value on March 31, 2016 represents the exchange difference if all investments had been liquidated on that date. Since it is the District's practice to "buy and hold" investments until maturity, the market values are a point of reference, not an indication of actual loss or gain. There are no current plans or cash flow requirements identified in the near future that would require the sale of these securities prior to maturity.

Robert J. Hunter General Manager Hilary Chumpitazi
Treasurer

Hilan Chumpitani

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

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Portfolio Management - Portfolio Summary

March 31, 2016

Certificates of Deposit - Bank Local Agency Investment Funds						COST
Certificates of Deposit - Bank Local Agency Investment Funds Miccollandor Countities - Counti					L C	
Local Agency Investment Funds	2,350,000.00	2,372,437.75	2,350,000.00	37.26	835	1.69/
Misselles Sectivities - County	157,381.35	157,381.35	157,381.35	2.50	1	0.506
riscendinedus Securides - coapoil	750,000.00	758,537.50	753,316.21	11.89	1479	2.238
Orange County Investment Pool	3,050,272.41	3,050,272.41	3,050,272.41	48.36	Т	0.621
Total Investments	6,307,653.76	6,338,629.01	6,310,969.97	100.00%	487	1.211
Cash Passbook Checking	126,976.98	126,976.98	126,976.98		H	0.00
Total Cash and Investments	6,434,630.74	6,465,605.99	6,437,946.95		487	1.211
			50 (c)		5	9 8

Total Earnings Current Year	Month Ending March 8,834.09	Fiscal Year to Date 92,655.66	88.0	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Average Daily Balance	11,616,826.26					
Effective Rate of Return	1.211%					

We certify that this report reflects the cash and investments of the Municipal Water District of Orange County and is in conformity with the Government Code requirements and the District Investment Policy and Guidelines in effect at the time of investment. The Investment Program herein shown provides sufficient cash flow liquidity to meet the next six month's estimated expenditure. The source for the market values are from Union Bank.

Robert J. Hunter, General Manager

Linux Mussurer
Hilary Chumpitazi, Treasurer

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MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Portfolio Management Long-Term Portfolio Details - Investments March 31, 2016

Issuer	CUSIP/Ticker	Settlement Date	Par Value	Market Value	Book Value	Coupon Rate	YTM @ Cost	Days To Call/Maturity	Maturity Date
Certificate of Deposit - Bank						1 4 4 7 1			
Ally Bank	02006LFV0	7/23/2014	250,000.00	250,655.00	250,000.00	1.150	1.150	480	7/24/2017
American Express Bank	02587CEA4	7/29/2015	250,000.00	251,570.00	250,000.00	1.450	1.450	699	1/29/2018
Barclays Bank	06740KJP3	9/24/2015	250,000.00	254,097.50	250,000.00	1.900	1.900	1271	9/23/2019
Capital One Bank	140420TY6	8/5/2015	250,000.00	252,120.00	250,000.00	1.700	1.700	858	8/6/2018
Capital One Natl Assn	14042E6C9	9/2/2015	250,000.00	254,587.50	250,000.00	1.950	1.950	1251	9/3/2019
Discover Bank	2546712Y5	7/23/2014	250,000.00	251,962.50	250,000.00	1.600	1.600	844	7/23/2018
GE Capital Bank	36163FJC8	7/25/2014	250,000.00	250,650.00	250,000.00	1.200	1.200	481	7/25/2017
Goldman Sachs Bank	38143A4T9	1/23/2013	100,000.00	100,281.00	100,000.00	1.050	1.050	298	1/23/2017
HSBC Bank USA NA	40434AK65	1/21/2016	250,000.00	252,056.75	250,000.00	1.550	2.534	661	1/21/2021
Synchrony Bank	87164XBY1	7/25/2014	250,000.00	254,457.50	250,000.00	2.050	2.050	1216	7/30/2019
Sub Total		l	2,350,000.00	2,372,437.75	2,350,000.00	1.593	1.697	835	
Miscellaneous Securities - Coupon	on 46625HKA7	11/2/2015	500.000.00	503,955.00	501,773.98	2.250	2.152	1362	1/23/2020
Wells Fargo	94974BGR5	1/13/2016	250,000.00	254,582.50	251,542.23	2.550	2.409	1712	12/7/2020
Sub Total			750,000.00	758,537.50	753,316.21	2.350	2.238	1479	
Total Investments			3,100,000.00	3,130,975.25	3,103,316.21	1.776	1.828	991	

Fiscal Year To Date	44,987.97
Month Ending March	4,677.83
Total Earnings	Current Year

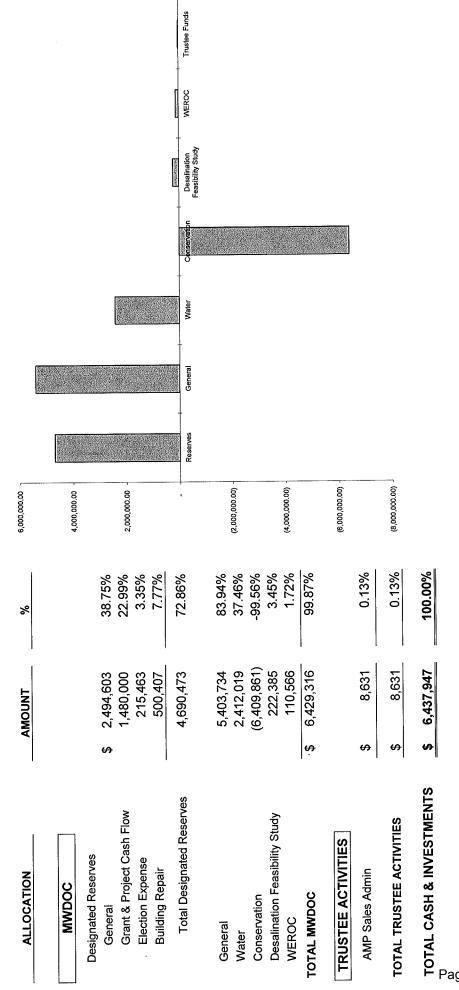
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MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Portfolio Management Short-Term Portfolio Details - Cash and Investments March 31, 2016

Investments	CUSIP/Ticker	CUSIP/Ticker Settlement Date	Par Value	Market Value	Book Value	Coupon Rate	YTM @ Cost	Days To Call/Maturity	Maturity Date
Local Agency Investment Funds LAIF LGIP	LAIF	6/30/2010	157,381.35	157,381.35	157,381.35	0.506	0.506	4-	N/A
Sub Total			157,381.35	157,381.35	157,381.35	0.506	0.506	•	
Orange County Investment Pool County of Orange LGIP	OCIP	6/29/2005	3,050,272.41	3,050,272.41	3,050,272.41	0.621	0.621	1	ΝΆ
Sub Total			3,050,272.41	3,050,272.41	3,050,272.41	0.621	0.621	-	
Total Investments			3,207,653.76	3,207,653.76	3,207,653.76	0.615	0.615		
Passbook Checking Rank of America Cash	CASH0547	7/1/2011	126,476.98	126,476.98	126,476.98	0.000	0.000	~	₹/Z
Petty Cash Cash	CASH	7/1/2011	500.00	500.00	500.00	0.000	0.000	_	N/A
Total Cash			126,976.98	126,976.98	126,976.98	0.000	0.000	-	
Total Cash and Investments			3,334,630.74	3,334,630.74	3,334,630.74	0.615	0.615	-	
									į
Total Earnings		2	Month Ending March	Ë	Fiscal Year To Date		:		
Current Year			4,156.26		47,667.69				

Municipal Water District of Orange County Cash and Investments at March 31, 2016





Municipal Water Dist of Orange County PARS OPEB Trust Program

Monthly Account Report for the Period 3/01/2016 to 3/31/2016

Rob Hunter General Manager Municipal Water Dist of Orange County 18700 Ward Street Fountain Valley, CA 92708

			Account S	Summary			
Source	Beginning Balance as of 3/01/2016	Contributions	Earnings	Expenses	Distributions	Transfers	Ending Balance as of 3/31/2016
Contributions	\$1,210,809.40	\$0.00	\$52,092.33	\$573.78	\$0.00	\$0.00	\$1,262,327.95
Totals	\$1,210,809.40	\$0.00	\$52,092.33	\$573.78	\$0.00	\$0.00	\$1,262,327.95

Investment Selection

Moderate HighMark PLUS

Investment Objective

The dual goals of the Moderate Strategy are growth of principal and income. It is expected that dividend and interest income will comprise a significant portion of total return, although growth through capital appreciation is equally important. The portfolio will be allocated between equity and fixed income investments.

Investment Return

				Annualized Return		
1-Month	3-Month	1-Year	3-Years	5-Years	10-Years	Plan's Inception Date
4.30%	0.50%	-1.70%	4.66%	-	-	10/26/2011

Information as provided by US Bank, Trustee for PARS; Not FDIC Insured; No Bank Guarantee; May Lose Value

Past performance does not guarantee future results. Performance returns may not reflect the deduction of applicable fees, which could reduce returns. Information is deemed reliable but may be subject to change.

Investment Return: Annualized rate of return is the return on an investment over a period other than one year multiplied or divided to give a comparable one-year return.

Account balances are inclusive of Trust Administration, Trustee and Investment Management fees

sipal Water District of Orange C TER USE EFFICIENCY PROJE Cash Flow as of 04/30/16

Cash - Beginning Balance s REVENUES: BUREC City of Brea	301 2013 6 (4 266 326 44) 6	`	cinz dae	Oct 2015	NOV ZUIS	Dec 2013	Jan 2016	reb zuro	Mar 2010	Apr 2016 May 2016	3 nn 2018	IOLAES
EVENUES: BUREC City of Brea		(4.150.715.21) \$	(866.085.23) \$	(2.898.017.49) \$	(3.394.231.09)	(3.796.564.33) \$	(4.010.296.92)	(3.901.536.01)	\$ (5.175.474.30)	\$ (6.409.861.35) \$ (4.586.452.87)	52.87) \$ (4.586.452.87)	
BUREC City of Brea					¢ (60:163,466,6)	(cc-+0c-0c-/-c)	(*,010,250,55)	(10:000,100,0)		٠	•	
City of Brea					496,524.08	15,352.67	51,543.38			1,663.75		\$ 565,083.88
	6,999.33	1,934.35	389.42	247.74	1,105.75	248.13	1,120.00		204.87			12,249.59
City of Buena Park	1,212.97	1,886.23	846.00	2,716.00	2,271.97	636.13	1,508.00	1,552.00	716.37	307.93		13,653.60
City of Fountain Valley		150.00			150.00		75.00		75.00			450.00
City of Fullerton		225.00		150.00	67.75		70.92	75.00		75.00		663.67
City of Garden Grove	1,995.00	1,650.00	2,914.00	4,224.00	2,770.81		3,431.78	2,794.20	315.00	389.08		20,483.87
City of La Habra	1 050 00	325.66	294.00	211.54	1 067 00	735.00	194.00	754.00	768 OF	00.6/		7,141.18
City of San Clemente	4.925.18		9.588.07	5.141.99	3.911.00	2.499.51	4.353.25	6.979.02	1.487.05	1.241.09		40.126.16
City of San Juan Capistrano	3,344.86	2,142.95		11,481.16	2,063.23	1,680.00	1,978.22	3,408.69	658.90			26,758.01
City of Santa Ana		75.00	150.00	75.00					466.99			766.99
City of Tustin		246.86		300.00		75.00	12,815.67		11,747.00	35,751.95		60,936.48
City of Newport Beach		840.00	3,264.97	4,096.04			6,460.59	1,703.38	3,694.61	770.43		20,830.02
City of Orange	4,297.93		14,879.13	5,622.50	6,713.19	3,417.89	4,721.79	5,029.60	1,988.24	1,248.15		47,918.42
City of Westminster			75.00				75.00		75.00			225.00
County of Orange		640 420 64	02 100 1		4 600 00		4 200 05	000	100000			- 200000
Department of water Resources East Orange County Water District		649,130.64	1,824.70		97.99C,T		67.077,4	883.53	63,283.64			+0.11e,021
El Toro Water District	2,633.00	5,676.22	2,016.61	1,328.86	550.00	129.00	275.00	100.00		100.00		12,808.69
East Orange County Water District												1
Golden State Water Company	6,555.20	6,985.72	12,246.61	9,373.88	7,563.09	4,890.00	9,821.40	5,668.48	3,137.97	1,431.47		67,673.82
Irvine Ranch Water District	116,113.61	30,550.23	43,139.41	45,081.83	4,525.99	8,131.72	201,755.82	7,806.55	110,598.29	33,005.55		0.600,709.00
Laguna Beach County Water District	1,840.00	16,506.86	1,259.00	2,257.00	713.99	210.00	10,556.64	8,883.00	7,718.99	2,505.00		52,450.48
Metropolitan Water District	194 847 61	4 001 136 01	434 924 75	1 369 139 07	1 308 972 63	936 576 61	1 897 669 39	1 235 308 13	1 124 675 57	41.44 4 111 274 60		16 614 524 37
Moulton Niguel Water District	358,285.60	244,320.71	3,654.58	152,561.75	122,311.65	246,642.32	271,346.48	142,248.71	325,643.86	300,321.49		2,167,337.15
MWDOC												
Santa Margarita Water District		1,035.00	458.43	1,482.03	525.00	2,955.00	4,271.43	4,293.55	4,911.60	557.40		20,489.44
Serrano water District		09:00		75.00			19.96	00.061	10.94	02.00		405.90
Trabilico Canvon Water District	800 00	1 072 37	300 00	1 175 00	406 25	1 431 73	825.00	591 00	1 068 00	300 00		7 969 35
Yorba Linda Water District	80.66		517.75	437.46		856.39	1,066.93	300.00	150.00			3,409.19
Miscellaneous Revenues												
Miscellaneous							2,054.75		4,604.74			6,659.49
Total Revenues	704.980.95	4.966.639.34	535,344,32	1.617.984.85	1.963.781.66	1.226.467.10	2.493.377.87	1.428.603.84	1.667.800.88	4,491,134.33		\$21.096.115.14
EXPENDITURES:												
Aquaficient	1,500.00	1,500.00	1,500.00	1,800.00	1,800.00	1,800.00		1,800.00	3,600.00			\$ 15,300.00
Autumn Print Group				207.36								207.36
Awards & Trophies					28.74							28.74
Conservision Consulting, LLC	7,645.50	7,899.75	7,452.00	7,508.25	7,501.50	7,173.00	6,620.00					51,800.00
City of Newport Beach	20 101 00							00 000 00				. 204
El Loro WD	72.102,82		2 160 00					62,993.38				91,494.65
Eco Landscape			2,100.00		11.141.80	7.827.50	13.012.50					31.981.8
Golden State Water Company	31,300.00											31,300.00
Hotel Program						11,539.17						11,539.17
Industrial Program					150,160.05							150,160.05
Irvine Ranch Water District												•
Karen's Detail Custom Frames	4		48.60									48.60
Laguna Beach CWD	26,036.00							4,500.00				30,536.0
Metropolitan Water District												
Mission RCD	30,478.31	32,650.22	47,850.46	41,311.01	37,048.67	36,017.86	28,966.82	30,035.04	20,078.56	24,778.16		329,215.11
Public Spaces program			251,845.00	55,939.00	168,760.00				169,108.00			645,652.00
Lori Palmquist									173.43			173.43
Santa Margarita Water District	10,813.50											10,813.50
South Coast Water District	90,048.00			000	1		0					90,048.00
Spray to Drip program	10.766,1		71,000,12	15,622.00	0,202.00	12,240.77	10,346.30	47,334.00	41.808.1	0,786.20		126,466.34
Turf Removal	253,213.58	1,639,959.39	2,212,359.63	1,988,139.02	1,984,121.28	1,363,595.39	2,318,379.63	2,555,229.11	2,700,312.89	2,636,159.49		19,651,469.41
US Bank								87.16				87.16
URS												
Waterwise Consulting Miscellaneous Expenses												
Interest Expense	3,817.57			2,996.15			4,709.96					11,523.68
Salary & Benefit	4,448.68		16,372.77				2,579.75	542.76	7,605.91			31,549.87
Total Expenditures	489,360.02	1,682,009.36	2,567,276.58	2,114,198.45	2,366,114.90	1,440,199.69	2,384,616.96	2,702,542.13	2,902,187.93	2,667,725.85		\$21,316,231.87

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY COMBINED FINANCIAL STATEMENTS

AND

BUDGET COMPARATIVE

JULY 1, 2015 THRU MARCH 31, 2016

Municipal Water District of Orange County Combined Balance Sheet As of March 31, 2016

ASSETS Cash in Bank Investments Accounts Receivable Accounts Receivable - Other Accrued Interest Receivable Prepaids/Deposits Leasehold Improvements Furniture, Fixtures & Equipment Less: Accum Depreciation Net OPEB Asset	Amount 126,976.98 6,310,969.97 20,270,893.39 108,211.67 14,460.10 496,385.46 3,026,974.08 436,910.44 (2,543,644.84) 92,806.00
TOTAL ASSETS	\$28,340,943.25
<u>LIABILITIES AND FUND BALANCES</u> Liabilities Accounts Payable	13,838,607.17
Accounts Payable - Other	1,440.90
Accrued Salaries and Benefits Payable	280,585.23
OCWD CUP Balance Payable	1,976,167.40
Other Liabilities	1,374,274.71
Unearned Revenue	2,302,261.15
Total Liabilities	19,773,336.56
Fund Balances Restricted Fund Balances Water Fund - T2C	960,691.75
Total Restricted Fund Balances	960,691.75
Unrestricted Fund Balances Designated Reserves General Operations	
Grant & Project Cash Flow	2,587,408.51 1,480,000.00
Election Expense	215,463.03
Building Repair	500,407.45
Total Designated Reserves	4,783,278.99
GENERAL FUND	
WEROC	1,307,553.79 83,059.22
Total Unrestricted Fund Balances	6,173,892.00
Excess Revenue over Expenditures Operating Fund Other Funds Total Fund Balance	3,306,199.29 (1,873,176.35) 8,567,606.69
TOTAL LIABILITIES AND FUND BALANCES	\$28,340,943.25

Municipal Water District of Orange County Revenues and Expenditures Budget Comparative Report General Fund From July 2015 thru March 2016

	Month to Date	Year to Date	Annual Budget	% Used	Encumbrance	Budget Remaining
<u>REVENUES</u>						
Retail Connection Charge	0.00	6,686,659.70	6,687,322.00	99.99%	0.00	662.30
Water rate revenues	0.00	6,686,659.70	6,687,322.00	99.99%	0.00	662.30
Interest Revenue	11,387.99	104,073.19	117,675.00	88.44%	0.00	13,601.81
Subtotal	11,387.99	6,790,732.89	6,804,997.00	99.79%	0.00	14,264.11
Choice Programs	0.00	1,340,182.62	1,302,619.00	102.88%	0.00	(37,563.62)
Choice Prior Year Carry Over	0.00	0.00	243,338.00	0.00%	0.00	243,338.00
Miscellaneous Income	394.91	146,611.42	3,000.00	4887.05%	0.00	(143,611.42)
School Contracts	4,807.00	55,539.80	70,000.00	79.34%	0.00	14,460.20
Delinquent Payment Penalty	0.00	173.98	0.00	0.00%	0.00	(173.98)
Gain on Sale of Investments	0.00	13.72	0.00	0.00%	0.00	(13.72)
Transfer-Out To Reserve	0.00	0.00	(64,424.00)	0.00%	0.00	(64,424.00)
Subtotal	5,201.91	1,542,521.54	1,554,533.00	99.23%	0.00	12,011.46
TOTAL REVENUES	16,589.90	8,333,254.43	8,359,530.00	99.69%	0.00	26,275.57

Municipal Water District of Orange County Revenues and Expenditures Budget Comparative Report General Fund From July 2015 thru March 2016

	Month to Date	Year to Date	Annual Budget	% Used	Encumbrance	Budget Remaining
	Worth to Date	rear to Date	Dauget	70 O3Eu	Lincumbrance	Kemaning
<u>EXPENSES</u>						
Salaries & Wages	256,220.03	2,202,429.07	3,309,949.00	66.54%	0.00	1,107,519.93
Salaries & Wages - Grant Recovery	(3,529.61)	(22,571.40)	(23,500.00)	96.05%	0.00	(928.60)
Directors' Compensation	17,779.08	140,782.30	220,588.00	63.82%	0.00	79,805.70
MWD Representation	9,697.68	87,394.04	126,050.00	69.33%	0.00	38,655.96
Employee Benefits	80,721.02	616,898.05	863,069.00	71.48%	0.00	246,170.95
OPEB Annual Contribution	0.00	0.00	105,188.00	0.00%	0.00	105,188.00
Employee Benefits - Grant Recovery	(882.40)	(5,784.57)	0.00	0.00%	0.00	5,784.57
Director's Benefits	6,419.92	52,884.02	60,024.00	88.10%	0.00	7,139.98
Health Ins \$'s for Retirees	2,741.53	37,688.10	50,387.00	74.80%	0.00	12,698.90
Training Expense	150.00	1,994.68	18,000.00	11.08%	0.00	16,005.32
Tuition Reimbursement	0.00	0.00	5,000.00	0.00%	0.00	5,000.00
Temporary Help Expense	0.00	1,259.54	0.00	0.00%	0.00	(1,259.54)
Personnel Expenses	369,317.25	3,112,973.83	4,734,755.00	65.75%	0.00	1,621,781.17
Engineering Expense	12,015.40	223,449.88	300,000.00	74.48%	219,578.06	(143,027.94)
Legal Expense	13,110.16	128,433.28	355,000.00	36.18%	243,566.72	(17,000.00)
Audit Expense	0.00	20,600.00	23,000.00	89.57%	0.00	2,400.00
Professional Services	97,819.18	872,904.35 1,245,387.51	1,541,837.00	56.61%	438,346.25	230,586.40
Professional Fees	122,944.74	• •	2,219,837.00	56.10%	901,491.03	72,958.46
Conference-Staff	2,870.00	12,299.42	19,450.00	63.24%	0.00	7,150.58
Conference-Directors	3,243.00	9,764.00	9,800.00	99.63%	0.00	36.00
Travel & AccomStaff	7,083.23	28,167.28	56,510.00	49.84%	0.00	28,342.72
Travel & AccomDirectors	733.26	10,938.73	27,600.00	39.63%	0.00	16,661.27
Travel & Conference	13,929.49	61,169.43	113,360.00	53.96%	0.00	52,190.57
Membership/Sponsorship	500.00	95,639.04	103,961.00	92.00%	0.00	8,321.96
CDR Support	0.00	29,804.64	39,740.00	75.00%	9,934.86	0.50
Dues & Memberships	500.00	125,443.68	143,701.00	87.29%	9,934.86	8,322.46
Business Expense	543.18	4,244.79	6,800.00	62.42%	0.00	2,555.21
Maintenance Office	9,306.20	69,362.51	126,670.00	54.76%	41,175.12	16,132.37
Building Repair & Maintenance	863.94	7,619.06	11,000.00	69.26%	3,380.94	0.00
Storage Rental & Equipment Lease	956.31	9,891.79	19,000.00	52.06%	9,108.21	0.00
Office Supplies	1,879.50	24,115.41	29,400.00	82.03%	740.44	4,544.15
Postage/Mail Delivery	1,341.36	10,840.09	11,285.00	96.06%	6.81	438.10
Subscriptions & Books	228.00	413.82	2,060.00	20.09%	0.00	1,646.18
Reproduction Expense	184.68	1,566.03	70,010.00	2.24%	37.30	68,406.67
Maintenance-Computers	97.10	5,081.23	7,100.00	71.57%	637.16	1,381.61
Software Support	648.00 1,300.78	9,460.83	18,500.00	51.14% 72.94%	13.87	9,025.30 9,200.70
Software Support Computers and Equipment	350.00	24,799.30 15,980.65	34,000.00 21,150.00	72.94% 75.56%	0.00 0.00	5,169.35
Automotive Expense	1,585.45	11,799.44	13,500.00	73.30% 87.40%	0.00	1,700.56
Toll Road Charges	101.91	566.75	1,275.00	44.45%	0.00	708.25
Insurance Expense	8,373.30	73,882.75	96,000.00	76.96%	0.00	22,117.25
Utilities - Telephone	1,631.22	13,921.95	15,650.00	88.96%	0.00	1,728.05
Bank Fees	969.62	7,745.29	17,900.00	43.27%	0.00	10,154.71
Miscellaneous Expense	9,127.14	48,849.42	98,770.00	49.46%	2,350.00	47,570.58
MWDOC's Contrb. To WEROC	11,817.25	106,355.25	141,807.00	75.00%	0.00	35,451.75
Depreciation Expense	1,000.34	9,003.18	0.00	0.00%	0.00	(9,003.18)
Other Expenses	52,305.28	455,499.54	741,877.00	61.40%	57,449.85	228,927.61
MWDOC's Building Expense	0.00	22,224.55	400,000.00	5.56%	213,248.07	164,527.38
Capital Acquisition	0.00	4,356.60	6,000.00	72.61%	0.00	1,643.40
TOTAL EXPENSES	558,996.76	5,027,055.14	8,359,530.00	60.14%	1,182,123.81	2,150,351.05
				00.14/0	1,102,123.01	2,130,331.03
NET INCOME (LOSS)	(542,406.86)	3,306,199.29	0.00			

Municipal Water District of Orange County Revenues and Expenditures Budget Comparative Report Water Fund From July 2015 thru March 2016

	Month to Date	Year to Date	Annual Budget	% Used	Budget Remaining
WATER REVENUES					
Water Sales	6,123,787.80	82,742,158.10	139,025,078.00	59.52%	56,282,919.90
Readiness to Serve Charge	1,056,174.45	9,771,137.85	13,214,277.00	73.94%	3,443,139.15
Capacity Charge CCF	402,482.50	3,419,677.50	4,424,460.00	77.29%	1,004,782.50
SCP Surcharge	19,236.43	174,432.89	380,000.00	45.90%	205,567.11
Interest	539.65	3,741.36	2,900.00	129.01%	(841.36)
TOTAL WATER REVENUES	7,602,220.83	96,111,147.70	157,046,715.00	61.20%	60,935,567.30
WATER PURCHASES					
Water Sales	6,123,787.80	82,742,158.10	139,025,078.00	59.52%	56,282,919.90
Readiness to Serve Charge	1,056,174.45	9,771,137.85	13,214,277.00	73.94%	3,443,139.15
Capacity Charge CCF	402,482.50	3,419,677.50	4,424,460.00	77.29%	1,004,782.50
SCP Surcharge	19,236.43	174,432.89	380,000.00	45.90%	205,567.11
TOTAL WATER PURCHASES	7,601,681.18	96,107,406.34	157,043,815.00	61.20%	60,936,408.66
EXCESS OF REVENUE OVER EXPENDITURES	539.65	3,741.36	2,900.00		

Municipal Water District of Orange County WUE Revenues and Expenditures (Actuals vs Budget) From July 2015 thru March 2016

	Year to Date	Annual	
	Actual	Budget	% Used
Landscape Performance Certification			
Revenues	34,782.53	118,900.00	29.25%
Expenses	52,675.00	118,900.00	44.30%
Excess of Revenues over Expenditures	(17,892.47)	0.00	
Industrial Water Use Reduction			
Revenues	167,757.65	91,236.00	183.87%
Expenses	167,757.65	91,236.00	183.87%
Excess of Revenues over Expenditures	0.00	0.00	
Spray To Drip Conversion			
Revenues	126,500.44	57,109.58	221.50%
Expenses	122,556.02	57,109.58	214.60%
Excess of Revenues over Expenditures	3,944.42	0.00	
Water Smart Landscape for Public Property			
Revenues	1,073,211.20	137,871.04	778.42%
Expenses	743,117.78	137,871.04	538.99%
Excess of Revenues over Expenditures	330,093.42	0.00	
Member Agency Administered Passthru			
Revenues	77,045.38	627,000.00	12.29%
Expenses	77,045.38	627,000.00	12.29%
Excess of Revenues over Expenditures	0.00	0.00	
ULFT Rebate Program			
Revenues	282,153.71	658,000.00	42.88%
Expenses	490,649.45	658,000.00	74.57%
Excess of Revenues over Expenditures	(208,495.74)	0.00	
HECW Rebate Program			
Revenues	331,196.31	696,000.00	47.59%
Expenses	336,278.71	696,000.00	48.32%
Excess of Revenues over Expenditures	(5,082.40)	0.00	
CII Rebate Program			,
Revenues	282,215.00	509,000.00	55.44%
Expenses	79,101.00	509,000.00	15.54%
Excess of Revenues over Expenditures	203,114.00	0.00	
Large Landscape Survey			
Revenues	16,804.22	85,000.00	19.77%
Expenses	13,198.99	85,000.00	15.53%
Excess of Revenues over Expenditures	3,605.23	0.00	
Indoor-Outdoor Survey			
Revenues	4,905.63	6,800.00	72.14%
Expenses	11.97	6,800.00	0.18%
Excess of Revenues over Expenditures	4,893.66	0.00	
Turf Removal Program			
Revenues	15,015,237.18	19,075,000.00	78.72%
Expenses	17,157,164.08	19,075,000.00	89.95%
Excess of Revenues over Expenditures	(2,141,926.90)	0.00	

Municipal Water District of Orange County WUE & Other Funds Revenues and Expenditures (Actuals vs Budget) From July 2015 thru March 2016

	Year to Date Actual	Annual Budget	% Used
	Actual	buuget	/6 O3Eu
Comprehensive Landscape (CLWUE)			
Revenues	65,091.76	281,926.00	23.09%
Expenses	73,578.81	281,926.00	26.10%
Excess of Revenues over Expenditures	(8,487.05)	0.00	
Home Certification and Rebate			
Revenues	225,919.09	210,205.00	107.48%
Expenses	129,519.69	210,205.00	61.62%
Excess of Revenues over Expenditures	96,399.40	0.00	
CII, Large Landscape, Performance (OWOW)			
Revenues	11,624.03	138,725.00	8.38%
Expenses	127,875.15	138,725.00	92.18%
Excess of Revenues over Expenditures	(116,251.12)	0.00	
CA Sprinkler Adjustment Subscription System			
Revenues	35,486.54	34,432.50	103.06%
Expenses	35,436.29	34,432.50	102.92%
Excess of Revenues over Expenditures	50.25	0.00	
Rotating Nozzle			
Revenues	1,654.94	39,000.00	4.24%
Expenses	18,597.16	39,000.00	47.69%
Excess of Revenues over Expenditures	(16,942.22)	0.00	
WUE Projects			
Revenues	17,751,585.61	22,766,205.12	77.97%
Expenses	19,624,563.13	22,766,205.12	86.20%
Excess of Revenues over Expenditures	(1,872,977.52)	0.00	
WEROC			
Revenues	253,622.90	283,614.00	89.43%
Expenses	215,052.79	278,613.00	77.19%
Excess of Revenues over Expenditures	38,570.11	5,001.00	
RPOI Distributions			
Revenues	0.00	4,823.00	0.00%
Expenses	0.00	4,823.00	0.00%
Excess of Revenues over Expenditures	0.00	0.00	

Revenues and Expenditures Actual versus Budget Summary Report Fiscal Year to Date ending March 2016 (Unaudited) (\$000 Omitted)

General Fund and Reserve Fund

	YTD Actual	Annual Budget	% Used
REVENUES			
Water Rate revenues:			
Retail connection fees	6,687	6,687	100.0%
Subtotal	6,687	6,687	100.0%
Other Revenues:			
Interest income ⁽¹⁾	104	118	88.4%
Choice Programs (2)	1,340	1,546	86.7%
School Contracts	56	70	79.3%
Other income (3)	147	3	4892.8%
Transfer to Reserve	0	(64)	0.0%
Subtotal	1,647	1,672	98.5%
TOTAL REVENUES	8,333	8,360	99.7%
<u>EXPENSES</u>			
Personal Expenses (incl. Dir.)	3,113	4,735	65.7%
Professional services (4)	894	1,565	57.1%
Outside engineering	223	300	74.5%
Legal expense (5)	128	355	36.2%
Travel & Conference (6)	61	113	54.0%
Dues and memberships ⁽⁷⁾	125	144	87.3%
General & Admin expense (8)	455	742	61.4%
Building Repair & Maintenance (9)	22	400	5.6%
Capital acquisition (not including building repairs)	4	6	72.6%
TOTAL EXPENSES	5,027	8,360	60.1%
EXCESS OF REVENUES OVER EXPENSES	3,306		
RESERVE FUND			
Beginning Balance	3,483		
Nov 2015 - excess from FY 14-15 General Fund	1,207		
Net OPEB Asset	93		
TOTAL RESERVE FUND	4,783		

⁽¹⁾ Interest Income is higher due to earning higher yields and investing with OCIP.

⁽²⁾ Choice programs billed in November, 2015 for fiscal year.

⁽³⁾ Other Income from Open Meetings Act/Brown Act Reform and pension reimbursement.

⁽⁴⁾ Professional Services: Financial Consulting and Public Affairs actuals are less due to changing needs.

⁽⁵⁾ The lower legal expenses are associated with fewer legal issues and bipartisan cost control efforts.

⁽⁶⁾ Travel & Conference have large expenses in Dec and April.

⁽⁷⁾ Most Dues and Memberships are paid in the beginning of the fiscal year.

⁽⁸⁾ Gen & Admin Expenses: OCWD office expenses less than projected and Public Affairs Reproduction expenses changed.

⁽⁹⁾ Building Repair & Maintenance are in progress.

Municipal Water District of Orange County Revenues and Expenditures Actual vs Budget Line Item Report Fiscal Year to Date ending March 2016 (Unaudited) General Fund

	YTD ACTUAL	ANNUAL BUDGET	% Used
REVENUES			
Retail Connection Charge	6,686,660	6,687,322	99.99%
Water rate revenues	6,686,660	6,687,322	99.99%
Choice Programs Choice Prior Year Carry Over Interest Revenue Miscellaneous Income School Contracts Gain on Sale of Investment Transfer to Reserve	1,340,183 0 104,073 146,785 55,540 14 0	1,302,619 243,338 117,675 3,000 70,000 0 (64,424)	102.88% 0.00% 88.44% 4892.83% 79.34% 0.00% 0.00%
Other revenues	1,646,594	1,672,208	98.47%
TOTAL REVENUES	8,333,254	8,359,530	99.69%

OPERATING EXPENSES			
Salaries & Wages	2,202,429	3,309,949	66.54%
less Recovery from Grants	(22,571)	(23,500)	96.05%
Directors' Compensation	140,782	220,588	63.82%
MWD Representation	87,394	126,050	69.33%
Employee Benefits	616,898	863,069	71.48%
less Recovery from Grants	(5,785)	0	0.00%
OPEB Annual Contribution	0	105,188	0.00%
Directors Benefits	52,884	60,024	88.10%
Health Insurances for Retirees	37,688	50,387	74.80%
Training Expense	1,995	18,000	11.08%
Tuition Reimbursement	0	5,000	0.00%
Temporary Help Expense	1,260	0	0.00%
Personnel Expenses	3,112,974	4,734,755	65.75%
Engineering Expense	223,450	300,000	74.48%
Legal Expense	128,433	355,000	36.18%
Audit Expense	20,600	23,000	89.57%
Professional Services	872,904	1,541,837	56.61%
Professional Fees	1,245,388	2,219,837	56.10%
Conference-Staff	12,299	19,450	63.24%
Conference-Directors	9,764	9,800	99.63%
Travel & AccomStaff	28,167	56,510	49.84%
Travel & AccomDirectors	10,939	27,600	39.63%
Travel & Conference	61,169	113,360	53.96%
Membership/Sponsorship	95,639	103,961	92.00%
CDR Support	29,805	39,740	75.00%
Dues & Memberships	125,444	143,701	87.29%

Municipal Water District of Orange County Revenues and Expenditures Actual vs Budget Line Item Report Fiscal Year to Date ending March 2016 (Unaudited) General Fund

	YTD ACTUAL	ANNUAL BUDGET	% Used
Business Expense	4,245	6,800	62.42%
Maintenance Office	69,363	126,670	54.76%
Building Repair & Maintenance	7,619	11,000	69.26%
Storage Rental & Equipment Lease	9,892	19,000	52.06%
Office Supplies	24,115	29,400	82.03%
Postage/Mail Delivery	10,840	11,285	96.06%
Subscriptions & Books	414	2,060	20.09%
Reproduction Expense	1,566	70,010	2.24%
Maintenance-Computers	5,081	7,100	71.57%
Software Purchase	9,461	18,500	51.14%
Software Support	24,799	34,000	72.94%
Computers and Equipment	15,981	21,150	75.56%
Automotive Expense	11,799	13,500	87.40%
Toll Road Charges	567	1,275	44.45%
Insurance Expense	73,883	96,000	76.96%
Utilities - Telephone	13,922	15,650	88.96%
Bank Fees	7,745	17,900	43.27%
Miscellaneous Expense	48,849	98,770	49.46%
MWDOC's Contribution To WEROC	106,355	141,807	75.00%
Depreciation Expense	9,003	0	0.00%
MWDOC Building Expense	22,225	400,000	5.56%
Capital Acquisition	4,357	6,000	0.00%
Other Expenses	482,081	1,147,877	42.00%
TOTAL EXPENSES	5,027,055	8,359,530	60.14%
	 		
EXCESS OF REVENUES OVER EXPENSES	3,306,199	0	

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Statement of Revenues and Expenditures

Fiscal Year to Date ending March 2016 (Unaudited) Water Funds

	YTD Actual	Annual Budget	<u>Balance</u>
Water Revenues			
Water Sales Ready to Serve Charge Capacity Charge Flat Rate SCP Surcharge Interest Total Water Revenues	82,742,158 9,771,138 3,419,678 174,433 3,741 96,111,148	139,025,078 13,214,277 4,424,460 380,000 2,900 157,046,715	(56,282,920) (3,443,139) (1,004,783) (205,567) 841 (60,935,567)
Water Purchases			
Water Sales Ready to Serve Charge Capacity Charge SCP Surcharge	82,742,158 9,771,138 3,419,678 174,433	139,025,078 13,214,277 4,424,460 380,000	(56,282,920) (3,443,139) (1,004,783) (205,567)
Total Water Purchases	96,107,406	157,043,815	(60,936,409)
EXCESS OF REVENUES OVER			
EXPENDITURES	3,741	2,900	841

Revenues and Expenditures Actual versus Budget Fiscal Year to Date ending March 2016 (Unaudited) Other Funds

	YTD Actual	Annual Budget	<u>Balance</u>
WEROC			
Revenues	253,623	283,614	(29,991)
Expenditures	215,053	278,613	(63,560)
Excess of Revenues over Expenditures	38,570	5,001	33,569
WUE Projects (details on next page)			
Revenues	17,751,586	22,766,205	(5,014,620)
Expenditures	19,624,563	22,766,205	(3,141,642)
Excess of Revenues over Expenditures	(1,872,978)	0	(1,872,978)
RPOI Distribution			
Revenues	0	4,823	(4,823)
Expenditures	0	4,823	(4,823)
Excess of Revenues over Expenditures	0	0	0

Footnote:

- 1) The excess of expense over revenue is waiting for reimbursement.
- 2) USBR (Federal) Grant is billed in October and April with funds being received one month later.
- 3) DWR is billed quarterly to county and takes a few months to a year to receive funds.

Revenues and Expenditures Actual versus Budget Fiscal Year to Date ending March 2016 (Unaudited) Water Use Efficiency Projects

	<u>Actual</u>	Variance <u>%</u>	Fiscal Year <u>Budget</u>	<u>% of</u> Budget	Projected Final FY Budget
Landscape Performance Certification					
Revenues	34,783		118,900	29.25%	118,900
Expenditures	52,675		118,900	44.30%	<u>118,900</u>
Excess of Revenues over Expenditures	(17,892)	-51%	0		
Actual Variance: MET reporting is every two months.					
Budget Variance: Actual is less than Budgeted due to the	program halting in	order to distribu	ite a new RFP.		
Industrial Water Use Reduction	407.750		04.000	400.070/	04.000
Revenues	167,758		91,236	183.87%	91,236
Expenditures	167,758		91,236	183.87%	<u>91,236</u>
Excess of Revenues over Expenditures	0	0%	0		
Actual Variance: No comment needed.					
Budget Variance: Large projects were completed ahead o	f schedule.				
Spray to Drip Conversion	400 -00			004 =004	
Revenues	126,500		57,110	221.50%	57,110
Expenditures	122,556		57,110	214.60%	<u>57,110</u>
Excess of Revenues over Expenditures	3,944	3%	0		
Actual Variance: No comment needed.					
Budget Variance: Program more successful than originally	budgeted for.				
Water Smart Landscape for Public Property	Ĺ				
Revenues	1,073,211		137,871	778.42%	137,871
Expenditures	743,118		137,871	538.99%	<u>137,871</u>
Excess of Revenues over Expenditures	330,093	100%	0		
Actual Variance: Authorized to invoice granting agency (D	WR) before expend	ditures.			
Budget Variance: Expenses incurred all at once,rather that	an over several fisc	al years.			

^[1] Variance from Revenues to Expenses. When greater than 5%, an explanation is provided.

^[2] Fiscal year budget versus Actual

^[3] With each quarterly report the projected fiscal year end budget may be re-adjusted.

Revenues and Expenditures Actual versus Budget Fiscal Year to Date ending March 2016 (Unaudited) Water Use Efficiency Projects

	<u>Actual</u>	Variance <u>%</u>	Fiscal Year <u>Budget</u>	<u>% of</u> Budget	Projected Final FY Budget
Member Agency Administered Pass thru					
Revenues	77,045		627,000	12.29%	627,000
Expenditures	77,045		627,000	12.29%	<u>627,000</u>
Excess of Revenues over Expenditures	0	0%	0		
Actual Variance: No comment needed.					
Budget Variance: Expected level of Member Agency progra	ams have not mat	erialized.			
ULFT Rebate Program					
Revenues	282,154		658,000	42.88%	658,000
Expenditures	490,649		658,000	74.57%	658,000
Excess of Revenues over Expenditures	(208,496)	-74%	0		
Actual Variance: MET invoice comes before the invoicing t	o Agencies.				
Budget Variance: No comment needed.					
					_
HECW Rebate Program					
Revenues	331,196		696,000	47.59%	696,000
Expenditures	336,279		696,000	48.32%	<u>696,000</u>
Excess of Revenues over Expenditures	(5,082)	-2%	0		
Actual Variance: No comment needed.					
Budget Variance: No comment.					
CII Rebate Program					
Revenues	282,215		509,000	55.44%	509,000
Expenditures	79,101		<u>509,000</u>	15.54%	<u>509,000</u>
Excess of Revenues over Expenditures	203,114	72%	0		
Actual Variance: Received pre-funding.					
Budget Variance: Program just beginning.					

^[1] Variance from Revenues to Expenses. When greater than 5%, an explanation is provided.

^[2] Fiscal year budget versus Actual

^[3] With each quarterly report the projected fiscal year end budget may be re-adjusted.

Revenues and Expenditures Actual versus Budget Fiscal Year to Date ending March 2016 (Unaudited) Water Use Efficiency Projects

	<u>Actual</u>	<u>Variance</u> <u>%</u>	Fiscal Year <u>Budget</u>	<u>% of</u> Budget	Projected Final FY Budget
Large Landscape Survey					
Revenues	16,804		85,000	19.77%	85,000
Expenditures	13,199		85,000	15.53%	<u>85,000</u>
Excess of Revenues over Expenditures	3,605	21%	0		
Actual Variance: No comment needed.					
Budget Variance: Mid-year we stopped having MET pay for	or surveys when gr	ant funding bec	ame available.		
					_
Indoor-Outdoor Survey Revenues	4,906		6,800	72.14%	6,800
Expenditures	4,900		6,800	0.18%	6,800
Excess of Revenues over Expenditures	4,894	100%	0		<u>, , , , , , , , , , , , , , , , , , , </u>
Actual Variance: These funds are collected from MET and	will be used at a la	ater date for ins	tallation verification	n services.	
Budget Variance: Expenditures will materialize later.					
Turf Removal Program					
Revenues	15,015,237		19,075,000	78.72%	19,075,000
Expenditures	17,157,164		19,075,000	89.95%	<u>19,075,000</u>
Excess of Revenues over Expenditures	(2,141,927)	-14%	0		
Actual Variance: Invoicing MET in May for expenditures fro	om March, April, ar	nd May.			
Budget Variance: No comment needed.					
Comprehensive Landscape (CLWUE)					
Revenues	65,092		281,926	23.09%	281,926
Expenditures	73,579		281,926	26.10%	<u>281,926</u>
Excess of Revenues over Expenditures	(8,487)	-13%	0		
Actual Variance: Expenditures incurred before revenues a	re collected.				

^[1] Variance from Revenues to Expenses. When greater than 5%, an explanation is provided.

^[2] Fiscal year budget versus Actual

^[3] With each quarterly report the projected fiscal year end budget may be re-adjusted.

Revenues and Expenditures Actual versus Budget Fiscal Year to Date ending March 2016 (Unaudited) Water Use Efficiency Projects

	<u>Actual</u>	<u>Variance</u> <u>%</u>	Fiscal Year <u>Budget</u>	<u>% of</u> Budget	Projected Final FY Budget
Home Certification and Rebate					
Revenues	225,919		210,205	107.48%	210,205
Expenditures	129,520		210,205	61.62%	<u>210,205</u>
Excess of Revenues over Expenditures	96,399	43%	0		
Actual Variance: Revenue request from Grants are submitted	d bi-annually in (October and Ap	ril.		
Budget Variance: MET is slow to report numbers.					
CII, Large Landscape, Performance (OWOW)					
Revenues	11,624		138,725	8.38%	138,725
Expenditures	127,875		138,725	92.18%	138,725
Excess of Revenues over Expenditures	(116,251)	-1000%	0		
Actual Variance: Granting agency (DWR) slow to pay on invo	pices submitted	to them.			
CA Sprinkler Adjustment Subscriptions Syste	<u>em</u>				
Revenues	35,487		34,433	103.06%	34,433
Expenditures	35,436		34,433	102.92%	<u>34,433</u>
Excess of Revenues over Expenditures	50	0%	0		
Actual Variance: No comment needed.					
Budget Variance: No comment needed.					
Rotating Nozzle					
Revenues	1,655		39,000	4.24%	39,000
Expenditures	18,597		39,000	47.69%	39,000
Excess of Revenues over Expenditures	(16,942)	-1024%	0		
Actual Variance: Expenditures incurred before revenues are collected.					
Budget Variance: Higher level of Grant funds were expected	to be utilized.				

^[1] Variance from Revenues to Expenses. When greater than 5%, an explanation is provided.

^[2] Fiscal year budget versus Actual

^[3] With each quarterly report the projected fiscal year end budget may be re-adjusted.



CONSENT CALENDAR ITEM

May 18, 2016

TO: MWDOC Board of Directors

FROM: Planning & Operations Committee

(Directors Dick, Hinman, Finnegan)

Robert Hunter, General Manager Staff Contact: Karl Seckel

SUBJECT: APPROVAL OF SERVICE CONNECTIONS OC-33 AND OC-33A WITH

METROPOLITAN AND THE SANTIAGO AQUEDUCT COMMISSION

STAFF RECOMMENDATION

Staff recommends the Planning & Operations Committee recommends Board approval of the attached Agreements substantially in the form presented.

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation.

OVERVIEW

Staff has been working with Irvine Ranch Water District (IRWD) who perform the staff services for the Santiago Aqueduct Commission (SAC) and Metropolitan Water District (MET) on getting approval for the installation and operation of an enlarged service connection OC-33 to provide flows from MET to the NEW Baker Water Treatment Plant off of the Baker Pipeline.

Attached are two schematics that show the location of service connection OC-33, the Baker Pipeline, the Baker Treatment Plant and how the flow of water will be distributed from the plant. A historical perspective of the service connection follows:

Budgeted (Y/N): n/a	Budgeted a	amount: n/a	Core ✓	Choice
Action item amount: n/a	a	Line item: Staff time and legal time are the only costs incurred; these are core activities of MWDOC in supplying water to our agencies.		
Fiscal Impact (explain if unbudgeted):				

- 1. The existing service connection OC-33 has been in operation since about 1962 and over the years has had a number of flow capacities associated with it. In the 1960's the service connection delivered untreated water to East Orange County Water District, Los Alisos Water District, El Toro Water District and Trabuco Canyon Water District which they treated at treatment plants they constructed and operated to provide water to their customers. The original service connection had a capacity of 100 cfs.
- 2. With the construction of the AMP, three of the four agencies stopped treating water, the bulk of supplies were converted to treated supplies from MET (through the AMP) and the Baker Pipeline continued serving untreated water for agricultural and irrigation purposes to IRWD and to Trabuco Canyon Water District for treatment at their treatment plant. A 40 cfs meter was installed at service connection OC-33 to handle the reduced flow needs.
- 3. In 1984, the flows on the Baker Pipeline had dropped so low that "low flow charges" were being incurred because the 40 cfs meter could only accurately register down to 4 cfs (a standard 10:1 turndown used on venturi meters). It was believed this was a temporary condition. MWDOC, SAC and MET worked together to install a "temporary" smaller meter, designated OC-33A adjacent to the OC-33 meter. A temporary service connection agreement was entered into that had a term from 1984 to 1989. The temporary low flow meter is still in use today and the service connection agreement OC-33A was never updated to make it permanent.

During this process, several issues have arisen:

- **Technology** The technology of venturi meters has been around a long time - they work on standard hydraulic principles based on the design and manufacturing the venturi tube (several feet of pipe with detailed specifications) (the meter) which allow pressure meters between the inlet of the meter and the throat of the meter to be used to measure flow through the pipe. Venturi meters are more or less physical devices. The NEW technology for metering involves "magnetic meters" or Mag Meters or Sonic Meters that electronically sense the flow. The operation of a mag meter is based upon the principle that the voltage induced across any conductor (water) as it moves at right angles through a magnetic field is proportional to the velocity of that conductor. Once the velocity is known it can be multiplied by the flow area of the pipe to get the flow rate to meter deliveries. Mag Meters are in frequent use today and provide better accuracy over a larger flow range than venturi meters. MET has moved to the standard of using Mag Meters at NEW service connections they build. IRWD staff completed the design of the NEW service connection OC-33 and designated the use of a mag meter, although the MET standard for the use of the meters still uses the standard 10:1 turndown ratio between the high and low flow capabilities of a meter, even though a mag meter has more than double that range.
- <u>Design of OC-33</u> IRWD determined that peak flows at OC-33 may need to be as high as 60 or 70 cfs under special circumstances, the typical flows on the Baker Pipeline will typically be between 45 cfs and 55 cfs (the Baker Treatment Plant is designed to be base loaded at 43.5 cfs). The mag meter

- purchased for OC-33 can meter flows up to 100 cfs and by MET's Administrative Code is only allowed to be used to meter down to 10 cfs. At such times as the Baker Treatment Plant is offline (take away 43.5 cfs and considering that in low flow winter months Trabuco Canyon may only need 1 or 2 cfs), the low flow meter OC-33A will be used; but it can only flow up to as high as 5 cfs (the meter capacity). Conditions could occur that require flows between 5 cfs (high flow on the low meter) and 10 cfs (low flow on the high meter), thus leaving a GAP of flows that cannot be metered (as interpreted by MET's Admin Code) of between 5 and 10 cfs.
- **MET Endorsement of NEW Technology** As a standard practice, MET has transitioned to the use of Mag Meters and Sonic Meters but they have NOT endorsed the higher range of flow metering that can be achieved with the NEW technology. They have been slow to make changes in their Administrative Code to allow the full capability of the NEW technology. Their position is solid in the sense that they want to ensure they maintain a highly reliable metering capability in their system and they typically demand testing proof rather than manufacturer claims about the accuracy of the meters for an expanded flow range. We support this principle but feel that MET should be urged to make the full transition, including changes in their Admin Code sticking to the 10:1 turndown for venturi meters, but allowing a higher range capability for mag meters and sonic meters. In discussions with MWDOC staff MET has indicated that they will likely base any Administrative Code changes on being able to conduct testing of their own to develop a change in the standard turndown ratio of 10:1 to some other standard that they believe will work for them. It is likely to take several years for this change to occur. For local agencies, having expanded metering capability at service connections where venturi meters are changed out and replaced with mag meters, could save substantial funding by the local agencies in certain situations compared to building both a high flow and low flow meter at the same location as is done now. MWDOC has requested MET staff to examine this issue more closely as the low demands due to conservation has resulted in several of our agencies incurring "low flow" penalties for ranging below the bottom of the venturi flow range.
- Request for Low Flow Waiver During Start Up of the Baker Treatment Plant To solve the issues of metering between 5 and 10 cfs at the OC-33 service connection, only during start-up operations of the Baker Treatment Plant, MWDOC has requested a temporary waiver from MET to allow the NEW OC-33 mag meter to be used to meter down as low as 5 cfs; SAC maintains sufficient downstream metering which can be monitored to verify if any metering imbalances occur during the waiver period. The requested waiver will run from June 2016 (contractor installation of the NEW OC-33 meter) through October 2016 (5 months) at such time as the plant is to be fully operational. MET staff have indicated they will grant such a waiver, but wanted to wait until the updated service connection agreements have been put in place.

Attached are the following agreements:

- OC-33 Agreement between MET and MWDOC
- OC-33 Agreement between MWDOC and SAC
- OC-33A Agreement between MET and MWDOC
- 4. OC-33A Agreement between MWDOC and SAC

Legal Counsel and staff from MWDOC and SAC have reviewed the forms of the agreement. These forms are consistent with our standard service connection agreements with the exception that the typical agreements are entered into prior to the construction being initiated and so many of the provisions have already been completed. Also, SAC elected to construct service connection OC-33 with MET inspecting the work; typically MET handles both the design and construction; there is wording in the agreement that is obsolete, but left in because it does not cause any material issues. Additionally, MET has requested a standard service connection agreement at OC-33A rather than the temporary one developed in 1984.

The last time this issue was discussed at the P&O Committee, our MET directors requested a simple explanation of the metering issues between venturi meters and mag meters. Such an explanation is attached for any discussions they might have at MET.

Recommendation

Staff recommends the Committee and the Board authorizes the General Manager to enter into the agreements as outlined, substantially in the form presented.

Attachment A

Simple Explanation in Transition of Technology between Venturi Meters and Mag Meters at MET

Venturi Meters

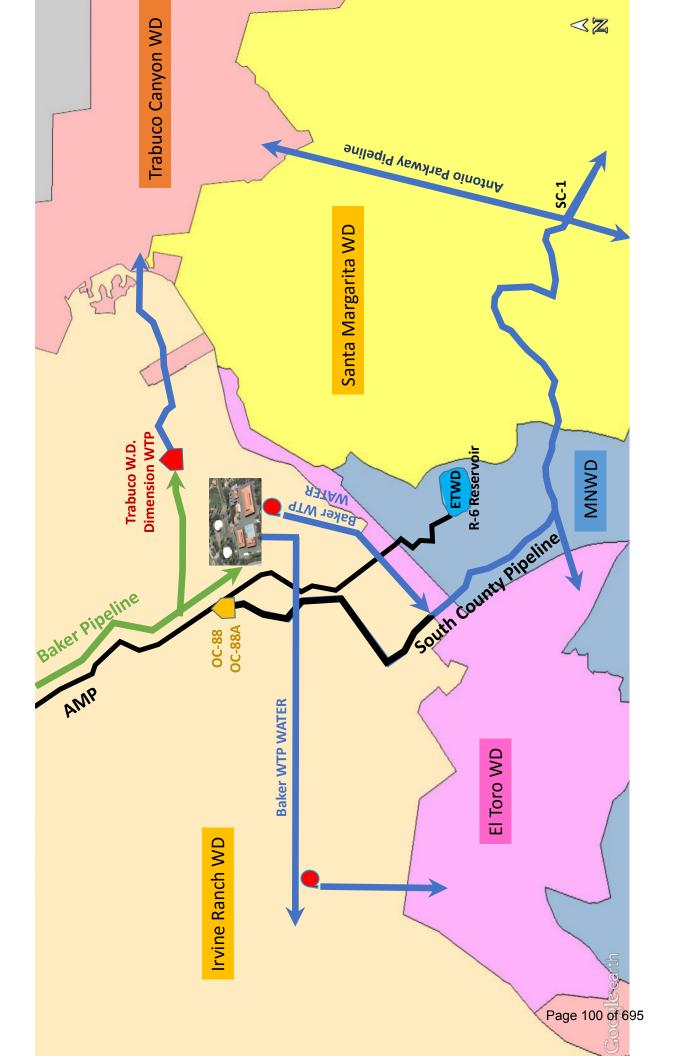
- Are essential physical meters, no moving parts, they use pressure gages between the inlet of the meter and the throat (middle of the meter) to calculate flow
- The have been around a very long time
- Standard practice is to use a 10:1 turndown (meaning flow capability between the high flow and low flow that can accurately be metered by a venturi meter)
- To meter flows over larger ranges, standard practice is to construct two separate physical meters, say a low flow meter to cover flows from 1 cfs to 10 cfs and a high flow meter to cover flows from 10 cfs to 100 cfs. Each metering station can cost hundreds of thousands of dollars and up to a million dollars for a NEW service connection and metering facility.
- MET's Admin Code standardizes the flow range turndown of 10:1; MET assesses additional charges, low flow and high flow charges, if the metering range is exceeded on either end
 - If flows dip below the low meter range, MET assumes the meter did not meter any flow and adds on charges for the duration of the low flow dip as if the meter was flowing at the low range
 - If flows exceed the high meter range, MET assumes the meter flowed at 125% of capacity and adds charges for the duration of the high flow period as if it was flowing at 125% of capacity.
 - If these charges are continually incurred, MET requests changes at the meter location to bring it within the standard capabilities

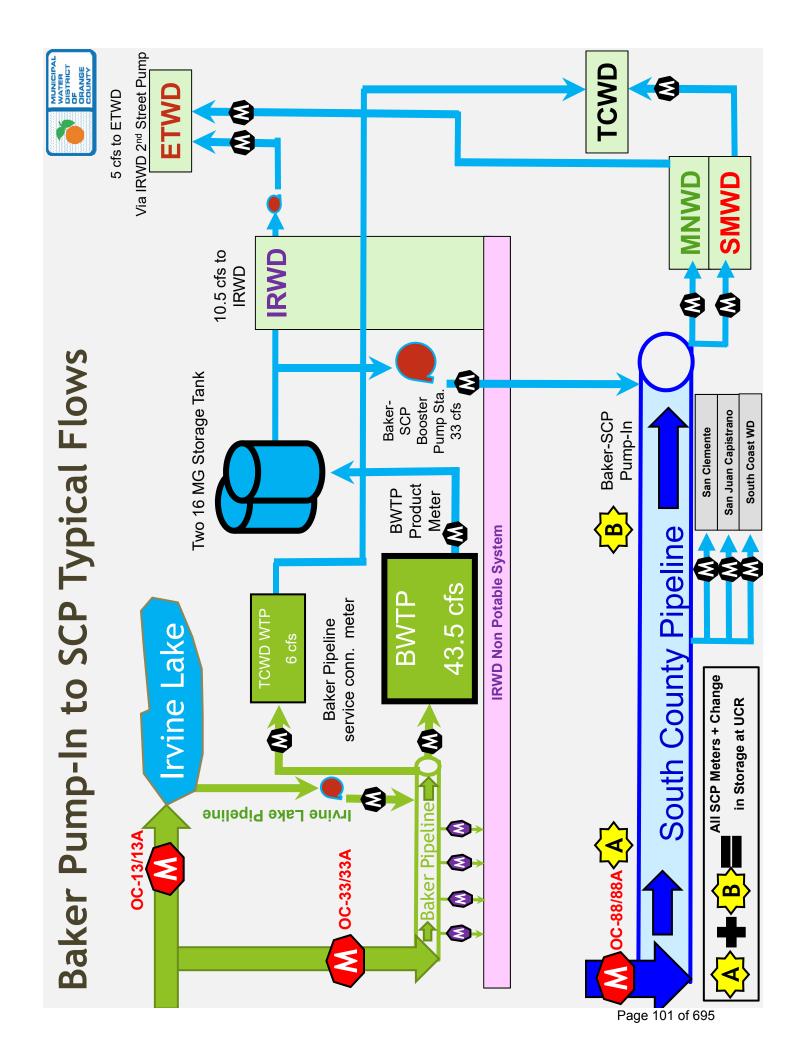
Mag Meters

- Use a scientific principle to meter the "velocity" of the water and convert it to flow by multiplying it by the flow area of the pipe.
- Are NOW used commonly in the water industry
- The manufacturers do not specify a "turndown" ratio, but typically specify a low and high velocity that can accurately "detected". Using velocities through standard sized pipes would result in turndowns of 30:1 or so depending on the manufacturer.
- For the same size pipe, the range of flows that can be accurately metered provides much more flexibility (see below).

Simple Comparison of Venturi and Mag Meter Capabilities								
Pipe Size	Venturi Flow (cfs)	Velocity (ft/sec)	Mag Meter Capability (cfs) (1)	Mag Meter Capability (cfs) (2)				
12"	1-10	1.3 - 13	0.1 - 20	0.1 – 11.5				
18"	1.5 - 15	0.9 - 9	0.3 - 60	0.3 - 25				
24"	3 - 30	1 - 10	0.5 - 97	0.5 - 45				
30"	5 - 50	1 - 10	1 - 155	1 - 75				

- (1) Piping velocities would typically limit the high flows to a velocity of maybe 15 feet per second, otherwise damage to the piping and valves would occur
- (2) Limits high velocities to no more than 15 feet per sec





Agreement Regarding Service Connection OC-33 Between MWDOC and MET

AGREEMENT FOR MODIFICATION OF SERVICE CONNECTION OC-33 AGREEMENT NO. xxxx

THIS AGREEMENT is made and entered into this day of
, 2016, by and between THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA, a public corporation incorporated under the Metropolitan Water
District Act of the State of California (Stats. 1969, Ch. 209 as amended) hereinafter referred to a
"Metropolitan," and the MUNICIPAL WATER DISTRICT OF ORANGE COUNTY,
hereinafter referred to as "MWDOC."

WHEREAS, pursuant to MWDOC Resolution No. 255, Metropolitan Resolution No. 6004, and Metropolitan Board Action, dated in or about 1961, a service connection was constructed at and near Station 349+00 on the Santiago Lateral Pipeline. The service connection, ultimately located at Station 348+98.81 on the Santiago Lateral Pipeline, is hereinafter referred to as Service Connection OC-33.

WHEREAS, MWDOC has requested modifications to this service connection that includes replacing the existing meter with a new meter that will provide the ability to measure higher flows in the existing service connection.

WHEREAS, the Santiago Aqueduct Commission (SAC), comprised of MWDOC member agencies (Irvine Ranch Water District, East Orange County Water District, Santa Margarita Water District, Moulton Niguel Water District, El Toro Water District, Trabuco Canyon Water District), owns and operates the Baker Pipeline, which is supplied water from Service Connection OC-33, and all facilities immediately downstream of the connection.

WHEREAS, this Agreement supersedes and replaces the terms of any prior agreements regarding Service Connection OC-33.

In consideration of the provisions herein contained, IT IS AGREED:

1. The existing OC-33 service connection will remain at Station 348+98.81 of the Santiago Lateral Pipeline. Unless otherwise mutually agreed upon by the General Manager of MWDOC and the General Manager of Metropolitan, the OC-33 service connection will deliver untreated water from Metropolitan to MWDOC for use within the service area of MWDOC

within Metropolitan, and in accordance with Metropolitan's Administrative Code, commencing with Section 4400, Classification and Rates, Section 4500, Water Service Regulations, and any other applicable provisions of said Code, as amended from time to time.

2. As part of the modifications, MWDOC will be installing a 100 cubic feet per second (cfs) capacity flowmeter. Due to the system hydraulics, operational parameters, and other users on the Santiago Lateral Pipeline, the capacity of the Santiago Lateral Pipeline is limited, at times, and is not sufficient to guarantee 100 cfs of flow to OC-33. Metropolitan does not guarantee that MWDOC will be able to obtain 100 cfs through the OC-33 Service Connection, and MWDOC acknowledges this limit on capacity.

MWDOC will be charged as though a flow equaling ten (10) percent of the capacity of the meter or 10 cfs were being delivered, whenever the connection is taking water deliveries and the flow is below 10 cfs, in accordance with Metropolitan's Administrative Code, Section 4504(b). For flows above the actual maximum design capacity of the meter or above 100 cfs, MWDOC will be charged as though a flow equaling 125 percent of the capacity of such meter were being delivered, in accordance with Section 4504(c).

- 3. Any deposits required by Metropolitan for the service connection shall be provided in accordance with Metropolitan's Administrative Code, commencing at Section 4700, Service Connections, as amended. In the event the service connection modifications requested herein by MWDOC are not completed for any reason by action of MWDOC, MWDOC agrees to pay Metropolitan for the cost of all work and materials expended by Metropolitan, or for which Metropolitan is obligated. However, MWDOC shall be entitled to a credit for salvage value of materials purchased by Metropolitan for the service connection.
- 4. Pursuant to the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, The Irvine Ranch Water District (IRWD), acting as Lead Agency, prepared and processed an Environmental Impact Report (EIR) for the "Baker Water Treatment Plant Project." IRWD certified the EIR, Mitigation Monitoring and Reporting Program (MMRP), Statement of overriding considerations, and Findings of Fact on April 25, 2011. Subsequently, IRWD prepared and approved Addendum No. 1 to the EIR in February 2012. The EIR identified Metropolitan and MWDOC as Responsible Agencies having

discretionary approval over components of the project, including modifications to the OC-33 service connection. Metropolitan, acting as a Responsible Agency under CEQA, has certified that it has reviewed and considered the information in the EIR and MMRP, and Addendum No. 1, as prepared by the Lead Agency and certified the lead agency's findings.

- 5. MWDOC shall prepare or have prepared construction drawings based upon Metropolitan's design specifications and modify Service Connection OC-33 under its own contract subject to the following conditions:
- a. The service connection shall be designed and constructed in accordance with Metropolitan's standard specifications and design criteria.
- b. Metropolitan will have the right to review and approve MWDOC's calculations and construction drawings for compliance with appropriate design criteria.
- c. No modifications shall be made to approved drawings or constructions, without prior written consent of Metropolitan.
- d. Metropolitan will have the right to conduct continuous on-site inspections and the right of approval of Metropolitan's portion of the service connections during construction.
- e. Metropolitan is to establish schedules for feeder shutdowns for the installation of the new meter, if necessary. Costs for all shutdown and line reactivation activities shall be borne by MWDOC. Whenever possible, Metropolitan will attempt to coordinate multiple shutdowns to minimize costs.
- f. Any bidder shall procure and maintain at bidder's expense, for the duration of the construction contract, insurance from an insurance company that is admitted to write insurance in the State of California.
- g. MWDOC shall bear all costs which accrue to Metropolitan regarding the proposed service connection, including but not limited to costs for design, design review, Right-of-Way, inspections, equipment and materials, feeder shutdowns, and insurance, which costs shall be paid in accordance with the procedures set forth in Metropolitan's Administrative Code, commencing at Section 4700, Service Connections, as amended, relating to service connections designed and constructed entirely by Metropolitan.
- h. For purposes of design and construction of the modifications performed by MWDOC, MWDOC shall defend, indemnify, and save harmless Metropolitan, its Board of Directors, and its officers, agents, and employees from all liability and claims of any kind arising

out of or in connection with the work to be performed by MWDOC, its employees, agents, independent contractors, or assignee. Said duty to defend, indemnify, and save harmless shall not be affected or diminished by the fact that Metropolitan, its Board, and any member of its Board or Metropolitan's officers, agents, or employees may have jointly caused or contributed to the liability or claim by their acts; however, nothing herein shall require MWDOC to indemnify, Metropolitan, its Board, and any member of its Board or Metropolitan's officers, agents, or employees for liability resulting from Metropolitan's negligence. This indemnity applies only to the design and construction work performed by MWDOC; the responsibility of the parties as to future operation and maintenance of the service connection is governed by Section 4502 of Metropolitan's Administrative Code.

Furthermore, any bidder to whom the contract for construction of the service connection is awarded ("contractor") shall furnish Metropolitan a certified copy of a commercial liability insurance policy in the minimum amount of \$1 million combined single limit per occurrence. The policy shall include a severability of interest clause and coverage for explosion, collapse, and underground hazard. The policy shall be endorsed to include MWDOC and Metropolitan as additional insureds.

The contractor shall also furnish Metropolitan a certificate of insurance, which attests to the existence of auto liability, and workers compensation insurance within financial limits as prescribed by California law.

- 6. Upon completion of the service connection modifications and the installation of a flow control device or devices by MWDOC in accordance with Metropolitan's Administrative Code, commencing at Section 4800, System Interconnections Hydraulic Transients, and commencing at Section 4700, Service Connections, and upon request in writing by MWDOC for commencement of service, water shall be supplied to MWDOC at Service Connection OC-33 for use as agreed herein and in accordance with Metropolitan's Administrative Code, commencing with Section 4400, Classification and Rates, Section 4500, Water Service Regulations and any other applicable provisions of said Administrative Code, as amended from time to time.
- 7. Additionally, as stated in Metropolitan's Administrative Code, Section 4503, Suspension of Deliveries, as amended from time to time, MWDOC agrees that it shall have

sufficient resources such as local reservoir storage, groundwater production capacity, system interconnections or alternate supply source to sustain a twenty-one- day interruption in Metropolitan deliveries based on annual average demands. MWDOC shall be responsible for and reimburse direct costs, excluding labor costs, incurred by Metropolitan in the event that a scheduled non-emergency interruption of up to twenty-one days is postponed or cancelled at the request of MWDOC as a result of insufficient local resources, and Metropolitan agrees to such cancellation or postponement.

- 8. The point of delivery for OC-33 shall be defined as the first buttstrap of the pipe immediately downstream of the meter structure, located at Metropolitan Station 0+74.58, where MWDOC receives Metropolitan water. Metropolitan shall own, operate and maintain the piping, meter, valving and other appurtenances upstream of said point of delivery. MWDOC (or its member agency) shall own, operate and maintain all the facilities downstream of said point of delivery.
- 9. MWDOC has requested Metropolitan provide a 4-20 mA flow signal. Metropolitan will provide MWDOC with the flow signal, subject to the following conditions:
- a. MWDOC shall install a suitable signal isolator, subject to Metropolitan's approval.
- b. MWDOC's equipment shall not interfere with the operation of Metropolitan's system. Should Metropolitan's operations be affected now, or in the future, MWDOC shall remove it immediately upon written notification from Metropolitan's Manager of Water System Operations, solely at MWDOC's expense. Although Metropolitan will attempt to cooperate to remediate the problem, Metropolitan is under no obligation to do so.
- c. Metropolitan shall not be liable for any MWDOC equipment failures caused by failures of MWDOC or Metropolitan's equipment.
- d. Metropolitan does not guarantee the presence or accuracy of the signals from its own equipment.
- e. Any damage to Metropolitan's equipment during installation or operation of MWDOC's equipment will be repaired by Metropolitan and shall be reimbursed by MWDOC.

- f. MWDOC shall install its equipment at its own risk and hold Metropolitan harmless should any damage to said equipment occur. Metropolitan shall be given reasonable notification in advance of the installation. Metropolitan staff shall be on-site during installation.
- g. MWDOC agrees to maintain, repair, and replace its own equipment, at no cost to Metropolitan.
- h. MWDOC shall be solely responsible for addressing public complaints associated with the requested signal equipment.
- 10. Neither party shall assign, sell, or otherwise transfer any obligation or interest in this Agreement without the specific written consent of the other party.
- 11. This Agreement shall be construed in accordance with and governed by the laws of the State of California.
- 12. This Agreement represents the entire understanding of the parties. Prior oral or written understanding shall have no force or effect with respect to matters covered by this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in duplicate as of the date and year first above written.

of Southern California
By:
Municipal Water District of Orange County
By: Robert Hunter General Manager

AGREEMENT FOR MODIFICATION OF SERVICE CONNECTION OC-33 BETWEEN MWDOC AND THE SANTIAGO AQUEDUCT COMMISSION (SAC)

TH	IIS	AGREEMENT	is	made	and	entered	into	this		day	of
		, 2016 by a	and l	oetween	the Sa	ntiago Aqı	ueduct	Comm	nission hereinaft	er refei	red
to as "SAC	," a	nd the MUNICIPA	LW	ATER I	DISTR	ICT OF O	RANG	E COU	JNTY, hereinaft	er refer	rred
to as "MW	DO	С"									

WHEREAS, pursuant to MWDOC Resolution No. 255, Metropolitan Water District of Southern California (Metropolitan or MET) Resolution No. 6004, and MET Board Action, dated in or about 1961, a service connection was constructed at and near Station 349+00 on Santiago Lateral Pipeline. The service connection, ultimately located at Station 348+98.81 on the Santiago Lateral Pipeline, is hereinafter referred to as "Service Connection OC-33."

WHEREAS, the Santiago Aqueduct Commission ("SAC"), is a joint exercise of powers agency formed by agreement on September 11, 1961 to build, operate and manage the Santiago Aqueduct Pipeline. The Santiago Aqueduct Pipeline was modified in conjunction with the construction of the Allen McColloch Pipeline ("AMP") and is now known as the "V.P. Baker Pipeline" or "Baker Pipeline," which pipeline is supplied water from Service Connection OC-33; and

WHEREAS, SAC has requested modifications to its service connection that includes replacing the existing meter with a new meter that will provide the ability to measure higher flows in the existing service connection to enable flow metering of water deliveries to the new Baker Water Treatment Plant (under construction).

WHEREAS, this Agreement supersedes and replaces the terms of any prior agreements regarding Service Connection OC-33.

WHEREAS, MWDOC and MET have entered into an agreement ("MET Agreement"), attached hereto and incorporated by reference as **Exhibit A**, relative to obligations related to Service Connection OC-33 which are passed on from MET to MWDOC to SAC as provided below.

In consideration of the provisions herein contained, IT IS AGREED:

- 1. SAC agrees to be responsible for all of MWDOC's obligations in the MET Agreement and all requirements imposed upon MWDOC in the MET Agreement attached hereto and incorporated by reference as **Exhibit A**.
- 2. Service Connection OC-33 will remain at Station 348+98.81 of the Santiago Lateral Pipeline. Unless otherwise mutually agreed upon by the General Manager of MET, General Manager of MWDOC, and the General Manager of SAC, Service Connection OC-33 will deliver untreated water from Metropolitan to MWDOC to SAC for use within the service area of SAC within MWDOC within Metropolitan, and in accordance with Metropolitan's Administrative Code, commencing with Section 4400, Classification and Rates, Section 4500, Water Service Regulations, and any other applicable provisions of said Code, as amended from time to time.
- 3. As part of the modifications, SAC will be installing a 100 cubic feet per second (cfs) capacity flowmeter at Service Connection OC-33. Due to the system hydraulics, operational parameters, and other users on the Santiago Lateral Pipeline, the capacity of the Santiago Lateral Pipeline is limited and is not sufficient to guarantee 100 cfs of flow to OC-33. Metropolitan does not guarantee that MWDOC will be able to obtain 100 cfs through Service Connection OC-33, and MWDOC acknowledges this limit on capacity and consequently does not guarantee or make any representations that SAC will be able to obtain 100 cfs at Service Connection OC-33.

SAC will be charged as though a flow equaling ten (10) percent of the capacity of the meter or 10 cfs were being delivered, whenever the connection is taking water deliveries and the flow is below 10 cfs, in accordance with Metropolitan's Administrative Code, Section 4504(b). For flows above the actual maximum design capacity of the meter or above 100 cfs, SAC will be charged as though a flow equaling 125 percent of the capacity of such meter were being delivered, in accordance with Section 4504(c).

4. Any deposits required of MWDOC by Metropolitan for the service connections shall be provided by SAC in accordance with Metropolitan's Administrative Code, commencing at Section 4700, Service Connections, as amended. In the event the service connection modifications requested herein by SAC are not completed for any reason by action of SAC, SAC agrees to pay MWDOC or, if approved by Metropolitan, Metropolitan for the cost of all work and materials expended by Metropolitan, or for which Metropolitan is obligated. However, SAC shall be entitled to a credit for salvage value of materials purchased by MWDOC and Metropolitan for the service connections.

- 5. Pursuant to the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, The Irvine Ranch Water District (IRWD), acting as Lead Agency, prepared and processed an Environmental Impact Report (EIR) for the "Baker Water Treatment Plant Project." IRWD certified the EIR, Mitigation Monitoring and Reporting Program (MMRP), Statement of overriding considerations, and Findings of Fact on April 25, 2011. Subsequently, IRWD prepared and approved Addendum Nos. 1 and 2 to the EIR in February 2012 and March 2013, respectively. The EIR identified Metropolitan and MWDOC as Responsible Agencies having discretionary approval over components of the project, including modifications to the OC-33 service connection. Metropolitan, acting as a Responsible Agency under CEQA, has certified that it has reviewed and considered the information in the EIR and MMRP, and Addendum Nos. 1 and 2, as prepared by the Lead Agency and certified the lead agency's findings.
- 6. SAC shall prepare or have prepared construction drawings based upon Metropolitan's design specifications and shall modify Service Connection OC-33 under its own contract subject to the following conditions:
- a. The service connection shall be designed and constructed in accordance with Metropolitan's standard specifications and design criteria.
- b. MWDOC and Metropolitan will have the right to review and approve SAC's calculations and construction drawings for compliance with appropriate design criteria.
- c. No modifications shall be made to approved drawings or constructions, without prior written consent of Metropolitan.
- d. During construction, MWDOC and Metropolitan will have (i) the right to conduct continuous on-site inspections and (ii) the right of approval of Metropolitan's portion of the service connections.
- e. MWDOC and Metropolitan shall establish schedules for feeder shutdowns, if necessary for the new meter installation. Costs for all shutdown and line reactivation activities shall be borne by SAC. Whenever possible, Metropolitan will attempt to coordinate multiple shutdowns to minimize costs.

- f. SAC shall cause any bidder on the modification work to procure and maintain at bidder's expense, for the duration of the construction contract, insurance from an insurance company that is admitted to write insurance in the State of California.
- g. SAC shall bear all costs which accrue to MWDOC and Metropolitan regarding the proposed service connection, including but not limited to, costs for preliminary design, design review, Right-of-Way, inspections, equipment and materials, feeder shutdowns, and insurance, which costs shall be paid in accordance with the procedures set forth in Metropolitan's Administrative Code, commencing at Section 4700, Service Connections, as amended, relating to service connections designed and constructed entirely by Metropolitan. MWDOC's costs only relate to the pass-through of costs from MET in accordance with the MET Agreement set forth in **Exhibit A**.
- h. SAC shall defend, indemnify, and save harmless MWDOC and Metropolitan, their Board's of Directors, and their officers, agents, and employees from all liability and claims of any kind arising out of or in connection with the work to be performed by SAC, its employees, agents, independent contractors, or assignee. Said duty to defend, indemnify, and save harmless shall not be affected or diminished by the fact that MWDOC, its Board, and any member of its Board or officers, agents, or employees, or Metropolitan, its Board, and any member of its Board or Metropolitan's officers, agents, or employees may have jointly caused or contributed to the liability or claim by their acts; however, nothing herein shall require SAC to indemnify MWDOC, its Board, any member of its Board or officers, agents, or employees, for liability resulting from MWDOC's negligence, or Metropolitan, its Board, any member of its Board or Metropolitan's officers, agents, or employees for liability resulting from Metropolitan's negligence.

SAC shall cause, any bidder to whom the contract for construction of the service connection is awarded ("contractor") to furnish MWDOC and Metropolitan a certified copy of a commercial liability insurance policy in the minimum amount of \$1 million combined single limit per occurrence. The policy shall include a severability of interest clause and coverage for explosion, collapse, and underground hazard. The policy shall be endorsed to include MWDOC and Metropolitan as additional insureds.

SAC shall cause the contractor to furnish MWDOC and Metropolitan a certificate of insurance, which attests to the existence of auto liability, and workers compensation insurance with financial limits as prescribed by California law.

- 7. Upon completion of the service connection modifications and the installation of a flow control device or devices by SAC in accordance with Metropolitan's Administrative Code, commencing at Section 4800, System Interconnections Hydraulic Transients, and commencing at Section 4700, Service Connections, and upon request in writing by SAC for commencement of service, water shall be supplied to SAC at Service Connection OC-33 for use as agreed herein and in accordance with Metropolitan's Administrative Code, commencing with Section 4400, Classification and Rates, Section 4500, Water Service Regulations and any other applicable provisions of said Administrative Code, as amended from time to time.
- 8. Additionally, as stated in Metropolitan's Administrative Code, Section 4503, Suspension of Deliveries, as amended from time to time, SAC agrees that it shall have sufficient resources such as local reservoir storage, groundwater production capacity, system interconnections or alternate supply source to sustain a twenty-one- day interruption in Metropolitan deliveries based on annual average demands. SAC shall be responsible for and reimburse direct costs, excluding labor costs, incurred by Metropolitan in the event that a scheduled non-emergency interruption of up to twenty-one days is postponed or cancelled at the request of SAC as a result of insufficient local resources, and Metropolitan agrees to such cancellation or postponement.
- 9. The point of delivery for OC-33 shall be defined as the first buttstrap of the pipe immediately downstream of the meter structure, located at Metropolitan Station 0+74.58, where SAC receives Metropolitan water. Metropolitan shall own, operate and maintain the piping, meter, valving and other appurtenances upstream of said point of delivery. SAC shall own, operate and maintain all the facilities downstream of said point of delivery.
- 10. At SAC's request MWDOC and Metropolitan have provided a 4-20 mA flow signal_at Station 348+50 (the "Flow Signal"). Metropolitan will continue to provide SAC with the Flow Signal, subject to the following conditions:
 - a. SAC shall install a suitable signal isolator, subject to Metropolitan's approval.
- b. SAC's equipment shall not interfere with the operation of Metropolitan's system. Should Metropolitan's operations be affected now, or in the future, SAC shall remove the signal isolator at SAC's sole cost and expense immediately upon written notification from Metropolitan's

Manager of Water System Operations. Although Metropolitan will attempt to cooperate to remediate the problem, Metropolitan is under no obligation to do so.

- c. MWDOC and Metropolitan shall not be liable for any SAC equipment failures caused by failures of SAC or Metropolitan's equipment.
- d. MWDOC and Metropolitan do not guarantee the presence or accuracy of the signals from its own equipment.
- e. Any damage to Metropolitan's equipment during installation or operation of SAC's equipment will be repaired by Metropolitan and shall be reimbursed to Metropolitan by SAC.
- f. SAC shall install its equipment at its own risk and hold MWDOC and Metropolitan harmless should any damage to said equipment occur. MWDOC and Metropolitan shall be given reasonable notification in advance of the installation. Metropolitan staff shall be on-site during installation.
- g. SAC agrees to maintain, repair, and replace its own equipment, at no cost to MWDOC or Metropolitan.
- h. SAC shall be solely responsible for addressing public complaints associated with the Flow Signal.
- 11. Neither party shall assign, sell, or otherwise transfer any obligation or interest in this Agreement without the specific written consent of the other party.
- 12. This Agreement shall be construed in accordance with and governed by the laws of the State of California.

13. This Agreement represents the entire understanding of the parties. Any prior oral or written understanding shall have no force or effect with respect to matters covered by this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in duplicate as of the date and year first above written.

Approved as to form:	Municipal Water District of Orange County		
By: MWDOC Legal Counsel Joseph Byrne	By: Robert Hunter General Manager		
Approved as to form:	Santiago Aqueduct Commission		
By: SAC Legal Counsel	By: Paul Cook General Manager		

AMENDED AND RESTATED AGREEMENT FOR CONSTRUCTION OF SERVICE CONNECTION OC-33A

BETWEEN MWDOC AND THE SANTIAGO AQUEDUCT COMMISSION (SAC)

THIS AGREEMENT ("Agreement") is made and entered into this day or
, 2016, by and between the Santiago Aqueduct Commission hereinafter referred
to as "SAC," and the MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, hereinafter referred
to as "MWDOC."

WHEREAS, pursuant to an "Agreement for Construction of Temporary Service Connection OC-33A-T," between MWDOC and Metropolitan Water District of Southern California (Metropolitan or MET) dated June 6, 1984 ("1984 Agreement"), a temporary service connection was constructed at Station 348+50 on the Santiago Lateral Pipeline ("Station 348+50"). The service connection has been referred to as Service Connection OC-33-A-T; OC-33A-T; and/or OC-33A.

WHEREAS, the 1984 Agreement was to remain in effect until such time as MWDOC could meet minimum flow requirements at OC-33 or for a period not to exceed five years, whichever occurred first.

WHEREAS, the 1984 Agreement exceeded the five year period and thus expired in 1989.

WHEREAS, the parties desire to reestablish and extend the terms of the 1984 Agreement.

WHEREAS, the service connection will hereinafter, be referred to as "Service Connection OC-33A."

WHEREAS, this Agreement supersedes and replaces the terms of any and all_prior agreements regarding Service Connection OC-33-A-T; OC-33A-T; and/or OC-33A.

WHEREAS, Service Connection OC-33A provides the "low flow" metering capability at this location off of the Santiago Lateral while Service Connection OC-33 provides the "high flow" metering capability at this location off of the Santiago Lateral, both Service Connections thereby providing supplies to the Baker Pipeline, which is operated and maintained by SAC.

WHEREAS, MWDOC and MET have entered into an agreement ("MET Agreement"), attached hereto and incorporated by reference as Exhibit A, relative to obligations related to Service Connection OC-33A which are passed on from MET to MWDOC to SAC as provided below.

In consideration of the provisions herein contained, IT IS AGREED:

- 1. SAC agrees to be responsible for all of MWDOC's obligations in the MET Agreement and all requirements imposed upon MWDOC in the MET Agreement.
- 2. Service Connection OC-33A will remain located at Station 348+50. Unless otherwise mutually agreed upon by the General Manager of Metropolitan, General Manager of MWDOC, and the General Manager of SAC, Service Connection OC-33A will deliver up to 5 cfs of untreated water from Metropolitan to MWDOC to SAC for use within the service area of SAC within MWDOC within Metropolitan, and in accordance with Metropolitan's Administrative Code, commencing with Section 4400, Classification and Rates, Section 4500, Water Service Regulations, and any other applicable provisions of said Code, as amended from time to time.
- 3. Additionally, as stated in Metropolitan's Administrative Code, Section 4503, Suspension of Deliveries, as amended from time to time, SAC agrees that it shall have sufficient resources such as local reservoir storage, groundwater production capacity, system interconnections or alternate supply source to sustain a twenty-one- day interruption in Metropolitan deliveries based on annual average demands. SAC shall be responsible for and reimburse direct costs, excluding labor costs, incurred by Metropolitan in the event that a scheduled non-emergency interruption of up to twenty-one days is postponed or cancelled at the request of SAC as a result of insufficient local resources, and Metropolitan agrees to such cancellation or postponement.
- 4. The point of delivery for Service Connection_OC-33A shall be defined as the first flange downstream of the meter, which is located approximately 24 feet downstream from Metropolitan's isolation valve at Station 348+50, where MWDOC and SAC receive Metropolitan water. Metropolitan shall own, operate and maintain the piping, meter, valving and other appurtenances upstream of said point of delivery. SAC shall own, operate and maintain all the facilities downstream of said point of delivery. Additionally, SAC shall have a shutoff valve and a check valve downstream of Metropolitan's meter. The shutoff valve and check valve shall be owned, operated and

maintained by SAC, but if operation of the shutoff valve and/or check valve could impact Metropolitan's system, Metropolitan shall advise SAC who shall correct the problem immediately.

- 5. At SAC's request Metropolitan has provided a 4-20 mA flow signal_at Station 348+50 (the "Flow Signal"). Metropolitan will continue to provide SAC with the Flow Signal, subject to the following conditions:
 - a. SAC shall install a suitable signal isolator, subject to Metropolitan's approval.
- b. SAC's equipment shall not interfere with the operation of Metropolitan's system. Should Metropolitan's operations be affected now, or in the future, SAC shall remove the signal isolator at SAC's sole cost and expense immediately upon written notification from Metropolitan's Manager of Water System Operations. Although Metropolitan and MWDOC shall cooperate in good faith to remediate the problem, Metropolitan and MWDOC are under no obligation to ensure such efforts are successful.
- c. MWDOC and Metropolitan shall not be liable for any SAC equipment failures caused by failures of SAC or Metropolitan's equipment.
- d. MWDOC and Metropolitan do not guarantee the presence or accuracy of the signals from Metropolitan's own equipment.
- e. Any damage to Metropolitan's equipment during installation or operation of SAC's equipment will be repaired by Metropolitan and the costs of such repair shall be reimbursed to Metropolitan by SAC.
- f. SAC shall install its equipment at its own risk and hold MWDOC and Metropolitan harmless should any damage to said equipment occur. MWDOC and Metropolitan shall be given reasonable notification in advance of the installation. Metropolitan staff shall be on-site during installation.
- g. SAC agrees to maintain, repair, and replace its own equipment, at no cost to Metropolitan or MWDOC.
- h. SAC shall be solely responsible for addressing public complaints associated with the Flow Signal.

- 6. Neither party shall assign, sell, or otherwise transfer any obligation or interest in this Agreement without the specific written consent of the other party.
- 7. This Agreement shall be construed in accordance with and governed by the laws of the State of California.
- 8. This Agreement represents the entire understanding of the parties. Prior oral or written understanding shall have no force or effect with respect to matters covered by this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in duplicate as of the date and year first above written.

Approved as to form:	Municipal Water District of Orange County		
By: MWDOC Legal Counsel Joseph Byrne	By: Robert Hunter General Manager		
Approved as to form:	Santiago Aqueduct Commission		
By: SAC Legal Counsel	By: Paul Cook General Manager		

EXTENSION TO AGREEMENT FOR CONSTRUCTION OF SERVICE CONNECTION OC-33A AGREEMENT NO. xxxx

THIS AGREEMENT is made and entered into this day of
, 20, by and between THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA, a public corporation incorporated under the Metropolitan
Water District Act of the State of California (Stats. 1969, Ch. 209 as amended), hereinafter
referred to as "Metropolitan," and the MUNICIPAL WATER DISTRICT OF ORANGE
COUNTY, hereinafter referred to as "MWDOC."

WHEREAS, pursuant to an "Agreement for Construction of Temporary Service Connection OC-33-A-T," dated June 6, 1984, a temporary service connection was constructed at Station 348+50 on the Santiago Lateral Pipeline. The service connection has been referred to as Service Connection OC-33-A-T; OC-33A-T; and/or OC-33A.

WHEREAS, the 1984 agreement was to remain in effect until such time as MWDOC could meet minimum flow requirements at OC-33 or for a period not to exceed five years, whichever occurred first.

WHEREAS, the 1984 agreement exceeded the five year period and thus expired in 1989. WHEREAS, the parties desire to reestablish and extend the agreement.

WHEREAS, the connection will hereinafter, be referred to as Service Connection OC-33A.

WHEREAS, the Santiago Aqueduct Commission ("SAC"), comprised of MWDOC member agencies, owns and operates the Baker Pipeline, which is supplied water from Service Connection) OC-33A

WHEREAS, this Agreement supersedes and replaces the terms of any prior agreements regarding Service Connection OC-33-A-T; OC-33A-T; and/or OC-33A.

In consideration of the provisions herein contained, IT IS AGREED:

1. The OC-33A service connection will remain located at Station 348+50 of the Santiago Lateral Pipeline. Unless otherwise mutually agreed upon by the General Manager of MWDOC

and the General Manager of Metropolitan, the OC-33A service connection will deliver up to 5 cfs of untreated water from Metropolitan to MWDOC for use within the service area of MWDOC within Metropolitan, and in accordance with Metropolitan's Administrative Code, commencing with Section 4400, Classification and Rates, Section 4500, Water Service Regulations, and any other applicable provisions of said Code, as amended from time to time.

- 2. Additionally, as stated in Metropolitan's Administrative Code, Section 4503, Suspension of Deliveries, as amended from time to time, MWDOC agrees that it shall have sufficient resources such as local reservoir storage, groundwater production capacity, system interconnections or alternate supply source to sustain a twenty-one- day interruption in Metropolitan deliveries based on annual average demands. MWDOC shall be responsible for and reimburse direct costs, excluding labor costs, incurred by Metropolitan in the event that a scheduled non-emergency interruption of up to twenty-one days is postponed or cancelled at the request of MWDOC as a result of insufficient local resources, and Metropolitan agrees to such cancellation or postponement.
- 3. The point of delivery for OC-33A shall be defined as the first flange downstream of the meter, which is located approximately 24 feet downstream from Metropolitan's isolation valve at Station 348+50, where MWDOC receives Metropolitan water. Metropolitan shall own, operate and maintain the piping, meter, valving and other appurtenances upstream of said point of delivery. MWDOC shall own, operate and maintain all the facilities downstream of said point of delivery. Additionally, MWDOC shall have a shutoff valve and a check valve downstream of Metropolitan's meter. The shutoff valve and check valve shall be owned, operated and maintained by MWDOC, but if operation of the shutoff valve and/or check valve could impact Metropolitan's system, Metropolitan shall advise MWDOC who shall correct the problem immediately.
- 4. MWDOC requested Metropolitan to provide a 4-20 mA flow signal. Metropolitan will continue to provide MWDOC with the flow signal, subject to the following conditions:
 - a. MWDOC shall install a suitable signal isolator, subject to Metropolitan's approval.
- b. MWDOC's equipment shall not interfere with the operation of Metropolitan's system. Should Metropolitan's operations be affected now, or in the future, MWDOC shall remove it immediately upon written notification from Metropolitan's Manager of Water System

Operations, solely at MWDOC's expense. Although Metropolitan will attempt to cooperate to remediate the problem, Metropolitan is under no obligation to do so.

- c. Metropolitan shall not be liable for any MWDOC equipment failures caused by failures of MWDOC or Metropolitan's equipment.
- d. Metropolitan does not guarantee the presence or accuracy of the signals from its own equipment.
- e. Any damage to Metropolitan's equipment during installation or operation of MWDOC's equipment will be repaired by Metropolitan and shall be reimbursed by MWDOC.
- f. MWDOC shall install its equipment at its own risk and hold Metropolitan harmless should any damage to said equipment occur. Metropolitan shall be given reasonable notification in advance of the installation. Metropolitan staff shall be on-site during installation.
- g. MWDOC agrees to maintain, repair, and replace its own equipment, at no cost to Metropolitan.
- h. MWDOC shall be solely responsible for addressing public complaints associated with the requested signal equipment.
- 5. Neither party shall assign, sell, or otherwise transfer any obligation or interest in this Agreement without the specific written consent of the other party.
- 6. This Agreement shall be construed in accordance with and governed by the laws of the State of California.
- 7. This Agreement represents the entire understanding of the parties. Prior oral or written understanding shall have no force or effect with respect to matters covered by this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in duplicate as of the date and year first above written.

Approved as to form: Catherine M. Stites	The Metropolitan Water District of Southern California
By: Deputy General Counsel	By:
Approved as to form:	Municipal Water District of Orange County
By: MWDOC Legal Counsel Joseph Byrne	By: Robert Hunter General Manager



CONSENT CALENDAR ITEM

May 18, 2016

TO: MWDOC Board of Directors

FROM: Planning & Operations Committee

(Directors Dick, Hinman, Finnegan)

Robert Hunter, General Manager

Staff Contact: Karl Seckel

SUBJECT: CONCURRENCE REGARDING MWDOC INVOICING FOR BAKER

TREATMENT PLANT DELIVERIES

STAFF RECOMMENDATION

Staff recommends the Planning & Operations Committee recommends Board concur with the staff recommendation for MWDOC to provide assistance in the invoicing for the Baker Water Treatment Plant deliveries, as described below.

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation.

OVERVIEW

Staff has been working with Irvine Ranch Water District (IRWD) who will be the operator and perform the maintenance on the Baker Water Treatment Plant, along with the Santiago Aqueduct Commission (SAC) and the member agencies who will be receiving water from the Baker Water Treatment Plant on how best to invoice for water deliveries. The agencies involved are:

Budgeted (Y/N): n/a Budgeted a		amount: n/a	Core ✓	Choice
Action item amount: n/a		Line item: Staff time are the only costs incurred; these are core activities of MWDOC in supplying water to our agencies.		·
Fiscal Impact (explain if	unbudgete	d):		

- IRWD
- ETWD
- SMWD
- MNWD
- Trabuco Canyon WD

Attached are two schematics that show the location of service connection OC-33, the Baker Pipeline, the Baker Treatment Plant and how the flow of water will be distributed from the plant. It should be noted that deliveries from the plant will be conveyed to the member agencies in the following manner:

- IRWD takes water directly into their system and takes water for ETWD
- ETWD IRWD delivers water to ETWD via an interconnection or ETWD receives water through the product water pump station to MNWD to ETWD via the South County Pipeline
- MNWD & SMWD receives water from the Baker Treatment Plant product water pump station which interconnects to the South County Pipeline
- Trabuco Canyon WD they continue to take untreated water through their treatment plant, but they can also receive Baker Treatment Plant water wheeled to them through SMWD and the South County Pipeline

Several meetings of the agencies and participants have been held to outline the billing of the water for both the commodity charge and for peak usage for the capacity charge of the system capacity usage as imposed by MET at service connections OC-13, OC-33 and OC-88 to ensure that the billing moves smoothly. Preliminarily, it appears that MWDOC could simply add one more line item to the existing bills we send out to the following agencies to accommodate invoicing for the Baker Treatment Plant water:

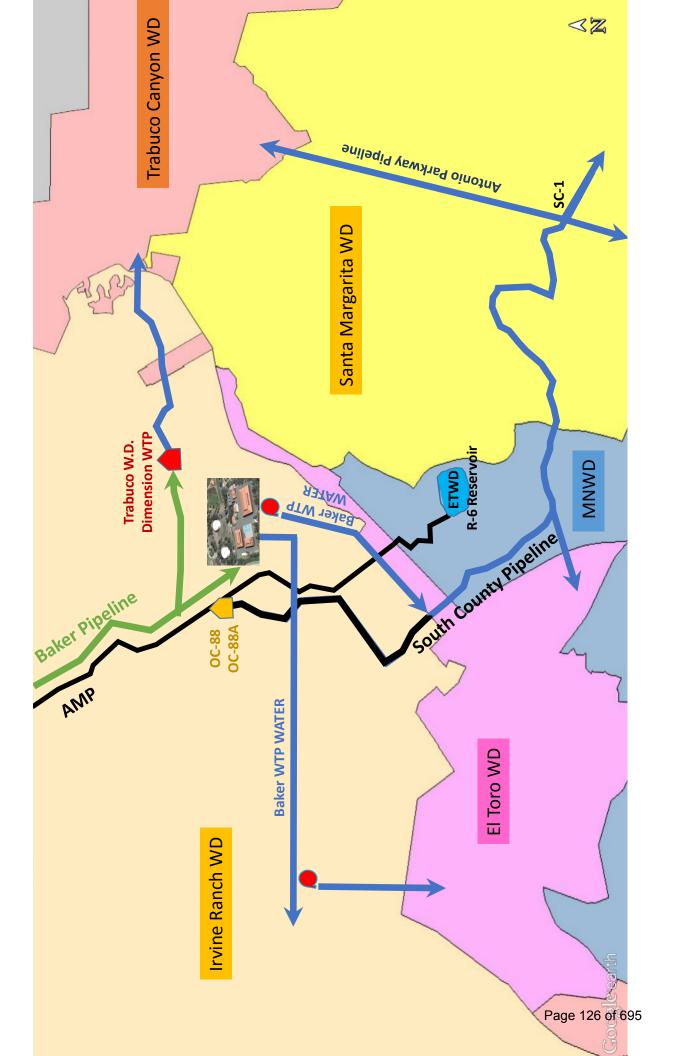
- IRWD
- ETWD
- MNWD
- SMWD
- Trabuco Canyon WD

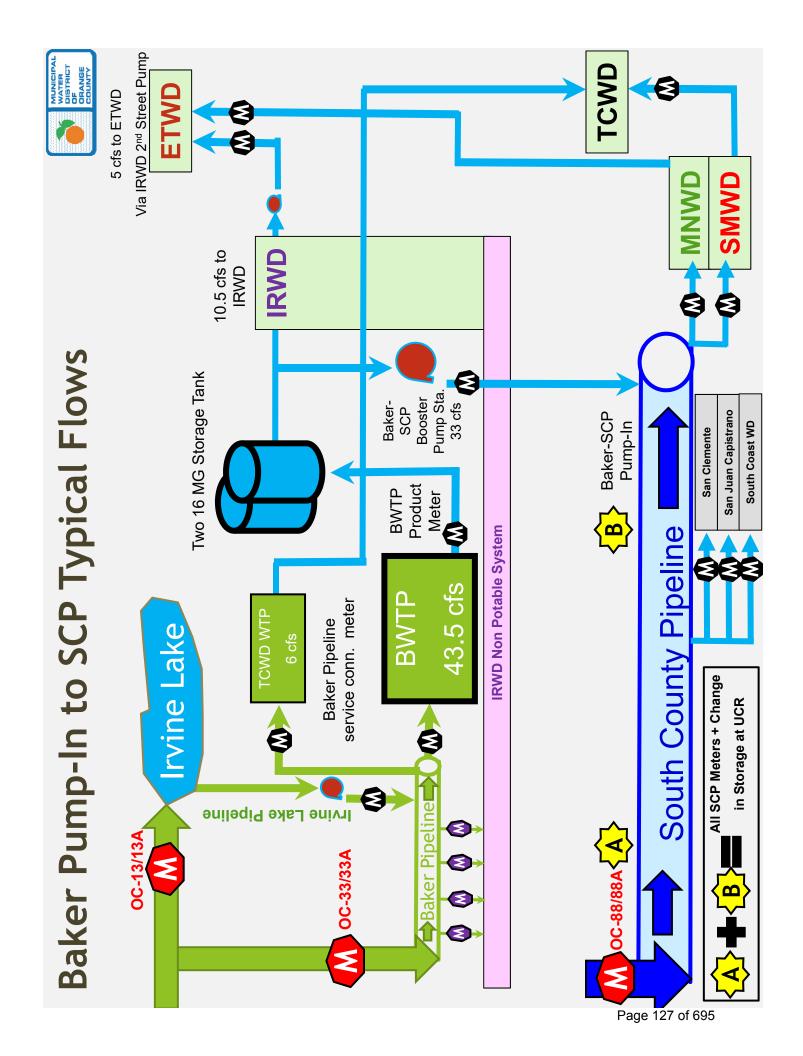
MWDOC does not currently invoice Trabuco Canyon for water deliveries, but we do invoice them on a monthly basis for the RTS and Capacity Charge. The Trabuco commodity charges are typically billed by SAC directly to Trabuco as the Trabuco deliveries occur via OC-33. If SAC and Trabuco concur, MWDOC could further accommodate the invoicing by adding a commodity line for Trabuco.

The billing issues are likely to worked out within the next month. Staff is of the opinion that MWDOC already invoices all of the agencies involved in the Baker Treatment Plant, we already require monthly billing numbers and peak usage numbers for our invoicing reconciliation, so staff believes the additional line items would require minimal time for processing. Our accounting staff already receive monthly reports from IRWD/SAC and SMWD with information to invoice our agencies; they would continue to send us information

once the Baker Treatment Plant starts operations, so there is really nothing new being put into place other than a few additional numbers to incorporate.

Staff is reviewing the item with the Board at this time in case there are any issues to flag prior to the final arrangements being accommodated. A simple MOU may be necessary. It should be noted that IRWD will retain the responsibility for invoicing the Baker Water Treatment Plant participants for the O&M costs of the plant on a quarterly basis, in accordance with the Agreement provisions.







PUBLIC HEARING

May 18, 2016

TO: Board of Directors

FROM: Planning & Operations Committee

(Directors Dick, Hinman, Finnegan)

Robert Hunter Staff Contact: Harvey De La Torre

General Manager

SUBJECT: CONDUCT PUBLIC HEARING ON MWDOC'S 2015 URBAN WATER

MANAGEMENT PLAN

STAFF RECOMMENDATION

Staff recommends the Board of Directors: Conduct a public hearing and receive comments on MWDOC's 2015 Urban Water Management Plan.

COMMITTEE RECOMMENDATION

The Board approved holding the hearing on this date.

SUMMARY

Pursuant to the Urban Water Management Planning Act, each water supplier that is submitting an update 2015 Urban Water Management Plan with the Department of Water Resources must conduct a public hearing. To comply with this requirement, MWDOC announced (on April 20th) it will hold a public hearing on May 18, 2016 on its 2015 Urban Water Management Plan.

Staff presented the draft Urban Water Management Plan to the Planning & Operations Committee on May 2, 2016; the Committee concurred with the Plan as written.

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



ACTION ITEM May 2, 2016

TO: Board of Directors

FROM: Planning & Operations Committee

(Directors Dick, Hinman, Finnegan)

Robert Hunter Staff Contact: Harvey De La Torre

General Manager

SUBJECT: ADOPT MWDOC'S 2015 URBAN WATER MANAGEMENT PLAN

STAFF RECOMMENDATION

Staff recommends the Board of Directors: Adopt Resolution approving the Municipal Water District of Orange County's 2015 Urban Water Management Plan (UWMP).

COMMITTEE RECOMMENDATION

Committee recommended the Board hold the Public Hearing on May 18th, receive comments, and adopt the final UWMP. When the Committee reviewed the document on May 2nd, some minor changes were suggested and incorporated into the document. These changes included: modifications to the member agency listing, revisions to the Climate Change section, the addition of a description of MWDOC's audit procedures associated with its Education Program, additional language regarding Delta Levee improvements, along with other minor edits and revisions.

SUMMARY

Pursuant to the Urban Water Management Planning Act, each water supplier that is submitting an updated 2015 UWMP with the Department of Water Resources (DWR) must conduct a public hearing prior to adopting their UWMP. To comply with this requirement, MWDOC will hold its public hearing on May 18, 2016 on its 2015 UWMP. Based on the comments received from the public and the Board, staff will incorporate any changes as appropriate and recommend adoption of the UWMP.

REPORT

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

As a wholesale water supplier to 28 member agencies in Orange County, MWDOC's role in preparing an UWMP is to provide projections of its service area's water supply and demands, water sources and uses, and demand management measures. Important elements of the UWMP include a demonstration of supply reliability under multiple dry year conditions, water shortage contingency planning in the event of extended drought or catastrophic events, 20x2020 Orange County Regional Alliance calculation, and the emergency planning efforts of the Water Emergency Response Organization of Orange County. MWDOC has also provided descriptions of current and proposed projects such as desalination, recycling, and groundwater recovery within MWDOC's service area. Per our regional approach, each MWDOC member agency discusses their own projects in greater detail in their own UWMP.

Attached is the final draft version of MWDOC's UWMP that has been sent to our member agencies, Metropolitan Water District, cities within our service area. We have also placed the UWMP on MWDOC's website for review.

Based on feedback we receive at the public hearing we will incorporate the comments and suggestions in the Final UWMP and present the final Draft to the Board for adoption on May 18, 2016.

Attachments: Municipal Water District Orange County's Final Draft 2015 Urban Water Management Plan

MWDOC Board Resolution Adopting the MWDOC 2015 UWMP

RESOLUTION NO.

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Urban Water Management Planning Act requires urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare and adopt, in accordance with prescribed requirements, an urban water management plan every five years; and

WHEREAS, the California Urban Water Management Planning Act specifics the requirements and procedures for adopting such Urban Water Management Plans; and

WHEREAS, the Board of Directors of the Municipal Water District of Orange County has duly reviewed, discussed, and considered such Urban Water Management Plan and has determined the 2015 Urban Water Management Plan to be consistent with the California Urban Water Management Planning Act and to be an accurate representation of the water resource plan for the Municipal Water District of Orange County.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Municipal Water District of Orange County that, on May 18, 2016 this District hereby adopts this 2015 Urban Water Management Plan for submittal to the state of California.

Said Resolution was adopted, on roll call, by the following vote:
AYES:
NOES:
ABSENT:
ABSTAIN:
I hereby certify that the foregoing is a true and correct copy of Resolution Noadopted by the Board
of Directors of Municipal Water District of Orange County at its meeting held on May 18, 2016.
ATTEST:
Maribeth Goldsby, Secretary
Municipal Water District of Orange County





FINAL DRAFT

MAY 2016

FINAL DRAFT

2015 URBAN WATER MANAGEMENT PLAN

Municipal Water District of Orange County

Prepared for:

Municipal Water District of Orange County 18700 Ward Street

Fountain Valley, California 92708

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MAY 2016



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ACRONYMS AND ABBREVIATIONS

20x2020 20% water use reduction in GPCD by year 2020

Act Urban Water Management Planning Act
ACWRF Aliso Creek Water Reclamation Facility

AF Acre-feet

AFY Acre-feet per year

AOP Advanced Oxidation Processes

AWTP Advanced Water Treatment Plant

AWWA American Water Works Association

BDCP Bay-Delta Conservation Plan
BEA Basin Equity Assessment

Biological opinions

BMO Best Management Objective
BMP Best Management Practice
BPP Basin Production Percentage
BPOU Baldwin Park Operable Unit

CalWARN California Water and Wastewater Agency Response Network

CCC California Coastal Commission
CDR Center for Demographic Research
CDWC California Domestic Water Company
CII Commercial/Industrial/Institutional

CRA Colorado River Aqueduct

CSANS California Sprinkler Adjustment Notification System

CTP Coastal Treatment Plant
CUP Conjunctive Use Program

CUWCC California Urban Water Conservation Council

CVP Central Valley Project

CVWD Cucamonga Valley Water District
CVWD Coachella Valley Water District
CWRP Chiquita Water Reclamation Plant
DATS Deep Aquifer Treatment System

DDW Division of Drinking Water

Delta Sacramento-San Joaquin River Delta

DMM Demand Management Measure

DVL Diamond Valley Lake

DWR Department of Water Resources
EBSD Emerald Bay Services District
EOCWD East Orange County Water District
EIR Environmental Impact Report
EOC Emergency Operation Center



ET Evapotranspiration
ETWD El Toro Water District

FY Fiscal Year

GAC Granular Activated Carbon Filter

GAP Green Acres Project

GCM General Circulation Model
GPCD Gallons per capita per day

GPD Gallons per day

GRF Groundwater Recovery Facility
GSWC Golden State Water Company
GWRP Groundwater Recovery Plant

GWRS Groundwater Replenishment System
HECW High Efficiency Clothes Washers

HET High Efficiency Toilet

IID Imperial Irrigation District

IPR Indirect Potable Reuse

IRP Integrated Water Resource Plan
IRWD Irvine Ranch Water District
IWA International Water Association
LAWRP Los Alisos Water Recycling Plant
LBCWD Laguna Beach County Water District

LRP Local Resources Program
LTFP Long-Term Facilities Plan

MARS Member Agency Response System MAWA Maximum Allowed Water Allowance

M&I Municipal and industrial

MAF Million acre feet

MCL Maximum Contaminant Level

Mesa Water Mesa Water District

Metropolitan Water District of Southern California

MF Microfiltration

MNWD Moulton Niguel Water District

MGD million gallons per day

MOU Memorandum of Understanding Regarding Urban Water Conservation in California

MWDOC Municipal Water District of Orange County

MWRP Michelson Water Recycling Plant

NDMA N-nitrosodimethylamine

NRCS Natural Resource Conservation Service

OC Orange County

OCSD Orange County Sanitation District



OCWD Orange County Water District

OCWRP Oso Creek Water Reclamation Plant

Poseidon Poseidon Resources LLC

PPCP Pharmaceuticals and Personal Care Product

Ppb Parts per billion

PPR Percent perfected right
PVID Palo Verde Irrigation District

QSA Quantification Settlement Agreement

RA Replenishment Assessment

RO Reverse Osmosis

RRWTP Robinson Ranch Wastewater Treatment Plant

RTP Regional Treatment Plant

RWQCB Regional Water Quality Control Board

SAR Santa Ana River

SARCCUP Santa Ana River Conservation and Conjunctive Use Program
SBx7-7 Senate Bill 7 as part of the Seventh Extraordinary Session

SCAB South Coast Air Basin
SCWD South Coast Water District

SDCWA San Diego County Water Authority
SDP Seawater Desalination Program

SEMS Standardized Emergency Management System

Serrano Serrano Water District
SJBA San Juan Basin Authority
SMWD Santa Margarita Water District
SNWA Southern Nevada Water Authority

SOCWA South Orange County Wastewater Authority

Study Colorado River Basin Water Supply and Demand Study

SWP State Water Project

SWRCB California State Water Resources Control Board

SWSD Semitropic Water Storage District
TCWD Trabuco Canyon Water District

TDS Total Dissolved Solids

TVMWD Three Valleys Municipal Water District USBR United States Bureau of Reclamation

USGVMWD Upper San Gabriel Valley Municipal Water District

UV Ultraviolet

UWMP Urban Water Management Plan

WACO Water Advisory Committee of Orange County

WBIC Weather Based Irrigation Controller

WEROC Water Emergency Response Organization of Orange County



2015 URBAN WATER MANAGEMENT PLAN

WRP Water Recycling Plant

WSAP Water Supply Allocation Plan

WSDM Water Surplus and Drought Management Plan

WUE Water Use Efficiency
YLWD Yorba Linda Water District



MESSAGE FROM THE BOARD OF DIRECTORS

Since the Municipal Water District of Orange County's (MWDOC) formation in 1951, MWDOC has remained steadfast in its commitment to provide a reliable supply of high-quality water for Orange County at a reasonable rate. Through leadership, representation at the Metropolitan Water District of Southern California (Metropolitan) and collaboration with our retail agencies, MWDOC seeks opportunities to improve Orange County's water resources and reliability. By integrating local planning challenges and regional stakeholder partnerships, MWDOC maximizes water system reliability and overall system efficiencies. MWDOC works to expand Orange County's water supply portfolio by providing planning and local resource development in the areas of recycled water, groundwater, ocean water desalination, and water-use efficiency.

DIRECTORS

Division 1 Brett R. Barbre

Brea, Buena Park, La Habra, La Palma, Yorba Linda Water District, and portions of Golden State Water Company

Division 2 Larry D. Dick

Orange, Tustin, East Orange County Water District, portions of Golden State Water Company, Serrano Water District, Garden Grove, and portions of Irvine Ranch Water District

Division 3 Wayne Osborne

Fountain Valley, Westminster, portions of Golden State Water Company, and portions of Garden Grove

Division 4 Joan C. Finnegan

Huntington Beach, Seal Beach, and Mesa Water District

Division 5 Sat Tamaribuchi

Newport Beach and portions of Irvine Ranch Water District and El Toro Water District

Division 6 Jeffery M. Thomas

Santa Margarita Water District, Tustin, Trabuco Canyon Water District, and portions of Irvine Ranch Water District

Division 7 Susan Hinman

San Clemente, San Juan Capistrano, Moulton Niguel Water District, Laguna Beach County Water District, Emerald Bay Service District, and South Coast Water District

MISSION STATEMENT

"To provide reliable, high-quality supplies from Metropolitan Water District of Southern California and other sources to meet present and future needs, at an equitable and economical cost, and to promote water use efficiency for all of Orange County."



1 INTRODUCTION

1.1 Urban Water Management Plan Requirements

Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act (Act) require every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare, adopt, and file an Urban Water Management Plan (UWMP) with the California Department of Water Resources (DWR) every five years in the years ending in zero and five. The 2015 UWMP updates are due to DWR by July 1, 2016.

This UWMP provides DWR with a detailed summary of present and future water resources and demands within the Municipal Water District of Orange County (MWDOC) service area and assesses its water resource needs. Specifically, the UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet existing and future demands. The demand analysis must identify supply reliability under three hydrologic conditions: a normal year, a single-dry year, and multiple-dry years. MWDOC's 2015 UWMP updates the 2010 UWMP in compliance with the requirements of the Act as amended in 2009, and includes a discussion of:

- Water Service Area and Facilities
- Water Sources and Supplies
- Water Use by Customer Type
- Demand Management Measures
- Water Supply Reliability
- Planned Water Supply Projects and Programs
- Water Shortage Contingency Plan
- Recycled Water Use

Since the original Act's passage in 1983, several amendments have been added. The most recent changes affecting the 2015 UWMP include Senate Bill 7 as part of the Seventh Extraordinary Session (SBx7-7) and SB 1087. SBx7-7, or the Water Conservation Act of 2009, is part of the Delta Action Plan that stemmed from the Governor's goal to achieve a 20 percent statewide reduction in urban per capita water use by 2020 (20x2020). Reduction in water use is an important part of this plan that aims to sustainably manage the Bay Delta and reduce conflicts between environmental conservation and water supply conveyance; it is detailed in Section 3.2.3. SBx7-7 requires each urban retail water supplier to develop urban water use targets to achieve the 20x2020 goal and the interim ten percent goal by 2015. Each urban retail water supplier must include in its 2015 UWMPs the following information from its target-setting process:

- Baseline daily per capita water use
- 2020 urban water use target



- 2015 interim water use target compliance
- Compliance method being used along with calculation method and support data
- An implementation plan to meet the targets

Wholesale water suppliers such as MWDOC are required to include an assessment of present and proposed future measures, programs, and policies that would help achieve the 20 percent water use reduction goal by 2020.

In an effort to assist retail agencies in Orange County to meet the requirement of SB7x7, the MWDOC 2015 UWMP describes the Orange County Regional Alliance and methodology used to calculate the regional targets for 2015 and 2020.

The other recent amendment made to the UWMP on September 19, 2014, is set forth by SB 1420, Distribution System Water Losses. SB 1420 requires water purveyors to quantify distribution system losses for the most recent 12-month period available. The water loss quantification is based on the water system balance methodology developed by the American Water Works Association (AWWA).

This 2015 Plan update also incorporates MWDOC's current and planned water use efficiency efforts pursuant to the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU). MWDOC became a signatory and adopted the MOU in 1991.

An UWMP may serve as a foundational document and source of information for a Water Supply Assessment (Water Code Section 10613), and a Written Verification of Water Supply (Water Code Section 66473.7). Both statutes require detailed information regarding water supply availability be provided to city and county decision makers prior to approval of specified large development projects. Additionally, a UWMP also serves as a:

- Long-range planning document for water supply;
- Long-range planning document for water use efficiency measures;
- Source data for development of a regional water plan;
- Source document for cities and counties, as they prepare and update their General Plans;
- Key component of an Integrated Regional Water Management Plan; and
- Condition to qualify for receipt of certain State grant funds.

The activities associated with the update of MWDOC's Plan and the benefits the Plan ultimately affords its local retailers extend far beyond the implied or stated supply-reliability goals. This Plan allows MWDOC to do the following:

- Provide a comprehensive assessment of water resource needs in its service area;
- Provide guidance to coordinate implementation of water use efficiency programs in a cost-effective manner;
- Provide assistance to maximize the beneficial use of recycled water and local groundwater supplies, supplying the region with new sources of local water to reduce the need to purchase imported water supplies from Metropolitan; and



• Offer opportunities for community participation through public meetings, and provide information that allows the public to gain further understanding of the region's comprehensive water planning.

The sections in this UWMP correspond to the outline of the Act, specifically Article 2, Contents of Plans, Sections 10631, 10632, and 10633. The sequence used for the required information, however, differs slightly in order to present information in a manner reflecting the unique characteristics of MWDOC. The UWMP Checklist which identifies the location of Act requirements in this Plan is included in Appendix A. This is an individual UWMP for a wholesale agency, as shown in Tables 1-1 and 1-2. Table 1-2 also indicates the units that will be used throughout this document.

Table 1-1: Plan Identification

Plan Ide	entifica	tion	
Select Only One		Type of Plan	Name of RUWMP or Regional Alliance
•	Individ	dual UWMP	
		Water Supplier is also a member of a RUWMP	-
	>	Water Supplier is also a member of a Regional Alliance	Orange County 20x2020 Regional Alliance
	_	nal Urban Water Management RUWMP)	-
NOTES:			·



Table 1-2: Agency Identification

Agency Identification							
Type of A	gency (select one or both)						
✓	Agency is a wholesaler						
	Agency is a retailer						
Fiscal or C	Calendar Year (select one)						
	UWMP Tables Are in Calendar Years						
V	UWMP Tables Are in Fiscal Years						
If Using I	Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)						
	7/1						
Units of Measure Used in UWMP (select from Drop down)							
Unit	AF						
NOTES:	NOTES:						

1.2 Municipal Water District of Orange County

1.2.1 Formation and Purpose

Orange County was settled around areas of surface water. San Juan Creek supplied the mission at San Juan Capistrano. The Santa Ana River supplied the early Cities of Anaheim and Santa Ana. The Santa Ana River also provided water to a large aquifer underlying the northern half of the county, enabling settlers to move away from the river's edge and still obtain water by drilling wells.

By the early 1900s, Orange County residents understood that their water supply was limited, the rivers and creeks did not flow all year long, and the aquifer would eventually be degraded or even dry up if the water was not replenished on a regular basis.

In 1928, the Cities of Anaheim, Santa Ana, and Fullerton joined with 10 other southern California cities to form Metropolitan. Their objective was to build an aqueduct from the Colorado River to provide the additional water necessary to sustain the growing southern California economy and its enviable lifestyle.

The Orange County Water District (OCWD) was formed in 1933 to protect the County's water rights on the Santa Ana River. Later that mission was expanded to manage the underground aquifer, optimizing use of local supplies and augmenting those with imported supplies provided through the Metropolitan member agencies in Orange County.

It was not long before other parts of Orange County also saw the need for supplemental supplies. A severe drought in the late 1940s further emphasized this need for coastal communities from Newport Beach to San Clemente. In 1948, coastal communities from Newport Beach south to the San Diego county line formed the Coastal Municipal Water District as a way to join in the benefits provided by Metropolitan. Three years later, MWDOC was formed by Orange County voters in 1951 under the Municipal Water District Act of 1911 to provide imported water to inland areas of Orange County. To improve services and reduce cost, the Coastal Municipal Water District became a part of MWDOC in January 2001.

Today, MWDOC is Metropolitan's third largest member agency, providing and managing the imported water supplies used within its service area.

1.2.2 Relationship to Metropolitan

MWDOC became a member agency of Metropolitan in 1951 to bring supplemental imported water supplies to parts of Orange County. Metropolitan is a consortium of 26 cities and water agencies that provides supplemental water supplies to parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura Counties. Metropolitan's two main sources of supply are the Colorado River and Sacramento-San Joaquin Bay-Delta. Supplies from these sources are delivered to southern California via the Colorado River Aqueduct (CRA) and the State Water Project (SWP). MWDOC purchases imported water from these sources from Metropolitan and distributes the water to its 28 retail agencies, which provide retail water services to the public.

1.2.3 MWDOC Board of Directors

MWDOC is governed by an elected seven-member Board of Directors, with each board member representing a specific area of the County and elected to a four-year term by voters who reside within that part of the MWDOC service area. The Board of Directors map is shown on Figure 1-1.

Each director is a member of at least one of the following three standing committees: Planning and Operations; Administration and Finance; and Public Affairs and Legislation. Each committee meets monthly. The full board convenes for its regular monthly meeting on the third Wednesday of the month, and holds a Board workshop on Metropolitan issues the first Wednesday of the month.

The President of the Board, Vice President, and immediate past President also comprise the Executive Committee, which meets monthly with the General Manager, Assistant General manager, and Board Secretary.

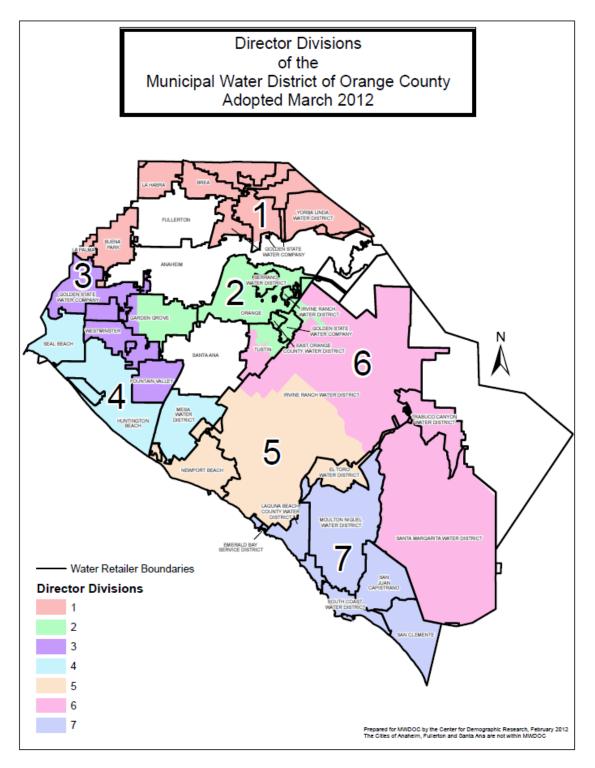


Figure 1-1: MWDOC Board of Directors Map, by Director Division



1.2.4 Goals and Objectives

MWDOC's Mission Statement is "To provide reliable, high-quality supplies from Metropolitan Water District of Southern California and other sources to meet present and future needs, at an equitable and economical cost, and to promote water use efficiency for all of Orange County."

MWDOC's related water management goals and objectives are to

- Represent the interests of the public within its jurisdiction;
- Appoint its representative directors to the Board of Metropolitan;
- Inform its directors and its retail agencies about Metropolitan issues;
- Guide Metropolitan in its planning efforts and act as a resource of information and advocate for our retail agencies;
- Purchase water from Metropolitan and represent the interest of our service area at Metropolitan;
- Work together with Orange County water agencies and others to focus on solutions and priorities for improving Orange County's future water supply reliability;
- Cooperate with and assist OCWD and other agencies in coordinating the balanced use of the area's imported and native surface and groundwater;
- Plan and manage the allocation of imported water to its retail agencies during periods of shortage;
- Coordinate and facilitate the resolution of water issues and development of joint water projects among its retail agencies;
- Represent the public and assist its retail agencies in dealing with other governmental entities at the local, regional, state, and federal levels on water-related issues; and
- Inform its retail agencies and inform and educate the general public on matters affecting present and future water use and supply.

As a regional wholesaler, MWDOC has roles that are broadly applicable to all of its retail agencies. A key goal of MWDOC is to provide broad reaching services and programs that the retail agencies cannot reasonably provide as single entities.

MWDOC works with other agencies to promote efficient use of Orange County's water supply. As previously stated, MWDOC is a signatory to the MOU monitored by the California Urban Water Conservation Council (CUWCC), which outlines 14 Best Management Practices (BMP) for urban water use efficiency. The urban water use efficiency practices are intended to reduce long-term urban demands from what they would have been without implementation of these practices, and are in addition to programs that may be instituted during occasional water supply shortages.

For more than 30 years, MWDOC's Public Information and Water Education programs have reached thousands of consumers and nearly 90,000 Orange County students annually. The programs are performed on behalf of, and in coordination with, MWDOC's retail agencies and are designed to facilitate a student's understanding of current water issues as well as the challenges, opportunities, and costs involved in securing a reliable supply of high quality water.



In 2004, MWDOC formed a partnership with the Discovery Science Center to bring the School Education Program to more elementary students and provide them with even greater educational experiences in the areas of water and science. In addition, earlier this year MWDOC formed partnership with the Orange County Department of Education – Inside the Outdoor to reach High School Students in conjunction with the Ecology Center out of San Juan Capistrano.

1.3 Service Area

MWDOC is a regional water wholesaler and resource planning agency, managing all of Orange County's imported water supply with the exception of water imported to the cities of Anaheim, Fullerton, and Santa Ana. MWDOC serves more than 2.3 million residents in a 600-square-mile service area (see Figure 1-2 below). It is committed to ensuring water reliability for the communities it serves. To that end, MWDOC focuses on sound planning and appropriate investments in water supply, water use efficiency, regional delivery infrastructure, and emergency preparedness.

MWDOC serves imported water in Orange County to 28 retail water agencies. MWDOC has informed these water suppliers of its available supplies in accordance with CWC 10631. These entities, comprised of cities and water districts, are referred to as MWDOC retail agencies and provide water to approximately 2.3 million customers. MWDOC retail agencies include:

- · City of Brea
- City of Buena Park
- City of Fountain Valley
- City of Garden Grove
- City of Huntington Beach
- City of La Habra
- City of La Palma
- City of Newport Beach
- City of Orange
- City of San Clemente
- City of San Juan Capistrano
- City of Seal Beach
- City of Tustin
- City of Westminster

- East Orange County Water District (EOCWD)
- El Toro Water District (ETWD)
- Emerald Bay Services District (EBSD)
- Irvine Ranch Water District (IRWD)
- Golden State Water Company (GSWC)
- Laguna Beach County Water District (LBCWD)
- Mesa Water District (Mesa)
- Moulton Niguel Water District (MNWD)
- Orange County Water District (OCWD)
- Santa Margarita Water District (SMWD)
- Serrano Water District (Serrano)
- South Coast Water District (SCWD)
- Trabuco Canyon Water District (TCWD)
- Yorba Linda Water District (YLWD)



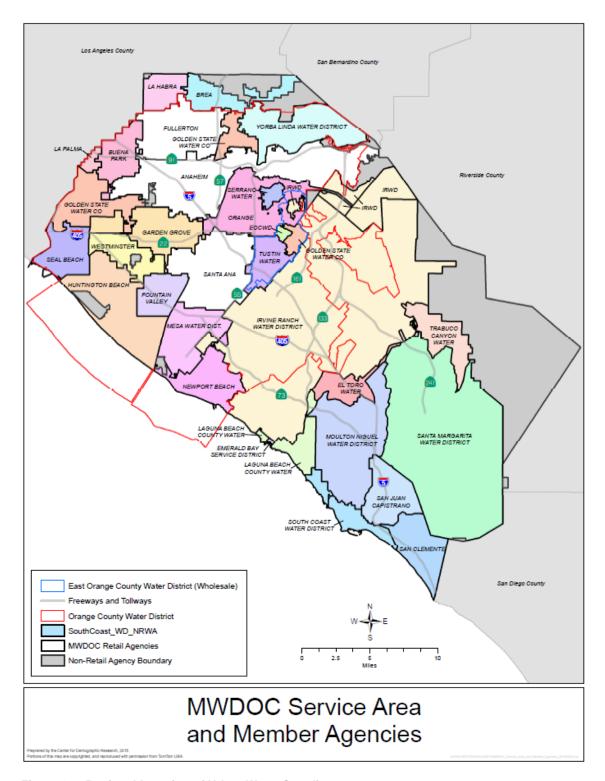


Figure 1-2: Regional Location of Urban Water Supplier



Orange County relies on numerous sources of water and water purveyors to meet the needs of its growing population, with sources including imported water, groundwater, surface water, and recycled water.

Imported water provided by Metropolitan from Northern California and the Colorado River meet approximately half of the County's water needs. However, this dependence of 50 percent imported water does not apply evenly over the entire service area. South Orange County relies on imported water to meet approximately 95 percent of its water demand. The remaining five percent is provided by surface water, limited groundwater, and water recycling. North Orange County relies roughly 30 percent on imported water, as a result of their ability to rely on the Orange County Groundwater Basin to meet a majority of their demands.

OCWD manages the Orange County Groundwater basin. The groundwater basin, which underlies north and central Orange County, provides approximately 62 percent of the water needed in that area; with imported water meeting the remaining balance of the water demand. Groundwater is pumped by producers before being delivered to customers.

Figure 1-3 illustrates the water service organization in the MWDOC service area.

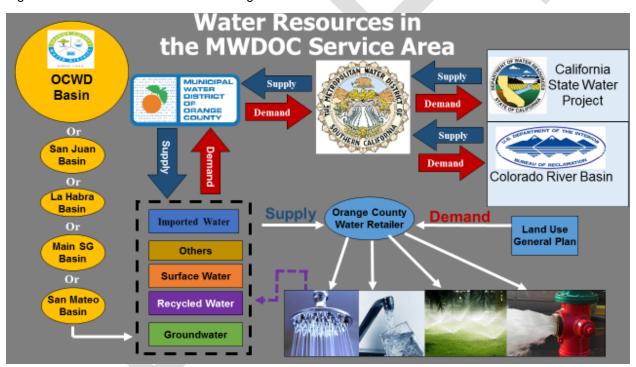


Figure 1-3: Water Service Organization in MWDOC's Service Area

2 WATER DEMAND

2.1 Overview

One of the main objectives of this UWMP is to provide an insight into MWDOC's future water demands. This section describes MWDOC service area's current and future water demands, factors that influence demands, and the methodology used to forecast of future water demands over the next 25 years. In addition, to satisfy SBx7-7 requirements for the Regional Alliance, this section provides details of MWDOC's SBx7-7 compliance method selection, baseline water use calculation, and 2015 and 2020 water use targets.

Similar to all of California, MWDOC's urban water demands has been largely shaped by Governor's Emergency Regulations. This is the result of one of the most severe droughts in California's history, requiring a collective reduction in statewide urban water use of 25 percent by February 2016, with each agency in the state given a specific reduction target by DWR. In response to the Governor's mandate, MWDOC's retail agencies carried out aggressive outreach efforts and implemented higher (more restrictive) stages of their water conservation ordinance. Based on these emergency regulations, water demand is projected to decrease as much as 75,000 AF for FY 2015-16.

As shown below, MWDOC service area's municipal and industrial (M&I) water use for the fiscal year (FY) 2014-15 totaled 432,276 AF. This is roughly the same amount of water used 25 years ago (1990-91); all the while the service area's population has grown 32 percent since 1990 as shown on Figure 2-1.



Figure 2-1: MWDOC's Service Area Historical Water Demand and Population



2.2 Factors Affecting Demand

Water demands within MWDOC's service area are dependent on many factors such as local climate conditions, demographics, land use characteristics, and economics. Below is a description of factors that influence water demand.

2.2.1 Climate Characteristics

MWDOC's service area is located within the South Coast Air Basin (SCAB) that encompasses all of Orange County, as well as the urban areas of Los Angeles, San Bernardino, and Riverside Counties. The SCAB climate is characterized by southern California's "Mediterranean" climate: a semi-arid environment with mild winters, warm summers and moderate rainfall.

Local rainfall and temperature greatly influence water usage in the service area. The biggest variation in annual water demand are due to changes in rainfall and temperature. In Orange County, the average daily temperatures range from 58 °F in December and January to 74 °F in August in a typical year. The average annual precipitation is 14 inches, although the region is subject to significant variations in annual precipitation. The average evapotranspiration (ET) is almost 50 inches per year which is four times the annual average rainfall. This translates to a high demand for landscape irrigation for homes, commercial properties, parks, and golf courses.

It should also be noted that Metropolitan's core water supplies from the SWP and the CRA are significantly influenced by climate conditions in northern California and the Colorado River Basin, respectively. Both regions have been suffering from multi-year drought conditions due to record low precipitation which directly impact water supplies to southern California.

2.2.2 Demographics

MWDOC serves a 2015 population of 2,302,578 according to the California State University at Fullerton's Center of Demographics Research (CDR). MWDOC's population is representative of 28 retail agencies which include 14 cities and 14 water districts. The population is projected to increase 10 percent by 2040, representing an average growth rate of just 0.4 percent per year.

Projected growth decreased slightly since the 2010 UWMP due to less than expected economic rebound. However, housing, in particular within the cities, is becoming denser with new multi-storied residential units. This is apparent in many of the cities located in the northern and central areas of MWDOC's service area. Whereas in South Orange County, the southern portion of MWDOC's service area, there still remains open land suitable for further development and growth. Table 2-1 shows the population projections in five-year increments out to 2040 within MWDOC's service area.

Table 2-1: Current and Projected MWDOC Service Area Population

Wholesale: Population - Current and Projected									
Population Served	2015	2020	2025	2030	2035	2040			
		2,409,256	2,470,451	2,505,284	2,527,230	2,533,088			
NOTES: Center for Demographic Research at California State University, Fullerton, 2015									

As shown below in Table 2-2, the number of Housing Units in the MWDOC service area is expected to increase by 11.7 percent in the next 25 years from 791,404 in 2015 to 883,864 in 2040. While the number of persons per household is projected to remain relatively flat, urban employment in the service area is expected to rise by 13.5 percent over the next 25 years.

Table 2-2: MWDOC Service Area Demographics

MWDOC Service Area Demographics										
Demographics	2015	2020	2025	2030	2035	2040				
Occupied Housing Units	791,404	814,115	836,907	849,545	862,183	883,864				
Single Family	525,735	538,990	547,622	551,054	560,304	569,960				
Multi-Family	265,668	275,125	289,285	298,491	301,879	313,903				
Persons per Household	2.89	2.91	2.89	2.89	2.85	2.89				
Urban Employment	1,150,840	1,174,471	1,207,065	1,230,646	1,259,511	1,305,817				
Carrage Matrices Sites 201	E 1114/AAD									

Source: Metropolitan 2015 UWMP

2.3 Direct and Indirect Water Use

There are two types of water use in Orange County. "Direct use" is the consumption of water directly piped from treatment facilities or wells to homes, commercial, institutional, and industrial buildings, landscape, and agriculture. "Indirect use" is the use of water to replenish groundwater basins and to serve as a hydrologic barrier against seawater intrusion. Although this water is used to fill the groundwater basins or act as a seawater barrier it will eventually become a future source of supply for Orange County residents, thus an indirect use.

Integrating the two usages of water in the planning process can be confusing and misleading and does not necessarily reflect the actual level of consumptive water demand in the region. In practice, the two types of water usage are often shown separately. The following subsections will discuss these two types of uses separately.

2.3.1 Direct Use – Municipal/Industrial and Agricultural Demands

Direct water use in Orange County includes municipal, industrial, and agricultural use. It represents on average approximately 90 percent of MWDOC's total demands. Demands for direct use are met through imported water (treated and untreated), groundwater, local surface water, and recycled water. M&I demands represent the full spectrum of water use within a region, including residential and commercial, industrial, institutional (CII), as well as un-metered uses (e.g. hydrant flushing, fire-fighting). Agricultural demands represent less than 1 percent of the total direct use. It has significantly decreased over the years due to development and growth within the service area.

Direct Use water demands total 432,276 AF in FY 2014-15, roughly 36,000 AF or 12 percent less than the 10-year average. This decrease was partly due to the recent statewide water conservation mandates imposed on retail agencies throughout the state (whereby mandatory restrictions started on June 2015). While MWDOC's service area M&I demands are expected to rebound after the drought, conservation and public awareness will likely keep future demands increases relative low.

2.3.2 Indirect Use – Replenishment and Barrier Demands

Indirect water use in Orange County includes water to replenish groundwater basins and to serve as a barrier against seawater intrusion. It represents on average 10 percent of MWDOC's total demands. Most, if not all of the indirect water use delivered is for managing and replenishing the Orange County Groundwater Basin. This water is purchased by the OCWD, a special district created by the state and governed by a ten-member Board of Directors to protect, manage, and replenish the Orange County Groundwater Basin with purchased imported water, storm water, and recycled water. OCWD further protects the groundwater basin from seawater intrusion through the injection of imported and recycled water along the coast, known as the Talbert Injection Barrier.

Since demands for replenishment of the groundwater basin storage and seawater barriers are driven by the availability of local supplies to OCWD, the demand forecast for this type of use is based on the projection of the following supplies under normal conditions:

- Santa Ana River Flows (Base flows & Storm flows);
- Incidental Recharge;
- · Imported supplies from Metropolitan; and
- Recycled supplies for replenishment & seawater barrier use.

In addition to Replenishment and Barrier demands, MWDOC also provides imported water to meet the needs of surface water demands, such as those that occurs with respect to Irvine Lake. The water delivered to Irvine Lake is used for both consumptive and storage water purposes. Imported water delivered into Irvine Lake can be held for a short or long periods of time to be later delivered for consumptive use. On average, surface water supplies total 7,300 AFY in Irvine Lake.

Figure 2-2 shows the historical demand of imported water for indirect consumption in MWDOC's service area.



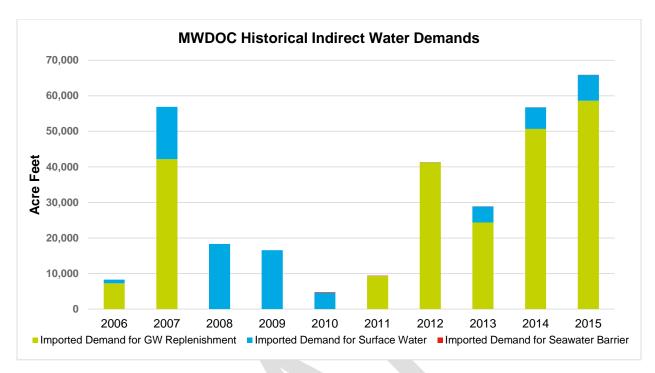


Figure 2-2: MWDOC Historical Indirect Water Demands

2.4 MWDOC Demand Projections

MWDOC's service area total direct and indirect demands in FY 2014-2015 was 499,120 AF, which was met through a combination of 45 percent groundwater, 45 percent imported water, 2 percent surface water, and 8 percent recycled water. Under normal conditions, total direct and indirect water demands are projected to increase to 515,425 AF by the year 2040 or 3.27 percent over the next 25 years. This demand projection comes from MWDOC's Orange County (OC) Reliability Study that considered such factors as current and future demographics, future conservation measures, and ground & surface water needs. Below is a detail description of the methodology used to calculated MWDOC's demand projections.

2.4.1 Demand Projection Methodology

The water demand projections were an outcome of the Orange County (OC) Reliability Study led by MWDOC where demand projections were divided into three regions within Orange County: Brea/La Habra, Orange County Groundwater Basin, and South County. The demand projections were obtained based on multiplying a unit water use factor and a demographic factor for three water use sectors, including single-family and multi-family residential (in gallons per day per household), and non-residential (in gallons per day per employee). The unit water use factors were based on a survey of Orange County water agencies (FY 2013-14) and represent a normal weather, normal economy, and non-drought condition. Additionally, MWDOC worked with OCWD to determine groundwater replenishment and seawater barrier demands. MWDOC also worked with Center of Demographic Research (CDR) at



California University of Fullerton to obtain projections on employment and economic growth in the MWDOC service area, which was taken into account when developing the demand projections.

Also included was the effects of water conservation on demand projections. Three trajectories were developed representing three levels of conservation: 1) continued with existing levels of conservation as of 2013-14 (lowest conservation), 2) addition of future passive measures and active measures (baseline conservation), and 3) aggressive turf removal program - 20 percent removal by 2040 (aggressive conservation). The second level of conservation, i.e. baseline demand projection, was selected for the 2015 UWMP. The baseline scenario assumes the implementation of future passive measures affecting new developments, including the Model Water Efficient Landscape, plumbing code efficiencies for toilets, and expected plumbing code for high-efficiency clothes washers. It also assumes the implementation of future active measures, assuming the implementation of Metropolitan incentive programs at historical annual levels seen in Orange County.

The OC Reliability Study also considered the drought impacts on demands by applying the assumption that water demands will bounce back to 85 percent of 2014 levels i.e. pre-drought levels by 2020 and 90 percent by 2025, and continue at 90 percent of unit water use through 2040. The unit water use factor multiplied by a demographic factor yields demand projections without new conservation beyond 2013-14. To account for new conservation, projected savings from new passive and active conservation were subtracted from these demands. Figure 2-3 shows MWDOC's historical and future demand forecast of direct demands. The figure below does not take in account indirect demands for groundwater and surface water supplies needs.



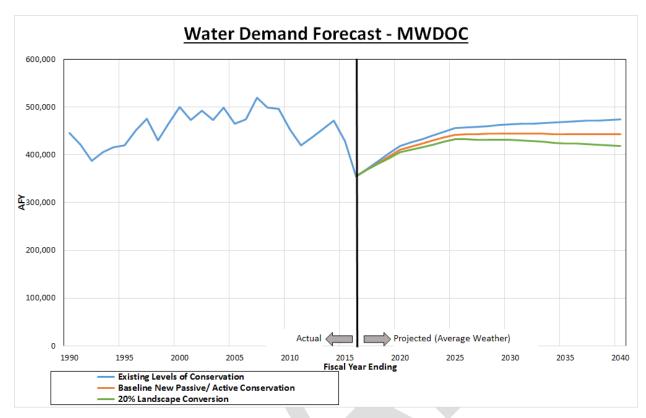


Figure 2-3: MWDOC Water Demand Forecast

Note: This does not include projected indirect water demands, such as groundwater and surface reservoir replenishment needs

2.4.2 25 Year Total Demand Projections

Based on the OC Reliability Study Demand methodology, MWDOC's total water demands for the next 25 years are shown in Table 2-3.

Table 2-3: MWDOC Service Area Total Demands – Current and Projected (AFY)

MWDOC Service Area Total Demands – Projected									
Water Source	2015	2020	2025	2030	2035	2040			
OCWD Basin GW	202,403	196,035	207,383	208,510	208,438	208,665			
Non-OCWD GW	20,036	27,297	27,477	27,477	27,477	27,477			
Recycled	41,280	49,415	58,157	63,546	66,344	66,842			
Surface Water	9,893	5,000	5,000	5,000	5,000	5,000			
Imported Water (Retail M&I)	158,664	132,826	144,254	140,203	135,913	135,135			
Total MWDOC Direct-Use Water									
Demand	432,276	410,573	442,271	444,735	443,171	443,119			
Imported Demand for Surface									
Water	8,227	7,306	7,306	7,306	7,306	7,306			



Imported Demand for GW						
Replenishment	58,617	65,000	65,000	65,000	65,000	65,000
Total MWDOC Indirect-Use						
Water Demand	66,844	72,306	72,306	72,306	72,306	72,306
Total MWDOC Water Demand	499,120	482,879	514,577	517,041	515,477	515,425

The demand data presented in this section accounts for additional future passive measures and active measures. Passive savings are water savings as a result of codes, standards, ordinances and public outreach on water conservation and higher efficiency fixtures. Active savings are water savings as a result of water conservation rebates, programs, and incentives.

As described in previous sections, MWDOC provides only imported water to its service area. Table 2-4 below shows MWDOC's total projected demand of imported water.

Table 2-4: MWDOC's Total Imported Water Demands (AFY)

MWDOC's Total Imported Water Demands											
	2015	2020	2025	2030	2035	2040					
M&I Water Demands	158,664	132,826	144,254	140,203	135,913	135,135					
Groundwater Replenishment and Surface Water Demands	66,844	72,306	72,306	72,306	72,306	72,306					
Recycled Water	0	0	0	0	0	0					
TOTAL MWDOC IMPORTED WATER DEMAND	225,508	205,132	216,560	212,509	208,219	207,441					
NOTES: Includes M&I demands to be met	via imported	supplies as w	NOTES: Includes M&I demands to be met via imported supplies as well as GW replenishment and surface water demands								

2.5 SBx7-7 Requirements

The Water Conservation Act of 2009, also known as SBx7-7, signed into law on February 3, 2010, requires the State of California to reduce urban water use by 20 percent by the year 2020. To achieve this each retail urban water supplier must determine baseline water use during their baseline period and target water use for the years 2015 and 2020 to meet the state's water reduction goal. Retail water suppliers are required to comply with SBx7-7 individually or as a region in collaboration with other retail water suppliers, or demonstrate they have a plan or have secured funding to be in compliance, in order to be eligible for water related state grants and loans on or after July 16, 2016.

As a wholesale water supplier, MWDOC is not required to establish a baseline or set targets for daily per capita water use. However, it is required to provide an assessment of its present and proposed future measures, programs and policies that will help its retail water suppliers achieve their SBx7-7 water use reduction targets. One of the ways MWDOC is assisting its retail agencies is by leading the coordination of Orange County Regional Alliance for all of the retail agencies in Orange County. MWDOC's role is to assist each retail water supplier in Orange County in analyzing the requirements and establishing their baseline and target water use, as guided by DWR (DWR, Technical Methodologies, February 2011¹).

¹ An *Updated Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* document is pending DWR management approval and is expected in April 2016.



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The following sections describe the efforts by MWDOC to assist retail agencies in complying with the requirements of SBx7-7, including the formation of a Regional Alliance to provide additional flexibility to all water suppliers in Orange County. This section also includes the documentation of calculations that allow retail water suppliers to use recycled water for groundwater recharge (indirect reuse) to offset a portion of their potable demand when meeting the regional as well as individual water use targets for compliance purposes. A discussion of programs implemented to support retail agencies in achieving their per capita water reduction goals is covered in Section 4 – Demand Management Measures of this UWMP.

2.5.1 Orange County 20x2020 Regional Alliance

MWDOC in collaboration with all of its retail agencies as well as the Cities of Anaheim, Fullerton, and Santa Ana, has created the Orange County 20x2020 Regional Alliance in an effort to create flexibility in meeting the daily per capita water use targets. This Regional Alliance allows all of Orange County to benefit from regional investments, such as the Groundwater Replenishment System (GWRS), recycled water, and water conservation programs. The members of the Orange County 20x2020 Regional Alliance are shown in Table 2-5.



Table 2-5: Members of Orange County 20x2020 Regional Alliance

Orange County 20x2020 Regional Alliance						
Anaheim	Moulton Niguel Water District					
Brea	Newport Beach					
Buena Park	Orange					
East Orange County Water District	San Clemente					
El Toro WD	San Juan Capistrano					
Fountain Valley	Santa Ana					
Fullerton	Santa Margarita Water District					
Garden Grove	Seal Beach					
Golden State Water Company	Serrano Water District					
Huntington Beach	South Coast Water District					
Irvine Ranch Water District	Trabuco Canyon Water District					
La Habra	Tustin					
La Palma	Westminster					
Laguna Beach County Water District	Yorba Linda Water District					
Mesa Water District						

Within a Regional Alliance, each retail water supplier will have an additional opportunity to achieve compliance under either an individual target or a regional water use target.

- If the Regional Alliance meets its water use target on a regional basis, all agencies in the alliance are deemed compliant.
- If the Regional Alliance fails to meet its water use target, each individual supplier will have an opportunity to meet their water use targets individually.

Individual water suppliers in the Orange County 20x2020 Regional Alliance will state their participation in the Alliance, and include the regional 2015 and 2020 water use targets in their individual UWMPs.

As the reporting agency for the Orange County 20x2020 Regional Alliance, MWDOC has documented the calculations for the regional urban water use reduction targets. MWDOC will also provide annual monitoring and reporting for the region on progress toward the regional per capita water use reduction targets.

2.5.2 Water Use Target Calculations

To preserve maximum flexibility in the Orange County 20x2020 Regional Alliance, each water supplier in the Regional Alliance first calculates its individual target in its retail UWMP as if it were complying individually. Then, the individual targets are weighted by each supplier's population and averaged over all members in the alliance to determine the regional water use target.

2.5.2.1 Retail Agency Compliance Targets

As described above, the first step in calculating a regional water use target is to determine each water supplier's individual target. DWR has established four target options for urban retail water suppliers to choose from in calculating their water use reduction targets under SBx7-7. The four options are as follows:

- Option 1 requires a simple 20 percent reduction from the baseline by 2020 and 10 percent by 2015.
- Option 2 employs a budget-based approach by requiring an agency to achieve a performance standard based on three metrics
 - Residential indoor water use of 55 gallons per capita per day (GPCD)
 - Landscape water use commensurate with the Model Landscape Ordinance
 - o 10 percent reduction in baseline CII water use
- Option 3 is to achieve 95 percent of the applicable state hydrologic region target as set forth in the State's 20x2020 Water Conservation Plan.
- Option 4 requires the subtraction of Total Savings from the baseline GPCD:
 - Total savings includes indoor residential savings, meter savings, CII savings, and landscape and water loss savings.

MWDOC has analyzed each of these options, and has worked with all retail agencies in Orange County to assist them in selecting the most suitable option in 2010 and 2015. In 2015, retail water agencies may update their 2020 water use target using a different target method than was used in 2010. However, the target method is not permitted to change after the 2015 UWMP is submitted.

2.5.2.2 Regional Targets Calculation and 2015 Compliance

The regional water use targets for the Orange County 20x2020 Regional Alliance are calculated by weighting the individual retail agency water use targets by population and averaging them over all members of the alliance. The calculation of the baseline water use and water use targets in the 2010 UWMP was based on the 2000 U.S. Census population numbers obtained from CDR. In 2015, the baseline water use and water use targets for all retail agencies have been revised using population numbers based on the 2010 U.S. Census obtained from CDR in 2012.

The regional alliance target calculation is provided below in Table 2-5. Column (1) shows the 2015 population for each individual supplier. The individual targets, including appropriate deductions for recycled water, for each supplier is provided in column (2) for the interim 2015 targets, and column (4) for the final 2020 targets.

To calculate the weighted averages for each retail water supplier, the population is multiplied by the individual targets to get a weighted total for each individual supplier. This is found in column (3) for the interim 2015 targets and in column (5) for the final 2020 targets. The regional targets for the Orange County 20x2020 Regional Alliance are then derived as the sum of the individual weighted averages divided by the total population for a regional alliance.

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For example, the 2020 water use target for the City of Brea is 222 GPCD, and the 2015 population is 43,093. By multiplying this 2020 target by the population, the result is a weighted average of 9,513,018. The sum of the weighted averages for all members of the Orange County 20x2020 Regional Alliance is 479,137,952. By dividing this weighted total by the regional population of 3,138,846, the resulting regional 2020 water use target is 158 GPCD.

The source of the information in Table 2-6, including the population figures, is from within the individual 2015 UWMPs for each water supplier in the Orange County 20x2020 Regional Alliance.



Table 2-6: Calculation of Regional Urban Water Use Targets for Orange County 20x2020 Regional Alliance

Calculation	on of Regional	Compliance D	aily Per Capita	Water Use	
Orange County 20x2020 Regional Alliance	(1) 2014 Population	(2) Individual Targets 2015 ^{A,B}	(3) Weighted Total 2015	(4) Individual Targets 2020 ^{A,C}	(5) Weighted Total 2020
Brea	43,093	248	10,702,145	221	9,513,018
Buena Park	82,791	178	14,740,224	158	13,102,421
East Orange CWD RZ	3,257	261	851,540	232	756,925
El Toro WD	48,797	183	8,945,341	163	7,951,415
Fountain Valley	57,908	157	9,071,479	142	8,196,877
Garden Grove	176,649	152	26,919,945	142	25,004,666
Golden State WC	169,573	157	26,623,806	142	24,003,058
Huntington Beach	198,429	151	30,034,368	142	28,087,625
Irvine Ranch WD	379,510	192	72,746,132	170	64,663,229
La Habra	61,843	151	9,342,976	150	9,292,066
La Palma	16,030	149	2,387,516	140	2,243,890
Laguna Beach CWD	20,311	183	3,722,297	163	3,308,708
Mesa Water	107,588	163	17,496,928	145	15,552,825
Moulton Niguel WD	170,326	194	33,086,891	173	29,410,570
Newport Beach	65 <i>,</i> 777	228	14,987,798	203	13,322,487
Orange	138,987	203	28,226,005	181	25,089,782
San Clemente	51,385	172	8,835,311	153	7,853,609
San Juan Capistrano	38,829	206	8,006,483	183	7,116,874
Santa Margarita WD	156,949	190	29,779,903	169	26,471,025
Seal Beach	23,706	149	3,526,804	142	3,355,584
Serrano WD	6,464	434	2,804,135	386	2,492,565
South Coast WD	35,004	169	5,918,683	150	5,261,051
Trabuco Canyon WD	12,712	233	2,965,219	200	2,539,757
Tustin	68,088	170	11,581,691	151	10,294,836
Westminster	93,785	137	12,817,421	130	12,195,988
Yorba Linda WD	74,787	266	19,911,283	237	17,698,918
Anaheim	360,142	183	65,767,509	162	58,460,008
Fullerton	140,827	201	28,284,657	179	25,141,917
Santa Ana	335,299	123	41,165,687	116	38,756,257
Regional Alliance Total	3,138,846	176	551,250,176	158	497,137,952

[[]A] Targets were calculated using the first option for calculating regional compliance from page 53 of the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, dated October 1, 2010.

[B] The targets listed in column (2) are the actual GPCDs achieved in 2015, including any recycled water credit.

[C] The targets listed in column (3) are the GPCD goals for 2020, including any recycled water credit.



Table 2-7 provides the regional urban water use targets for the Orange County 20x2020 Regional Alliance – the 2015 target is 178 GPCD and the 2020 target is 158 GPCD. The actual 2015 GPCD achieved by the regional alliance is 125 GPCD indicating that not only has the region met its 2015 target but it has already well below its 2020 water use target. This is indicative of the collective efforts of MWDOC and retail agencies in reducing water use in the region. Note, the target and actual GPCD values listed include appropriate deductions for recycled water used for indirect potable reuse as detailed below.

Table 2-7: Urban Water Use Targets for Orange County 20x2020 Regional Alliance

	2015 GPCD ¹	2020 Target ²
Orange County 20X2020 Regional Alliance	125	158

^[1] Actual GPCD achieved in 2015

2.5.2.3 Deducting Recycled Water Used for Indirect Potable Reuse

SBx7-7 allows urban retail water suppliers to calculate a deduction for recycled water entering their distribution system indirectly through a groundwater source. Individual water suppliers within the Orange County Groundwater Basin have the option of choosing this deduction to account for the recharge of recycled water into the Orange County Groundwater Basin by OCWD, historically through Water Factory 21, and more recently by GWRS. These deductions also benefit all members of the Orange County 20x2020 Regional Alliance.

MWDOC has provided the documentation for the calculations of this deduction to assist retail water suppliers if they choose to include recycled water for indirect potable reuse in their individual targets. This calculation is applied as a deduction from the water supplier's calculation of Gross Water Use.

Table 2-8 provides the calculation to deduct recycled water for indirect potable reuse for Orange County Groundwater Basin Agencies. Because year-to-year variations can occur in the amount of recycled water applied in a groundwater recharge operation, a previous five-year average of recharge is used, as found in column (1). To account for losses during recharge and recovery, a factor of 96.5 percent is applied in column (2).

After accounting for these losses, the estimated volume of recycled water entering the distribution system is calculated in column (3).

In column (4), the annual deduction for recycled water for indirect potable reuse is expressed as a percentage of the total volume of water extracted from the Orange County Groundwater Basin in that year. This is the annual percentage of total OCWD basin production that is eligible for a deduction. For individual water suppliers in the OCWD Basin, the annual deduction is calculated as their basin pumping in a given year multiplied by the value in column (4).

For example, if Agency A pumped 10,000 AF of water from the OCWD Basin in Fiscal Year 2004-05, then 1.47 percent of that total production would be deducted from the agency's calculation of Gross Water Use for that year as found in column (4). This equates to a deduction of 147 AF.

^[2] GPCD Target to achieve by the year 2020

Table 2-8: Calculation of Annual Deductible Volume of Indirect Recycled Water Entering Distribution System

	Ded	uct Recycled V	Vater Used for	Indirect Potable	Reuse [1]	
Fiscal Year Ending	Total Groundwater Recharge	(1) 5-Year Average Recharge (Acre-Feet)	(2) Loss Factor for Recharge & Recovery	(1) x (2) = (3) Volume Entering Distribution System (Acre-Feet)	Total Basin Production	(4) Percent of Total Basin Production
1990	6,498	6,498	96.5%	6,271	229,878	2.73%
1991	6,634	6,498	96.5%	6,271	235,532	2.66%
1992	6,843	6,566	96.5%	6,336	244,333	2.59%
1993	8,161	6,658	96.5%	6,425	243,629	2.64%
1994	5,042	7,034	96.5%	6,788	237,837	2.85%
1995	2,738	6,636	96.5%	6,403	276,096	2.32%
1996	4,282	5,884	96.5%	5,678	302,273	1.88%
1997	4,389	5,413	96.5%	5,224	310,217	1.68%
1998	2,496	4,922	96.5%	4,750	297,726	1.60%
1999	3,489	3,789	96.5%	3,657	322,476	1.13%
2000	5,774	3,479	96.5%	3,357	320,250	1.05%
2001	2,067	4,086	96.5%	3,943	323,129	1.22%
2002	4,143	3,643	96.5%	3,515	322,590	1.09%
2003	3,867	3,594	96.5%	3,468	274,927	1.26%
2004	1,784	3,868	96.5%	3,733	272,954	1.37%
2005	4,156	3,527	96.5%	3,404	232,199	1.47%
2006	4,086	3,203	96.5%	3,091	215,172	1.44%
2007	218	3,607	96.5%	3,481	284,706	1.22%
2008	17,792	2,822	96.5%	2,723	351,622	0.77%
2009	54,261	5,607	96.5%	5,411	310,586	1.74%
2010	65,950	16,103	96.5%	15,539	273,889	5.67%
2011	66,083	28,461	96.5%	27,465	248,659	11.05%
2012	71,678	40,861	96.5%	39,431	266,066	14.82%
2013	72,877	55,153	96.5%	53,223	298,175	17.85%
2014	66,167	66,170	96.5%	63,854	318,967	20.02%
2015	76,546	68,551	96.5%	66,152	296,292	22.33%
2016						
2017						
2018						
2019						
2020						

^[1] Indirect is recycled water for groundwater recharge through spreading and injection of GWRS and Water Factory 21. The yearly totals are apportioned among the OCWD Basin agencies on the basis of groundwater production over a five year rolling average.



^[2] Loss factor provided by OCWD, includes loss over county lines to LA Basin.

The deductible amount of indirect recycled water increased fourfold from 2010 to approximately 66,000 AF in 2015 as a result of the full production from GWRS. OCWD has additional expansion plans for GWRS, which are expected to further increase the deductible amount of indirect recycled water up to approximately 98,400 AF.



3 WATER SOURCES AND SUPPLY RELIABILITY

3.1 Overview

Water supplies in MWDOC's service area are from local and imported sources. MWDOC delivers water, purchased from Metropolitan, to its retail agencies in order to supplement their local supplies. In FY 2014-15, MWDOC supplied approximately 158,664 AFY of imported water to its retail agencies for M&I purposes and 66,844 AFY for groundwater replenishment and surface water purposes. Imported water represents approximately 35 percent of total water supply in the MWDOC service area. Sources of Metropolitan's imported water include the CRA and SWP.

Local supplies developed by individual retail agencies, primarily groundwater, presently account for approximately 65 percent of the service area's water supplies. Local supplies include groundwater, recycled water, and surface water. The primary groundwater basin, Orange County Groundwater Basin is located in the northern portion of MWDOC's service area.

Figure 3-1 shows a breakdown of all sources within MWDOC's service area. Although MWDOC only delivers imported water to its retail agencies, other sources of water are obtained locally and are specific to each retail agency. Note: GWRS Supplies are included as part of groundwater pumping numbers.



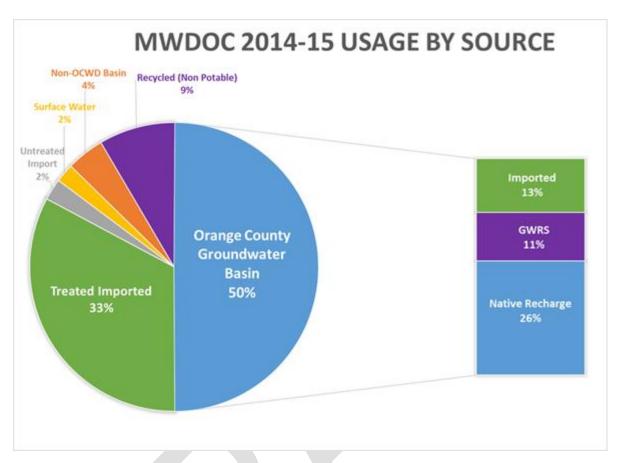


Figure 3-1: Water Supply Sources within MWDOC

MWDOC and its retail agencies collectively work together to improve the water reliability within the service area by developing additional local supplies and by implementing water use efficiency efforts and by developing local projects. MWDOC works in collaboration with two primary agencies – Metropolitan and OCWD to insure a safe and high quality water supply.

Figure 3-2 provides a summary illustrating the different water sources in MWDOC service area and for all of Orange County:

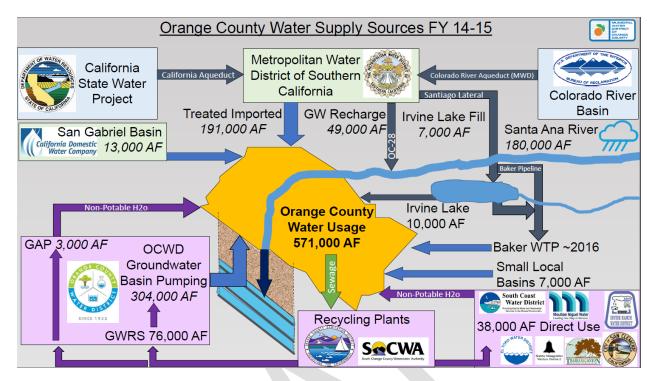


Figure 3-2: Orange County Water Supply Sources

The following sections provide a detailed discussion of MWDOC's water source portfolio as well as projections for the next 25 years. In addition, this section will evaluate MWDOC's projected supply and demand under various hydrological conditions to determine its supply reliability during a 25 year planning horizon.

3.2 Metropolitan Water District of Southern California

Metropolitan is the largest water wholesaler for domestic and municipal uses in California, serving approximately 21.9 million customers. Metropolitan wholesales imported water supplies to 26 member cities and water districts in six southern California counties. Its service area covers the southern California coastal plain, extending approximately 200 miles along the Pacific Ocean from the City of Oxnard on the north to the international boundary with Mexico on the south. This encompasses 5,200 square miles and includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Approximately 85 percent of the population from the aforementioned counties reside within Metropolitan's boundaries.

Metropolitan is governed by a Board of Directors comprised of 38 appointed individuals with a minimum of one representative from each of Metropolitan's 26 member agencies. The allocation of directors and voting rights are determined by each agency's assessed valuation. Each member of the Board shall be entitled to cast one vote for each ten million dollars (\$10,000,000) of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act (Metropolitan Act). Directors can be appointed through the chief executive officer of the member agency

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or by a majority vote of the governing board of the agency. Directors are not compensated by Metropolitan for their service.

Metropolitan is responsible for importing water into the region through its operation of the CRA and its contract with the State of California for SWP supplies. Major imported water aqueducts bringing water to southern California are shown in Figure 3-3. Member agencies receive water from Metropolitan through various delivery points and pay for service through a rate structure made up of volumetric rates, capacity charges and readiness to serve charges. Member agencies provide estimates of imported water demand to Metropolitan annually in April regarding the amount of water they anticipate they will need to meet their demands for the next five years.



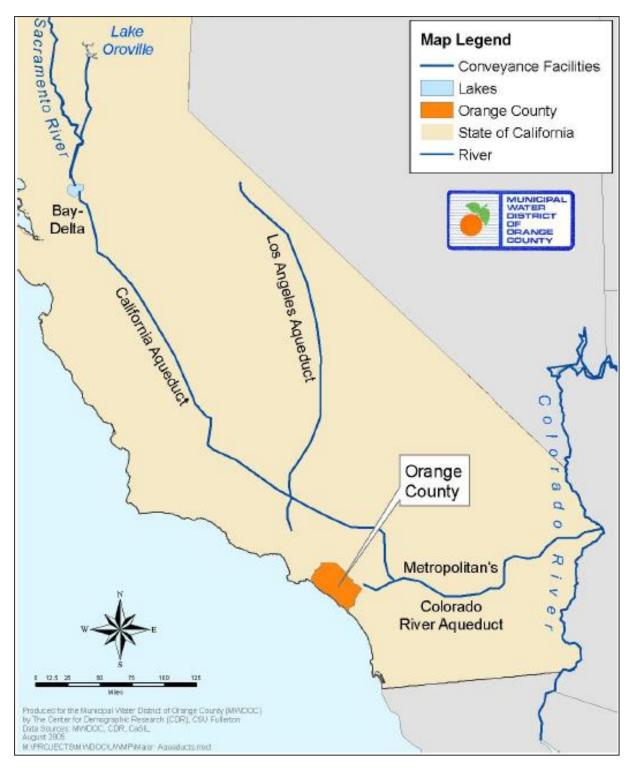


Figure 3-3: Major Aqueducts Bringing Water to Southern California



In Orange County, MWDOC and the cities of Anaheim, Fullerton, and Santa Ana are Metropolitan member agencies that purchase imported water directly from Metropolitan. Furthermore, MWDOC purchases both treated potable and untreated water from Metropolitan to supplement its retail agencies' local supplies. Figure 3-4 illustrates the Metropolitan feeders and major transmission pipelines that deliver water within Orange County.



Figure 3-4: Metropolitan Feeders and Transmission Mains Serving Orange County



3.2.1 Metropolitan's 2015 Urban Water Management Plan

Metropolitan's 2015 Urban Water Management Plan reports on its water reliability and identifies projected supplies to meet the long-term demand within its service area. The Metropolitan 2015 UWMP discusses the current water supply conditions and long-term plans for supply implementation and continued development of a diversified resource mix. It describes the programs being implemented such as: the CRA, SWP, and Central Valley storage/transfer programs, water use efficiency programs, local resource projects, and in-region storage that will enable the region to meet its water supply needs. Metropolitan's 2015 UWMP also presents Metropolitan's supply capacities from 2020 through 2040 for average year, single dry-year, and multiple dry-years as specified in the UWMP Act.

Information concerning Metropolitan's UWMP, including the background, associated challenges, and long-term development of programs for each of Metropolitan's supply sources and capacities have been summarized and included herein. Additional information on Metropolitan can be found directly in Metropolitan's 2015 UWMP, http://www.mwdh2o.com/PDF About Your Water/2015 UWMP.pdf

3.2.2 Colorado River Aqueduct

The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. The CRA, which is owned and operated by Metropolitan, transports water from the Colorado River to its terminus at Lake Mathews in Riverside County. The actual amount of water per year that may be conveyed through the CRA to Metropolitan's member agencies is subject to the availability of Colorado River water for delivery, but is limited to no more than the hydraulic capacity of the aqueduct at about 1.20 million acre-feet (MAF).

The CRA includes supplies from the implementation of the Quantification Settlement Agreement and related agreements to transfer water from agricultural agencies to urban uses. The 2003 Quantification Settlement Agreement enabled California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for 75 years and reducing the state's demand on the river to its 4.4 MAF entitlement. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.20 MAF on an as-needed basis. Water from the Colorado River or its tributaries is available to users in California, Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, as well as to Mexico. California is apportioned the use of 4.4 MAF of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to but not used by Arizona or Nevada. Metropolitan has a basic entitlement of 550,000 AFY of Colorado River water, plus surplus water up to an additional 662,000 AFY when the following conditions exists (Metropolitan, 2015 Draft UWMP, March 2016):

- Water unused by the California holders of priorities 1 through 3
- Water saved by the Palo Verde land management, crop rotation, and water supply program
- When the U.S. Secretary of the Interior makes available either one or both:
 - o Surplus water is available
 - Colorado River water is apportioned to but unused by Arizona and/or Nevada



Unfortunately, Metropolitan has not received surplus water for a number of years. The Colorado River supply faces current and future imbalances between water supply and demand in the Colorado River Basin due to long term drought conditions. Over the past 16 years (2000-2015), there have only been three years when the Colorado River flow has been above average (Metropolitan, 2015 Draft UWMP, March 2016). The long-term imbalance in future supply and demand on the Colorado River is projected to be approximately 3.2 MAF by the year 2060.

Approximately 40 million people rely on the Colorado River and its tributaries for water with 5.5 million acres of land using Colorado River water for irrigation. Climate change will also affect future supply and demand as increasing temperatures may increase evapotranspiration from vegetation along with an increase in water loss due to evaporation in reservoirs, therefore reducing the available amount of supply from the Colorado River and exacerbating imbalances between increasing demands from rapid growth and decreasing supplies.

Four water supply scenarios were developed around these uncertainties, each representing possible water supply conditions. These four scenarios are as follow:

- Observed Resampled: future hydrologic trends and variability are similar to the past approximately 100 years.
- Paleo Resampled: future hydrologic trends and variability are represented by reconstructions of streamflow for a much longer period in the past (approximately 1,250 years) that show expanded variability.
- Paleo Conditioned: future hydrologic trends and variability are represented by a blend of the wet-dry states of the longer paleo-reconstructed period.
- Downscaled General Circulation Model (GCM) Projected: future climate will continue to warm, with regional precipitation and temperature trends represented through an ensemble of future downscaled GCM projections.

The Colorado River Basin Water Supply and Demand Study (Study) assessed the historical water supply in the Basin through two historical streamflow data sets, from the year 1906 through 2007 and the paleoreconstructed record from 762 through 2005. The following are findings from the study:

- Increased temperatures in both the Upper and Lower Colorado River Basins since the 1970s has been observed.
- Loss of springtime snowpack was observed with consistent results across the lower elevation northern latitudes of the western United States. The large loss of snow at lower elevations strongly suggest the cause is due to shifts in temperature.
- The deficit between the two year running average flow and the long-term mean annual flow that started in the year 2000 is more severe than any other deficit in the observed period, at nine years and 28 MAF deficit.
- There are deficits of greater severity from the longer paleo record compared to the period from 1906 through 2005. One deficit amounted to 35 MAF through a span of 16 years.



• A summary of the trends from the observed period suggest declining stream flows, increases in variability, and seasonal shifts in streamflow that may be related to shifts in temperature.

Findings concerning the future projected supply were obtained from the Downscaled GCM Projected scenario as the other methods did not consider the impacts of a changing climate beyond what has occurred historically. These findings include:

- Increased temperatures are projected across the Basin with larger changes in the Upper Basin than in the Lower Basin. Annual Basin-wide average temperature is projected to increase by 1.3 degrees Celsius over the period through 2040.
- Projected seasonal trends toward drying are significant in certain regions. A general trend towards drying is present in the Basin, although increases in precipitation are projected for some higher elevation and hydrologically productive regions. Consistent and expansive drying conditions are projected for the spring and summer months throughout the Basin, although some areas in the Lower Basin are projected to experience slight increases in precipitation, which is thought to be attributed to monsoonal influence in the region. Upper Basin precipitation is projected to increase in the fall and winter, and Lower Basin precipitation is projected to decrease.
- Snowpack is projected to decrease due to precipitation falling as rain rather than snow and warmer
 temperatures melting the snowpack earlier. Areas where precipitation does not change or increase is
 projected to have decreased snowpack in the fall and early winter. Substantial decreases in spring
 snowpack are projected to be widespread due to earlier melt or sublimation of snowpack.
- Runoff (both direct and base flow) is spatially diverse, but is generally projected to decrease, except
 in the northern Rockies. Runoff is projected to increase significantly in the higher elevation Upper
 Basin during winter but is projected to decrease during spring and summer.

The following future actions must be taken to implement solutions and help resolve the imbalance between water supply and demand in areas that use Colorado River water (U.S. Department of the Interior USBR, Colorado River Basin Water Supply and Demand Study, December 2012):

- Resolution of significant uncertainties related to water conservation, reuse, water banking, and weather modification concepts.
- Costs, permitting issues, and energy availability issues relating to large-capacity augmentation projects need to be identified and investigated.
- Opportunities to advance and improve the resolution of future climate projections should be pursued.
- Consideration should be given to projects, policies, and programs that provide a wide-range of benefits to water users and healthy rivers for all users.

3.2.2.1 Background on Colorado River Water Rights

Historically, Metropolitan's fifth priority rights under the Seven Party Agreement were satisfied with water allocated to Arizona and Nevada that these states did not use. Beginning in 1985, with the commencement of Colorado River water deliveries to the Central Arizona Project, year-to-year availability of Colorado River water to Metropolitan became uncertain. The Secretary of the Interior asserted that California's users of Colorado River water had to limit their use to a total of 4.4 MAF per year, plus any



available surplus water. Under the auspices of the State's Colorado River Board, these users developed a draft plan to resolve the problems, which was known as "California's Colorado River Water Use Plan" (California Plan).

The California Plan characterized how California would develop a combination of programs to allow the state to limit its annual use of Colorado River water to 4.4 MAF per year plus any available surplus water. The 2003 Quantification Settlement Agreement (QSA) among Imperial Irrigation District (IID), Coachella Valley Water District (CVWD), and Metropolitan is a critical component of this plan. It established a baseline water use for each of these agencies and facilitates the transfer of water from agricultural agencies to urban uses, and specifies that IID, CVWD, and Metropolitan would forbear use of water to permit the Secretary of the Interior to satisfy the uses of the non-encompassed present perfected rights (PPRs). The PPR holders include certain Indian reservation, federal wildlife refuges, and other users, some but not all of which are encompassed by the Seven Party Agreement.

3.2.2.2 Current Conditions of the Colorado River Aqueduct

On November 5, 2003, IID filed a validation action in Imperial County Superior Court, seeking a judicial determination that thirteen agreements associated with the IID/San Diego County Water Authority (SDCWA) water transfer and the QSA are valid, legal and binding. Other lawsuits also were filed challenging the execution, approval and subsequent implementation of the QSA on various grounds. One of the key issues was the constitutionality of the QSA Joint Powers Authority Agreement, pursuant to which IID, CVWD, and SDCWA agreed to commit \$133 million toward certain mitigation costs associated with implementation of the transfer of 300 TAF of water conserved by IID pursuant to the QSA, and the State agreed to be responsible for any mitigation costs exceeding this amount. A final judgment was issued on February 11, 2015, holding that the State's commitment was unconditional in nature and, as such, violated the State's debt limitation under the California Constitution, and that eleven other agreements, including the QSA, also are invalid because they are inextricably interrelated with the QSA Joint Powers Authority Agreement and the funding mechanism it established to cover such mitigation costs.

Metropolitan, CVWD and SDCWA have filed appeals of the court's decision, which will stay the ruling pending outcome of the appeal. If the ruling stands, it could delay the implementation of programs authorized under the QSA or result in increased costs or other adverse impacts. The impact, if any, which the ruling might have on Metropolitan's water supplies cannot be adequately determined at this time.

3.2.2.3 Colorado River Programs and Long-Term Planning

Metropolitan has identified a number of programs that could be used to achieve the regional long-term development targets for the CRA and has entered into or is exploring agreements with a number of agencies as discussed below. These programs are described in greater detail in Metropolitan's 2015 UWMP.

Existing and proposed Colorado River Water Management Programs include:

• *IID / Metropolitan Conservation Program* - Under this program, Metropolitan has funded water efficiency improvements within IID's service area in return for the right to divert the water conserved by those investments.



- Palo Verde Land Management, Crop Rotation, and Water Supply Program Under this program, participating farmers in Palo Verde Irrigation District (PVID) are paid to reduce their water use by not irrigating a portion of their land.
- Southern Nevada Water Authority (SNWA) and Metropolitan Storage and Interstate Release
 Agreement Under this agreement, additional Colorado River supplies are made available to
 Metropolitan when there is space available in the CRA to receive the water. SNWA may call on
 Metropolitan to reduce is Colorado River water order to return this water no earlier than 2019, unless
 Metropolitan agrees otherwise.
- Lower Colorado Water Supply Project Under this contract, Metropolitan receives, on an annual basis, Lower Colorado Water Supply Project water unused by the City of Needles and other entities with no rights or insufficient rights to use of Colorado River water in California.
- Lake Mead Storage Program This program allows Metropolitan to storage "Intentionally Created Surplus" conserved through extraordinary conservation in Lake Mead.

3.2.2.4 Available Supplies on Colorado River Aqueduct

Metropolitan's current CRA program capabilities under average year, single dry year, and multiple dry year hydrologies are shown below in Table 3-1 (Metropolitan, Draft 2015 UWMP, March 2016). The projections essentially indicate that Metropolitan can achieve a full CRA whenever needed, by augmenting supplies from ICS, fallowing or other exchange opportunities. This analysis has not considered the potential for shortage declarations on the Colorado River under the condition that the Lake Mead elevation declines to 1000 feet; at this point, new provisions would need to be put into place to handle such a situation.



Table 3-1: Metropolitan Colorado River Aqueduct Program Capabilities

Colorado River Aqueduct

Program Capabilities Year 2035

(acre-feet per year)

	Multiple Dry Years	Single Dry Year	Average Year
Hydrology	(1990-92)	(1977)	(1922-2004)
Current Programs			
Basic Apportionment – Priority 4	550,000	550,000	550,000
IID/MWD Conservation Program	85,000	85,000	85,000
Priority 5 Apportionment (Surplus)	250,000	0	21,000
PVID Land Management, Crop Rotation,			
and Water Supply Program	130,000	130,000	130,000
Lower Colorado Water Supply Project	5,000	5,000	5,000
Lake Mead ICS Storage Program	400,000	400,000	400,000
Binational ICS	8,000	24,000	24,000
Forbearance for Present Perfected Rights	(2,000)	(2,000)	(2,000)
CVWD SWP/QSA Transfer Obligation	(35,000)	(35,000)	(35,000)
DWCV SWP Table A Obligation	(45,000)	(42,000)	(118,000)
DWCV SWP Table A Transfer Callback	23,000	22,000	61,000
DWCV Advance Delivery Account	22,000	20,000	57,000
SNWA Agreement Payback	0	0	(5,000)
Subtotal of Current Programs	1,391,000	1,157,000	1,173,000
Programs Under Development			
SNWA Interstate Banking Agreement	0	0	0
Additional Fallowing Programs	25,000	25,000	25,000
Subtotal of Proposed Programs	25,000	25,000	25,000
Additional Non-Metropolitan CRA Supplies			
SDCWA/IID Transfer	200,000	200,000	200,000
Coachella & All-American Canal Lining			
To SDCWA	82,000	82,000	82,000
To San Luis Rey Settlement Parties ¹	16,000	16,000	16,000
Subtotal of Non-Metropolitan Supplies	298,000	298,000	298,000
Maximum CRA Supply Capability ²	1,714,000	1,480,000	1,496,000
Less CRA Capacity Constraint			
(amount above 1.20 MAF)	(464,000)	(230,000)	(246,000)
Maximum Expected CRA Deliveries ³	1,200,000	1,200,000	1,200,000
Less Non-Metropolitan Supplies⁴	(298,000)	(298,000)	(298,000)
Maximum Metropolitan Supply Capability ⁵	902,000	902,000	902,000

¹ Subject to satisfaction of conditions specified in agreement among Metropolitan, the United States, and the San Luis Rey Settlement Parties

 $^{^{\}rm 2}$ Total amount of supplies available without taking into consideration CRA capacity constraint.

³ The Colorado River Aqueduct delivery capacity is 1.20 MAF annually.

⁴ Exchange obligation for the SDCWA-IID transfer and exchange and the Coachella and All American Canal Lining projects.

⁵ The amount of CRA water available to Metropolitan after meeting its exchange obligations.

3.2.3 State Water Project

3.2.3.1 Background

The SWP consists of a series of pump stations, reservoirs, aqueducts, tunnels, and power plants operated by DWR and is an integral part of the effort to ensure that business and industry, urban and suburban residents, and farmers throughout much of California have sufficient water. The SWP is the largest state-built, multipurpose, user-financed water project in the United States. Nearly two-thirds of residents in California receive at least part of their water from the SWP with approximately 70 percent of SWP's contracted water supply going to urban users and 30 percent to agricultural users. The primary purpose of the SWP is to divert and store water during wet periods in Northern and Central California and distribute it to areas of need in Northern California, the San Francisco Bay area, the San Joaquin Valley, the Central Coast, and southern California.

The availability of water supplies from the SWP can be highly variable. A wet water year may be followed by a dry or critically dry year and fisheries issues can restrict the operations of the export pumps even when water supplies are available.

The Sacramento-San Joaquin River Delta (Delta) is key to the SWP's ability to deliver water to its agricultural and urban contractors. All but five of the 29 SWP contractors receive water deliveries below the Delta (pumped via the Harvey O. Banks or Barker Slough pumping plants). However, the Delta faces many challenges concerning its long-term sustainability such as climate change posing a threat of increased variability in floods and droughts. Sea level rise complicates efforts in managing salinity levels and preserving water quality in the Delta to ensure a suitable water supply for urban and agricultural use. Furthermore, other challenges include continued subsidence of Delta islands, many of which are below sea level, and the related threat of a catastrophic levee failure as the water pressure increases, or as a result of a major seismic event.

Ongoing regulatory restrictions, such as those imposed by federal biological opinions (Biops) on the effects of SWP and the federal Central Valley Project (CVP) operations on certain marine life, also contributes to the challenge of determining the SWP's water delivery reliability. In dry, below-normal conditions, Metropolitan has increased the supplies delivered through the California Aqueduct by developing flexible CVP/SWP storage and transfer programs. The goal of the storage/transfer programs is to develop additional dry-year supplies that can be conveyed through the available Harvey O. Banks pumping plant capacity to maximize deliveries through the California Aqueduct during dry hydrologic conditions and regulatory restrictions. In addition, the California State Water Resources Control Board (SWRCB) has set water quality objectives that must be met by the SWP including minimum Delta outflows, limits on SWP and CVP Delta exports, and maximum allowable salinity level.

Metropolitan's Board approved a Delta Action Plan in June 2007 that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance and the environment. The Delta action plan aims to prioritize immediate short-term actions to stabilize the Delta while an ultimate solution is selected, and mid-term steps to maintain the Delta while a long-term solution is implemented. Currently, Metropolitan is working towards addressing three basin elements: Delta ecosystem restoration, water supply conveyance, and flood control protection and storage development.



3.2.3.2 Current Conditions on State Water Project

"Table A" water is the maximum entitlement of SWP water for each water contracting agency. Currently, the combined maximum Table A amount is 4.17 MAFY. Of this amount, 4.13 MAFY is the maximum Table A water available for delivery from the Delta pumps as stated in the State Water Contract, however, deliveries commonly are less than 50% of the Table A in recent years.

SWP contractors may receive Article 21 water on a short-term basis in addition to Table A water if requested. Article 21 of SWP contracts allows contractors to receive additional water deliveries only under specific conditions, generally during wet months of the year (December through March). Because an SWP contractor must have an immediate use for Article 21 supply or a place to store it outside of the SWP, there are few contractors like Metropolitan that can access such supplies.

Carryover water is SWP water allocated to an SWP contractor and approved for delivery to the contractor in a given year but not used by the end of the year. The unused water is stored in the SWP's share of San Luis Reservoir, when space is available, for the contractor to use in the following year.

Turnback pool water is Table A water that has been allocated to SWP contractors that has exceeded their demands. This water can then be purchased by another contractor depending on its availability.

SWP Delta exports are the water supplies that are transferred directly to SWP contractors or to San Luis Reservoir storage south of the Delta via the Harvey O. Banks pumping plant. Estimated average annual Delta exports and SWP Table A water deliveries have generally decreased since 2005, when Delta export regulations affecting SWP pumping operations became more restrictive due to the Biops. A summary SWP water deliveries from the years 2005 and 2013 is summarized in Table 3-2.

Table 3-2: State Water Project Capabilities

Year	Average Annual Delta Exports	Average Annual Table A Deliveries
2005	2.96 MAF	2.82 MAF
2013	2.61 MAF	2.55 MAF
Percent Change	-11.7%	-9.4%

The following factors affect the ability to estimate existing and future water delivery reliability:

- Water availability at the source: Availability depends on the amount and timing of rain and snow that
 fall in any given year. Generally, during a single dry year or two, surface and groundwater storage
 can supply most water deliveries, but multiple dry years can result in critically low water reserves.
- Water rights with priority over the SWP: Water users with prior water rights are assigned higher priority in DWR's modeling of the SWP's water delivery reliability, even ahead of SWP Table A water.
- Climate change: mean temperatures are predicted to vary more significantly than previously expected. This change in climate is anticipated to bring warmer winter storms that result in less snowfall at lower elevations, reducing total snowpack. From historical data, DWR projects that by 2050, the Sierra snowpack will be reduced from its historical average by 25 to 40 percent. Increased precipitation as rain could result in a larger number of "rain-on-snow" events, causing snow to melt



earlier in the year and over fewer days than historically, affecting the availability of water for pumping by the SWP during summer.

- Regulatory restrictions on SWP Delta exports due to the Biops to protect special-status species such
 as delta smelt and spring- and winter-run Chinook salmon. Restrictions on SWP operations imposed
 by state and federal agencies contribute substantially to the challenge of accurately determining the
 SWP's water delivery reliability in any given year.
- Ongoing environmental and policy planning efforts: the California WaterFix involves water delivery
 improvements that could reduce salinity levels by diverting a greater amount of lower salinity
 Sacramento water to the South Delta export pumps. The EcoRestore Program aims to restore at
 least 30,000 acres of Delta habitat, and plans to be well on the way to meeting that goal by the year
 2020.
- Delta levee failure: The levees are vulnerable to failure because most original levees were simply built with soils dredged from nearby channels and were not engineered. A breach of one or more levees and island flooding could affect Delta water quality and SWP operations for several months.
 When islands are flooded, DWR may need to drastically decrease or even cease SWP Delta exports to evaluate damage caused by salinity in the Delta.

The Delta Risk Management Strategy addresses the problem of Delta levee failure and evaluates alternatives to reduce the risk to the Delta. Four scenarios were developed to represent a range of possible risk reduction strategies (Department of Water Resources, The State Water Project Final Delivery Capability Report 2015, July 2015). They are:

- Trial Scenario 1 Improved Levees: This scenario looks at improving the reliability of Delta levees
 against flood-induced failures by providing up to 100-year flood protection. The report found that
 improved levees would not reduce the risk of potential water export interruptions, nor would it change
 the seismic risk of most levees.
- Trial Scenario 2 Armored Pathway: This scenario looks at improving the reliability of water
 conveyance by creating a route through the Delta that has high reliability and the ability to minimize
 saltwater intrusion into the south Delta. The report found that this scenario would have the joint
 benefit of reducing the likelihood of levee failures from flood events and earthquakes, and of
 significantly reducing the likelihood of export disruptions.
- Trial Scenario 3 Isolated Conveyance: This scenario looks to provide high reliability for conveyance
 of export water by building an isolated conveyance facility on the east side of the Delta. The effects of
 this scenario are similar to those for Trial Scenario 2 but with the added consequence of seismic risk
 of levee failure on islands that are not part of the isolated conveyance facility.
- Trial Scenario 4 Dual Conveyance: This scenario is a combination of Scenarios 2 and 3 as it looks
 to improve reliability and flexibility for conveyance of export water by constructing an isolated
 conveyance facility and through-Delta conveyance. It would mitigate the vulnerability of water exports
 associated with Delta levee failure and offer flexibility in water exports from the Delta and the isolated
 conveyance facility. However, seismic risk would not be reduced on islands not part of the export
 conveyance system or infrastructure pathway.



In response to this report there have been a number of steps that have been taken, such as ongoing Delta levee improvements by the Delta Reclamation Agencies and property acquisition for rock stockpiling for an improved emergency pathway. All of these scenarios are consistent with the Metropolitan Board adopted Action Plan.

DWR has altered the SWP operations to accommodate species of fish listed under the ESAs (Biops), and these changes have adversely impacted SWP deliveries. DWR's Water Allocation Analysis indicated that export restrictions are currently reducing deliveries to Metropolitan as much as 150 TAF to 200 TAF under median hydrologic conditions.

Operational constraints likely will continue until a long-term solution to the problems in the Bay-Delta is identified and implemented. New biological opinions for listed species under the Federal ESA or by the California Department of Fish and Game's issuance of incidental take authorizations under the Federal ESA and California ESA might further adversely affect SWP and CVP operations. Additionally, new litigation, listings of additional species or new regulatory requirements could further adversely affect SWP operations in the future by requiring additional export reductions, releases of additional water from storage or other operational changes impacting water supply operations.

3.2.3.3 State Water Project Programs and Long-Term Planning

Metropolitan's implementation approach for the SWP depends on restoration of pre-Biops exports based on implementation of a number of agreements, including the Sacramento Valley Water Management (Phase 8 Settlement Agreement and the Bay-Delta Conservation Plan (BDCP – now called the California WaterFix). The California WaterFix is being pursued through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties with the ultimate goal of developing a set of actions that will provide for both species/habitat protection and improved reliability of water supplies. The Phase 8 Settlement Agreement was developed among Bay-Delta watershed users to determine how all Bay-Delta water users would bear some of the responsibility of meeting flow requirements.

Other programs and agreements that Metropolitan has implemented to improve management of SWP supplies include:

- Monterey Amendment This settlement between SWP contractors and DWR altered the water
 allocation procedures such that both shortages and surpluses would be shared in the same manner
 for all contractors, eliminating the prior "agriculture first" shortage provision.
- SWP Terminal Storage Metropolitan has contractual rights to 65 TAF of flexible storage at Lake
 Perris and 154 TAF of flexible storage at Castaic Lake, which provides Metropolitan with additional
 options for maximizing yield from the SWP. It can provide Metropolitan with 73 TAF of additional
 supply over multiply dry-years, and in a single-dry year as much as 219 TAF.
- Yuba Dry Year Water Purchase Program Metropolitan entered into this agreement with DWR in 2007 to provide for Metropolitan's participation in the Yuba Dry Year Water Purchase Program, which provides transfers of water from the Yuba County Water Agency during dry years through 2025.
- Desert Water Agency/CVWD SWP Table A Transfer Under this agreement, Metropolitan transferred 100 TAF of its SWP Table A contractual amount to Desert Water Agency/CVWD.



Metropolitan is able to recall the SWP transfer water in years in which Metropolitan determines it needs the water to meet its water management goals. The main benefit of the agreement is to reduce Metropolitan's SWP fixed costs in wetter years when there are more than sufficient supplies to meet Metropolitan's water management goals, while at the same time preserving its dry-year SWP supply.

- Desert Water Agency/CVWD Advance Delivery Program Under this program, Metropolitan delivers Colorado River water to the Desert Water Agency and CVWD in advance of the exchange for their SWP Contract Table A allocations. By delivering enough water in advance to cover Metropolitan's exchange obligations, Metropolitan is able to receive Desert Water Agency and CVWD's available SWP supplies in years in which Metropolitan's supplies are insufficient without having to deliver an equivalent amount of Colorado River water.
- Desert Water Agency/CVWD Other SWP Deliveries Since 2008, Metropolitan has provided
 Desert Water Agency and CVWD written consent to take delivery from the SWP facilities non-SWP
 supplies separately acquired by each agency.
- Diamond Valley Lake (DVL) The completion and filling of DVL between 1999 and 2003 marked an important achievement with respect to protecting southern California against a SWP system outage. The lake can hold up to 810 TAF that provides a portion of southern California's six-month emergency water supply as well as carryover and regulatory storage. The remainder of the six-month emergency supply is held in other SWP reservoirs in southern California and in other Metropolitan reservoirs. It should be noted that the utility of DVL has been compromised by the existence of the quagga mussel in Colorado River supplies. The original design of DVL anticipated storage of both CRA and SWP water; to keep quaggas out of the DVL system, Metropolitan has made the decision to eliminate storage of any CRA supplies in DVL.
- Inland Feeder Project The Inland Feeder project is a high-capacity water delivery system designed
 to increase southern California's water supply reliability. The project will take advantage of large
 volumes of water when available from northern California, depositing it in surface storage reservoirs,
 such as Diamond Valley Lake, and local groundwater basins for use during dry periods and
 emergencies.

3.2.3.4 Available Supplies on State Water Project

Metropolitan's current SWP (also known as the California Aqueduct) program capabilities under average year, single dry year, and multiple dry year hydrologies are shown below in Table 3-3 (Metropolitan, Draft 2015 UWMP, March 2016).



Table 3-3: Metropolitan California Aqueduct Program Capabilities

California Aqueduct
Program Capabilities
Year 2035
(acre-feet per year)

	Multiple Dry Years	Single Dry Year	Average Year
Hydrology	(1990-92)	(1977)	(1922-2004)
Current Programs			
MWD Table A	410,000	210,000	1,181,000
DWCV Table A	45,000	42,000	118,000
San Luis Carryover ¹	80,000	240,000	240,000
Article 21 Supplies	0	0	51,000
Yuba River Accord Purchase	0	0	0
Subtotal of Current Programs	535,000	492,000	1,590,000
Programs Under Development			
Delta Improvements	87,000	178,000	205,000
Subtotal of Proposed Programs	87,000	178,000	205,000
Maximum Supply Capability	622,000	670,000	1,795,000

¹ Includes DWCV carryover.

3.2.4 Central Valley/State Water Project Storage and Transfer Programs

Storage is a major component of Metropolitan's dry year resource management strategy. Metropolitan's likelihood of having adequate supply capability to meet projected demands, without implementing its Water Supply Allocation Plan (WSAP), is dependent on its storage resources. Metropolitan aims to increase the reliability of its supplies through the development of flexible SWP storage and transfer programs. Over the years, Metropolitan has developed numerous voluntary Central Valley storage and transfer programs, aiming to develop additional dry-year water supplies.

3.2.4.1 Background on State Water Project Transfers

Metropolitan has formed partnerships in the past with Central Valley agricultural districts as well as with other southern California SWP Contractors in order to manage the wide fluctuations of SWP supplies. Metropolitan's storage and transfer programs were established to augment SWP reliability in dry years. Metropolitan's Board determined that the criteria for operating the SWP did not provide sufficient reliability to meet Metropolitan's overall supply reliability objectives. Most recently, DWR's estimates of SWP reliability capability show that SWP reliability under conditions similar to 1977, the driest year on record, could be significantly worse than earlier modeling indicated.

Metropolitan believes that it now has in place Central Valley/SWP storage and transfer programs capable of reaching its planning target, and it has several other programs under development.

3.2.4.2 Current Programs and Long-Term Planning on State Water Project

Metropolitan currently has several Central Valley/SWP storage programs in operation. Metropolitan is also pursuing a new storage program with Antelope Valley-East Kern Water Agency, and it is currently under development. In addition, Metropolitan pursues Central Valley water transfers on an as needed basis. Existing and planned storage and transfer programs include:

- Semitropic Storage Program- Under this program, Metropolitan can store portions of its SWP
 entitlement water in excess of the amounts needed to meet its demands. The water is delivered to
 farmers in the Semitropic Water Storage District (SWSD) who use the water in lieu of pumping
 groundwater. During dry years, Metropolitan's previously stored water is returned by direct
 groundwater pumping by the SWSD and the exchange of SWP entitlement water. The maximum
 storage capacity of the program is 350 TAF.
- Arvin-Edison Storage Program- This program was amended in 2008 to include the South Canal Improvement Project, which increases reliability and improves the quality of water returned to the California Aqueduct. Metropolitan can use the program to store excess SWP Table A supplies during wet years. The water can either be directly recharged into the groundwater basin or delivered to farmers in the Arvin-Edison Water Storage District who use the water in-lieu of pumping groundwater. During dry years, the water is returned to Metropolitan by direct groundwater pumping or by exchange of surface water supplies. The program storage capacity is 350 TAF.
- San Bernardino Valley MWD Storage Program- This program allows Metropolitan to purchase a portion of San Bernardino Valley Municipal Water District's SWP supply. The program has a minimum purchase provision of 20 TAF and can deliver up to 70 TAF, depending on hydrologic conditions. The agreement also allows Metropolitan to store up to 50 TAF of transfer water for use in dry years. This agreement can be renewed until December 31, 2035. San Gabriel Valley MWD Exchange Program This program allows for the exchange of up to 5 TAF each year. For each AF Metropolitan delivers to the City of Sierra Madre, a San Gabriel Valley MWD member agency, San Gabriel Valley MWD provides two AF to Metropolitan in the Main San Gabriel Basin, up to 5 TAF.
- Antelope Valley-Kern Water Agency Exchange and Storage Program This program allows for
 every two AF Metropolitan receives, Metropolitan returns one AF to AVEK to improve its
 reliability. The exchange program is expected to deliver 30 TAF over ten years, with 10 TAF
 available in dry years. Under the program, Metropolitan will also be able to store up to 30 TAF in
 the AVEK's groundwater basin, with a dry year return capability of 10 TAF.
- Kern-Delta Water District Storage Program- This program, currently under development, will allow
 Metropolitan to store up to 250 TAF of water and will be capable of providing 50 TAF of dry year
 supply. The water will be either directly recharged into the groundwater basin or delivered to KernValley Water District farmers who use the water in-lieu of pumping groundwater. During dry years,
 MWDOC will return Metropolitan's previously stored water by direct groundwater pump-in return or by
 exchange of surface water supplies.
- Mojave Storage Program- Metropolitan entered into a groundwater banking and exchange transfer
 agreement with Mojave Water Agency on October 29, 2003. This program will allow Metropolitan to
 store SWP supply delivered in wet years for subsequent withdrawal during dry years. Metropolitan
 can annually withdraw the Mojave Water Agency's SWP contractual amounts in excess of a 10



2015 URBAN WATER MANAGEMENT PLAN

- percent reserve through 2021 and the SWP allocation is 60 percent or less. The mount Metropolitan can withdraw increases to 20 percent when the SWP allocation is over 60 percent. Under a 100 percent allocation, the State Water Contract provides Mojave Water Agency 82.8 TAF of water.
- Central Valley Transfer Programs- Metropolitan expects to secure Central Valley water transfer supplies via spot markets and option contracts to meet its service area demands when necessary. Metropolitan secured water transfer supplies in 2003-2015 to fill anticipated supply shortfalls needed to meet service area demands. Metropolitan's recent water transfer activities in have demonstrated Metropolitan's ability to develop and negotiate water transfer agreements either working directly with the agricultural districts who are selling the water or through a statewide Drought Water Bank.

3.2.4.3 Available Supplies on Central Valley/State Water Project

Metropolitan's current Central Valley/SWP storage and transfer program supply capabilities under average year, single dry, and multiple dry year hydrologies are shown below in Table 3-4. In developing the supply capabilities for the Metropolitan 2015 UWMP, Metropolitan assumed a simulated median storage level going into each of the five-year increments based on the balances of supplies and demands.



Table 3-4: Metropolitan Central Valley/State Water Project and Transfer Programs

Central Valley/State Water Project Storage and Transfer Programs

Supply Projection Year 2035

(acre-feet per year)

	Multiple Dry	Single Dry	Average
	Years	Year	Year
Hydrology	(1990-92)	(1977)	(1922-2004)
Current Programs			
San Bernardino Valley MWD Minimum Purchase	3,000	0	20,000
San Bernardino Valley MWD Option Purchase	0	0	16,000
San Gabriel Valley MWD Exchange and Purchase	2,000	2,000	2,000
Central Valley Storage and Transfers			
Semitropic Program	50,000	49,000	70,000
Arvin Edison Program	63,000	75,000	75,000
Mojave Storage Program	2,000	0	26,000
Kern Delta Program	47,000	50,000	50,000
Transfers and Exchanges	50,000	50,000	50,000
Subtotal of Current Programs	217,000	226,000	309,000
Programs Under Development			
Antelope Valley/East Kern Acquisition and Storage	7,000	20,000	20,000
Subtotal of Proposed Programs	7,000	20,000	20,000
Maximum Supply Capability	224,000	246,000	329,000

3.2.5 Supply Reliability within Metropolitan

In the Metropolitan UWMP, Metropolitan evaluated supply reliability by projecting supply and demand conditions for the single- and multi-year drought cases based on conditions affecting the SWP (Metropolitan's largest and most variable supply). For this supply source, the single driest-year was 1977 and the three-year dry period was 1990-1992. The analyses also includes Colorado River supplies under the same hydrologies. Metropolitan's analyses are shown in Tables 3-5, 3-6, and 3-7. Metropolitan has concluded that the region can provide reliable water supplies not only under normal conditions but also under both the single driest year and the multiple dry year hydrologies. Because Metropolitan's projections take into account the imported demands from OC, Metropolitan's analysis will be used to determine, by virtue of MWDOC being part of Metropolitan, that demands within MWDOC can be met not only under normal conditions but also under both the single driest year and the multiple dry year hydrologies



Table 3-5: Metropolitan Average Year Projected Supply Capability and Demands through 2040

Average Year Supply Capability¹ and Projected Demands Average of 1922-2012 Hydrologies

(Acre-feet per year)

Forecast Year	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	693,000	774,000	852,000	956,000	992,000
California Aqueduct ²	1,760,000	1,781,000	1,873,000	1,899,000	1,899,000
Colorado River Aqueduct					
Total Supply Available ³	1,468,000	1,488,000	1,484,000	1,471,000	1,460,000
Aqueduct Capacity Limit ⁴	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Colorado River Aqueduct Capability	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Capability of Current Programs	3,653,000	3,755,000	3,925,000	4,055,000	4,091,000
_					
Demands					
Total Demands on Metropolitan	1,586,000	1,636,000	1,677,000	1,726,000	1,765,000
IID-SDCWA Transfers and Canal Linings	274,000	282,000	282,000	282,000	282,000
Total Metropolitan Deliveries ⁵	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
Surplus	1,793,000	1,837,000	1,966,000	2,047,000	2,044,000
3010103	1,770,000	1,007,000	1,700,000	2,047,000	2,044,000
Programs Under Development					
In-Region Supplies and Programs	43,000	80,000	118,000	160,000	200,000
California Aqueduct	20,000	20,000	225,000	225,000	225,000
Colorado River Aqueduct					
Total Supply Available ³	5,000	25,000	25,000	25,000	25,000
Aqueduct Capacity Limit ⁴	0	0	0	0	0
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	63,000	100,000	343,000	385,000	425,000
Potential Surplus	1,856,000	1,937,000	2,309,000	2,432,000	2,469,000

¹Represents Supply Capability for resource programs under listed year type.



² California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

³ Colorado River Aqueduct includes programs, IID-SDCWA transfer and exchange and canal linings conveyed by the aqueduct.

⁴ Maximum CRA deliveries limited to 1.20 MAF including IID-SDCWA transfer and exchange and canal linings.

⁵ Total deliveries are adjusted to include IID-SDCWA transfer and exchange and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Table 3-6: Metropolitan Single-Dry Year Projected Supply Capability and Demands through 2040

Single Dry-Year Supply Capability¹ and Projected Demands Repeat of 1977 Hydrology

(Acre-feet per year)

Forecast Year	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	693,000	774,000	852,000	956,000	992,000
California Aqueduct ²	644,000	665,000	692,000	718,000	718,000
Colorado River Aqueduct			•		,
Total Supply Available ³	1,451,000	1,457,000	1,456,000	1,455,000	1,454,000
Aqueduct Capacity Limit⁴	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Colorado River Aqueduct Capability	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Capability of Current Programs	2,537,000	2,639,000	2,744,000	2,874,000	2,910,000
Demands					
Total Demands on Metropolitan	1,731,000	1,784,000	1,826,000	1,878,000	1,919,000
IID-SDCWA Transfers and Canal Linings	274,000	282,000	282,000	282,000	282,000
IID-3DCWA ITAIISIEIS AITA CAITAI LITIIIIGS	274,000	202,000	202,000	202,000	202,000
Total Metropolitan Deliveries ⁵	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
Surplus	532,000	573,000	636,000	714,000	709,000
Programs Under Development					
In-Region Supplies and Programs	43,000	80,000	118,000	160,000	200,000
California Aqueduct	20,000	20,000	198,000	198,000	198,000
Colorado River Aqueduct					
Total Supply Available ³	155,000	125,000	75,000	25,000	25,000
Aqueduct Capacity Limit⁴	0	0	0	0	0
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	63,000	100,000	316,000	358,000	398,000
Potential Surplus	595,000	673,000	952,000	1,072,000	1,107,000

¹ Represents Supply Capability for resource programs under listed year type.

² California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

³ Colorado River Aqueduct includes programs, IID-SDCWA transfer and exchange and canal linings conveyed by the aqueduct.

⁴ Maximum CRA deliveries limited to 1.20 MAF including IID-SDCWA transfer and exchange and canal linings.

⁵ Total deliveries are adjusted to include IID-SDCWA transfer and exchange and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Table 3-7: Metropolitan Multiple-Dry Year Projected Supply Capability and Demands through 2040

Multiple Dry-Year Supply Capability¹ and Projected Demands Repeat of 1990-1992 Hydrology

(Acre-feet per year)

Forecast Year	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	239,000	272,000	303,000	346,000	364,000
California Aqueduct ²	712,000	730,000	743,000	752,000	752,000
Colorado River Aqueduct					
Total Supply Available ³	1,403,000	1,691,000	1,690,000	1,689,000	1,605,000
Aqueduct Capacity Limit⁴	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Colorado River Aqueduct Capability	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Capability of Current Programs	2,151,000	2,202,000	2,246,000	2,298,000	2,316,000
Demands					
Total Demands on Metropolitan	1,727,000	1,836,000	1,889,000	1,934,000	1,976,000
IID-SDCWA Transfers and Canal Linings	274,000	282,000	282,000	282,000	282,000
Total Metropolitan Deliveries ⁵	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
Surplus	150,000	84,000	75,000	82,000	58,000
Programs Under Development					
In-Region Supplies and Programs	36,000	73,000	110,000	151,000	192,000
California Aqueduct	7,000	7,000	94,000	94,000	94,000
Colorado River Aqueduct	,	,	,		,
Total Supply Available ³	80,000	75,000	50,000	25,000	25,000
Agueduct Capacity Limit⁴	0	0	0	0	0
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	43,000	80,000	204,000	245,000	286,000
Potential Surplus	193,000	164,000	279,000	327,000	344,000

¹ Represents Supply Capability for resource programs under listed year type.



² California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

³ Colorado River Aqueduct includes programs, IID-SDCWA transfer and exchange and canal linings conveyed by the aqueduct.

⁴ Maximum CRA deliveries limited to 1.20 MAF including IID-SDCWA transfer and exchange and canal linings.

⁵ Total deliveries are adjusted to include IID-SDCWA transfer and exchange and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

3.2.6 MWDOC's Imported Water Supply

California Water Code requires Metropolitan to provide information to MWDOC for inclusion in its UWMP that identifies and quantifies the existing and planned sources of water available from the wholesale agency. By virtue of MWDOC being a part of Metropolitan and by virtue that imported demands from MWDOC were included in Metropolitan projections, MWDOC's supply projections have been covered by Metropolitan.

Thus, based on Metropolitan's supply projections, MWDOC will be able to meet demands under average year, single dry year, and multiple dry year scenarios. The water supply projections represent the amount of supplies projected to meet MWDOC demands, as MWDOC will only purchase the amount of water needed to meet its service area demands from Metropolitan. The current and future water supply projections are shown in Tables 3-8 and 3-9.

Table 3-8: Wholesale Water Supplies - Actual (AFY)

Wholesale: Water Supplies — Actual						
Water Supply		2015				
	Additional Detail on Water Supply	Actual Volume	Water Quality			
Purchased or Imported Water	Purchased from Metropolitan	158,664	Drinking Water			
Purchased or Imported Water	GW Recharge	58,617	Untreated Water			
Purchased or Imported Water	Surface Storage	8,227	Untreated Water			
	225,508					
NOTES:						

Table 3-9: Wholesale Water Supplies - Projected (AFY)

Wholesale: Water Supplies — Projected							
Water Supply	Additional Detail on Water			ted Water : the Extent I			
		2020	2025	2030	2035	2040	
	Supply						
Imported Water for M&I	Purchased from Metropolitan	132,826	144,254	140,203	135,913	135,135	
Purchased or Imported Water	GW Recharge	65,000	65,000	65,000	65,000	65,000	
Purchased or Imported Water	Surface Storage	7,306	7,306	7,306	7,306	7,306	
Total 205,132 216,560 212,509 208,219 207,441						207,441	
NOTES:							



3.3 Groundwater

Among all local supplies available to MWDOC's retail agencies, groundwater supplies make up the majority. The water supply resources in MWDOC's service area are enhanced by the existence of four groundwater basins, which provide a reliable local source and, additionally, are used as reservoirs to store water during wet years and draw from storage during dry years. This section describes the four groundwater basins used by MWDOC's retail agencies and provides information on historical groundwater production as well as a 25-year projection of the service area's groundwater supply.

3.3.1 Orange County Groundwater Basin

The OCWD overlies the majority of what is called by the California Department of Water Resources (DWR), the Coastal Plain of Orange County Groundwater Basin (Orange County Groundwater Basin). In DWR's Bulletin 118, which describes the extent of all groundwater basins in California, this basin is designated at Basin 8-1 and includes the cities of La Habra and Brea. The Orange County Groundwater Basin underlies the north half of Orange County beneath broad lowlands, bordered by the Coyote and Chino Hills to the north, the Santa Ana Mountains to the northeast, the Pacific Ocean to the southwest, and terminates at the Orange County line to the northwest, where its aquifer systems continue into the Central Basin of Los Angeles County. Figure 3-5 depicts the extent of the Orange County Groundwater Basin. The aquifers comprising this Basin are over 2,000 feet deep and form a complex series of interconnected sand and gravel deposits. It is estimated to hold approximately 66 MAF of water when full, although the amount of "useable storage" has been established by OCWD at a maximum 500,000 AF below full conditions. Keeping the basin within the usable storage range minimizes the potential for seawater intrusion and other potential deleterious effects.



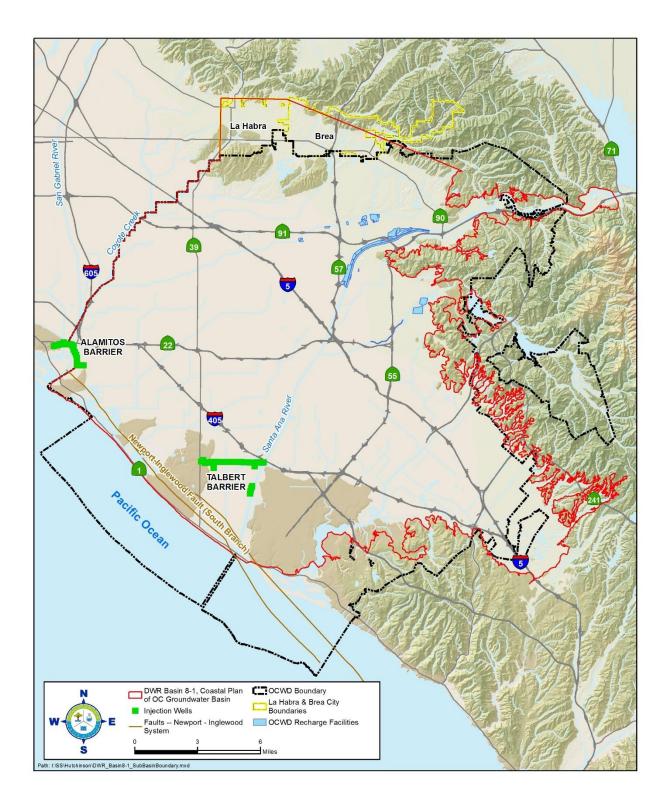


Figure 3-5: Orange County Groundwater Basin



The OCWD was formed in 1933 by a special legislative act of the California State Legislature to protect and manage the County's vast, natural, groundwater supply using the best available technology and defend its water rights to the Santa Ana River. This legislation is found in the State of California Statutes, Water – Uncodified Acts, Act 5683, as amended. The Orange County Groundwater Basin is managed by OCWD under the Act, which functions as a statutorily-imposed physical solution.

The Orange County Groundwater Basin is managed by OCWD for the benefit of municipal, agricultural and private groundwater producers. It meets approximately 60 to 70 percent of the water needs within the boundaries of OCWD. There are 19 major producers including cities, water districts, and private water companies, extracting water from the Orange County Groundwater Basin, serving a population of approximately 2.4 million.

Groundwater storage is managed within a safe basin operating range to protect the long-term sustainability of the Orange County Groundwater Basin and to protect against seawater intrusion and other potential deleterious effects. OCWD uses financial incentives to modulate the amount of pumping from the basin.

OCWD developed a computer-based groundwater flow model to study and better understand the Orange County Groundwater Basin's reaction to pumping and recharge. OCWD manages the Orange County Groundwater Basin by establishing on an annual basis the appropriate level of groundwater production known as the Basin Production Percentage (BPP) as described below (OCWD, Groundwater Management Plan 2015 Update, June 2015).

3.3.1.1 Basin Production Percentage

Pumping from the Orange County Groundwater Basin is managed through a process that uses financial incentives to encourage groundwater producers to pump within a target range established by OCWD. The framework for the financial incentives is based on establishing the BPP, which is the percentage of each Producer's total water supply that comes from groundwater pumped from the Orange County Groundwater Basin. Groundwater production at or below the BPP is assessed a Replenishment Assessment (RA). While there is no legal limit as to how much an agency pumps from the Orange County Groundwater Basin, there is a financial disincentive to pump above the BPP. Pumping above the BPP is also assessed a Basin Equity Assessment (BEA), in addition to the RA, which is calculated so that the cost of groundwater production is equal to MWDOC's full service rate. The BPP is set uniformly for all Producers by OCWD on an annual basis.

The BPP is established each year based on estimated hydrologic conditions for the coming year, basin storage levels, availability of imported water supplies, and other basin management objectives.

In some cases, OCWD encourages treating and pumping groundwater that does not meet drinking water standards in order to protect water quality. This is achieved by using a financial incentive called the BEA Exemption. A BEA Exemption is used to clean up and contain the spread of poor quality water. OCWD uses a partial or total exemption of the BEA to compensate a qualified participating agency or Producer for the costs of treating poor quality groundwater. When OCWD authorizes a BEA exemption for a project, it is obligated to provide the replenishment water for the production above the BPP and forgoes the BEA revenue that OCWD would otherwise receive from the producer.



3.3.1.2 Recharge Management

The Orange County Groundwater Basin is recharged by multiple sources. These include artificial, i.e., man-made systems, and incidental or natural recharge. One of OCWD's core activities is refilling or replenishing the Orange County Groundwater Basin to balance the removal of groundwater by pumping. OCWD is able to increase allowable pumping from the Orange County Groundwater Basin, above the natural safe yield, via the recharge of various sources of water.

OCWD currently owns and operates more than 1,500 acres of surface water recharge facilities in and adjacent to the Santa Ana River and Santiago Creek. Historical groundwater flow was generally toward the ocean in the southwest, but modern pumping has caused groundwater levels to drop below sea level inland of the Newport-Inglewood fault zone. This trough-shaped depression encourages sea water to migrate inland, which if unchecked, could affect water quality. Strategic lines of wells in the Alamitos and Talbert Gaps inject imported and reclaimed water to create a mound of water seaward of the pumping trough to protect the Orange County Groundwater Basin from seawater intrusion. In addition to operating the surface water recharge system, OCWD also operates the Talbert Barrier in Fountain Valley and Huntington Beach, and participates in the financing of the Alamitos Barrier in Seal Beach and Long Beach. The barriers help prevent seawater intrusion and also recharge the Orange County Groundwater Basin.

In addition to natural recharge, sources of recharge water include Santa Ana River (SAR) baseflow and storm flow, Santiago Creek flows, imported supplies purchased from Metropolitan, supplemental supplies from the upper SAR Watershed, and purified water from the GWRS.

Imported water from Metropolitan via MWDOC is one source of water used for groundwater replenishment. However, imported water is not always available. When imported water for groundwater replenishment is not available for extended periods, OCWD can draw upon groundwater in storage under this operation, the Orange County Groundwater Basin draws on stored water to sustain higher levels of pumping. Depending on the severity of the drought and local supply conditions, this operation can be sustained for two to three years before the Orange County Groundwater Basin reaches the base of its allowable storage range (500,000 AF below full conditions). OCWD has defined a series of steps it will take as basin storage declines, including reducing the BPP. The reduced pumping level can remain in place until basin storage levels increase due to heavy rainfall or when water for groundwater replenishment becomes available from Metropolitan. This close coordination of the Orange County Groundwater Basin's operation with the availability of Metropolitan supplies benefits the local service area with enhanced pumping levels in most years.

Water for groundwater replenishment is received at OCWD's recharge facilities in the Cities of Anaheim and Orange and is physically recharged into the Orange County Groundwater Basin through percolation.

3.3.1.3 Recharge Facilities for Orange County Groundwater Basin

Recharging water into the Orange County Groundwater Basin through natural and artificial means is essential to support pumping from the Orange County Groundwater Basin. Active recharge of groundwater began in 1936, in response to increasing drawdown of the Orange County Groundwater Basin and consequently the threat of seawater intrusion. The Orange County Groundwater Basin's primary source of recharge is flow from the Santa Ana River, which is diverted into recharge basins and



its main Orange County tributary, Santiago Creek. Other sources of recharge water include natural infiltration, imported water, and recycled water. Today OCWD owns and operates a network of recharge facilities that cover over 1,500 acres.

One of OCWD's primary efforts has been the control of seawater intrusion into the Orange County Groundwater Basin, especially via the Talbert and Alamitos seawater intrusion barriers. OCWD began addressing the Alamitos Gap intrusion by entering a partnership in 1965 with the Los Angeles County Flood Control District to operate injection wells in the Alamitos Gap. The Talbert Barrier was constructed by OCWD in 1975. Operation of the injection wells in both gaps forms a hydraulic barrier to seawater intrusion.

The GWRS is a cooperative project between OCWD and Orange County Sanitation District (OCSD) that began operating in 2008 at a capacity of about 70,000 AFY. The Phase 2 expansion of the GWRS was recently implemented, bolstering capacity to about 100,000 AFY and is discussed in more detail in Sections 6.3 and 6.4.

3.3.2 San Juan Groundwater Basin

The San Juan Groundwater Basin is located in the San Juan Creek Watershed and is comprised of four principal groundwater basins: 1) Lower Basin, 2) Middle Basin, 3) Upper Basin, and 4) Arroyo Trabuco. A map of the four principal groundwater basins is shown on Figure 3-6. The Middle Basin, Lower Basin, and Lower Trabuco consists of approximately 5.9 square miles of water bearing alluvium. Groundwater occurs in the relatively thin alluvial deposits along the valley floors and within the major stream channels. The younger alluvial deposits within the San Juan Groundwater Basin consists of a heterogeneous mixture of sand, silts, and gravel.

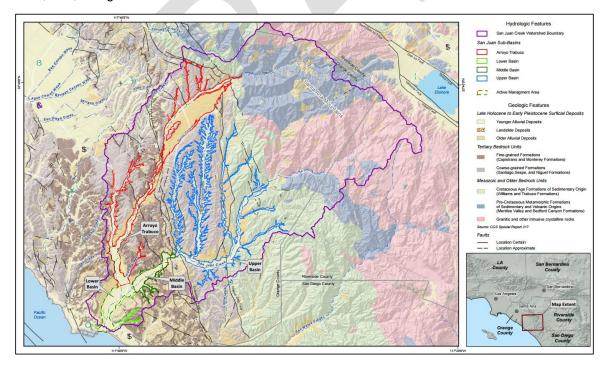


Figure 3-6: Principal Groundwater Formation within the San Juan Groundwater Basin



The physical boundaries of the San Juan Groundwater Basin include the Santa Ana Mountain to the north, sedimentary rock formations to the sides of the Upper Basin and Arroyo Trabuco, and the Pacific Ocean to the south.

San Juan Groundwater Basin is recharged through a variety of sources such as:

- Streambed infiltration in San Juan Creek, Horno Creek, Oso Creek, and Arroyo Trabuco.
- Subsurface inflows along boundaries at the head of the tributaries upstream and other minor subsurface inflows from other boundaries.
- · Precipitation and applied water.
- Flow from fractures and springs.

Discharge of groundwater from the San Juan Groundwater Basin occurs from a variety of sources such as:

- Groundwater production
- · Rising groundwater
- Evapotranspiration
- Outflow to Pacific Ocean

Currently, five agencies have groundwater rights to the San Juan Groundwater Basin and uses this water for either municipal purposes or for irrigation. The agencies with groundwater rights to the San Groundwater Juan Basin and their current rights are listed below:

SCWD: 1,300 AFY

SJBA: 8,026 AFY

SMWD: 643 AFY

San Juan Hills Golf Course: 450 AFY

City of San Juan Capistrano: 3,325 AFY

The San Juan Groundwater Basin differs from many other adjudicated groundwater basins as it does not strictly follow the term "safe yield" in preventing undesirable results occurring as a result of overproduction of groundwater. The basin is governed by the San Juan Basin Authority (SJBA) and is a Joint Power Agency comprised of representatives from four local jurisdictions, SMWD, MNWD, the City of San Juan Capistrano, and SCWD. The SJBA has recently adopted the concept of "adaptive management" of the San Juan Groundwater Basin to vary pumping from year to year based on actual basin conditions derived from monitoring efforts. This is due in part to the SWRCB characterization of the San Juan Groundwater Basin as a "flowing underground stream" and because the storage in the groundwater basin is small relative to recharge and production. The range of natural yield of the San Juan Groundwater Basin is 7,700 AFY to 8,600 AFY. Work is underway to construct rubber dams and increase recharge with recycled water to increase the recharge of the basin by 4,000 AFY to 7,000 AFY (SJBA, Draft Foundational Action Program Report, March 2016).



3.3.3 La Habra Groundwater Basin

The La Habra Groundwater Basin covers the northernmost part of the Orange County Groundwater Basin (Figure 3-5) and extends into parts of Los Angeles County. The La Habra Groundwater Basin lies entirely within the Coyote Creek Watershed and is shown on Figure 3-7.

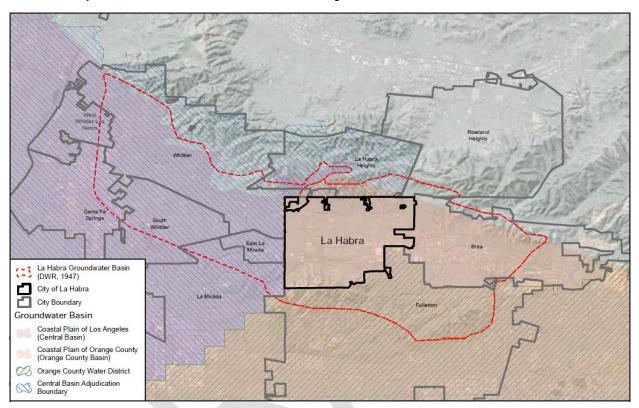


Figure 3-7: La Habra Groundwater Basin

3.3.3.1 La Habra Groundwater Basin Management Objectives

Basin Management Objectives (BMOs) are locally developed flexible guidelines for groundwater development of a particular basin. The City of La Habra has four proposed BMOs:

- BMO No. 1 is to reduce the City of La Habra's dependence on imported water. Currently, approximately 62 percent of its demand is met with imported water. This BMO intends for the City of La Habra to use more local groundwater to meet its demands in order to increase reliability. The City of La Habra's compliance with the 20x2020 program will help meet this BMO as its total water demand will decrease.
- BMO No. 2 is to maintain groundwater sustainability within the La Habra Groundwater Basin. The City
 of La Habra can meet this objective through the coordination of groundwater production within the
 estimated safe yield of the La Habra Groundwater Basin.



- BMO No. 3 is to protect and enhance the water quality of the La Habra Groundwater Basin. The City
 of La Habra may meet this objective through continuing and supplementing its existing water quality
 monitoring program.
- BMO No. 4 is to improve the understanding of the La Habra Groundwater Basin's hydrogeology, groundwater elevations, and basin yields. The City of La Habra can use and supplement its existing groundwater elevation monitoring program to review general trends in groundwater elevations in the La Habra Groundwater Basin. The City of La Habra will also evaluate the need for additional monitoring (La Habra, Draft Groundwater Study, August 2014).

3.3.4 Main San Gabriel Groundwater Basin (California Domestic Water Company)

California Domestic Water Company (CDWC) has water rights, production, treatment and conveyance facilities in the Main San Gabriel Groundwater Basin that serve customers overlying the basin within Suburban Water Systems as well as serving the cities of Brea and La Habra in Orange County. The annual deliveries of groundwater to Brea and La Habra are estimated at about 12,000 AFY. The Main San Gabriel Basin and its operations are described below.

The Main San Gabriel Basin lies in eastern Los Angeles County and occupies most of San Gabriel Valley. The hydrologic basin or watershed coincides with a portion of the upper San Gabriel River watershed, and the aquifer or groundwater basin underlies most of the San Gabriel Valley. It is bounded on the north by the San Gabriel Mountains, on the northwest by Raymond Basin, on the southeast by Puente Basin, and on the south by Central Basin. The Main San Gabriel Basin encompasses approximately 107,000 acres and has a storage of 8.9 MAF when the groundwater elevation at the Baldwin Park Key Well is 316 feet. Generally speaking, one foot of groundwater elevation is equivalent to approximately 8,000 AF of storage.

The hydrogeological San Gabriel Basin is divided between three sub-basins, Main Basin, Puente Basin, and portions of Six Basins area. A portion of Six Basins area is tributary to the Main Basin. Each of the sub-basins are adjudicated and managed separately.

Major sources of recharge to the Main San Gabriel Basin are infiltration of rainfall on the valley floor and runoff from the nearby mountains. The Main San Gabriel Basin is the first of a series of basins to receive the water from mountain runoff. The Main San Gabriel Basin interacts hydrogeologically and institutionally with adjoining basins, including Puente Basin, Central Basin, and West Coast Basin (Main San Gabriel Basin Watermaster, Annual Report, 2015).

Figure 3-8 depicts the Main San Gabriel Basin.



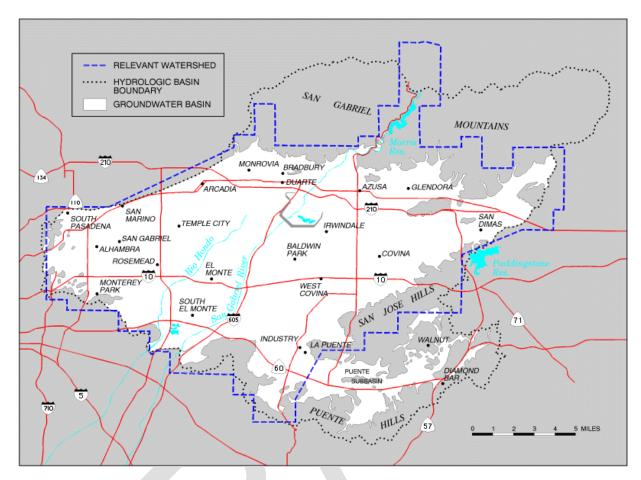


Figure 3-8: Main San Gabriel Groundwater Basin

3.3.4.1 Basin Judgment

Rapid urbanization in the San Gabriel Valley in the 1940s resulted in an increased demand for groundwater drawn from the Upper Area users in Main San Gabriel Basin. Consequently, the Main San Gabriel Basin was in a state of overdraft and the available water supply for the Lower Area and downstream users decreased. In 1968, at the request of producers, the Upper San Gabriel Municipal Water District filed a complaint that would adjudicate water rights in the Basin and would bring all Basin producers under control of one governing body. The final result was the entry of the Main San Gabriel Basin Judgment in 1973.

The Judgment defined the water rights of 190 original parties to the legal action. It created a new governing body, the Main San Gabriel Basin Watermaster, and described a program for management of water in the Basin. Under the terms of the Main San Gabriel Basin Judgment all rights to the diversion of surface water and production of groundwater within the Main Basin and its Relevant Watershed were adjudicated. The Main Basin Judgment does not restrict the quantity of water agencies may extract from the Main Basin. Rather, it provides a means for replacing with Supplemental Water all annual extractions in excess of an agency's annual right to extract water. The Main Basin Watermaster annually establishes an Operating Safe Yield for the Main Basin that is then used to allocate to each agency its portion of the



Operating Safe Yield that can be produced free of a Replacement Water Assessment. If a producer extracts water in excess of his right under the annual Operating Safe Yield, it must pay an assessment for Replacement Water that is sufficient to purchase one AF of Supplemental Water to be spread in the basin for each AF of excess production. All water production is metered and is reported quarterly to the Main Basin Watermaster. The Operating Safe yield for FY 2014 to 2015 was set at 150,000 AF.

In addition to Replacement Water Assessments, the Main Basin Watermaster levies an Administration Assessment to fund the administration of the Main Basin management program under the Main Basin Judgment and a Make-up Obligation Assessment in order to fulfill the requirements for any Make-Up Obligation under the Long Beach Judgment and to supply fifty percent of the administration costs of the River Watermaster service. The Main Basin Watermaster levies an In-lieu Assessment and may levy special Administration Assessments.

Water rights under the Main Basin Judgment are transferable by lease or purchase so long as such transfers meet the requirements of the Main Basin Judgment. There is also provision for Cyclic Storage Agreements that allow parties and non-parties to store imported supplemental water in the Main San Gabriel Basin under such agreements with the Main Basin Watermaster pursuant to uniform rules and conditions and Court approval (Main San Gabriel Basin Watermaster, Annual Report, 2015).

The Main Basin Watermaster has entered into a Cyclic Storage Agreement with three municipal water districts, Metropolitan, Three Valleys Municipal Water District (TVMWD), and Upper San Gabriel Valley Municipal Water District (USGVMWD). The first agreement with Metropolitan and USGVMWD permits Metropolitan to deliver and store imported water in the Main Basin in an amount not to exceed 100,000 AF for future Replacement Water use. The second Cyclic Storage Agreement is with TVMWD and permits Metropolitan to deliver and store 40,000 AF for future Replacement Water use. The third is with San Gabriel Valley Municipal Water District.

3.3.5 San Mateo Groundwater Basin

The San Mateo Groundwater Basin is located to the south of the Orange County boundary, within the boundary of the Marine Corps Base, Camp Pendleton (Base) in San Diego County. Historically, the Base utilized groundwater from the San Mateo Basin for Base use and for irrigation of agricultural lease lands on Base property. Recent data have not been obtained on use of water from the basin by the Base but the agricultural leases in the area have been terminated for some time now. The City of San Clemente has a well two wells that produce between 500 and 1000 AF from the groundwater basin.

San Mateo Creek is accessible to the public, as the creek mouth and lagoon lie within the leasehold of San Onofre State Park. San Mateo Creek is the most pristine, intact coastal stream in Southern California. The streambed and floodplain are in a natural state and the riparian habitat is uniquely native. Several distinct tributaries collect winter rains which flow unimpeded to the ocean.

The watershed encompasses a total of 85,402 acres. These include 40,533 acres of Cleveland National Forest lands, 18,686 acres of Camp Pendleton lands, and 26,183 acres of private lands. The topography is rugged mountains with elevations ranging from 400 feet to 3500 feet. Vegetation types present include chaparral, coastal sage scrub, grassland, oak woodland, and riparian woodland. There are 63 miles of perennial streams within the watershed, of which 11 miles are known or suitable habitat breeding habitat for southern steelhead. Currently, the suitable breeding habitat is the main stem of San Mateo Creek and a portion of Devil Creek. All of the stream miles that are suitable breeding habitat for



southern steelhead are within the San Mateo Wilderness of Cleveland National Forest. There are 12 miles of stream on Camp Pendleton that the steelhead use as a corridor.

Five endangered species occur within the watershed: southern steelhead, arroyo toad, tidewater goby, least Bell's vireo, and southwestern willow flycatcher. Of these, the primary concern of this plan is the southern steelhead. Historically San Mateo Creek supported rainbow trout and anadromous steelhead.

In its "Proposed Range Extension for Endangered Steelhead in Southern California," the National Marine Fisheries Service identified increased groundwater extraction, loss of riparian vegetation, stream channel changes, surficial flow reductions, human-caused fires, and the introduction of non-native predator species as the main threats to steelhead in the San Mateo Creek watershed.

Water Gaging records from 1953 to 2009 indicate an average annual streamflow of 8,720 AF per year. The minimum thickness of the alluvial and San Mateo aquifer units ranges from 33 to 1,400 feet. Aquifer tests have been conducted at five locations within the coastal basin. Groundwater quality from the basin indicates total dissolved solids of less than 900 milligrams per liter and nitrate concentrations less than 7 milligrams per liter.

In the 1990's a Conjunctive Use Concept was considered that envisioned a joint venture between the Marine Corps Base Camp Pendleton and Tri-Cities MWD (was subsequently consolidated into South Coast Water District) that would utilize the potential groundwater basin yield of about 2,000 AF ± and also would also consider storage of imported water for use for emergency purposes in an arrangement with the Marine Base. No current discussions or contacts have been made with the Marine Base.

3.3.6 Laguna Canyon Groundwater Basin

The Laguna Creek watershed lies in the San Joaquin Hills of southern Orange County. The drainage area of approximately 5,412 acres includes the Laguna Creek and Niguel Creek basins and is the largest stream basin to drain exclusively from the San Joaquin Hills into the ocean. The drainage basin is roughly 6.5 miles long and averages 1.5 miles wide between its boundaries. The upper or northern half of the Laguna Canyon Basin is relatively wide with low subdued hills, whereas the lower half is narrow, with steep slopes forming Laguna Canyon. Elevations reach 1,000 feet above sea level in parts of the drainage basin.

The average annual rainfall is about 12 inches at Laguna Beach at the mouth of Laguna Creek and, at times, rainfall in the San Joaquin Hills is sufficient to cause sharp, damaging floods along Laguna Creek. In general, however, the drainage basin is dry with only sufficient water discharge to reflect losses from groundwater sources and urban runoff.

Historically, limited groundwater was produced from this basin when the Laguna area was first settled. However, over time, the supplies could not meet demands and LBCWD (and its predecessor water company) looked first to groundwater supplies in Huntington Beach from the Orange County Groundwater Basin, and later to imported water to meet the needs of its service area. While LBCWD has conducted a review of the potential production from this area, it is not viewed as a reliable source of water into the future. In 2016, LBCWD was able to resurrect its old water rights within the Orange County Groundwater Basin by agreement with OCWD to obtain 2,025 AFY. They are in the process of developing plans to produce and import this water.

3.3.7 Impaired Groundwater

The combined yield from the seven projects described below, was 17,864 AF in 2015. This supply is expected to increase substantially to over 30,000 AF at ultimate development of these projects. Since these projects use groundwater, a similar amount must either be replenished on an average annual basis to maintain water balance or be salvaged from water that otherwise would flow into the ocean as subsurface outflow. The benefit of these projects is to provide a firm base supply, restore use of groundwater storage impaired by natural causes and/or agricultural drainage, improve conjunctive use storage operations, and provide a drought supply by the additional capacity to tap groundwater in storage.

Tustin Main Street Desalter - The City of Tustin currently operates two desalter plants. The Main Street Treatment plant began operating in 1989 with a capacity of 2 MGD (million gallons per day). The Main Street Desalter reduces nitrate levels from the groundwater produced by Tustin's Main Street wells. The untreated groundwater undergoes either Reverse Osmosis or Ion Exchange treatment.

Tustin 17th Street Desalter - The Tustin 17th Street Desalter began operating in 1996 with a capacity of 3 MGD. The Tustin 17th Street Desalter reduces high nitrate and total dissolved solids (TDS) concentrations from the groundwater pumped by Tustin's 17th Street wells. The 17th Street Desalter plant uses two Reverse Osmosis membrane trains to treat the groundwater.

Mesa Water Reliability Facility – Mesa currently owns and operates a Mesa Water Reliability Facility (MWRF) with a capacity of 5.8 MGD that removes color from the water using microfiltration.

IRWD Deep Aquifer Treatment System – IRWD's Deep Aquifer Treatment System (DATS) purifies drinking water from the lower aquifer of the Orange County Groundwater Basin. The water in this aquifer is very high quality, but has a brownish tint imparted from the remains of ancient vegetation. The DATS facility went on-line in 2002 and can treat up to 7.4 MGD from two wells that pump water from 2000 feet below ground level.

IRWD Irvine Desalter Project - The Irvine Desalter Project was completed in 2006 and purifies water found in the Irvine sub-basin of the larger Orange County groundwater basin. It is a two-part endeavor, with recycled water and drinking water components. The Irvine Desalter Potable Treatment Facility uses two reverse osmosis trains to produce 2.7 MGD by removing salts that are caused by natural geology and past agricultural use.

San Juan Basin Desalter - The Groundwater Recovery Plant (GWRP) came on-line in 2004, also known as the San Juan Basin Desalter, is a 5 MGD plant that is owned and operated by the City of San Juan Capistrano. The GWRP takes groundwater high in iron, manganese, and total dissolved solids using reverse osmosis and makes it suitable for potable water uses. The plant has never operated continuously at the 5 MGD rate, but prior to the drought restrictions in the basin, had been producing water at the rate of about 3 MGD.

SCWD Groundwater Desalter - SCWD currently owns and operates a 1 MGD GRF that came on-line in 2007, also known as the Capistrano Beach Desalter. The plant extracts brackish groundwater from an aquifer in the San Juan Basin and goes through iron and manganese removal due to high mineral content.



3.3.8 Metropolitan Water for Groundwater Replenishment

In the past OCWD, MWDOC, and Metropolitan have coordinated water management to increase storage in the Orange County Groundwater Basin when imported supplies are available for this purpose. The "discounted" replenishment water availability was discontinued on January 1, 2013, and currently MWDOC sells replenishment water to OCWD at the firm untreated Metropolitan rate. Figure 3-9 shows MWDOC imported water sales to OCWD since FY 1989-90, which average approximately 27,000 AF per year. However, due low Santa Ana River flows as result of low precipitation and increased use along the river, OCWD anticipates to purchase 65,000 AF of imported water per year. This does not include water amounts from Metropolitan's Conjunctive Use Program (CUP).

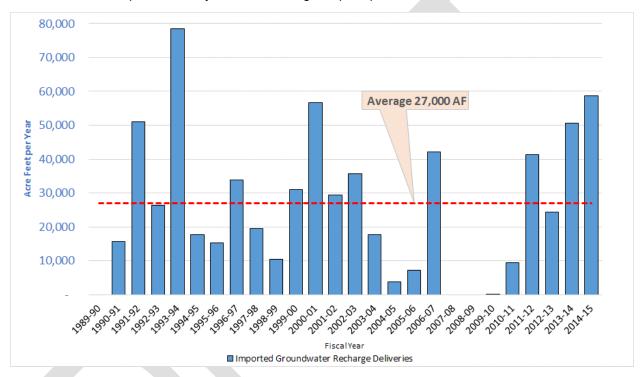


Figure 3-9: MWDOC Imported Water Sales for Groundwater Replenishment

3.3.9 Metropolitan Conjunctive Use Program with OCWD

Since 2004, OCWD, MWDOC, and certain groundwater producers have participated in Metropolitan's CUP. This program allows for the storage of Metropolitan water in the Orange County Groundwater Basin. The existing Metropolitan program provides storage up to 66,000 AF of water in the Orange County Groundwater Basin in exchange for Metropolitan's contribution to improvements in basin management facilities. These improvements include eight new groundwater production wells, improvements to the seawater intrusion barrier, and construction of the Diemer Bypass Pipeline. The water is accounted for via the CUP program administered by the wholesale agencies and is controlled by Metropolitan such that it can be withdrawn over a three-year time period.

As shown in Figure 3-10, the MWDOC CUP storage account has been utilized over the past ten-years. The CUP account has fill in the wet year of 2007 and withdrawn to zero during the dry-years of 2009 and



2010. Currently, due to the drought conditions, the CUP account is projected to reach 100 AF by the end of 2016.

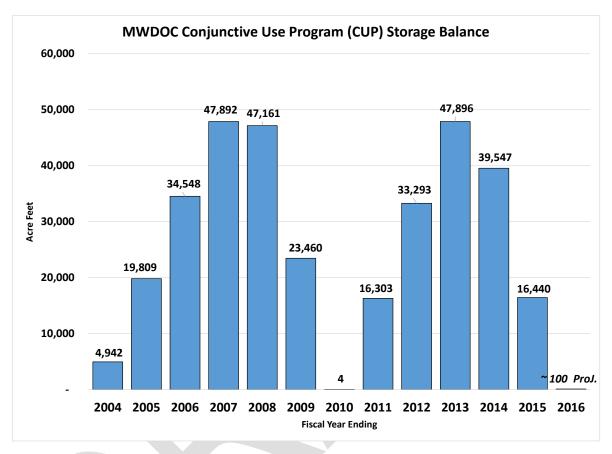


Figure 3-10: MWDOC Conjunctive Use Program Historical Storage Balance

3.3.10 Historical Groundwater Production

MWDOC does not provide any groundwater to its retail agencies. However, its retail agencies do extract groundwater locally in order to better diversify their portfolio. Table 3-10 shows a breakdown of historical groundwater production by the retail agencies from all groundwater basins within MWDOC's service area.

Table 3-10: Groundwater Pumped in the Past 5 Years within MWDOC's Service Area (AFY)

Groundwater Basin	2010	2011	2012	2013	2014
Orange County Basin ¹	204,215	209,216	227,819	236,706	211,061
San Juan Basin	4,408	6,870	4,450	3,146	4,550
La Habra Basin	1,285	1,241	1,322	1,530	1,657
Main San Gabriel Basin	12,727	12,440	11,504	10,127	9,698
Total Groundwater	222,633	229,767	245,095	251,510	226,967

^[1] Includes only the MWDOC member agencies' groundwater production. Does not include the groundwater production of Anaheim, Fullerton, and Santa Ana

3.4 Surface Water

MWDOC does not use surface water for its water supply. However, surface water provides an additional local source to some MWDOC retail agencies, including IRWD, Serrano, TCWD, and the City of Orange. Surface water supplies in Orange County are captured mostly from Santiago Creek into Santiago Reservoir.

To help augment surface water reservoir, imported water is purchased annually. Table 3-11 shows the projected surface water yearly demand of imported water purchased from MWDOC.

Table 3-11: Current and Projected Surface Water Production within MWDOC's Service Area (AFY)

	Fiscal Year Ending					
	2015	2020	2025	2030	2035	2040
Surface Water	8,227	7,306	7,306	7,306	7,306	7,306

3.5 Recycled Water

Orange County is the leader in water recycling in the State of California, in both quantity and innovation. Water supply and wastewater treatment agencies in Orange County have received well-deserved recognition in the field of water reclamation and reuse.

Recycled water is widely accepted as a water supply source throughout MWDOC's service area. In the past, recycled water was mainly used for landscape irrigation. IRWD, a MWDOC retail agency, is also at the forefront of using recycled water not only for irrigation but also for other uses such as toilet flushing and commercial needs. Recycled water in MWDOC's service area is treated to various levels dependent upon the ultimate end use and in accordance with Title 22 regulation.

Recycled water programs in the region are described in greater detail in Section 6.



3.6 Existing Transfers and Exchanges

A few MWDOC retail agencies have expressed interests in pursuing transfers of water from outside of the region. MWDOC will continue to help its retail agencies in developing these opportunities and ensuring their success. In fulfilling this role, MWDOC will help its retail agencies navigate the operational and administrative issues of wheeling water through the Metropolitan water distribution system or by examining other delivery options.

Santa Margarita Water District - SMWD has actively pursued additional water supply reliability through water transfers and successfully completed water transfers in the late 1990's through the Metropolitan system. At present the future of such transfers as a reliable and cost-effective means of providing the basic supply are uncertain. However, transfer with specific purposes, such as supplementing dry year supplies can be effective. SMWD will continue to pursue water transfers as an alternative water supply and is currently working with MWDOC and other agencies to investigate possible transfers. The Supplemental Dry Year Agreements are transfer agreements that are triggered under specific conditions when supplies from Metropolitan are limited. Cucamonga Valley Water District (CVWD) and GSWC will use groundwater in lieu of taking delivery of imported water from Metropolitan. SMWD has a transfer agreement with Cucamonga Valley Water District of 4,250 AFY, both short term and long term. SMWD also has a short term transfer agreement with GSWC of 2,000 AFY.

IRWD Strand Ranch Water Banking Program - IRWD implemented their Strand Ranch Water Banking Program and initiated the first delivery of water under the program to their service territory in OC in June 2015 as a demonstration effort. The delivered water was determined by Metropolitan to meet the definition of an "extraordinary supply" meaning that IRWD received full credit for the water under Metropolitan's water supply allocation plan. The banking program has been implemented via agreements with Metropolitan to wheel the water through their system, when requested.

3.7 Supply Reliability

3.7.1 Overview

Every urban water supplier is required to assess the reliability of their water service to its customers under normal, dry, and multiple dry water years. MWDOC's service area depends on a combination of imported and local supplies to meet its service area water demands and has taken numerous steps to ensure its member agencies have adequate supplies. Development of numerous local sources augment the reliability of the imported water system. There are various factors that may impact reliability of supplies such as legal, environmental, water quality and climatic which are discussed below. The water supplies available to the MWDOC service area are projected to meet full-service demands based on the findings by Metropolitan in its 2015 UWMP starting 2020 through 2040 during normal years, single dry year, and multiple dry years.

Metropolitan's 2015 UWMP describes the core water resources that will be used to meet full-service demands at the retail level under all foreseeable hydrologic conditions from 2020 through 2040. The foundation of Metropolitan's resource strategy for achieving regional water supply reliability has been to develop and implement water resources programs and activities through its preferred resource mix. This preferred resource mix includes conservation, local resources such as water recycling and groundwater



storage, in-region groundwater storage, out-of-region banking, treatment, conveyance and infrastructure improvements.

Table 3-12 shows the basis of water year data used to predict drought supply availability.

Table 3-12: Basis of Water Year Data

Wholesale: Basis of Water Year Data							
		Available Supplies if Year Type Repeats					
Year Type	Base Year		Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location				
		V	Quantification of available supplies is provided in this table as either volume only, percent only, or both.				
		Volume Available	% of Average Supply				
Average Year	2015	231,000	100%				
Single-Dry Year	2014	-	106%				
Multiple-Dry Years 1st Year	2012	-	106%				
Multiple-Dry Years 2nd Year	2013	-	106%				
Multiple-Dry Years 3rd Year	2014	-	106%				

- (1) NOTES: Assumes M&I demand levels in 2015 of 159,000, Irvine Lake replenishment of 7,000 AF and groundwater replenishment demands of 65,000 AFY.
- (2) Assumes increase of demands in dry and multiple dry years of +6% based on OC Reliability Study (See Appendix G)

3.7.2 Factors Contributing to Reliability

The Act requires a description of water supply reliability and vulnerability to seasonal or climatic shortage. The following are some of the factors identified that may have an impact on the reliability of imported water supplies.

3.7.2.1 Environment

Endangered species protection needs in the Delta have resulted in operational constraints to the SWP system, as mentioned previously in the State Water Project Supplies section.



3.7.2.2 Legal

The addition of more species under the Endangered Species Act and new regulatory requirements could impact SWP operations by requiring additional export reductions, releases of additional water from storage or other operational changes impacting water supply operations. In addition, water rights challenges can occur on a multi-level – State, regional and local basis. Water rights on both the Colorado River, along the California Aqueduct, and in and around the SWP are always under review and challenged.

3.7.2.3 Water Quality

3.7.2.3.1 Imported Water

Metropolitan is responsible for providing high quality potable water throughout its service area. Over 300,000 water quality tests are performed per year on Metropolitan's water to test for regulated contaminants and additional contaminants of concern to ensure the safety of its waters. Metropolitan's supplies originate primarily from the CRA and from the SWP. A blend of these two sources, proportional to each year's availability of the source, is then delivered throughout Metropolitan's service area.

Metropolitan's primary water sources face individual water quality issues of concern. The CRA water source contains higher TDS and the SWP contains higher levels of organic matter, lending to the formation of disinfection byproducts. To remediate the CRA's high level of salinity and the SWP's high level of organic matter, Metropolitan blends CRA and SWP supplies and has upgraded all of its treatment facilities to include ozone treatment processes. In addition, Metropolitan has been engaged in efforts to protect its Colorado River supplies from threats of uranium, perchlorate, and chromium VI while also investigating the potential water quality impact of emerging contaminants, N-nitrosodimethylamine (NDMA), and pharmaceuticals and personal care products (PPCPs). While unforeseeable water quality issues could alter reliability, Metropolitan's current strategies ensure the deliverability of high quality water.

The presence of Quagga mussels in water sources is a water quality concern. Quagga mussels are an invasive species that was first discovered in 2007 at Lake Mead, on the Colorado River. This species of mussels form massive colonies in short periods of time, disrupting ecosystems and blocking water intakes. They are capable of causing significant disruption and damage to water distribution systems. Controlling the spread and impacts of this invasive species within the CRA requires extensive maintenance and results in reduced operational flexibility. It has also resulted in Metropolitan eliminating deliveries of CRA water into DVL to keep the reservoir free from Quagga Mussels.

3.7.2.3.2 Groundwater

Orange County Groundwater Basin

OCWD is responsible for managing the Orange County Groundwater Basin. To maintain groundwater quality, OCWD conducts an extensive monitoring program that serves to manage the Orange County Groundwater Basin's groundwater production, control groundwater contamination, and comply with all required laws and regulations. A network of nearly 700 wells provides OCWD a source for samples, which are tested for a variety of purposes. OCWD collects 600 to 1,700 samples each month to monitor Orange



County Groundwater Basin water quality. These samples are collected and tested according to approved federal and state procedures as well as industry-recognized quality assurance and control protocols.

San Juan Groundwater Basin

Groundwater quality from the San Juan Basin was determined through the analyses of available data from production and monitoring wells. Constituents of concern within the San Juan Basin include TDS, nitrate nitrogen, manganese, and iron.

TDS consists of inorganic salts dissolved in water, with the major ions being sodium, potassium, calcium, magnesium, bicarbonates, chlorides, and sulfates under Title 22. The California secondary MCL for TDS is 500 mg/L. Four wells were tested for TDS and all of the wells exceeded the secondary MCL for TDS. The lower portion of the San Juan Basin exhibits relatively higher TDS levels due to irrigation return flows, fertilizer use, consumptive use, and dissolution of ions from weathered rock surfaces and salts.

Nitrate within groundwater can be both naturally-occurring and can also be associated with agriculture and other synthetic production. The primary MCL for nitrate in drinking water is 10 mg/L. Most groundwater wells monitored for nitrate exhibited levels below MCL except for two wells.

Manganese is a naturally-occurring inorganic constituent dissolved in water. Manganese is an essential micronutrient at low concentrations, but at higher concentrations in drinking water, manganese may lead to objectionable aesthetic qualities such as bitter taste and staining of clothes. The California secondary MCL for manganese is 0.5 mg/L. Most wells monitored for manganese exceeded the secondary MCL for manganese by as much as 40 times with the exception of two wells in the Oso and Lower Trabuco area.

Iron is a naturally-occurring inorganic constituent dissolved in water. Similar to manganese, iron in low concentrations is an essential micronutrient, but iron in higher concentrations in drinking water leads to the same objectionable aesthetic qualities as those of manganese. The California secondary drinking water MCL for iron is 0.3 mg/L. With the exception of one groundwater well in the Oso area, all wells exceeded the secondary MCL for iron by as much as 60 times (San Juan Basin Authority, San Juan Basin Groundwater and Facilities Management Plan, November 2013).

La Habra Groundwater Basin

La Habra Groundwater Basin has water quality concerns that require treatment or blending with higher quality water to meet the State's health standards. TDS, hydrogen sulfide, iron, and manganese impair La Habra Groundwater's water supply. The quality of Idaho Street Well raw water requires treatment before entering the City of La Habra's distribution system. The treatment system includes chlorination, air-stripping to remove hydrogen sulfide and ammonia that may be present, and the addition of sodium hexametaphosphate to sequester iron and manganese. Water from the La Bonita Well and the Portola Well is chlorinated and then blended with CDWC purchased water in a 250,000-gallon forebay to reduce mineral concentration (La Habra, Draft Groundwater Study, August 2014).

Main San Gabriel Groundwater Basin

VOCs and nitrates are the most prevalent contaminants found in the Main San Gabriel Basin. As a result, the location and treatment methods are generally well understood. During FY 2014 to 2015, 30 treatment plants treated approximately 78,300 AF of water from the Main San Gabriel Basin. VOC and nitrate levels throughout the Main San Gabriel Basin are shown on Figures 3-10 and 3-11, respectively.



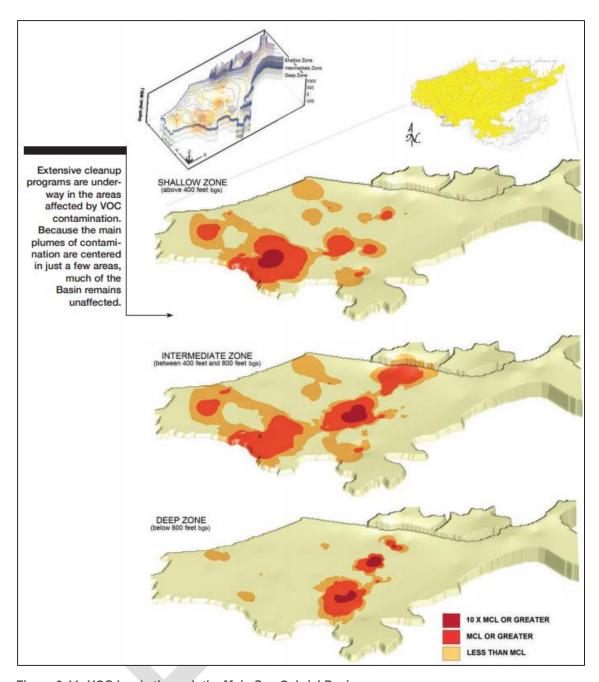


Figure 3-11: VOC levels through the Main San Gabriel Basin

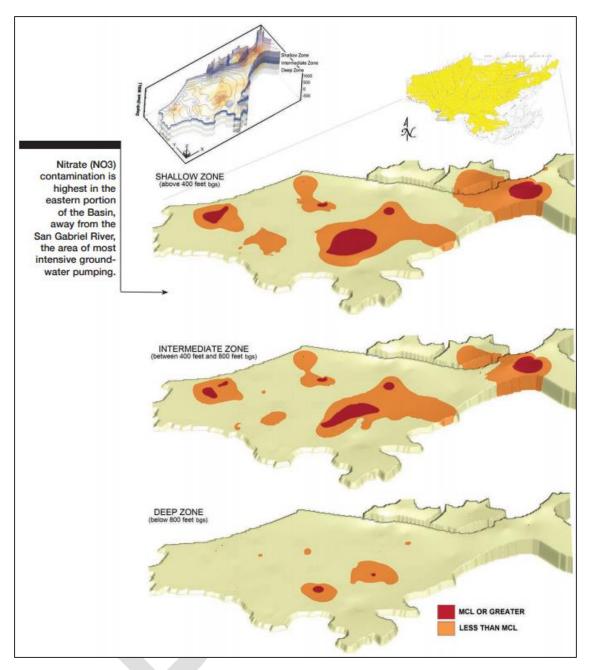


Figure 3-12: Nitrate levels throughout the Main San Gabriel Basin

The Division of Drinking water (DDW) lowered the notification level of perchlorate from 18 to 4 parts per billion (ppb) in January 2002. Subsequently, a total of 22 wells from the Main San Gabriel Basin were removed from service due to unacceptable levels of perchlorate. In October 2007, the DDW established an MCL of 6 ppb. Efforts to treat perchlorate by the Watermaster resulted in ion-exchange technology treatment facilities at five sites in the Baldwin Park Operable Unit (BPOU) and at two facilities in other parts of the Main San Gabriel Basin during FY 2014 to 2015.



During 1998, local eight local wells within the Main San Gabriel Basin were had levels of NDMA above the notification level. Three of the wells were taken off-line as a direct result of NDMA levels above notification level. The Watermaster played a key role in the construction of NDMA treatment facilities within the Main San Gabriel Basin. Five facilities were operational during FY 2014 to 2015.

1,2,3-TCP is a degreasing agent that has been detected in the BPOU during the winter of 2006. Its presence delayed the use of one treatment facility for potable purposes. The DDW determined 1,2,3-TCP is best treated through liquid phase granular activated carbon. Facilities to treat 1,2,3-TCP were operational during FY 2014-2015.

Cr VI is a naturally occurring substance that has been detected in drinking water wells through the Main San Gabriel Basin. Cr VI is also associated with industrial sources of contamination, such as metal plating. In July 1, 2014, the DDW established a new MCL for Cr VI of 10 ppb. Currently, Cr VI concentrations in all active wells are below the maximum contaminant level (MCL) (Main San Gabriel Basin Watermaster, Five-Year Water Quality and Supply Plan, 2015).

3.7.2.4 Climate Change

Changing climate patterns are expected to shift precipitation and temperature patterns and affect both water supply and demands. Unpredictable weather patterns will make water supply planning more challenging. The areas of concern for California include a reduction in Sierra Nevada Mountain snowpack, increased intensity and frequency of extreme weather events, and rising sea levels causing increased risk of Delta levee failure, seawater intrusion of coastal groundwater basins, and potential cutbacks on the SWP and CVP. The major impact in California is that without additional surface storage, the earlier and heavier runoff (rather than snowpack retaining water in storage in the mountains), will result in more water being lost into the oceans. A heavy emphasis on storage is needed in the State of California.

In addition, the Colorado River Basin supplies have been inconsistent since 2000, resulting in 13 of the last 16 years of the upper basin runoff being below normal. Climate models are predicting a continuation of this pattern whereby hotter and drier weather conditions will result in continuing lower runoff.

Legal, environmental, and water quality issues may have impacts on Metropolitan supplies.

3.7.3 Normal-Year Reliability Comparison

MWDOC receives imported water from Metropolitan via connection to Metropolitan's regional distribution system. Although pipeline and connection capacity rights do not guarantee the availability of water, per se, they do guarantee the ability to convey water into the local system when it is available from the Metropolitan distribution system.

For the 2015 UWMP, MWDOC's 2015 imported demand was selected as the normal year demand for imported M&I purposes of roughly 159,000 AF; additional demands (10 year average) were added for the refill of Irvine Lake at 7,000 AF, and the long term demands for groundwater replenishment of 65,000 AF to get an average year total demand of 231,000 AF.



A comparison between the supply and demand for projected years between 2020 and 2040 is shown in Table 3-13. As stated above, the available supply will meet projected imported demands due to a diversified supply and conservation measures limiting and reducing imported demands in the later years.

Table 3-13: Normal Year Supply and Demand Comparison (AFY)

Wholesale: Normal Year Supply and Demand Comparison (AFY)						
2020 2025 2030 2035 2040						
Supply totals	205,132	216,560	212,509	208,219	207,441	
Demand totals	205,132	216,560	212,509	208,219	207,441	
Difference 0 0 0 0						
NOTES: Includes MWDOC Service Area Projected imported M&I and Surface & GW replenishment demands						

3.7.4 Single Dry-Year Reliability Comparison

A Single-Dry year is defined as a single year of minimal rainfall. In accordance with Metropolitan forecasts, MWDOC has documented that it is 100 percent reliable for single dry year demands from 2020 through 2040 with a demand increase of 6.0 percent above average demands for M&I and surface demands, but no percentage increase for groundwater replenishment demands. This percentage increase in demand was determined by MWDOC based on its OC Reliability which is explained in detail in Appendix G.

A comparison between the supply and the demand in a single dry year is shown in Table 3-14. As stated above, the available supply will meet projected demand due to diversified supply and conservation measures.

Table 3-14: Single Dry Year Supply and Demand Comparison (AFY)

Wholesale: Single Dry Year Supply and Demand Comparison (AFY)					
	2020	2025	2030	2035	2040
Supply totals	213,101	225,215	220,921	216,374	215,549
Demand totals 213,101 225,215 220,921 216,374 215,549					
Difference	0	0	0	0	0
Note: The Single Dry-Year pr	Note: The Single Dry-Year projections estimate a 6% increase on imported M&I and surface				

water. Groundwater Replenishment remain at 65,000 AF per year.

3.7.5 Multiple Dry-Year Reliability Comparison

Multiple-dry years are defined as three consecutive years with minimal rainfall. In accordance with Metropolitan forecasts, MWDOC is capable of meeting all retail agency demands in multiple dry years from 2020 through 2040 with a demand increase of 6 percent. A comparison between the supply and the demand in multiple dry years is shown in Table 3-15.



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Table 3-15: Multiple Dry Years Supply and Demand Comparison (AFY)

Wholesale: Multiple Dry Years Supply and Demand Comparison (AFY)						
		2020	2025	2030	2035	2040
	Supply totals	213,101	225,215	220,921	216,374	215,549
First year	Demand totals	213,101	225,215	220,921	216,374	215,549
	Difference	0	0	0	0	0
	Supply totals	213,101	225,215	220,921	216,374	215,549
Second year	Demand totals	213,101	225,215	220,921	216,374	215,549
	Difference	0	0	0	0	0
	Supply totals	213,101	225,215	220,921	216,374	215,549
Third year	Demand totals	213,101	225,215	220,921	216,374	215,549
	Difference	0	0	0	0	0

Note: The Multi Dry-Year projections estimate a 6% increase on imported M&I and surface water. Groundwater Replenishment remain at 65,000 AF per year.



4 DEMAND MANAGEMENT MEASURES

The goal of the Demand Management Measures (DMM) section is to provide a comprehensive description of the water conservation programs that a supplier has implemented, is currently implementing, and plans to implement in order to meet its urban water used reduction targets. The reporting of DMMs were significantly modified in 2014 by Assembly Bill 2067 to streamline the DMM reporting requirements. For retail suppliers the requirements changed from 14 specific measures to six more general requirements plus an "other" category:

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support
- Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented

Wholesale agencies must now provide narrative descriptions of metering, public education and outreach, water conservation program coordination and staffing support, and other DMMs, as well as a narrative of asset management and the wholesale supplier assistance programs.

4.1 Overview

MWDOC demonstrated its commitment to water use efficiency in 1991 by voluntarily signing the MOU Regarding Urban Water Conservation in the CUWCC. The California Urban Water Conservation Council was formed through adoption of this MOU and is considered the "keeper" of the BMPs, with the authority to add, change, or remove BMPs. The CUWCC also monitors implementation of the MOU. As a signatory to the MOU, MWDOC has committed to a good-faith-effort to implement all cost-effective BMPs.

An ethic of efficient use of water has been developing over the last 25 years of implementing water use efficiency programs. Retail water agencies throughout Orange County also recognize the need to use existing water supplies efficiently – implementation of BMP-based efficiency programs makes good economic sense and reflects responsible stewardship of the region's water resources. All retail water agencies in Orange County are actively implementing BMP-based programs; however, not all retail water agencies are signatory to the MOU.

As a signatory to the CUWCC MOU regarding urban water use efficiency, MWDOC's commitment to implement BMP-based water use efficiency program continues today. To help facilitate implementation of BMPs throughout Orange County, as a wholesaler MWDOC's efforts focus on the following three areas that both comply with and go beyond the Foundational BMPs of Utility Operations Programs, formerly BMP 10 - Wholesale Agency Assistance Program, requirements.



Regional Program Implementation - MWDOC develops, obtains funding for, and implements regional BMP programs on behalf of all retail water agencies in Orange County. This approach minimizes confusion to consumers by providing the same programs with the same participation guidelines, and also maintains a consistent message to the public to use water efficiently. Further, MWDOC helps build partnerships to accomplish conservation.

Local Program Assistance - When requested, MWDOC assists retail agencies to develop and implement local programs within their individual service areas. This assistance includes collaboration with each retail agency to design a program to fit that agency's local needs, which may include providing staffing, targeting customer classes, acquiring grant funding from a variety of sources, and implementing, marketing, reporting, and evaluating the program. MWDOC provides assistance with a variety of local programs including, but not limited to, Home Water Surveys, Large Landscape Water Use Reports, Drip Irrigation Pilot Program, Public Agency Water Smart Landscape Incentives, HOA and Public Information, School Education, Conservation Pricing, and Water Waste Prohibitions. Many of these local programs have also been structured through Integrated Regional Water Management Planning processes in north, central and south Orange County.

Research and Evaluation - An integral component of any water use efficiency program is the research and evaluation of potential and existing programs. Research allows an agency to measure the water savings benefits of a specific program and then compare those benefits to the costs of implementing the program in order to evaluate the economic feasibility of the program when compared to other efficiency projects or existing or potential sources of supply. Furthermore, in 2013 MWDOC published its first Orange County Water Use Efficiency Master Plan to define how Orange County will comply with, or exceed, the state mandate of a 20 percent reduction in water use by 2020, and how MWDOC will achieve its share of Metropolitan's Integrated Resources Plan water savings goal. The Master Plan is being used to achieve the water savings goal at the lowest possible costs while maintaining a mix of programs desired by water agencies and consumers throughout Orange County.

Table 4-1 summarizes BMP implementation responsibilities of MWDOC as Orange County's wholesale supplier and responsibilities of MWDOC's retail agencies.



2015 URBAN WATER MANAGEMENT PLAN

Table 4-1: BMP Implementation Responsibility and Regional Programs in Orange County

	_	Į.	Applies to:	MWDOC
Efficiency Measure	Former BMP No.	Retailer	MWDOC as a Wholesaler	Regional Program
	Operations I	Practices		
Wholesale Agency Assistance Programs	10	-	V	V
Conservation Pricing	11	V	V	√
Conservation Coordinator	12	V	V	√
Water Waste Prevention	13	1	-	V
WaterSense Specification toilets (Residential Plumbing Fixture Retrofits ⁽¹⁾)	14	V	-	V
WaterSense Specification for Residential Development	-	V	-	-
Water Loss Control (System Water Audits, Leak Detection and Repair)	3	V	(2)	V
Metering With Commodity Rates	4	V	(2)	
Commercial, Industrial, and Institutional (CII) Programs	9	V	-	$\sqrt{}$
Large Landscape Conservation Programs	5	V		V
Re	esidential Imp	lementatio	n	
Residential Assistance Program				
(Home Water Surveys Water Efficiency Suggestions)	1 & 2	$\sqrt{}$	-	V
Landscape Water Survey	1	V	-	V
High-Efficiency Washing Machine Rebate Programs	6	V	-	√
WaterSense Specification toilets	14	V	-	V



(Residential Plumbing Fixture Retrofits ⁽¹⁾)				
WaterSense Specification for Residential Development	-	$\sqrt{}$	-	-
	Education P	rograms		
Public Information Programs	7	\checkmark	V	$\sqrt{}$
School Education Programs	8	√	V	V

^{(1) 75%} Saturation goal achieved in 2009.

4.2 BMP Implementation in MWDOC Service Area

Successful strategies are built by leveraging opportunities and creating customer motivation to take action to begin a market transformation. For Water Use Efficiency programs specifically, this starts by selecting the highest water consuming sectors and then creating an attractive implementation package. The next step is to identify ways to break through traditional market barriers by testing out innovative technologies and/or delivery mechanisms. Last of all, any program marketing campaign needs to be launched, employing a full spectrum of varying outreach methods. The Implementation Design Steps are illustrated on Figure 4-1.

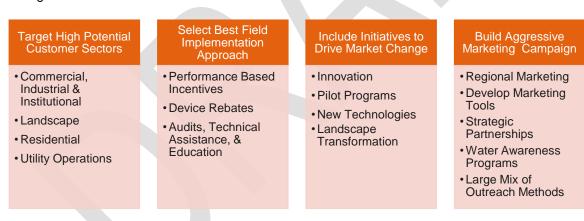


Figure 4-1: Implementation Design Steps

Table 4-2 summarizes the remaining water use efficiency potential by market sector within Orange County. Within each sector the table lists sources of conservation, the stage of programmatic development, description of how the potential is derived, and the qualitative range from low to high. This broad overview organizes the more detailed discussion of conservation potential in what follows.

⁽²⁾ MWDOC does not own or operate a distribution system; water wholesaled by MWDOC is delivered through the Metropolitan distribution system and meters.

Table 4-2: Remaining Water Use Efficiency Potential

Sector, Measures, End Uses	Stage	Description of Potential	Potential
lesidential Indoor			
Toilets	Late	Small number 3.5gpf, ULF to HET, >HET?	Low
Faucets, Aerators, Flow Restrictors	Late	Small remaining potential	Low
Showerheads	Late	Very low flow rates, behaviour	Low
Clothes Washers	Mid	Low saturation	High
Pressure Regulating Valves	Pilot, Research	Covers all end uses	High
Surveys, Education, Outreach	Ongoing	Gateway program, behaviour	Low-Mid
Conservation Rates	Developing	Covers all end uses	High
andscape			
Controllers	Early	SF Residential large remaining potential	High
Nozzles	Early	Large remaining potential	High
Turf Replacement, Low Water Plants	Early	Large technical potential; small economic potential	High
Artificial Turf	Early	Large technical potential; small economic potential	High
Pressure Regulating Valves	Pilot, Research	Covers all end uses	High
Landscape Management	Ongoing	Gateway program, behaviour, communication	High
Surveys, Education, Outreach	Ongoing	Gateway program, behaviour	Low-Mid
Conservation Rates	Developing	Covers all end uses	High
II (Non-Landscape)			
Toilets	Mid	Small number 3.5gpf, ULF to HET, >HET?	Mid
Urinals	Mid	High traffic sites	Mid
Faucets, Aerators, Flow Restrictors	Late	Small remaining potential	Low
Showerheads	Mid	Sports facilities, accomodation	Mid
Food Service Equipment	Mid	Needs short pay back	Mid
Laundry	Mid	High water use is economic incentive	High
Industrial Processes and Manufacturi	Mid	Acceptance, regulatory issues, competiveness	High
Cooling	Mid	Needs short pay back	High
Pressure Regulating Valves	Pilot, Research	Covers all end uses	High
Surveys, Education, Outreach	Ongoing	Gateway program, behaviour	Low-Mid
Conservation Rates	Developing	Covers all end uses	High

MWDOC's water use efficiency programs cut across a number of market segments and differ in their delivery formats. There are intentional reasons for this varied approach. Through evaluation of past programs, it has been shown that there are three implementation approaches that are particularly effective at securing water savings in a cost-effective and persistent manner. These implementation approaches have been built into each of MWDOC's program offerings and matched up with the appropriate program sector as follows:

Performance based incentives - This payment format works especially well for the large landscape and CII sectors due to the array of site specific needs and custom processes and equipment at these sites.

Standardized device rebates - Rebates are most applicable for the more "cookie cutter" type measures where there is a limited number of products and styles and well defined water savings rates. These incentives are the predominant payment method for residential, small commercial, and small to medium sized landscape markets.

Audits, assistance, and education - All customer segments benefit from additional technical support services. This includes services such as audits for CII customers, sprinkler adjustment notices for the landscape segment and home water audits or certification programs for residential customers.



Figure 4-2 shows MWDOC's programs under each of the three implementation approaches.

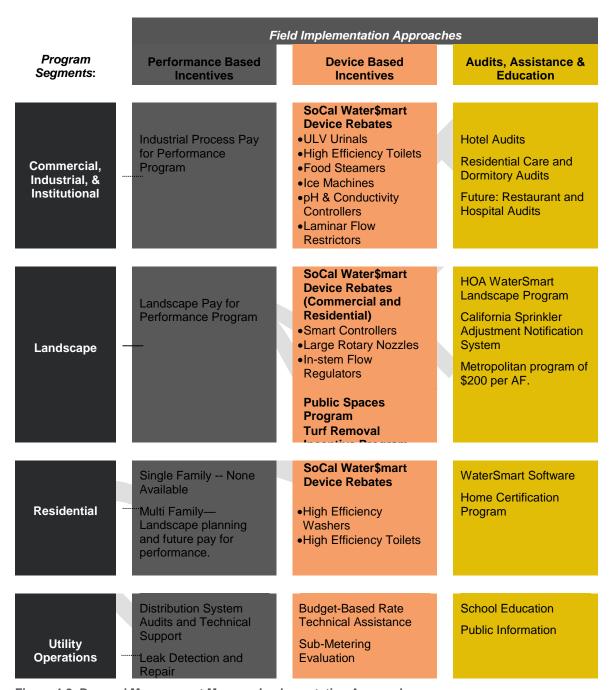


Figure 4-2: Demand Management Measure Implementation Approaches

4.3 Wholesale Supplier Assistance Programs

As described in the sections above, MWDOC provides financial incentives, conservation-related technical support, and regional implementation of a variety of BMP-based programs. In addition, MWDOC conducts



research projects to evaluate implementation of both existing programs and new pilot programs. On behalf of its member agencies, MWDOC also organizes and provides the following:

- Monthly coordinator meetings
- Marketing materials
- Public speaking
- Community events
- American Water Works Association/International Water Association (IWA) Audit Study

4.4 Landscape Ordinance

The Water Conservation in Landscaping Act (Assembly Bill 1881, Laird) was passed in 2006 to increase outdoor water use efficiency. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the State's Model Water Efficient Landscape Ordinance (Ordinance) through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015.

This legislation required cities and counties to adopt a Water Efficient Landscape Ordinance by December 1, or adopt their own ordinance, which must be at least as effective in conserving water as the State's Ordinance. Local agencies working together to develop a regional ordinance have until February 1, 2016. MWDOC worked in partnership with the Orange County Division of the League of Cities, Orange County cities, retail water providers, building industry, landscape architects, and irrigation consultants to develop an Orange County Model Water Efficient Landscape Ordinance specific to the needs of Orange County. The foundation of the Orange County Model Ordinance was based on the State Model Ordinance.

This collaborative, regional approach has ensured that local ordinances are consistent from city to city, and has limited the cost and complexity of implementing the mandate. Based on the Orange County model ordinance, cities and unincorporated areas have adopted local ordinances that set guidelines for designing and approving landscape projects. The new ordinance imposes a lower Maximum Applied Water Allowance (MAWA) that new and rehabilitated landscapes must be designed to meet.

Through this effort, cities throughout Orange County have adopted and are implementing landscape ordinances that are consistent with the requirements of the updated Water Conservation in the Landscape Act

4.5 Metering

Metering with commodity rates by wholesale and retail agencies has been an industry standard throughout Orange County for many years. All customers are metered and billed based on commodity rates either monthly or bi-monthly.

With the sale of the Allen-McColloch Pipeline to Metropolitan in 1995, MWDOC no longer owns or operates a distribution system. Water purchased and sold by MWDOC is distributed through Metropolitan's system to the MWDOC retail agencies.

4.6 Conservation Pricing

MWDOC publishes annually the *Orange County Water Agencies Water Rates, Water System Operations, and Financial Information* survey. This survey documents the rates charged by each retail water agency, as well as the type of rate structure, i.e., a flat rate, inclined block, or seasonal rate structure. Table 4-3 provides a brief summary of the types of rates used by retail water agencies in Orange County and shows a slow progression away from uniform rates.

Table 4-3: Summary of Rate Structure Types Used in Orange County

	Number of Agencies Utilizing Different Rate Structure Types						
Types of Rate Structure	1990	1995	2000	2005	2010	2015	
Declining Block	0	0	0	0	0	0	
Uniform or Flat	22	23	19	16	8	9	
Inclined Block	13	9	10	12	14	-	
Seasonal Inclined Block	1	2	3	3	6	-	
Budget Based Tiered Rate	0	1	1	1	2	-	

4.7 Public Education and Outreach

MWDOC currently offers a wide range of public information programs in Orange County. Each program targets different water customer segments. For example, the O.C. Water Hero Program aims to encourage school children to use water wisely; MWDOC's electronic newsletter "eCurrents" is designed to keep residents and businesses, stakeholder groups, opinion leaders, and others apprised of MWDOC news and programs. MWDOC's current public information programs are described below.

OC Water Summit

Currently in its ninth year, the O.C. Water Summit is an innovative, interactive forum that brings together hundreds of business professionals, elected officials, water industry stakeholders, and community leaders from throughout southern California and beyond. Co-hosted by the MWDOC and OCWD, this one of-a-kind event engages participants in discussion on new and ongoing water supply challenges, water policy issues, and other important topics that impact our economy and public health. O.C. Water Summit About the Prominent authors, world-renowned experts, and distinguished speakers will deliver presentations and engage in dialogue with participants on these critical issues. By sponsoring the O.C. Water Summit, you are investing in water reliability for southern California. A variety of



Summit, you are investing in water reliability for southern California. A variety of sponsorship opportunities are available to meet your organization's strategic goals.

Water Facility Inspection Trip Program

The inspection trip program is sponsored by MWDOC and Metropolitan. Each year, Orange County elected officials, residents, business owners, and community leaders are invited to attend educational inspection trips to tour key water facilities throughout the state of California, such as Diamond Valley Lake, a Metropolitan storage reservoir (Figure 4-3). The goal is to educate members of our community about planning, procurement and management of southern California's water supply and the issues surrounding delivery and management of this vital resource. The inspection trips are specifically designed to address various water issues affecting the state, including water supply, delivery, treatment, sustainability, environment, and water policy. All trips are hosted by a MWDOC/Metropolitan Director.



Figure 4-3: Diamond Valley Lake, Hemet, California

eCurrents

eCurrents is the monthly electronic newsletter of the MWDOC. It is designed to keep MWDOC's 28 retail agencies, residents and businesses, stakeholder groups, opinion leaders, and others apprised of MWDOC news, programs, events, and activities. The publication also serves to keep readers informed about regional, state, and federal issues affecting water supply, water management, water quality, and water policy and regulation.

Water Advisory Committee of Orange County (WACO)

WACO was formed in 1983 to facilitate the introduction, discussion, and debate of current and emerging water issues among Orange County policymakers and water professionals. It has also advocated the Orange County water community's position on issues affecting the provision and management of our water supplies with lawmakers, regulatory agencies, regional and state water organizations, and others.



The committee's membership has evolved during the past quarter century to include elected officials and management staff from Orange County cities and water districts, engineers, attorneys, consultants, and other industry professionals. The meetings are also attended from time-to-time by Orange County residents, community group members, and legislators or their staff, who share a common interest in water issues.

Monthly meetings are open to the public and are typically held on the first Friday of each month at 7:30 a.m. The meetings take place at the Fountain Valley headquarters of MWDOC and OCWD. The meetings are designed to provide attendees with an opportunity for professional networking and to receive informative presentations from water industry professionals, academics, economists, engineers, political officials, and industry experts about key water issues affecting Orange County.

School Education Programs

One of the most successful and well-recognized water education curriculums in southern California is MWDOC's Water Education School Program. For more than 30 years, School Program mascot "Ricki the Rambunctious Raindrop" (Figure 4-4) has been educating students in grades 1-6 about the water cycle, the importance and value of water, and the personal responsibility we all have as environmental stewards.

The School Program features keypad assembly-style presentations that are grade-specific and performed on-site at the schools. The program curriculum is aligned with the science content standards established by the State of California. Since its inception in 1973, nearly three million Orange County students have been educated through the School Program.



Figure 4-4: Water Education School Program Mascot, Ricki the Rambunctious Raindrop

The School Program features assembly-style presentations that are grade-specific and performed on-site at the schools. The program curriculum is aligned with the science content standards established by the State of California. Since its inception in 1973, nearly three million Orange County students have been educated through the School Program.

In 2004, MWDOC formed an exciting partnership with Discovery Science Center that has allowed both organizations to reach more Orange County students each year and provide them with even greater educational experiences in the areas of water and science. Discovery Science Center currently serves as the School Program administrator, handling all of the program marketing, bookings, and program implementation. During the 2015-16 school year, more than 60,000 students will be educated through the program.

For the 2015-2016 school year, the Municipal Water District of Orange County also implemented a Water Education School Program in Orange County High Schools for grades 9-12. MWDOC entered into contract with Inside the Outdoors, the Orange County Superintendent of Schools' environmental science program, to administer the program. The target goal for the initial year was to reach 25,000 students.

The program consists of three components: teacher trainings, an online digital platform, and the students' program. The teacher trainings host more than 100 teachers with the goal of teaching them water education and awareness. The topics include water sources, water education, water recycling, watersheds, technological solutions, and water conservation. Due to the current drought conditions in Southern California, water conservation is heavily stressed. They learn about conservation techniques such as irrigation technology, rainwater harvesting, and water recycling.

The online digital platform allow the students to take action by providing them with digital assets that are relevant and meaningful. They are directed to visit The Water Effect website to make a water



conservation pledge. Also, they are encourage to post photographs and conservation related messages on social media using the #thewatereffect.

Each year, MWDOC also holds a Water Education Poster and Slogan Contest and Photography and Digital Arts Contest to increase water awareness. To participate, children in grades K-12 develop posters and slogans that reflect a water awareness message. For the Photography and Digital Arts Contest, which is open to grades 9-12, students submit photographs and digital artwork that also reflects a water awareness message. The goal is to get children thinking about how they can use water wisely and to facilitate discussion about water between children and their friend, parents, and teachers. Each year, more than 700 poster and slogan entries are received through the contest. During a special judging event, approximately 40 entries are selected as the winners. All of our winners – and their parents, teachers, and principals – are invited to attend a special awards ceremony with Ricki the Raindrop at Discovery Science Center. At the awards ceremony, the winners are presented with their framed artwork as well as a custom t-shirt featuring their entry, a trophy, a certificate, and other fun water-saving prizes. The 2015 winning poster is shown on Figure 4-5.



Figure 4-5: 2015 Water Education Poster & Slogan Contest, 4th Grade Winning Poster

Children's Water Education Festival

The largest water education festival of its kind is the annual Children's Water Education Festival (Festival). The Festival is presented by OCWD, the National Water Research Institute, Disneyland Resort, and sponsored by MWDOC. Each year, more than 5,000 students participate in the Festival over the course of this two-day event. The Festival is currently held at the University of California, Irvine.



The Festival presents a unique opportunity to educate students in grades four through six about local water issues and help them understand how they can protect our water resources and the environment. Students attend the Festival with their teacher and classmates, visiting a variety of booths focused on different water-related topics throughout the day. Participating organizations (presenters) engage the students through interactive educational presentations that are aligned with the science content standards established by the State of California. Since its inception, more than 80,000 children from schools throughout Orange County have experienced the Festival and all it has to offer.

O.C. Water Hero Program

The Orange County Water Hero Program is a joint offering between MWDOC and OCWD that began in 2007. The basic premise of the program is to provide education to the youngest Orange County water users and to encourage them to be more water efficient, educate them on ways to save water both inside their home and outdoors, and to encourage their families to take the same pledge. Through a variety of outreach efforts and additional grant funding, we have been able to register over 15,000 children as OC Water Heroes, and an additional nearly 4,000 Super Heroes. The current effort underway, the development of a mobile OC Water Hero App is designed to transition the children currently enrolled and re-engage them in water saving activities and education as well as engage new users and their families.



Figure 4-6: O.C. Water Hero Program Mascots, Left to right: Aqua Joe, Filter Bob, Hydrate, and Captain Sponge

Orange County Garden Friendly

The Orange County Garden Friendly Program in spring 2014, MWDOC began teaming up with the Orange County Stormwater Program and University of California Cooperative Extension to host events on Saturdays during fall and spring, with educational booth appearances at local garden centers across Orange County to engage customers before they made landscaping decisions and purchases. Retail



customers learned about WaterSense® labeled weather-based irrigation controllers and the importance of "sprucing up" irrigation systems. Attendees can learn about and purchase OC Garden Friendly-approved plants and water-efficient irrigation devices, apply for rebates, and consult with gardening experts. As a result, WaterSense labeled controller sales during the inaugural season increased by more than 225 percent compared to average daily sales activity.

A critical component of the OC Garden Friendly initiative is city and water agency cooperative involvement and public outreach at each event. Educating the retail staff's awareness of water agency incentive and rebate programs, climate-appropriate plant material, and irrigation equipment improved over the course of events has also been a program benefit. Some retail spots display the promotional materials for months after the events.



Figure 4-7: MWDOC's 2014 Orange County Garden Friendly Booth

California Sprinkler Adjustment Notification System

The California Sprinkler Adjustment Notification System (CSANS) provides e-mail or "push" an irrigation index to assist property owners with making global irrigation scheduling adjustments, and is found at www.csans.net. Participants voluntarily register to receive this e-mail and can unsubscribe at any time. Additionally, the Base Irrigation Schedule Calculator and instructional videos were developed to enhance the system.

4.8 Programs to Assess and Manage Distribution System Real Loss

With the sale of the Allen-McColloch Pipeline to Metropolitan in 1995, MWDOC no longer owns or operates a distribution system. Water purchased and sold by MWDOC is distributed through Metropolitan's system to the MWDOC retail agencies.

However, in an effort to assist its retail agencies, MWDOC publishes annually the *Orange County Water Agencies Water Rates*, *Water System Operations*, *and Financial Information* survey. This survey facilitates a pre-screening survey that estimates the volume and percent of unaccounted-for-water for



each retail water agency in the county. In 2009, the percent of unaccounted-for-water for retail water agencies ranged from a low of 1.5 percent to a high of 7.5 percent, with an average of 3.8 percent.

In addition to the survey, MWDOC was awarded a grant to implement a study titled "Water Loss Management Program Assessment: Potable Water System Audits." This study used the American Water Works Association and International Water Association Water Audit Methodology. The following retail water agencies participated in the study: City of Brea, City of Huntington Beach, LBCWD, MNWD and City of Tustin.

The purpose of the study was to:

- Educate the agencies on the most current water loss control methods and technologies
- Perform system water audit for each agency to determine current water losses and areas for improvement
- Review each agency's leakage management program and recommend improvements
- Assist the agencies in achieving the California Urban Water Conservation Council Best Management Practice 1.2 compliance

Non-Revenue water ranged from 3 to 10 percent of volume of water supplied, which is very good and will within the range of efficient water utilities concerned about conservation and water loss management practices.

4.9 Water Conservation Program Coordination and Staffing Support

MWDOC's Water Use Efficiency Department is comprised of five (5) full time equivalent (FTE) positions and two (2) intern positions. Heading the department is the Water Use Efficiency (WUE) Director. Beneath him on the department organizational chart are Water Use Efficiency Supervisor, Water Use Efficiency Specialist, Water Use Efficiency Coordinator, and the Water Use Efficiency Analyst. The department also employs two part time student interns who function in a support role to the full time staff. The department works together in a collaborative nature, assisting one another in the implementation of the many Water Use Efficiency Programs.

MWDOC's WUE Department has a rich history of writing successful grant proposal from both State and Federal sources. State granting agencies include the SWRCB and DWR. Although there has been times when MWDOC has received federal funding from the Natural Resource Conservation Service (NRCS), the United States Bureau of Reclamation (USBR) is typically the primary federal source. Local Funding programs is considered at the center of the funding MWDOC receives for its WUE programs. This funding comes from two sources, the Metropolitan and MWDOC's retail water agencies. MWDOC, as a regional wholesaler of imported water, is one of Metropolitans member agencies and through its water rates paid to Metropolitan recoups these funds through a Metropolitan funding program under its Conservation Credits program. Metropolitan establishes a bi-yearly funding budget for both WUE programs and devices. MWDOC in turn establishes its own WUE programs using these Conservation Credits funds. MWDOC assists Orange County retail agencies by implementing an array of water use efficiency programs. These agencies elect to participate in the MWDOC programs and provide funding of their own for select devices or services.



MWDOC's WUE department has a long standing practice of conducting regular audits via program process and impact evaluations. The process evaluations are utilized to ensure administrative quality control. An adaptive management approach is taken to implement efficiency practices or to correct for identified process deficiencies. The impact evaluations measure the actual water saving achieved in comparison to the expected industry water savings estimates. Results from impact evaluations have provided insight relating to those devices and programs that yield the best water savings in relationship to program administrative effort, cost effectiveness, and appropriate rebate levels.

4.9.1 Residential Implementation

MWDOC assists its retail water agencies to implement this BMP by making available the following programs aimed at increasing landscape water use efficiency for residential customers. MWDOC has implemented successful water use efficiency programs for residential customers for over 30 years. This began with our highly successful Ultra-Low-Flush Toilet Rebate Program, continued on through the High Efficiency Washer Program, and now continues with the High Efficiency Toilet Program.

Water Smart Home Survey Program

The Water Smart Home Survey Program provides free home water surveys (indoor and outdoor). The Water Smart Home Survey Program uses a Site Water Use Audit program format to perform 1,000 comprehensive, single-family home audits. Residents choose to have outdoor (and indoor, if desired) audits to identify opportunities for water savings throughout their properties. A customized home water audit report is provided after each site audit is completed and provides the resident with their survey results, rebate information, and an overall water score.

High Efficiency Clothes Washer Rebate Program

The High Efficiency Clothes Washer (HECW) Rebate Program provides residential customers with rebates for purchasing and installing WaterSense labeled HECWs. HECWs use 35-50 percent less water than standard washer models, with savings of approximately 9,000 gallons per year, per device. Devices must have a water factor of 4.0 or less, and a listing of qualified products can be found at ocwatersmart.com. There is a maximum of one rebate per home.



Standard Incentive: \$85 per washer

<u>Enhanced Incentive</u>: Varies by participating agency.

Market Description: Although HECWs have been incentivized heavily in recent years, the MWDOC market is far from saturated. Approximately 26% saturation rate with a potential of 650,000 units in the market that have yet to be changed out for high efficiency models.

Per Unit Savings:

31 gallons per day (GPD)

15 year useful life



.52 AF lifetime savings
Cost per AF: \$360 with base rebate; \$1,129 with enhanced rebate

High Efficiency Toilet Rebate Program

The largest amount of water used inside a home, 30 percent, goes toward flushing the toilet. The High Efficiency Toilet (HET) Rebate Program offers incentives to residential customers for replacing their standard, water-guzzling toilets with HETs. HETs use just 1.28 gallons of water or less per flush, which is 20 percent less water than standard toilets. In addition, HETS save an average of 38 gallons of water per day while maintaining high performance standards.





Standard Incentive: \$50 per toilet

<u>Enhanced Incentive</u>: Varies by participating agency.

Market Description: Ultra low flush toilets, and in more recent years, high efficiency toilets have been heavily targeted over the last 20 years. 85% saturation rate with a potential of 250,000 – 350,000 residential units in the market that have yet to be changed out for high efficiency models.

Per Unit Savings:

38 GPD

20 year useful life

.85 AF lifetime savings

Cost per AF: \$119 per AF

4.9.2 Conservation Programs for Commercial, Industrial and Institutional Accounts

MWDOC provides technical resources and financial incentives to help Orange County businesses, institutions, hotels, hospitals, industrial facilities, and public sector sites achieve their efficiency goals. Technical assistance is provided through on-site surveys, water use audits, and engineering assistance. Such projects include high efficiency commercial equipment installation and manufacturing process improvements.

Financial incentives are available for customized WUE projects at a rate of \$1,500 to \$1,950 per AF saved over one year. Funding is provided in part by the USBR, CA Department of Water Resources, and Metropolitan.

Water Smart Hotel Program

Water used in hotels and other lodging businesses accounts for approximately 15 percent of the total water use in commercial and institutional facilities in the United States. The Water Smart Hotel Program provides water use surveys, customized facility reports, technical assistance, and enhanced incentives to hotels that invest in water use efficiency improvements. Rebates available include high efficiency toilets, ultralow volume urinals, air-cooled ice machines, weather-based irrigation controllers, and rotating nozzles.

In 2008 and 2009, MWDOC received grants from DWR and the USBR to conduct the Water Smart Hotel Program, a program designed to provide Orange County hotels and motels with commercial and landscape water saving surveys, incentives for retrofits and customer follow-up and support. The goal of the program is to implement water use efficiency changes in hotels to achieve an anticipated water savings of 7,078 AF over 10 years.



Water Smart Industrial Program

The Water Smart Industrial Program provides engineering surveys to identify water saving process improvements in the Orange County industrial customer base. Additionally it provides Engineering Assistance and Financial incentives to help implement the recommendations from those surveys. This is done with funding from DWR, USBR, Metropolitan and MWDOC. To date the program has identified a water savings potential of 450 million gallons per year. Types of projects have included treating and reusing water in manufacturing process or for cooling towers and new wash equipment with upgraded washers, nozzles and automated control systems.

Device Retrofits

MWDOC also offers financial incentives under the Socal Water\$mart Rebate Program which offers rebates for various water efficient devices to CII customers.





	0.85 AF lifetime savings
	Market Description: High efficiency toilets are the highest use indoor fixture in many facilities; they are also the most universal device located in just about any facility regardless of facility purpose.
	Cost per AF:
	Standard Tank Type: \$106 per AF
	Enhanced Tank Type: \$214 per AF
	Verified Tank Type: \$454 per AF (if toilet is verified >=3.5 gpf)
	Standard Incentive: \$485 per compartment
	Enhanced Incentive: Additional \$100 per compartment
	Per Unit Savings:
	223 GPD
	10 year useful life
Connectionless Food	2.5 AF lifetime savings
Steamers (aka Boiler- less)	Market Description: The best opportunities for use of connectionless food steamers are in food service facilities with large batch cooking such as cafeterias, institutions, and large family style restaurants.
	Cost per AF:
	Standard Incentive: \$242 per AF
	Enhanced Incentive: \$287 per AF
	Standard Incentive: \$1,000 per machine
	Enhanced Incentive: Additional \$250 per machine
	Per Unit Savings:
	137 GPD
	10 year useful life
Air-Cooled Ice Machines	1.54 AF lifetime savings
	Market Description: Ice machines are located in all food service operations, bars, supermarkets, convenience stores, hotels and many other operations throughout Orange County territory.
	Cost per AF:
	Standard Incentive: \$809 per AF
	Enhanced Incentive: \$993 per AF



		Ctan dead becautive #COF and another
		Standard Incentive: \$625 per controller
The state of the s		Per Unit Savings:
100AC	Standard Cooling Tower	575 GPD
ASSESSE A	Conductivity Controller	5 year useful life
, 1 /	, 1 /	3.22 AF lifetime savings
		Cost per AF: \$226 per AF.
		Standard Incentive: \$1,750 per controller
		Enhanced Incentive: Additional \$1,800
		Per Unit Savings:
		1,735 GPD
		5 year useful life
		9.72 AF lifetime savings
	pH-Cooling Tower Controller	Market Description: Cooling towers are located at large buildings (typically anything over three stories), industrial process operations and locations with large cooling requirement such as supermarkets. There are thousands of cooling towers in the MWDOC territory.
		Cost per AF:
		Standard Incentive: \$209 per AF.
		Enhanced Incentive: \$405 per AF.
		Incentive: \$10 per restrictor
		Per Unit Savings:
		10.3 GPD
111 25		5 year useful life
Laminar Flow Restrictors		0.06 AF lifetime savings
	Laminar Flow Restrictors	Market Description: Laminar flow restrictors force water through a small opening reducing the flow while inhibiting bacterial growth. They are recommended in hospitals and other health care facilities, making them a target for program outreach.
		Cost per AF: \$185 per AF.





Dry Vacuum Pumps

Incentive: \$125 per 0.5 Horse Power

Per Unit Savings:

81.8 GPD

7 year useful life

0.64 AF lifetime savings

Market Description: Dry vacuum pumps are used at dental and medical facilities to create suction and remove excess air and byproducts. The largest opportunity is in dental offices.

Cost per AF: \$235 per AF.

4.9.3 Landscape Conservation Programs and Incentives

One of the most active and exciting water use efficiency sectors MWDOC provides services for are those programs that target the reduction of outdoor water use. With close to 60 percent of water consumed outdoors, this sector has been and will continue to be a focus for MWDOC. MWDOC offers several landscape water use efficiency program aimed at both residential and commercial customers. MWDOC also offers programs within Orange County to specifically assist retail agencies and their large landscape customers and public agencies.

Turf Removal Program

The Orange County Turf Removal Program offers incentives to remove non-recreational turf grass from commercial properties throughout the County. This program is a partnership between MWDOC, Metropolitan, and local retail water agency. The goals of this program are to increase water use efficiency within Orange County, reduce runoff leaving the properties, and evaluate the effectiveness of turf removal as a water-saving practice. Participants are encouraged to replace their turf grass with drought-tolerant landscaping, diverse plant palettes, and artificial turf, and they are encouraged to retrofit their irrigation systems with Smart Timers and drip irrigation (or to remove it entirely). Through December 2015, Orange County residents and commercial properties removed 11.9 million square feet of turf, representing approximately 1,550 AFY of water savings.

Water Smart Landscape Program

MWDOC's Water Smart Landscape Program is a free water management tool for homeowner associations, landscapers, and property managers. Participants in the Program use the Internet to track their irrigation meter's monthly water use and compare it to a custom water budget established by the Program. This enables property managers and landscapers to easily identify areas that are over/under watered and enhances their accountability to homeowner association boards. There are 12,386 dedicated irrigation meter customers enrolled in the Program with water savings of more than 10,000 AF.

Water Smart Public Spaces

In 2012, MWDOC received funding from the Department of Water Resources through a three-year Integrated Regional Water Management Program grant to implement a comprehensive landscape

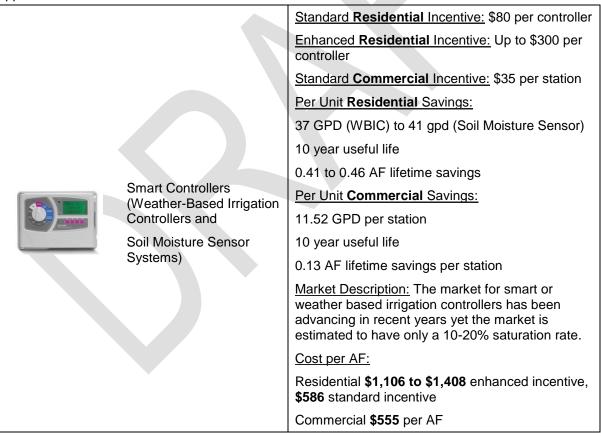


improvement program targeting publicly owned landscapes in south Orange County. The program encourages removing non-functional turfgrass, upgrading conventional irrigation controllers to smart irrigation timers, and converting high-volume overhead spray irrigation to low-volume irrigation. Once fully implemented, the program will reduce water use in 84 acres of existing landscape areas.

Smart Timer Rebate Program

Smart Timers are irrigation clocks that are either weather-based irrigation controllers (WBICs) or soil moisture sensor systems. WBICs adjust automatically to reflect changes in local weather and site-specific landscape needs, such as soil type, slopes, and plant material. When WBICs are programmed properly, turf and plants receive the proper amount of water throughout the year. During the fall months, when property owners and landscape professionals often overwater, Smart Timers can save significant amounts of water.

Soil moisture sensors are relatively new to MWDOC's suite of landscape water management tools. Much like a Smart Timer, soil moisture sensors determine the amount of water in the soil by way of sensors placed in the actual root zone of a given landscape area. This measurement of water is then relayed back to the controller and through the controller's programming, and the correct amount of water is then applied.



Rotating Nozzles Rebate Program

The Rotating Nozzle Rebate Program provides incentives to residential and commercial properties for the replacement of high-precipitation rate spray nozzles with low-precipitation rate multi-stream, multi-



trajectory rotating nozzles. The rebate offered through this Program aims to offset the cost of the device and installation.



High Efficiency Sprinkler Nozzles (*HENs*) <u>Incentive:</u> \$4 per nozzle for residential, commercial and irrigation customers

Market Description: The market for high efficiency spray nozzles has only emerged in recent years and has a tremendous potential. Hundreds of thousands of inefficient pop up heads are installed in the MWDOC territory. Virtually any site with irrigation will have pop up spray heads.

Per Unit Savings:

3.6 GPD per nozzle

5 year useful life

0.02 AF lifetime savings

Cost per AF: \$288 per AF

Spray to Drip Rebate Program

The Spray to Drip Pilot Rebate Program offers residential and commercial customers rebates for converting planting areas irrigated by spray heads to drip irrigation. Drip irrigation systems are very water-efficient. Rather than spraying wide areas, drip systems use point emitters to deliver water to specific locations at or near plant root zones. Water drips slowly from the emitters either onto the soil surface or below ground. As a result, less water is lost to wind and evaporation.

Device Retrofits

MWDOC also offers financial incentives under the SoCal Water\$mart Rebate Program for a variety of other water efficient landscape devices.



Standard Incentive: \$25 per station

Per Unit Savings:

Same as standalone smart controllers

11.52 GPD per station

10 year useful life

0.13 AF lifetime savings per station

Market Description: The market for central irrigation controllers are customers with multiple sites and multiple controllers. Central controller allows for customers to remotely manage their irrigation. Part of the technology includes weather based scheduling. Typical customers are cities, school districts, universities, multi-family owners and other large landscape sites.

Cost per AF: \$232 per AF



	Standard Incentive:
	\$13 per set of two nozzles
	Per Unit Savings:
and the same of	16 GPD per set of two nozzles
	10 year useful life
Large Rotary Nozzles	0.18 AF lifetime savings per set of two nozzles
	Market Description: Large rotary nozzles are brass nozzle inserts for large rotary sprinkler heads. Large rotary nozzles are used at golf courses and large athletic fields, irrigating extremely large turf areas.
	Cost per AF: \$85 per AF.
	Standard Incentive:
	\$1 per flow regulator
	Per Unit Savings:
	1.4 – 2.7 GPD per station
	5 year useful life
° 。 In-Stem Flow Regulators	0.015 - 0.0076 AF lifetime savings per station
	Market Description: Valvette Systems is currently the only approved manufacturer of in-stem flow regulators. There are hundreds of thousands of the pop up sprinklers in MWDOC's territory, however much of the time customers will prefer to retrofit just the nozzle.
	Cost per AF: \$92 per AF.

California Friendly Landscape Training (Residential)

The California Friendly Landscape Training provides education to residential homeowners, property managers, and professional landscape contractors on a variety of landscape water efficiency practices they can employ. These classes are hosted by Metropolitan, MWDOC and/or the retail agencies to encourage participation across the county. The residential training program consists of either an in person training or individual, topic-specific, online classes. The four topics presented include: 1) Basic Landscape Design, 2) California Friendly Plants, 3) Efficiency Irrigation Systems, and 4) Soils, Watering, Fertilizing.



5 WATER SHORTAGE CONTINGENCY PLAN

5.1 Overview

Recent water supply challenges throughout the American Southwest and the State of California have resulted in the development of a number of policy actions that water agencies would implement in the event of a water shortage. In southern California, the development of such policies has occurred at both the wholesale and retail level. This section describes how new and existing policies that Metropolitan and MWDOC have in place, such as shortage actions, water use restrictions, revenue changes, and reduction measuring mechanisms, to respond to water supply shortages, including a catastrophic interruption and up to a 50 percent reduction in water supply.

5.2 Shortage Actions

MWDOC is a wholesale water agency, and while it has broad powers to allocate or prohibit uses of water upon the declaration of a Water Shortage Emergency by its Board of Directors, MWDOC has not acted to directly mandate how water is used by its retail agencies in the past. However, MWDOC is responsible for how imported water will be allocated to each retail agency, which play a factor in the specific stages of retail agency's shortage actions in accordance with their local ordinances. Thus, during past shortages and for the current situation, MWDOC has adopted Board Resolutions urging its retail agencies to develop and implement water shortage plans, calling upon each agency to adopt and enforce regulations prohibiting the waste of water, and implementing an allocation plan for available imported water consistent with reductions, incentives, and allocation surcharges imposed on MWDOC by Metropolitan. Below are stages MWDOC and Metropolitan called upon for their Water Shortage Contingency Plan, with the last stage calling for the implementation of Water Supply Allocations.



Table 5-1: Stages of Water Shortage Contingency Plan

MWDOC Stages of Water Shortage Contingency Plan				
Stage	Percent Supply Reduction	Water Supply Condition		
Baseline Water Use Efficiency	Long-term Conservation	Ongoing water use efficiency, outreach and public awareness efforts to continue water use saving and build storage reserves		
Condition 1: Water Supply Watch	Variable	Call for voluntary dry-year conservation measures and use of Metropolitan's regional storage reserves		
Condition 2: Water Supply Alert	Variable	Regional call for cities and water agencies in the service area to implement extraordinary conservation measures through their drought ordinance and other water use efficiency efforts		
Condition 3: Water Supply Allocation	5% to 50%	Implement MWDOC's Water Supply Allocation Plan		

NOTES: See discussion on Metropolitan's and MWDOC water shortage actions, such as Metropolitan's WSDM Plan and implementation of both Metropolitan and MWDOC's Water Supply Allocation Plan.

5.2.1 Metropolitan Water Surplus and Drought Management Plan

Metropolitan evaluates the level of supplies available and existing levels of water in storage to determine the appropriate management stage annually. Each stage is associated with specific resource management actions to avoid extreme shortages to the extent possible and minimize adverse impacts to retail customers should an extreme shortage occur. The sequencing outlined in the Water Surplus and Drought Management Plan (WSDM Plan) reflects anticipated responses towards Metropolitan's existing and expected resource mix.

Surplus stages occur when net annual deliveries can be made to water storage programs. Under the WSDM Plan, there are four surplus management stages that provides a framework for actions to take for surplus supplies. Deliveries in DVL and in SWP terminal reservoirs continue through each surplus stage provided there is available storage capacity. Withdrawals from DVL for regulatory purposes or to meet seasonal demands may occur in any stage.

The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages. The differences between each term is listed below.

- Shortage: Metropolitan can meet full-service demands using stored water or water transfers as necessary.
- **Severe Shortage:** Metropolitan can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation.
- Extreme Shortage: Metropolitan must allocate available supply to full-service customers.



There are six shortage management stages to guide resource management activities. These stages are defined by shortfalls in imported supply and water balances in Metropolitan's storage programs. When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Figure 5-1 gives a summary of actions under each surplus and shortage stages when an allocation plan is necessary to enforce mandatory cutbacks. The goal of the WSDM Plan is to avoid Stage 6, an extreme shortage.

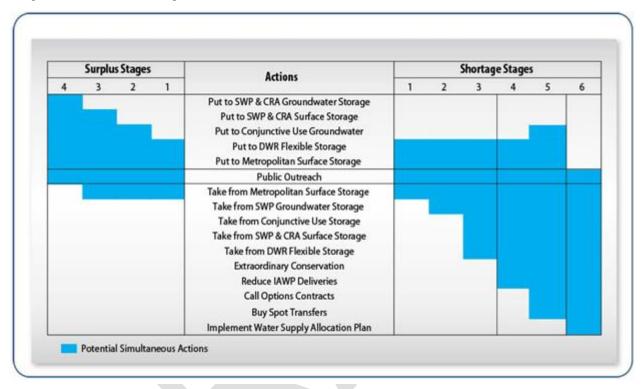


Figure 5-1: Resource Stages, Anticipated Actions, and Supply Declarations

Metropolitan's Board of Directors adopted a Water Supply Condition Framework in June 2008 in order to communicate the urgency of the region's water supply situation and the need for further water conservation practices. The framework has four conditions, each calling increasing levels of conservation. Descriptions for each of the four conditions are listed below:

- **Baseline Water Use Efficiency:** Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves.
- **Condition 1 Water Supply Watch:** Local agency voluntary dry-year conservation measures and use of regional storage reserves.
- Condition 2 Water Supply Alert: Regional call for cities, counties, member agencies, and retail
 water agencies to implement extraordinary conservation through drought ordinances and other
 measures to mitigate use of storage reserves.
- Condition 3 Water Supply Allocation: Implement Metropolitan's WSAP



As noted in Condition 3, should supplies become limited to the point where imported water demands cannot be met, Metropolitan will allocate water through the WSAP (Metropolitan, 2015 Draft UWMP, March 2016).

5.2.2 Metropolitan's Water Supply Allocation Plan

Metropolitan's imported supplies have been impacted by a number of water supply challenges as noted earlier. In case of an extreme water shortage, within the Metropolitan service area, the implementation of its Water Supply Allocation Plan is recommended.

Metropolitan's Board of Directors adopted the WSAP in February 2008 to fairly distribute a limited amount of water supply it through a detailed methodology to reflect a range of local conditions and needs of the region's retail water consumers.

The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. Metropolitan's WSAP is the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and is part of Metropolitan's 2015 UWMP.

Metropolitan's WSAP was developed in consideration of the principles and guidelines in Metropolitan's 1999 WSDM Plan with the core objective of creating an equitable "needs-based allocation". The WSAP's formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of Metropolitan supplies of up to 50 percent. The formula takes into account a number of factors, such as the impact on retail customers, growth in population, changes in supply conditions, investments in local resources, demand hardening aspects of water conservation savings, recycled water, extraordinary storage and transfer actions, and groundwater imported water needs.

The formula is calculated in three steps: 1) based period calculations, 2) allocation year calculations, and 3) supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.

Step 1: Base Period Calculations – The first step in calculating a member agency's water supply allocation is to estimate their water supply and demand using a historical based period with established water supply and delivery data. The current base period for each of the different categories of supply and demand is calculated using data from the two most recent non-shortage fiscal years ending 2013 and 2014.

Step 2: Allocation Year Calculations – The next step in calculating the member agency's water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

Step 3: Supply Allocation Calculations – The final step is calculating the water supply allocation for each member agency based on the allocation year local water supplies.

In order to implement the WSAP, Metropolitan's Board of Directors makes a determination on the level of the regional shortage, based on specific criteria, typically in April. The criteria used by Metropolitan includes, current levels of storage, estimated water supplies conditions, and projected imported water demands. The allocations, if deemed necessary, go into effect in July of the same year and remain in effect for a 12-month period. The schedule is made at the discretion of the Board of Directors.



Although Metropolitan's 2015 UWMP forecasts that Metropolitan will be able to meet projected imported demands throughout the projected period from 2020 to 2040, uncertainty in supply conditions can result in Metropolitan needing to implement its WSAP to preserve dry-year storage and curtail demands.

5.2.3 MWDOC's Water Supply Allocation Plan

To prepare for the potential allocation of imported water supplies from Metropolitan, MWDOC worked collaboratively with its 28 retail agencies to develop its own WSAP that was adopted in January 2009 and amended in 2015. The MWDOC WSAP outlines how MWDOC will determine and implement each of its retail agency's allocation during a time of shortage.

The MWDOC WSAP uses a similar method and approach, when reasonable, as that of the Metropolitan's WSAP. However, MWDOC's plan remains flexible to use an alternative approach when Metropolitan's method produces a significant unintended result for the member agencies. The MWDOC WSAP model follows five basic steps to determine a retail agency's imported supply allocation.

Step 1: Determine Baseline Information – The first step in calculating a water supply allocation is to estimate water supply and demand using a historical based period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the last two non-shortage fiscal years ending 2013 and 2014.

Step 2: Establish Allocation Year Information – In this step, the model adjusts for each retail agency's water need in the allocation year. This is done by adjusting the base period estimates for increased retail water demand based on population growth and changes in local supplies.

Step 3: Calculate Initial Minimum Allocation Based on Metropolitan's Declared Shortage Level – This step sets the initial water supply allocation for each retail agency. After a regional shortage level is established, MWDOC will calculate the initial allocation as a percentage of adjusted base period imported water needs within the model for each retail agency.

Step 4: Apply Allocation Adjustments and Credits in the Areas of Retail Impacts and

Conservation—In this step, the model assigns additional water to address disparate impacts at the retail level caused by an across-the-board cut of imported supplies. It also applies a conservation credit given to those agencies that have achieved additional water savings at the retail level as a result of successful implementation of water conservation devices, programs and rate structures.

Step 5: Sum Total Allocations and Determine Retail Reliability – This is the final step in calculating a retail agency's total allocation for imported supplies. The model sums an agency's total imported allocation with all of the adjustments and credits and then calculates each agency's retail reliability compared to its Allocation Year Retail Demand.

The MWDOC WSAP includes additional measures for plan implementation, including the following:

- Appeal Process An appeals process to provide retail agencies the opportunity to request a change to their allocation based on new or corrected information. MWDOC anticipates that under most circumstances, a retail agency's appeal will be the basis for an appeal to Metropolitan by MWDOC.
- Melded Allocation Surcharge Structure At the end of the allocation year, MWDOC would only charge an allocation surcharge to each retail agency that exceeded their allocation if MWDOC



exceeds its total allocation and is required to pay a surcharge to Metropolitan. Metropolitan enforces allocations to retail agencies through an allocation surcharge to a retail agency that exceeds its total annual allocation at the end of the 12-month allocation period. MWDOC's surcharge would be assessed according to the retail agency's prorated share (AF over usage) of MWDOC amount with Metropolitan. Surcharge funds collected by Metropolitan will be invested in its Water Management Fund, which is used to in part to fund expenditures in dry-year conservation and local resource development.

- Tracking and Reporting Water Usage MWDOC will provide each retail agency with water use
 monthly reports that will compare each retail agency's current cumulative retail usage to their
 allocation baseline. MWDOC will also provide quarterly reports on it cumulative retail usage versus its
 allocation baseline.
- Timeline and Option to Revisit the Plan The allocation period will cover 12 consecutive months and the Regional Shortage Level will be set for the entire allocation period. MWDOC only anticipates calling for allocation when Metropolitan declares a shortage; and no later than 30 days from Metropolitan's declaration will MWDOC announce allocation to its retail agencies.

5.3 Three-Year Minimum Water Supply

As a matter of practice, Metropolitan does not provide annual estimates of the minimum supplies available to its member agencies. As such, Metropolitan member agencies must develop their own estimates for the purposes of meeting the requirements of the Act.

Section 135 of the Metropolitan Act declares that a member agency has the right to invoke its "preferential right" to water, which grants each member agency a preferential right to purchase a percentage of Metropolitan's available supplies based on specified, cumulative financial contributions to Metropolitan. Each year, Metropolitan calculates and distributes each member agency's percentage of preferential rights. However, since Metropolitan's creation in 1927, no member agency has ever invoked these rights as a means of acquiring limited supplies from Metropolitan.

As an alternative to invoking preferential rights, Metropolitan and member agencies accepted the terms and conditions of Metropolitan's shortage allocation plan, which allocated imported water under limited supplies conditions. In fact in FY 2015-16, Metropolitan implemented its WSAP at a stage level 3 (seeking no greater than a 15 percent regional reduction of water use), which is the largest reduction Metropolitan has ever imposed on its member agencies. Moreover, this WSAP reduction level 3 was determined when Metropolitan water supplies from the SWP were at their lowest levels ever delivered and water storage declined more than 1 MAF in one year.

Based on analysis shown in Section 3 of this Plan, Metropolitan believes that the water supply and demand management actions it is undertaking will increase its reliability throughout the 25-year period. Thus for purposes of this estimate, it is assumed that Metropolitan and MWDOC will be able to maintain the identified supply amounts throughout the three-year period. However, assuming Metropolitan is again faced with another critically dry year as what we had faced in 2014 and 2015, MWDOC estimates it can meet projected imported demands as follows. To estimate the three year minimum water supply, MWDOC will used the latest allocation (MWDOC's 2015-16 imported allocation) for 2015-2018. Thus, the estimate of the minimum imported supplies available to MWDOC in 2015-16 is 224,579 AF. It is assumed



this would continue for an additional two years. If the severity of the drought increases, higher levels of curtailment i.e. greater levels of allocations could be needed.

Table 5-2: Minimum Supply Next Three Years (AFY)

MWDOC's Minimum Supply Next Three Years (AFY)						
	2016	2017	2018			
Available Imported Water Supply	224,579	224,579	224,579			
NOTES: MWDOC Water Shortage Allocation Model, March 2015						

5.4 Catastrophic Supply Interruption

From a regional perspective, Orange County and all of southern California is heavily dependent upon imported water supplies from Metropolitan. Imported water is conveyed through the SWP and CRA, which travel hundreds of miles to reach urban southern California, and specifically to Orange County. Additionally, this water is distributed to customers through an intricate network of pipes and water mains that are susceptible to damage from earthquakes and other disasters. Regional storage for southern California and Orange County is provided by Metropolitan to mitigate an outage of either the SWP or CRA. DVL, Metropolitan's newest reservoir located in Hemet, Riverside County is an 800,000 AF reservoir, of which about 400,000 AF of water is reserved for catastrophic emergencies. In fact, protection from catastrophic events such as earthquakes was a major reason for the construction of Diamond Valley Lake. Additionally, the Orange County Water purveyors have taken significant efforts to respond to emergencies through the formation of the Water Emergency Response Organization of Orange County (WEROC).

5.4.1 Metropolitan

Metropolitan has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies through its WSAP and WSDM Plans. Metropolitan also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the southern California region, including seismic events along the San Andreas Fault. In addition, Metropolitan is working with the State to implement a comprehensive improvement plan to address catastrophic occurrences that could occur outside of the southern California region, such as a maximum probable seismic event in the Delta that would cause levee failure and disruption of SWP deliveries. For greater detail on Metropolitan's planned responses to catastrophic interruption, please refer to Metropolitan's 2015 UWMP.

5.4.2 Water Emergency Response Organization of Orange County (WEROC)

In 1983, the Orange County water community developed a Water Supply Emergency Preparedness Plan that identified a need to develop a plan on how agencies would to respond effectively to disasters impacting the regional water distribution system. The collective efforts of these agencies resulted in the formation of WEROC to coordinate emergency response on behalf of all Orange County water and wastewater agencies, develop an emergency plan to respond to disasters, and conduct disaster training exercises for the Orange County water community. WEROC was established with the creation of an indemnification agreement between its



member agencies to protect each other against civil liabilities and to facilitate the exchange of resources. WEROC is unique in its ability to provide a single point of contact for representation of all water and wastewater utilities in Orange County during a disaster. This representation is to the local, county, state, and federal disaster coordination agencies. Within the Orange County Operational Area, WEROC is the recognized contact for emergency disaster response for the water community.

Each local water and wastewater utility is responsible for developing its own disaster preparedness and response plan to meet emergencies within their service area. WEROC performs the coordination of information and mutual-aid requests among water and wastewater agencies. WEROC provides assistance to utilities developing their plans and facilitates working groups when new best practices need to be examined or regulations come into effect. Additionally, WEROC supports the utilities efforts with training, exercise coordination, and representation to other emergency response agencies.

In the event of a major emergency or regional disaster WEROC would perform the following functions:

- Collect damage assessment reports from Orange County water and wastewater utilities;
- Assess the overall condition of the Orange County water supply system; including treatment, storage and distribution; and assess the overall condition of the Orange County wastewater system;
- Identify the information and resource needs of the impacted water and wastewater utilities;
- Identify available resources, determine optimal use of those resources and coordinate the exchange of those resources as mutual aid;
- Determine water supply needs;
- Recommend water emergency allocations and coordinate water distribution as needed;
- Liaison with water utilities, local government, Metropolitan, the Orange County Operational Area and the California Office of Emergency Services; and
- Document remedial actions taken during the disaster operation and assist impacted agencies with the Federal Stafford Act Public Assistance process.

Two dedicated WEROC Emergency Operations Centers (EOCs) are located within Orange County. Both sites are maintained in a state of readiness in the event that they will be activated following a major disaster. WEROC EOCs are staffed by trained volunteer personnel from the water community. WEROC's Emergency Radio Communication System consists of two mountain-top radio repeaters and several



control stations. WEROC is a flexible and dynamic program that continues to make improvements to its emergency preparedness plan, emergency response facilities, and its training program to address new issues as they surface.

During a disaster, WEROC will work cooperatively with Metropolitan through their Member Agency Response System (MARS) Radio to facilitate the flow of information and requests for mutual-aid within Metropolitan's 5,100 square mile service area. WEROC also provides updated information to Metropolitan's EOC at Eagle Rock.

Day-to-day management of WEROC is provided by MWDOC. Although MWDOC is a majority contributor to the WEROC budget, the program is also supported by OCWD, OCSD, SOCWA and the three Cities of Anaheim, Fullerton and Santa Ana. Additionally, ETWD and Metropolitan provide facility and maintenance support to the WEROC EOCs on a regular basis.

Additional emergency response mutual aid plans in the State of California include the California Master Mutual Aid Agreement, and the California Water and Wastewater Agency Response Network (CalWARN), and the California Public Works Mutual Aid Plan. The California Master Mutual Aid Agreement includes all public agencies that have incorporated the Standardized Emergency Management System (SEMS) into their response plans, and is coordinated by the California Office of Emergency Services. It requires a declared disaster to be used for response. Cal WARN includes 353 (as of Dec 2015) public and private water and wastewater utilities that have signed the Cal WARN agreement, and provides the opportunity for mutual assistance regardless of a declared disaster. Cal WARN is coordinated by a State Steering Committee and can be activated by any signatory to the agreement. The California Public Works Mutual Aid Plan provides for mutual aid between public works departments at the local and county level. All Orange County Cities and the County of Orange have signed this agreement.

A summary of actions in response to a catastrophe is listed below:

- Regional Power Outage: Coordinate communication with So. California Edison and San Diego Gas
 and Electric for restoration of services. Provide contacts for vendors of rental generators and initiate
 mutual assistance between unaffected agencies for emergency backup power. Work with impacted
 utilities to determine fuel replenishment needs and coordinate fuel procurement. Consult with the
 impacted utilities and the California Division of Drinking Water (DDW) for water quality concerns and
 public notices.
- Earthquake: Coordinate the resources necessary for repair of the Orange County water and
 wastewater agencies' infrastructure. Facilitate mutual aid from outside agencies through the Orange
 County Operational Area using the above mentioned mutual aid agreements. Use WEROC Mutual
 Aid Directory and private vendor lists to identify available water haulers, temporary water lines, piping,
 heavy equipment, etc.
- Tsunami: If time allows, notify coastal agencies to take the appropriate actions for life safety. Work
 with impacted agencies to identify potential damages and request DDW support in evaluating
 suspected water contamination. Support agency efforts to restore water flow in unique conditions of
 flooding (safety) and potentially lack of electricity. Continue support similar to an earthquake
 response.



- Malicious Act: Such an incident typically involves a long-term response with law enforcement, sometimes causing interference with water supply verses ongoing law enforcement activities.
 WEROC could support the agency with staff, liaison efforts with outside agencies, and resources required for recovery of operational systems. In addition, coordination of water quality advisors, DDW, and public information officers will be critical.
- Flooding: Coordination with the Orange County Public Works Department, Orange County Fire Authority and DWR for flood control support. Coordination of mutual assistance for repair of infrastructure.
- Dam Failure: Identify impacts to water infrastructure and resource management for the county during the current weather season and conditions. Evaluate the need and ability for accelerated reconstruction and/or restoration of services. Coordinate alternate water supply as needed.
- SONGS Nuclear Release: Work with the DDW and the Orange County retail water agencies that
 have open water sources to determine impacts to water quality and appropriate protective actions.
 Work with agencies within the fallout zone to determine current operational capabilities and future use
 of infrastructure in the affected area.
- Wild Land Fire: Facilitate Water Utility Representation to the Fire Unified Command Post to ensure
 that information and resource needs are being met. Ensure that fire protection is being provided to
 critical infrastructure and that responding agencies understand the impacts of losing infrastructure.
- Water Contamination: Contamination can be from multiple sources: malicious, sewer leak,
 underground contaminated plume, etc. WEROC would provide information and resource coordination
 support to the impacted agency if requested. The WEROC Public Information Officer will work with
 the agency and the media to ensure proper information is provided to the public for their health and
 safety.
- Hazardous Materials Spill/Release: Communicate with impacted agencies to determine the impact
 to water supply and quality. Provide coordination with responding agencies if necessary. The
 WEROC Public Information Officer will work with the agency and the media to ensure proper
 information is provided to the public for their health and safety.
- Pandemic: Communicate recommended health precautions from the County Public Health Officer.
 Advocate on behalf of the utilities for any medication that may be made available to first responders
 only. Assistant agencies in identifying critical functions, mandatory staffing and reduced staffing
 operations. Coordinate resource allocations if resources become sparse.
- **Severe Drought:** Facilitate a coordinated public information campaign. Coordinate with other government agencies on severe conservation measures and ensure understanding of the impacts.

5.5 Prohibitions, Penalties and Consumption Reduction Methods

Working in coordination and collaboration with its retail agencies, MWDOC is able to reduce demands during water shortages. Although MWDOC may actually require more imported water during water shortages to offset losses of local supplies, MWDOC is able to maintain demands at a lower level than would be possible if water reduction mechanisms were not implemented. A variety of mechanisms, such



as mandatory prohibitions, consumption reductions, and penalties and charges has been and can be implemented during water shortages.

5.5.1 Mandatory Water Use Prohibitions

Because MWDOC's does not have power to "enforce" restrictions on the use of water as a practical matter, mandatory use prohibitions would be difficult for MWDOC to enforce given the different sources of water accessed by end users. The establishment of mandatory prohibitions on water usage during water shortages is therefore not part of MWDOC's Plan under Water Code Section 10620 (c). However, historically MWDOC has focused its activity in developing service area shortage allocation plans that include water purchase allocations and surcharges. MWDOC has also worked with its agencies and others in communicating the conservation need to the general public and to develop unified messages. In addition, MWDOC has urged its retail agencies to develop specific shortage management plans to meet targeted reduction in total water demand during a shortage. Retail agencies of MWDOC will address mandatory prohibitions during water shortages in their individual UWMPs.

5.5.2 Consumption Reduction Methods

As mentioned in Section 5.5.1, MWDOC does not have power to "enforce" restriction on the use of water. Therefore, it is more appropriate for water reduction methods to be applied to the public through the retail agencies. Reductions in water consumption by MWDOC's retail agencies during water shortages will ultimately reduce MWDOC's overall demands on Metropolitan. MWDOC's Board has the authority to provide for a method of allocation for available imported water supplies, as the Board may determine necessary, through implementation of its Water Shortage Management Plan for all classes of service. Each retail agency decides how it will allocate supplies it receives from MWDOC during water shortages. Retail agencies of MWDOC will address water reduction methods during water shortages in their individual UWMPs.

5.6 Impacts to Revenue

During a catastrophic interruption of water supplies, prolonged drought, or water shortage of any kind, water agencies can experience a reduction in revenue as water sales decrease. In addition, during this period of time, expenditures may also increase or decrease with varying circumstances. However, it likely that expenditures will increase due to the need to increase water conservation measures and outreach efforts. However, this is dependent on how an agency's water rates are structured. MWDOC water rates are 100 percent fixed and are not subject to variation in water sales.

5.6.1 MWDOC Fixed Water Rate

MWDOC's operating budget is funded from a fixed annual Retail Meter Charge collected from MWDOC's retail agencies for each retail water meter in their service area. This charge provides a stable source of revenue that does not vary with weather or water sales. Therefore, to the extent a water shortage occurs, MWDOC does not see a shortfall in revenue.



5.7 Reduction Measuring Mechanism

The establishment of a method to measure water consumption reductions during water shortages is necessary to determine the effectiveness of water reduction measures. Although MWDOC, as a wholesale supplier, cannot enforce water reduction measures upon end users, MWDOC does work closely with its retail agencies to collect and evaluate data and report on water usage during such events, such as the Governor's recent mandatory water use reduction requests. To monitor the effectiveness, MWDOC generally relies on monthly reading of Metropolitan's meter connections and monthly reports of local water production by the retail agencies. Reports prepared from this data allow MWDOC to evaluate the trends of consumption at the retail agency and county level.

MWDOC's retail agencies will address methods to determine water consumption reductions in their individual UWMPs.



6 RECYCLED WATER

6.1 Agency Coordination

MWDOC does not produce or manage recycled water, but supports, encourages and partners in recycled water efforts within its service area. Recycled water planning within MWDOC's service area requires close coordination with multiple agencies that many times have overlapping jurisdictional boundaries. As imported water supplies have become more challenged, the local agencies, including OCWD have continued working to identify opportunities for the use of recycled water for irrigation purposes, groundwater recharge and some non-irrigation applications.

6.2 Wastewater Description and Discharge

6.2.1 Overview

Wastewater collection and treatment within MWDOC's service area is managed by multiple agencies. Some local agencies provide wastewater collection and treatment as well as potable water services, while other agencies send their wastewater to large regional facilities. Wastewater is not collected by MWDOC and MWDOC does not treat or discharge of wastewater.

6.2.2 Orange County Sanitation District

OCSD collects wastewater from residential, commercial, and industrial customers in 21 cities, three special districts, and portions of unincorporated Orange County, totaling 479 square miles serving more than 2.5 million residents. These flows include dry weather urban runoff collected from 15 diversion points and discharged into the sewer system for treatment and Santa Ana River Interceptor flows from the upper Santa Ana watershed.

OCSD operates and maintains two treatment plants: Reclamation Plant No. 1, located in Fountain Valley with a capacity of 320 MGD, and Treatment Plant No. 2 located in Huntington Beach with a capacity of 312 MGD. OCSD also operates 572 miles of collection system pipelines along with 15 offsite pump stations. Treated wastewater is discharged to the Pacific Ocean via an ocean outfall in compliance with state and federal requirements as set forth in OCSD's National Pollutant Discharge Elimination System permit. Approximately 100 MGD of secondary effluent undergoes advanced treatment at the GWRS facility operated by the OCWD and 7 MGD undergoes tertiary treatment at OCWD's Green Acres Project (GAP) facility. OCSD's ocean outfall is 120-inch diameter and extends four miles off the coast of Huntington Beach. A 78-inch diameter emergency outfall also exists that extends 1.3 miles off the coast.

OCSD Reclamation Plant No. 1 - Reclamation Plant No. 1 treats raw wastewater and has a maximum treatment capacity of 320 MGD. The plant provides primary and secondary treatment and supplies secondary effluent to OCWD for further tertiary treatment at their GAP facility and advanced treatment at their GWRS. Reclamation Plant No. 1 is the only plant that provides water to OCWD for additional treatment and recycling. An interplant pipeline allows flows to be conveyed to Treatment Plant No. 2.



OCSD Treatment Plant No. 2 - Treatment Plant No. 2 provides primary and secondary treatment to raw wastewater and has a maximum treatment capacity of 312 MGD. All secondary effluent from their plant is discharged to the ocean through the ocean outfall.

6.2.3 South Orange County Wastewater Authority

South Orange County Wastewater Authority (SOCWA) is a Joint Powers Authority created on July 1, 2001 to facilitate and manage the collection, transmission, treatment and discharge of wastewater for more than 500,000 homes and businesses across South Orange County. It was formed as the legal successor to the Aliso Water Management Agency, South East Regional Reclamation Authority, and South Orange County Reclamation Authority. SOCWA has ten member agencies that include: City of Laguna Beach, City of San Clemente, City of San Juan Capistrano, ETWD, EBSD, IRWD, MNWD, SMWD, SCWD, and TCWD. All of these service areas receive wholesale water through MWDOC. The service area encompasses approximately 220 square miles including the Aliso Creek, Salt Creek, Laguna Canyon Creek, and San Juan Creek Watersheds.

Within its service area, SOCWA operates four wastewater treatment plants, with an additional eight wastewater treatment plants operated by SOCWA member agencies. Wastewater in the service area is collected at the local and regional level through a series of interceptors that convey influent to the wastewater treatment plants. Treated effluent throughout the service area is conveyed to two gravity flow ocean outfalls operated by SOCWA the Aliso Creek Outfall and the San Juan Creek Outfall. The Aliso Creek outfall has a capacity of 33.2 MGD and extends 1.5 miles offshore near Aliso Beach in the City of Laguna Beach. The San Juan Creek outfall has a nominal capacity of 36.8 MGD which can be increased by pumping and extends 2.2 miles offshore near Doheny Beach in the City of Dana Point. Full secondary treatment is provided at SOCWA wastewater treatment plants, with most plants exceeding this level of treatment when the water is beneficially reused.

SOCWA Coastal Treatment Plant - SOCWA's Coastal Treatment Plant (CTP) in Aliso Canyon, Laguna Niguel has a 6.7 MGD capacity and treats wastewater received from the City of Laguna Beach, EBSD, MNWD, and SCWD to secondary effluent standards. Effluent from the CTP is treated to secondary or tertiary levels depending on the discharge method, ocean outfall or beneficial reuse. Recycled water is treated to Title 22 standards at the Advanced Water Treatment Plant (AWTP) owned by SCWD, but operated by SOCWA, located adjacent to the CTP. During the summer months, over 2 MGD of recycled water can be produced by the AWTP. Treated effluent that is not recycled is discharged through the Aliso Creek Ocean Outfall. Waste sludge is sent to the Regional Treatment Plant (RTP) in Laguna Niguel.

SOCWA Regional Treatment Plant – SOCWA's RTP in Laguna Niguel has a 12 MGD liquid capacity and 24.6 MGD solids handling capacity. The RTP treats wastewater from MNWD's service area to secondary or tertiary levels depending on discharge method, ocean outfall or reuse such as landscape irrigation. Recycled water is treated to applicable Title 22 standards. Secondary effluent is conveyed to the Aliso Creek Ocean Outfall via the SOCWA Effluent Transmission Main.

SOCWA Plant 3A – SOCWA's Plant 3A located in the City of Mission Viejo has a maximum capacity of 6 MGD and treats wastewater received from MNWD and SMWD. Effluent is treated to secondary or tertiary levels depending on the discharge method, ocean outfall or beneficial reuse. Recycled water is treated to applicable Title 22 standards and used to irrigate parks and greenbelts. Secondary effluent is conveyed to the San Juan Creek Outfall via the 3A Effluent Transmission Main.



SOCWA J. B. Latham Treatment Plant - SOCWA's J. B. Latham Treatment Plant located in the City of Dana Point has a 13 MGD capacity and treats wastewater from MNWD, City of San Juan Capistrano, SMWD, and SCWD to secondary effluent standards. The secondary effluent is conveyed directly to the San Juan Creek Outfall as the plant does not have tertiary treatment.

6.3 Current Recycled Water Uses

Recycled water is widely accepted as a water supply source throughout MWDOC's service area. In the past, recycled water was mainly used for landscape irrigation, but large recycled water projects including OCWD's GAP and GWRS, and IRWD's recycled water projects have significantly expanded and increased uses. GWRS uses include injection for sea water barriers and percolation for groundwater recharge. IRWD is at the forefront of using recycled water not only for irrigation, but for other uses such as toilet flushing and commercial applications. Other agencies in south Orange County, such as MNWD and SMWD use a significant amount of recycled water. Recycled water in Orange County is treated to various levels depending on the end use and in accordance with Title 22 regulations as described below.

OCWD Green Acres Project – OCWD owns and operates the GAP, a water recycling system that provides up to 7,000 AFY of recycled water for irrigation and industrial uses. GAP provides an alternate source of water that is mainly delivered to parks, golf courses, greenbelts, cemeteries, and nurseries in the cities of Costa Mesa, Fountain Valley, Newport Beach, and Santa Ana. Approximately 100 sites use GAP water, current recycled water users include Mile Square Park and Golf Courses in Fountain Valley, Costa Mesa Country Club, Chroma Systems carpet dyeing, Kaiser Permanente, and Caltrans.

OCWD Groundwater Replenishment System - OCWD's GWRS receives secondary treated wastewater from OCSD and purifies it to levels that meet all state and federal drinking water standards. The GWRS Phase 1 plant has been operational since January 2008, and uses a three-step advanced treatment process consisting of microfiltration (MF), reverse osmosis (RO), and ultraviolet (UV) light with hydrogen peroxide. A portion of the treated water is injected into the seawater barrier to prevent seawater intrusion into the groundwater basin. The other portion of the water is pumped to ponds where the water percolates into deep aquifers and becomes part of Orange County's water supply.

The design and construction of the first phase (70,000 AFY) of the GWRS project was jointly funded by OCWD and OCSD; Phase 2 expansion (33,000 AFY) was funded solely by OCWD. Expansion beyond this is currently in discussion and could provide an additional 30,000 AFY of water, increasing total GWRS production to 133,000 AFY. The GWRS is the world's largest water purification system for indirect potable reuse (IPR).

OCWD's GWRS has a current production capacity of 103,000 AFY with the expansion that was completed in 2015. Approximately 36,000 AFY of the highly purified water is pumped into the injection wells and 67,000 AFY is pumped to the percolation ponds in the City of Anaheim where the water is naturally filtered through sand and gravel to deep aquifers of the groundwater basin. The Orange County Groundwater Basin provides approximately 72 percent of the potable water supply for north and central Orange County.

ETWD Water Recycling Plant – ETWD's Water Recycling Plant (WRP) located in the City of Lake Forest has a maximum influent capacity of 6 MGD. Wastewater is treated to secondary or tertiary levels depending on the discharge method, ocean outfall or beneficial reuse. Recycled water is treated to Title



22 standards with the expansion completed in 2014. Treated effluent that is not recycled is discharged of through the Aliso Creek Ocean Outfall.

SMWD Chiquita Water Reclamation Plant – SMWD's Chiquita Water Reclamation Plant (CWRP) located in Chiquita Canyon treats wastewater to a tertiary level for recycled water use meeting Title 22 standards. CWRP has a maximum design capacity of 8 MGD with plans to increase its size to 10 MGD by 2025. Effluent that is not beneficially reused is discharged via the Chiquita Land Outfall that connects to the San Juan Creek Ocean Outfall.

SMWD Oso Creek Water Reclamation Plant – SMWD's Oso Creek Water Reclamation Plant (OCWRP) located along Oso Creek. Wastewater is treated to a secondary or tertiary depending on the method of discharge, ocean outfall or beneficial reuse. Recycled water is treated to Title 22 standards. A bypass facility allows excess wastewater to be sent to SOCWA's J.B. Latham Treatment Plant as OCWRP does not have an outfall. Without the ability to discharge treated effluent, excess flows beyond recycled water demands are sent to J.B. Latham Treatment Plant. OCWRP has a maximum design capacity of 3 MGD and is considered a scalping plant as it intercepts flows from a large trunkline.

SMWD Nichols Institute Water Reclamation Plant – the Nichols Institute Water Reclamation Plant is operated by SMWD, but owned by a private company that owns property within SMWD's service area. This small facility treats approximately 34 AFY and does not have an outfall. All wastewater is treated to Title 22 standards for recycling purposes. Since this facility is remote from existing water and wastewater facilities, SMWD is not obligated to provide an alternate source of water in the event the facility becomes inoperable.

San Clemente Water Reclamation Plant - The City of San Clemente owns and operates the San Clemente Water Reclamation Plant located within San Clemente. The plant has a design capacity of 7 MGD and treats wastewater to secondary or tertiary levels depending on the discharge method, ocean outfall or beneficial reuse. Any secondary effluent in excess of the plant's recycling limit is conveyed to the San Juan Creek Ocean Outfall via the San Clemente Land Outfall. Recycling capacity is currently 4.4 MGD after the expansion was completed in 2014 and included 9 miles of pipelines, conversion of a domestic water reservoir to recycled water storage, and a pressure reducing station as well as an interconnection with SMWD.

IRWD Los Alisos Water Recycling Plant - Los Alisos Water Recycling Plant (LAWRP) is operated by IRWD and is located in the City of Lake Forest. LAWRP has a capacity of 7.5 MGD and wastewater is treated to a secondary or tertiary level depending on the use, ocean outfall or beneficial reuse such as landscape irrigation and other non-potable uses. When excess secondary effluent beyond the plant's tertiary treatment capacity is received, it is conveyed to the SOCWA Effluent Transmission Main for discharge via the Aliso Creek Ocean Outfall.

IRWD Michelson Water Recycling Plant - Michelson Water Recycling Plant (MWRP) is located in the City of Irvine and is operated by IRWD. MWRP has a maximum influent capacity of 28 MGD. Wastewater is treated to a tertiary level with advanced treatment in the form of UV disinfection meeting Title 22 standards. All effluent is conveyed to the recycled water distribution system for landscape irrigation, toilet flushing, and industrial uses.

TCWD Robinson Ranch Water Reclamation Plant - TCWD owns and operates the Robinson Ranch Wastewater Treatment Plant (RRWWTP) located in the Robinson Ranch development in Trabuco



Canyon, an unincorporated area of Orange County. RRWTP has a treatment capacity of 0.85 MGD, and the wastewater is treated to a tertiary level meeting Title 22 standards. All of the wastewater is recycled as the plant is not permitted to have stream discharges, and is infeasible to connect to the existing outfalls in the SOCWA service area.

MNWD RTP Advanced Wastewater Treatment Plant – MNWD's RTP AWTP is operated by SOCWA and is located in the City of Laguna Niguel. The AWTP has a total capacity of 11.4 MGD and the secondary effluent from RTP is treated to a disinfected tertiary level that meets Title 22 requirements for landscape irrigation use.

MNWD Plant 3A Advanced Wastewater Treatment Plant - MNWD's Plant 3A AWTP is operated by SOCWA and is located within the City of Laguna Niguel. The Plant 3A AWTP has a capacity of 2.4 MGD and the secondary effluent from 3A is treated to a disinfected tertiary level that meets Title 22 requirements for landscape irrigation use.

SCWD CTP Advanced Wastewater Treatment Plant - SCWD's CTP AWTP is operated by SOCWA and is located in the City of Laguna Niguel. The CTP AWTP has a capacity of 2.6 MGD and the secondary effluent from CTP is treated to a disinfected tertiary level that meets Title 22 requirements for landscape irrigation use.

SCWD Aliso Creek Water Reclamation Facility - SCWD completed construction on the Aliso Creek Water Reclamation Facility (ACWRF) in 2014 that intercepts and treats a portion of the urban runoff in lower Aliso Creek to supplement the advanced water treatment facility at CTP. The ACWRF has a capacity of 800 gpd and the creek water is treated using ultrafiltration and reverse osmosis to improve the quality of the recycled water supply to make it more attractive for irrigation users. The ACWRF has not been able to be used as the Aliso Creek water level is below what regulation allows.

MWDOC does not directly treat or distribute recycled water within their service area.

6.4 Potential Recycled Water Uses

Potential recycled water use within MWDOC's service area hinges upon many variables including, but not limited to, economics of treatment and distribution system extension (as well as site retrofits and conversions), water quality, public acceptance, infrastructure requirements, and reliability.

Even though demands exist, it is not necessarily economically feasible to provide recycled water to all potential users. Expansion of recycled water systems eventually reach a point where returns diminish and higher investments for expansion are not cost effective. Water recycling projects involve collecting and treating wastewater to applicable standards depending on the end use, providing seasonal storage, pipeline construction, pump station installation, and conversions for existing potable water users or dual plumbing systems for new users. Creative solutions to secure funding, and overcome regulatory requirements, institutional arrangements, and public acceptance are required to offset existing potable demands with potential recycled water demands.

OCWD Groundwater Replenishment System Expansion - Investments beyond the Phase 2 expansion have not been approved by OCWD and require further review before proceeding. If the further envisioned phase of the project is approved and developed, it is projected that up to 130 MGD of water will be produced.



SMWD Chiquita Water Reclamation Plant Expansion - CWRP currently has a capacity of 5 MGD. SMWD plans to expand the plant to 10 MGD by 2015. The expansion will increase total production and reduce dependency on imported water. SMWD is planning to expand the CWRP tertiary capacity from 5 MGD to 10 MGD by 2015, increasing its recycled water supply to 11,200 AFY. The expansion would reduce SMWD's dependency on imported water and provide additional recycled water for irrigation purposes. Because RMV holds riparian water rights for its ranching, agriculture and tenants' uses; RMV and SMWD are looking into an agreement for RMV to potentially provide water in areas of the Ranch Plan to supplement recycled water in the event recycled water is unavailable.

MNWD Plant 3A Expansion - The 3A Treatment Plant Tertiary Expansion Project will provide an additional 3,000 AFY of capacity for recycled water use. The expansion includes the following components: increase the reliability of the aeration system, expand and/or replacing the existing filters with more effective tertiary filters, expand the disinfection system, expand the tertiary effluent pumps, possible upsizing of the discharge pipeline where it connects to SMWD's recycled water distribution system, modification to various in-plant piping and electrical systems, and addition of a standby generator to maintain operation during a power outage. The expansion will increase the local water supply reliability by producing an additional 3,000 AFY of recycled water, reducing dependence on imported water. The expansion will conserve approximately 5,653,000 kWh of energy per year and 3,448,330 pounds of carbon dioxide by producing and distributing recycled water in lieu of imported water. The expansion also benefits MNWD, the project partner.

6.4.1 Direct Non-Potable Reuse

MWDOC does not directly produce recycled water, but a number of its retail agencies produce recycled water and use it for direct non-potable reuse. Total direct non-potable reuse within the MWDOC service area from its retail agencies was 45,280 AFY for FY 2014-15.

6.4.2 Indirect Potable Reuse

The indirect potable water reuse produced from OCWD's GWRS system used for groundwater recharge and seawater barriers is approximately 100,000 AFY within MWDOC's service area.

6.5 Optimization Plan

Metropolitan and MWDOC support research efforts to encourage development and use of recycled water. These include conducting studies and research to address public concerns, developing new technologies, and assessing health effects. Addressing public concerns is required to gain the support of stakeholders early in the planning process. Education is required to inform the public of treatment processes. Developing new technologies is a prerequisite to help reduce the cost of producing recycled water. Health effects assessments have a two-fold purpose of alleviating public concerns and ensuring the protection of public health and the environment. Further research supported by Metropolitan and others (such as the National Water Research Institute) will have the benefit of reducing risks for MWDOC's retail agencies.

To assist in meeting projections, MWDOC plans to take numerous actions to facilitate the use and production of recycled water within its service area. However, MWDOC is a wholesaler and does not impose development requirements or enact ordinances that mandate the use of recycled water. In many

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cases, additional recycled water production and use is economically infeasible given the current cost of potable water supplies in comparison to recycled water costs. MWDOC has taken the following actions to facilitate further production and use of recycled water:

- Sponsoring retail agencies in obtaining Local Resources Program (LRP) incentives from Metropolitan;
- Assisting and supporting retail agencies in applications made for bond funds such as Proposition 84;
- Encouraging Metropolitan to participate in studies that will benefit recycled water production;
- Supporting Metropolitan in deriving solutions to regulatory issues;
- Participating in regional plan such as the South Orange County IRWMP;
- Working cooperatively with retail agencies, Metropolitan and its member agencies, and other Orange County water and wastewater agencies to encourage recycled water use and develop creative solutions to increase recycled water use;
- Participating in Metropolitan's Foundational Action Funding Program to provide funding for research needed to set the state standards for Direct Potable Reuse (DPR) on AWWA's research Foundation Project.

Dealing with needed additional funding and other implementation barriers for recycled water at the state and regional level would assist in increasing recycled water production within MWDOC's service area. State funding assistance could reduce the overall cost per AF of recycled water so that it is comparable to the cost of potable water and would allow the development of more expensive recycled water projects in an earlier timeframe. There are numerous barriers to increasing water recycling that could be addressed at the State level. These barriers include establishment of uniform Regional Water Quality Control Board (RWQCB) requirements for recycled water, especially in areas where water and wastewater agency jurisdictions cross RWQCB jurisdictions resulting in varying requirements; partnering in health studies to illustrate the safety of recycled water; increasing public education; and establishing uniform requirements for retrofitting facilities to accept recycled water.



7 FUTURE WATER SUPPLY PROJECTS AND PROGRAMS

7.1 Water Management Tools

MWDOC has worked closely with its retail agencies to decrease dependence on imported water and increase supply reliability by expanding local supplies and implementing water use efficiency measures. Development of additional local supplies improves both local and regional reliability as well as system (emergency reliability).

Although MWDOC is not responsible for carrying out supply development projects in the region, they are aware of their retail agencies supply opportunities.

7.2 Transfer or Exchange Opportunities

Interconnections with other agencies result in the ability to share water supplies during short term emergency situations or planned shutdowns of major imported water systems. Transfers of water can help with short-term outages, but can also be involved with longer term water exchanges to deal with droughts or water allocation situations. MWDOC helps its retail agencies develop both local and regional transfer and exchange opportunities that promote reliability within their systems. Examples of these types of projects that might occur in the future are discussed below.

Mesa Water - Mesa Water plans to expand their Mesa Water Reliability Facility. With this expansion, Mesa Water is exploring opportunities that may develop into potential transfer or exchange opportunities with neighboring agencies to convey and sell excess pumped and treated water from the expansion project.

IRWD Strand Ranch Water Banking Program – As previously noted, IRWD has begun implementation of the Strand Ranch Banking Program (including adding property to the program including the Stockdale East and West parcels) and it has about 23,000 AF stored for IRWD's benefit. By agreement, the water is defined to be an "Extraordinary Supply" by Metropolitan and counts essentially 1:1 during a drought/water shortage condition under Metropolitan's Water Supply Allocation Plan. It is possible that IRWD could decide to open up the Strand Ranch Banking Program to other Orange County agencies in the future. Decisions regarding whether to do this and terms and conditions would have to be considered; discussions regarding this concept have not yet been initiated.

Santa Margarita Water District – As previously discussed, SMWD has actively pursued additional water supply reliability through water transfers. They are currently involved in the analysis and evaluation of the Cadiz water storage project. The Cadiz Project includes an average yield of 50,000 AF per year for 50 years that could be produced from the Fenner Valley Groundwater Basin. Cadiz is authorized to pump as much as 75,000 AF per year as long as the average yield over 50 years is 50,000 AF and assuming they are meeting all of the monitoring requirements imposed on the project. If not produced, the water would evaporate from the nearby dry lakes and be lost to productive use. The water would require treatment for Chromium VI and would be conveyed via a pump station and pipeline about 40 miles to Metropolitan's Colorado River Aqueduct. SMWD has an option for 5,000 AF per year, expandable to 15,000 AF per year; OCWD is considering the water supply. Work is underway to develop the terms and conditions for



conveying the water via the Colorado River Aqueduct into southern California. The cost of water at the Aqueduct is \$960 per AF. The water would have to be wheeled through the Metropolitan system.

7.3 Planned Water Supply Projects and Programs

A list of potential future projects that could improve water supply and system reliability in Orange County were identified in 2015 during the discussions regarding the OC Water Reliability Study. The projects listed below include potential projects that could be completed by agencies in Orange County to meet future projected demands as well as projects to improve the County's reliability from Metropolitan's supplies. Further detail of these projects should be available in the UWMPs developed by each retail agency and/or Metropolitan. Although some of these projects do not introduce new sources of supply, they increase system reliability (emergency services).

Huntington Beach Seawater Desalination Project - 56,000 AF/yr produced by Poseidon in Huntington Beach with distribution in Orange County by OCWD and MWDOC.

Doheny Ocean Desalination Project - 16,000 AF max potential; first phase being pursued at 4,000 to 5,000 AF/year by SCWD as a demonstration project.

Prado Basin Operations with the Corps of Engineers (storage and sediment issues) - Increase conservation pool for additional capture of Santa Ana River water − 6,000 AF ±; this is part of OCWD's long term goal of capturing additional stormwater and percolating it in the groundwater basin.

Expansion of Water Recycling in Orange County - Placeholder for projects that go above and beyond the current vision for water recycling in the County; it can include expansions of purple pipe projects as well as additional elements of IPR and DPR type of projects. A separate placeholder is included for GWRS type of expansions being considered by OCWD and OCSD.

A separate listing of increased production on an agency by agency basis is provided in Table 7-1 below.



Table 7-1: Recycling Projections for Orange County (AFY)

Recycling Water Projections for Orange County (AFY)						
	Current	Future				
IRWD	26,000	34,000				
OCWD Green Acres	3,800	3,800				
Anaheim	-	55				
SMWD	5,600	13,400				
Trabuco	800	1,000				
San Clemente	500	1,500				
San Juan Capistrano	700	2,500				
South Coast	1,000	2,000				
MNWD	7,000	9,500				
ETWD	500	1,665				
	-	-				
Total Purple Pipe Recycling	45,900	69,420				
	-	-				
OCWD GWRS Indirect Potable Reuse	100,000	130,000				
	-	-				
Total Orange County	145,900	199,420				

Lower San Juan Creek Groundwater Management - The project would involve construction of rubber dams on San Juan Creek to capture additional stormflow for percolation into the groundwater basin. A second phase would involve streamflow recharge with polished tertiary treated recycled water into the San Juan Creek for capture and percolation into the groundwater basin for replenishment purposes. The water would blend and commingle with native groundwater and then be fully treated by RO and Advanced Oxidation Processes (AOP) when it is pumped out for beneficial uses; the project will likely be implemented in phases with a potential of up to 7,000 AF of increased supply, in addition to the natural yield of the basin, which ranges between 7,700 and 8,600 AF per year based on hydrology. The feasibility study for these efforts is just now being completed in March 2016; if desired by the local agencies, preliminary design and CEQA work would be initiated.

Production in San Mateo Groundwater Basin – Currently, the City of San Clemente pumps between 500 and 1000 AF from this source. Issues with wells and high chloride levels have hampered additional production. A project was considered in the 1990's that would have required a joint venture with the Marine Corps Base Camp Pendleton; the 1990's project anticipated a potential groundwater basin yield of about 2,000 AF ± and also considered storage of imported water for use for emergency purposes in an arrangement with the Marine Base. No current discussions or contacts have been made with the Marine Base involving this expanded opportunity. Environmentalists consider this the last pristine basin in or nearby to OC and want to protect it from outside influences.



Other Water Banking Projects (e.g., Semi-Tropic) - Semi-Tropic Water Storage District has several rate schedules for storing and retrieving water from storage when needed. Their schedules do not include the actual water or the cost of water, which needs to be secured. They have a program with a capital payment and another program without a capital payment. Without any cost of water going into storage, the program cost for storing and retrieving water runs on the order of \$600 to \$800 per AF; the water must then be wheeled to get it into the Metropolitan service area. Considering the cost of central valley water at \$350 per AF, the all in costs of this source for dry year supply from this source would be about \$1700 to \$1800 per AF for years in which drought protection would be needed.

San Diego County/Camp Pendleton Ocean Desalination - An ocean desalination plant by SDCWA at a southern Camp Pendleton location is still under consideration. Work on various types of intake facilities is still being studied. Work completed in 2009 indicated the cost of water at \$1,400 to \$1,500 per AF at that time. MWDOC staff estimated an additional cost of about \$500 per AF to get the water integrated into SOC.

West Orange County Enhanced Pumping Project - A conceptual project by OCWD to enhance groundwater production in the County and reduce the loss of water stored in the OCWD basin into LA County. Conceptually, additional pumping reduces basin losses by up to 40 percent to 50 percent of the additional pumping. The project concept involves four new production wells with total pumping of 10,000 AFY with the water to be conveyed to the West OC Water Board pipelines for the benefit of the groundwater producers. This project is estimated to reduce losses of groundwater flow from OC to LA County by approximately 5,000 AFY.

Capture of Stormflows - A placeholder for all parts of the County to examine the potential opportunity for water to be captured, primarily to increase the capture and replenishment into groundwater basins where possible. In certain situations, the supplies may be able to be introduced into recycled systems to increase irrigation supplies. Stormflows in San Juan Creek, the Santa Ana River and Santiago Creek in Orange County are already mostly captured for groundwater replenishment purposes except for the high storm flows.

Extraordinary Water Supply Project in OC - A conceptual project whereby water from a non-Metropolitan source could be stored in the OCWD groundwater basin and reserved for use during Metropolitan Allocations. If the water is managed in this manner and is accessed during a WSDM allocation event, the water counts directly toward improving the reliability on a 1:1 basis, during the allocation event.

Purchase and Storage of Imported water in the OCWD Basin for Drought Protection and Enhanced Yield - Under this concept the availability of imported water, both treated and untreated, would be evaluated to enhance operations of the groundwater basin to maintain higher levels of storage.

Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) – The SARCCUP program is an overall effort by a number of agencies in the SAR Watershed to coordinate on (1) Habitat Creation & Arundo Removal, (2) Water Use Efficiency efforts involving outreach & technical support for Budget-Based Rates, and (3) development of regional Water Banking opportunities. The groundwater basins involved include the Chino Basin, the Elsinore Basin, the San Bernardino Basin and the San Jacinto Basin as well as the OCWD Basin. The vision is to create 180,000 AF of total storage with 60,000 AFY



Dry-Year Yield Supply (3 years out of 10), of which, each SAR Agency receives water bank capacity of 12,000 AFY Dry-Year Yield. The benefits to Orange County include:

- Dry year water supplies at a cost of approximately \$991 per AF
- Use of existing recharge basins and infrastructure in upper watershed without OCWD having to pay for their capital cost
- Storage in water bank upstream of Orange County without having to pay a storage fee
- Purchasing supplies for the water bank through the combined efforts of the five agencies, including Valley District, which is a State Water Project contractor
- Approximately 50 percent of Arundo removal cost funded through the grant, for up to 640 acres of Arundo removal

System Reliability Only Projects (improve emergency response)

System reliability projects do not necessarily produce any new water but help to meet demands during emergency outages due to earthquakes or other risks. Projects that are being discussed at this time include:

Addition of Generators & Back-up Power - This program would involve working with various retail agencies around the county to improve emergency power to local production facilities for emergency events.

Expansion of the Irvine Interconnection Project to SOC - An agreement completed in 2006 resulted in an investment by SOC agencies in the IRWD system to allow exchanges of water to be delivered by IRWD into SOC under emergency situations. Capacity was provided to move up to 30 cfs; the agreement allows moving up to 50 cfs, not to exceed 3,000 AF per emergency event. The ability of IRWD was projected to decline over time and go to zero by 2030. IRWD is examining their ability to increase the exchange and conveyance of water under this arrangement or extend to extend the end date of the agreement and the capacity thereunder. Other options could also be implemented if arrangements can be worked out with OCWD and the groundwater producers.

Additional Reservoir Projects in SOC - SMWD led an effort to construct Upper Chiquita Reservoir at a capacity of 750 AF at a cost of \$50 million in 2008 to provide emergency storage water in SOC. Other reservoir sites in SOC offer the ability to expand storage by an additional 1,000 to 4,000 AF. Another project that could be considered is to increase the storage capacity at Irvine Lake to allow more storage for emergency purposes.

EOCWD Treatment Plant in Peters Canyon - EOCWD has been studying the feasibility of constructing a 9 cfs water treatment plant in Peters Canyon that would treat untreated Metropolitan water via the Santiago Lateral and the Baker Pipeline. Findings to date indicate there is a long term economic benefit to the project compared to purchasing treated water from Metropolitan, but there is also a potential system reliability benefit from the project. This benefit is based on the Treatment Plant being able to continue providing potable water in the event of an outage of the Diemer Plant or other facilities in OC. A 9 cfs supply for 30 to 60 days would be equivalent to having storage in the amount of 500 to 1000 AF; based on the cost of regional storage, it provides a similar benefit equivalent to \$40 to \$80 million dollars



if that same amount of water was held in a lined and covered emergency storage reservoir, similar to Upper Chiquita Reservoir in SOC.

Metropolitan Projects

The following list of Metropolitan Projects is not all inclusive, but provides a flavor of the types of projects within Metropolitan's IRP that will help to improve the reliability of imported supplies to southern California and to Orange County. These include:

Metropolitan Indirect Potable Reuse Project to provide water to OCWD - Metropolitan has begun investigations of a project to treat wastewater from the Carson Plant to better than drinking water standards (similarly to GWRS) and to distribute these flows through a regional distribution system for groundwater replenishment. The initial phase being investigated would provide between 20,000 and 65,000 AF per year, with OC being part of the Phase 1 project for up to 65,000 AF per year.

Metropolitan PVID Land Purchase - Metropolitan recently completed the purchase of Land in PVID that will ultimately result in an augmentation of CRA supplies in years when needed.

USBR Colorado River Basin Plan - The BOR has underway a multi-year Basin Study to examine supplies and demands for Colorado River water. Results of the supply and demand analysis included that long-term historical flow was about 16.4 MAFY, and total consumptive use and losses in the Basin averaged approximately 15.3 MAFY. Consumptive use is projected to increase to a range of 18.1 to 20.4 MAFY by 2060 (depending on the scenario), which would result in a long-term projected imbalance in future supply and demand of about 3.2 MAFY to 2060. The study also included many potential ideas and projects to resolve the supply and demand imbalance, which were organized into four groups: 1) increasing Basin supply; 2) reducing Basin demand; 3) modifying operations; and 4) institutional and governance issues. All parties will need to work together to overcome the supply and demand imbalance to maintain reliability of the Colorado River supply.

Metropolitan Emergency Water Storage South of the Tehachapi's - Metropolitan to review their ability to provide emergency water supplies out of storage in the event of a simultaneous rupture of the CRA and SWP supply systems by the San Andreas Fault. This is an issue MWDOC has asked Metropolitan to examine further.

California WaterFix – This DWR led effort is intended to provide a NEW point of diversion for the export of water from the Sacramento-San Joaquin Bay-Delta area for conveyance to improve the reliability of supplies through the SWP and CVP Projects and for habitat restoration under EcoRestore. The purpose of this project is not to necessarily provide any NEW supplies, but to more reliably convey supplies across the Delta area in a manner beneficial to the fish in the Delta area and to protect water quality from salinity and bromide impacts from intrusion of the Bay water into the Delta waterways. Without this project, the ability to export water will likely rapidly decline. With the project, the ability to export water is intended to be restored to levels circa 2005, at pre-Biops levels.

7.4 Desalination Opportunities

In 2001, Metropolitan developed a Seawater Desalination Program (SDP) to provide incentives for developing new seawater desalination projects in Metropolitan's service area. In 2014, Metropolitan



modified the provisions of their LRP to include incentives for locally produced seawater desalination projects that reduce the need for imported supplies. To qualify for the incentive, proposed projects must replace an existing demand or prevent new demand on Metropolitan's imported water supplies. In return, Metropolitan offers three incentive formulas under the program:

- Up to \$340 per AF for 25 years, depending on the unit cost of seawater produced compared to the cost of Metropolitan supplies
- Up to \$475 per AF for 15 years, depending on the unit cost of seawater produced compared to the cost of Metropolitan supplies
- A fixed contribution per year calculated over 25 years, not based on the sliding scale

Developing local supplies within Metropolitan's service area, including supplies based on ocean desalination, is part of their Integrated Water Resource Plan (IRP) goal of improving water supply reliability in the region. Creating new local supplies reduce pressure on imported supplies from the SWP and Colorado River.

On May 6th, 2015, the SWRCB approved an amendment to the state's Water Quality Control Plan for the Ocean Waters of California (California Ocean Plan) to address effects associated with the construction and operation of seawater desalination facilities (Desalination Amendment). The amendment supports the use of ocean water as a reliable supplement to traditional water supplies while protecting marine life and water quality. The California Ocean Plan now formally acknowledges seawater desalination as a beneficial use of the Pacific Ocean and the Desalination Amendment provides a uniform, consistent process for permitting seawater desalination facilities statewide.

If the following projects are developed, Metropolitan's imported water deliveries to Orange County could be reduced. These projects include the Huntington Beach Seawater Desalination Project, the Doheny Desalination Project, and the Camp Pendleton Seawater Desalination Project.

Brackish groundwater is groundwater with a salinity higher than freshwater, but lower than seawater. Brackish groundwater typically requires treatment using desalters.

7.4.1 Groundwater Desalination

Metropolitan instituted its Groundwater Recovery Program in 1991 to provide financial incentives (up to \$250 per AF) to local agencies to develop brackish groundwater impaired from either natural causes or from agricultural drainage. The purpose of the program was to increase usage of groundwater storage within the region for firm local production, conjunctive use storage, and drought supply. In MWDOC's service area, five groundwater recovery brackish water projects have contracts with Metropolitan.

Mesa Water Reliability Facility Expansion - The MWRF, owned and operated by Mesa Water, pumps colored water from a deep colored water aquifer and removes the color microfiltration. Due to increased color and bromide in the source water, Mesa Water upgraded the facility to include Nano filtration membrane treatment. The MWRF's capacity was also increased from 5.8 MGD to 8.6 MGD.

SCWD Capistrano Beach Groundwater Recovery Facility Expansion - SCWD constructed a 1 MGD Groundwater Recovery Facility (GRF) that came online in FY 2007-08 in Dana Point. SCWD plans to



expand the GRF with the addition of new wells. Treating in excess of 1,300 AFY will require expansion of the GRF and agreement with SJBA or confirmation of water rights from the SWRCB.

Garden Grove Nitrate Blending Project - The Garden Grove Nitrate Blending Project was active during the years of 1990 to 2005. The project is located at the Lampson Reservoir site, where groundwater pumped from two wells is blended in order to meet the maximum contaminant level for nitrate. The blending project was shut down in 2005, but the City retrofitted Well 28 with a variable frequency drive and reinstated the blending operation.

San Juan Desalter Groundwater Recovery Plant Expansion – The City of San Juan Capistrano has operated the GWRP since about 2005. A number of issues have impacted the reliability of production from the facility including iron bacteria in the wells, the discovery of a plume of Methyl Tert-Butyl Ether (MTBE) that required a reduction in production in half to about 2 MGD or less since the spring of 2008 until the responsible party contributed to provide Granular Activated Carbon Filter (GAC) for removal of the MTBE to allow increased production. The drought then struck, reducing the amount of water that could be pumped from the San Juan groundwater basin, requiring a large reduction in production from the groundwater basin in 2014, 2015 and initially in 2016.

Tustin Nitrate Removal Project - The Tustin Nitrate Removal Project consists of two groundwater treatment facilities that are allowed above the BPP and the charges are BEA-exempt. The first facility is the Main Street Treatment Plant, operating since 1989 to reduce nitrate levels from the groundwater produced by Wells No. 3 and 4 by blending untreated groundwater with treatment plant product water which undergoes reverse osmosis and ion exchange treatment processes. The second facility is the Tustin Seventeenth Street Desalter, operating since 1996 to reduce high nitrate and total dissolved solids concentration from groundwater produced by Wells No. 2 and 4 and the Newport well using reverse osmosis (OCWD, 2015 Groundwater Management Plan, June 2015).

7.4.2 Ocean Water Desalination

Huntington Beach Seawater Desalination Project – Poseidon Resources LLC (Poseidon), a private company, is developing the Huntington Beach Seawater Desalination Project to be co-located at the AES Power Plant in the City of Huntington Beach along Pacific Coast Highway and Newland Street. The proposed project would produce up to 50 MGD (56,000 AFY) of drinking water to provide approximately 10 percent of Orange County's water supply needs.

Over the past several years, Poseidon has been working with OCWD on the general terms and conditions for selling the water to OCWD. OCWD and MWDOC have proposed a few distribution options to agencies in Orange County. The northern option proposes the water be distributed to the northern agencies closer to the plant within OCWD's service area with the possibility of recharging/injecting a portion of the product water into the OC Groundwater Basin. The southern option builds on the northern option by delivering a portion of the product water through the existing OC-44 pipeline for conveyance to the south Orange County water agencies. A third option is also being explored that includes all of the product water to be recharged into the OC Groundwater Basin. Currently, a combination of these options could be pursued.

OCWD's current Long-Term Facilities Plan (LTFP) identifies the Huntington Beach Seawater Desalination project as a priority project and determined the plant capacity of 56,000 AFY as the single largest source of new, local drinking water available to the region. In addition to offsetting imported demand, water from

this project could provide OCWD with management flexibility in the OC Groundwater Basin by augmenting supplies into the Talbert Seawater Barrier to prevent seawater intrusion.

In May 2015, OCWD and Poseidon entered into a Term Sheet that provided the overall partner structure in order to advance the project. Based on the initial Term Sheet, Poseidon would be responsible for permitting, financing, design, construction, and operations of the treatment plant while OCWD would purchase the production volume, assuming the product water quality and quantity meet specific contract parameters and criteria. Furthermore, OCWD would then distribute the water in Orange County using one of the proposed distribution options described above.

Currently, the project is in the late-stages of the regulatory permit approval process and Poseidon hopes to obtain the last discretionary permit necessary to construct the plant from the California Coastal Commission (CCC) in 2016. If the CCC permit is obtained, the plant could be operational as early as 2019.

Doheny Desalination Project – In 2013, after five years and \$6.2 million to investigate use of a slant well intake for the Doheny Desalination Project, it was concluded the project was feasible and could produce 15 MGD (16,800 AFY) of new potable water supplies to five participating agencies. These agencies consist of: SCWD, City of San Clemente, City of San Juan Capistrano, LBCWD and MNWD.

Only SCWD and LBCWD expressed interest in moving forward after work was completed, with the other agencies electing to monitor the work and consider options to subsequently come back into the project while considering other water supply investments.

More recently, LBCWD has had success in accessing previously held water rights in the OC groundwater basin and has elected to move forward with that project instead of ocean desalination. A final decision was reached to secure the necessary approvals on the groundwater agreement.

SCWD has taken the lead on the desalination project and has hired a consulting team to proceed with project development for the Doheny Desalination Project. Major items scheduled over the next year include:

- Preliminary Design Report and Cost Estimate
- Brine Outfall Analysis
- Environmental Impact Report (EIR) Process
- Environmental Permitting Approvals
- Public Outreach
- Project Funding
- Project Delivery Method
- Economic Analysis

The schedule for this project includes start-up and operation of up to a 5 MGD (5,600 AFY) facility by the end of 2019. SCWD anticipates leaving the option open for other agencies to participate in a larger, 15 MGD facility, with subsequent permitting and construction of additional slant wells and treatment capacity.

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Camp Pendleton Seawater Desalination Project – SDCWA is studying a desalination project to be located at the southwest corner of Camp Pendleton Marine Corps Base adjacent to the Santa Margarita River. The initial project would be a 50 (56,000 AFY) or 100 (112,100) MGD plant with expansions in 50 MGD increments to a maximum capacity of 150 MGD (168,100 AFY), making this the largest proposed desalination plant in the U.S.

The project is currently in the feasibility study stage and SDCWA is conducting geological surveys, analyzing intake options, and studying the effect on ocean life and routes to bring desalinated water to SDCWA's delivery system. MWDOC and south Orange County agencies are maintaining an interest in the project.



8 UWMP ADOPTION PROCESS

8.1 Overview

Recognizing that close coordination among other relevant public agencies is key to the success of its UWMP, MWDOC worked closely with many other entities, including representation from diverse social, cultural, and economic elements of the population within MWDOC's service area, to develop and update this planning document. MWDOC also encouraged public involvement by holding a public hearing for residents to learn and ask questions about their water supply.

This section provides the information required in Article 3 of the Water Code related to adoption and implementation of the UWMP. Table 8-1 summarizes external coordination and outreach activities carried out by MWDOC and their corresponding dates. The UWMP checklist to confirm compliance with the Water Code is provided in Appendix A.

Table 8-1: External Coordination and Outreach

External Coordination and Outreach	Date	Reference
Encouraged public involvement (Public Hearing)	5/18/16	Appendix E
Notified city or county within supplier's service area that water supplier is preparing an updated UWMP (at least 60 days prior to public hearing)	3/1/16	Appendix E
Held public hearing	5/18/16	Appendix E
Adopted UWMP	5/18/16	Appendix F
Submitted UWMP to DWR (no later than 30 days after adoption)		
Submitted UWMP to the California State Library and cities and county within the supplier's service area (no later than 30 days after adoption)		
Made UWMP available for public review (no later than 30 days after filing with DWR)		

This UWMP was adopted by the Board of Directors on May 18, 2016. A copy of the adopted resolution is provided in Appendix F.

The 2009 legislative session requires agencies preparing UWMPs to notify any city or county within its service area at least 60 days prior to the public hearing. As shown in Table 8-2, MWDOC sent a Letter of Notification to the County of Orange and all cities within its service area on March 1, 2016 to state that it was in the process of preparing an updated UWMP (Appendix E).



Table 8-2: Notifications to Cities and Counties

Wholesale: Notification to Cities and Counties (select one)				
V	Supplier has notified more than 10 cities or counties in accordance with CWC 10621 (b) and 10642. Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.			
Appendix E	Provide the page or location of this list in the UWMP.			
	Supplier has notified 10 or fewer cities or counties. Complete the table below.			

8.2 Public Participation

MWDOC encouraged community and public interest involvement in the plan update through a public hearing and inspection of the draft document on May 18, 2016. In addition, MWDOC placed a draft copy of the public on its website on April 4, 2016. The hearing was conducted during a regularly scheduled meeting of the MWDOC Board of Directors at MWDOC's offices in Fountain Valley. Public hearing notifications were sent to retail agencies and other interested parties. Individual letters were also sent to potential stakeholders about the development of this UWMP and public review hearing. A copy of the Notice of Public Hearing is included in Appendix E. The hearing provided an opportunity for all residents and employees in the service area to learn and ask questions about their water supply. Copies of the draft plan were made available for public inspection at MWDOC's office and on the District website.

A staff report and presentation reviewed the process, key components of the Plan and the conclusions that served as the basis of the Plan. The President of the Board of Directors then opened the Public Hearing where all comments were recorded.

8.3 Agency Coordination

The MWDOC's water supply planning relates to the policies, rules, and regulations of its regional and local water providers. The MWDOC is dependent on imported water from Metropolitan. As such, MWDOC involved Metropolitan and other relevant agencies in this 2015 UWMP at various levels of contribution as summarized in Table 8-3.

Table 8-3: Coordination with Appropriate Agencies

	Participated in Plan Development	Commented on Draft	Attended Public Meetings	Contacted for Assistance	Sent Copy of Draft Plan	Sent Notice of Public Hearing	Not Involved / No Information
MWDOC 28 Retail Agencies	٧	٧	٧	٧	٧	٧	٧
Cities within MWDOC service area	-	-	-	-	٧	٧	٧
County of Orange	-	-	-	-	٧	٧	٧
Orange County Water District	٧	-	-	٧	٧	٧	٧
San Juan Basin Authority	٧	-		V	٧		-
Metropolitan Water District of Southern California	٧		-	٧	٧	٧	٧
Orange County Sanitation District	٧	-	·	٧	٧	-	-
South Orange County Wastewater Authority	٧	-		٧	٧	-	-
Public Library	-	-	-	-	-	٧	-
General Public				-	-	٧	-

MWDOC Retail Agencies - MWDOC worked cooperatively with its 28 retail agencies on descriptions of any planned development of local supplies. Methodologies and assumptions underlying these projections vary from agency to agency, but all projections reflect an in-depth knowledge of the individual agencies' service areas.

Cities and County - As described earlier, General Plans are source documents for water suppliers as they assess their own water resource needs. When completed, an UWMP also serves as a source document for cities and counties as they prepare their General Plans. General Plans and UWMPs may be linked, as their accuracy and usefulness are interdependent.

Groundwater Management Agencies - MWDOC also worked with the following five agencies to obtain information for the five groundwater basin resources in its service area: OCWD for Lower Santa Ana River Basin, SJBA for San Juan Basin, City of La Habra for La Habra Basin, City of San Clemente for San Mateo Basin, and LBCWD for Laguna Canyon Basin. Details of the basin information are described in Section 3.3.



Metropolitan - As a member agency of Metropolitan, MWDOC participated in workshops hosted by Metropolitan to facilitate the information exchange for the development of this Plan.

Wastewater Management Agencies - To meet the requirements of the Act in the preparation of this Plan, MWDOC contacted individual wastewater collection and treatment providers and other water agencies within its service area for data on recycled water and associated projects in the region. The information MWDOC obtained was then combined with a review of several completed Orange County studies. The information MWDOC obtained from wastewater collection and treatment providers allows the Plan to describe wastewater discharge methods, treatment levels, discharge volumes, and recycled use in the region.

8.4 UWMP Submittal

8.4.1 Review of 2010 UWMP Implementation

As required by California Water Code, the MWDOC summarized Water Conservation Programs implemented to date, and compares the implementation to those as planned in its 2010 UWMP.

Comparison of 2010 Planned Water Conservation Programs with 2015 Actual Programs

As a wholesaler, MWDOC did not include a specific implementation plan in its 2010 UWMP. As a signatory to the MOU regarding urban water use efficiency, MWDOC is committed to implementing BMP-based water use efficiency programs. For MWDOC's specific achievements in the area of conservation, please see Section 4 of this Plan.

8.4.2 Adoption and Filing of 2015 UWMP

Members of the Board of Directors reviewed the Final Draft Plan in May 2016 at the Planning and Operations Committee meeting. The Committee recommended that the Board of Directors approve the 2015 UWMP at its May 18, 2016 meeting. The seven-member MWDOC Board of Directors approved the 2015 UWMP at its May 18, 2016 meeting. See Appendix F for the resolution approving the Plan.

By July 1, 2016, the Adopted 2015 MWDOC UWMP was filed with DWR, California State Library, County of Orange, and cities within MWDOC's service area. MWDOC will make the plan available for public review no later than 30 days after filing with DWR



APPENDIX A UWMP Checklist

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UWMP Checklist

This checklist is developed directly from the Urban Water Management Planning Act and SB X7-7. It is provided to support water suppliers during preparation of their UWMPs. Two versions of the UWMP Checklist are provided – the first one is organized according to the California Water Code and the second checklist according to subject matter. The two checklists contain duplicate information and the water supplier should use whichever checklist is more convenient. In the event that information or recommendations in these tables are inconsistent with, conflict with, or omit the requirements of the Act or applicable laws, the Act or other laws shall prevail.

Each water supplier submitting an UWMP can also provide DWR with the UWMP location of the required element by completing the last column of eitherchecklist. This will support DWR in its review of these UWMPs. The completed form can be included with the UWMP.

If an item does not pertain to a water supplier, then state the UWMP requirement and note that it does not apply to the agency. For example, if a water supplier does not use groundwater as a water supply source, then there should be a statement in the UWMP that groundwater is not a water supply source.

Checklist Arranged by Subject

	Arranged by Gabject			
CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location (Optional Column for Agency Use)
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	Section 1.1
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	Section 8.3
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	Section 8.2 and Appendix E
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Section 1.3
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section 2.2.1
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	Section 2.2.2
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section 2.2.2
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section 2.2.2
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Section 2.3 and 2.4.2
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	N/A
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	N/A
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	N/A
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along	Baselines and Targets	Chapter 5 and App E	N/A

	with the base for determining these	I	<u> </u>	T
	with the bases for determining those			
	estimates, including references to supporting data.			
40000 00		D	0 " 570	21/4
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of	Baselines and Targets	Section 5.7.2	N/A
	base daily per capita water use of the 5 year	rargeis		
	baseline. This does not apply if the suppliers			
	base GPCD is at or below 100.			
10608.24(a)	Retail suppliers shall meet their interim	Danalinaa aad	Castian 5.0	NI/A
10000.24(a)	target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	N/A
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	N/A
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	Section 2.5
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	N/A
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	Section 2.4.2 and 3.1
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Section 3.3
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	Section 3.3
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	Section 3.3
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	Section 3.3
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	Section 3.3
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.4	Section 3.3.10

				1
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	Section 3.3
	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	Section 7.2
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	Section 7
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Section 7.4
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	N/A
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	Section 8
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	Section 6.1
	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	Section 6.2
	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	Section 6.2
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	Section 6.3
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	Section 6.4
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	Section 6.3 and 6.4

	encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	(Recycled Water)		
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	Section 6.5
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	Section 7.1
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	Section 3.7
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	Section 3.7.5
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	Section 3.3, 3.7, 4
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	Section 3.7.2.3
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	Section 3.7.5
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	Section 5.2
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	Section 5.3
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	Section 5.4
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	Section 5.5
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	Section 5.5
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	Section 5.5

10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	Section 5.6
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	Appendix D
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	Section 5.7
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	N/A
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	Section 4
10631(i)	CUWCC members may submit their 2013- 2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	Appendix C
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	Section 8.2
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Appendix E
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Section 8.4.2
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 8.4.2
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	Section 8.2

	about the plan.			
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	Appendix E
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Appendix F
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	Section 8.4.2
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 8.3
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Section 8.4.2
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 8

APPENDIX B Standardized Tables

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Select Only One		Type of Plan	Name of RUWMP or Regional Alliance applicable drop down list	if
1	Individual	UWMP		
		Water Supplier is also a member of a RUWMP		
	V	Water Supplier is also a member of a Regional Alliance	Orange County 20x2020 Regional Alliance	
	Regional L	Irban Water Management Plan (RUWMP)		

Table 2-3	Table 2-3: Agency Identification				
Type of Ag	Type of Agency (select one or both)				
✓	gency is a wholesaler				
	Agency is a retailer				
Fiscal or Ca	alendar Year (select one)				
	IWMP Tables Are in Calendar Years				
V	UWMP Tables Are in Fiscal Years				
If Using Fi	If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)				
7/1					
Units of Measure Used in UWMP (select from Drop down)					
Unit	AF				
NOTES:					

Table 2-4 Who	Table 2-4 Wholesale: Water Supplier Information Exchange (select one)					
V	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with CWC 10631. Completion of the table below is optional. If not completed include a list of the water suppliers that were informed.					
Appendix E	Provide page number for location of the list.					
	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with CWC 10631. Complete the table below.					

Table 3-1 Wholesale: Population - Current and Projected								
Population	2015	2020	2025	2030	2035	2040		
Served	2,302,578	2,409,256	2,470,451	2,505,284	2,527,230	2,533,088		
NOTES: Center for Demographic Research at California State University, Fullerton								

Table 4-1 Wholesale: Demands for Potable and Raw Water - Actual				
Use Type (Add additional rows as needed)	2015 Actual			
Use Drop down list May select each use multiple times These are the only use types that will be recognized by the WUE data online submittal tool	Level of Treatment When Delivered Drop down list	Volume		
Sales to other agencies	Drinking Water	158,664		
Groundwater recharge	Drinking Water	66,844		
	TOTAL	225,508		
NOTES:				

Table 4-2 Wholesale: Demands for Potable and Raw Water - Projected					
Use Type (Add additional rows as needed)	Projected Water Use Report To the Extent that Records are Available		ble		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool.	2020	2025	2030	2035	2040
Sales to other agencies	132,826	144,254	140,203	135,913	135,135
Groundwater recharge	72,306	72,306	72,306	72,306	72,306
TOTAL	205,132	216,560	212,509	208,219	207,441
NOTES:					

Table 4-3 Wholesale: Total Water Demands						
	2015	2020	2025	2030	2035	2040
Potable and Raw Water From Tables 4-1 and 4-2	225,508	205,132	216,560	212,509	208,219	207,441
Recycled Water Demand From Table 6-4	0	0	0	0	0	0
TOTAL WATER DEMAND	225,508	205,132	216,560	212,509	208,219	207,441
NOTES:						

Table 5-1 Baselines and Targets SummaryRetail Agency or Regional Alliance Only							
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*		
10-15 year	1996	2005	190	176	158		
5 Year 2004 2008 185							
*All values are in Gallons per Capita per Day (GPCD)							
NOTES:							

Retail Agency or Regional Alliance				
Actual 2015 GPCD	2015 Interim Target GPCD	Did Supplier Achieve Targeted Reduction for 2015? Y/N		
125 176 Yes				
*All values are in Gallons per Capita per				
NOTES:				

Table 6-1 Wholesale: 0	Groundwater Volume Pumped
V	Supplier does not pump groundwater. The supplier will not complete the table below.

Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2015

1

Wholesale supplier does not provide supplemental treatment to recycled water it distributes. The supplier will not complete the table below.

Table 6-4 Wholesale: Current and	Projected Retailers Provided Recycled Water Within Service Area
V	Recycled water is not directly treated or distributed by the supplier. The supplier will not complete the table below.

Table 6-5 Wholesale: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual					
✓	Recycled water was not used or distributed by the supplier in 2010, nor projected for use or distribution in 2015. The wholesale supplier will not complete the table below.				

Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs

4

No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.

Table 6-8 Wholesale: Water Supplies — Actual				
Water Supply		2015		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	Actual Volume	Water Quality Drop Down List	
Purchased or Imported Water	Purchased from Metropolitan	158,664	Drinking Water	
Purchased or Imported Water	GW Recharge	58,617	Raw Water	
Purchased or Imported Water	Surface Storage	8,227	Raw Water	
	Total	225,508		
NOTES:				

Table 6-9 Wholesale: Water Supplies — Projected						
Water Supply		Projected Water Supply Report To the Extent Practicable				
	Additional Detail on Water Supply	2020	2025	2030	2035	2040 (opt)
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Purchased or Imported Water	Purchased from Metropolitan	132,826	144,254	140,203	135,913	135,135
Purchased or Imported Water	GW Recharge	65,000	65,000	65,000	65,000	65,000
Purchased or Imported Water	Surface Storage	7,306	7,306	7,306	7,306	7,306
	Total	205,132	216,560	212,509	208,219	207,441
NOTES:						

Table 7-1 Wholesale: Basis of Water Year Data						
			Available Supplies if Year Type Repeats			
Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999- 2000, use 2000		Quantification of avail compatible with this to elsewhere in the UWN Location	able and is provided AP. able supplies is provided		
		•	Volume Available	% of Average Supply		
Average Year	2015		231,000	100%		
Single-Dry Year	2014			106%		
Multiple-Dry Years 1st Year	2012			106%		
Multiple-Dry Years 2nd Year	2013			106%		
Multiple-Dry Years 3rd Year	2014		·	106%		

NOTES: 1) Assumes M&I demand levels in 2015 of 159,000, Irvine Lake replenishment of 7,000 AF, and groundwater replenishment demands of 65,000 AFY. 2) Assumes increase of demands in dry and multiple dry years of +6% based on OC Reliability Study.

Table 7-2 Wholesale: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040
Supply totals (autofill from Table 6-9)	205,132	216,560	212,509	208,219	207,441
Demand totals (autofill fm Table 4-3)	205,132	216,560	212,509	208,219	207,441
Difference	0	0	0	0	0

NOTES: Includes MWDOC Service Area Projected M&I and Surface & GW replenishment demands. Source: OC Reliability Study

Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040
Supply totals	213,101	225,215	220,921	216,374	215,549
Demand totals	213,101	225,215	220,921	216,374	215,549
Difference	0	0	0	0	0
NOTES: OC Reliability Study					

Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040
	Supply totals	213,101	225,215	220,921	216,374	215,549
First year	Demand totals	213,101	225,215	220,921	216,374	215,549
	Difference	0	0	0	0	0
	Supply totals	213,101	225,215	220,921	216,374	215,549
Second year	Demand totals	213,101	225,215	220,921	216,374	215,549
	Difference	0	0	0	0	0
	Supply totals	213,101	225,215	220,921	216,374	215,549
Third year	Demand totals	213,101	225,215	220,921	216,374	215,549
	Difference	0	0	0	0	0
NOTES: OC Reliability Study						

Table 8-1 Wholesale					
Stages of Water Shortage Contingency Plan					
		Complete Both			
Stage	Supply Reduction ¹	Water Supply Condition (Narrative description)			
Baseline Water Use Efficiency	Long-term Conservation	Ongoing water use efficiency, outreach and public awareness efforts to continue water use saving and build storage reserves			
Condition 1: Water Supply Watch	Variable	Call for voluntary dry-year conservation measures and use of MET's regional storage reserves			
Condition 2: Water Supply Alert	Variable	Regional call for cities and water agencies in the service area to implement extraordinary conservation measures through their drought ordinance and other water use efficiency efforts			
Condition 3: Water Supply Allocation	5% to 50%	Implement MWDOC's Water Supply Allocation Plan			

One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

NOTES: See discussion on Metropolitan's and MWDOC water shortage actions, such as

Table 8-4 Wholesale: Minimum Supply Next Three Years					
2016 2017 2018					
Available Water Supply 224,579 224,579 224,579					
NOTES: MWDOC Water Shortage Allocation Model March 2015					

Table 10-1 Wholesale: Notification to Cities and Counties (select one)					
V	Supplier has notified more than 10 cities or counties in accordance with CWC 10621 (b) and 10642. Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.				
Section 8	Provide the page or location of this list in the UWMP.				

APPENDIX C 2012 BMP Report



CUWCC BMP Wholesale Coverage Report 2012

Foundational Best Manegemant Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1.3 Wholesale Agency Assistance Programs

168 Municipal Water District of Orange County

Name:	Joe Berg	Email:	jberg@mwdoc.com

a) Financial Investments and Building Partnerships

BMP Section	Monetary Amount for Financial Incentives	Monetary Amount for Equivalent Resources
BMP 1.1 Operation Practices	7948.84	0
BMP 1.2 Wate Loss Control	7948.84	0
BMP 1.3 Metering with Commodity	3974.42	10000
BMP 1.4 Retail Conservation Pricing	11923.26	131705
BMP 2.1 Public Outreach	71539.56	0
BMP 2.2 School Education Program	23846.52	0
BMP 3 Residential	60554.71	0
BMP 4 CII	102477.97	235862
BMP 5 Landscape	222300.89	799939

On Track

b) Technical Support

Not On Track

c) Retail Agency

Retail Agency Name	Program Description
	See uploaded document titled BMP 1-Operations Practices FY11-12-Wholesale for Program Management efforts.

Not On Track

d) Water Shortage Allocation

Adoption Date:

File Name: See uploaded document titled BMP 1-Operations Practices FY11-12-Wholesale for Water Shortage

Allocation efforts.

On Track

e) Non signatory Reporting of BMP implementation by non-signatory Agencies

See uploaded document for this BMP

f) Encourage CUWCC Membership List Efforts to Recuit Retailers



CUWCC BMP Wholesale Coverage Report 2012 Foundational Best Manegement Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1.3 Wholesale Agency Assistance Programs

Not On Track



Foundational Best Management Practices for Urban Water Efficiency



Foundational BMPs

BMP 1.2 Water Loss Control

168	Municipal Water D	District of Orange Co	unty	No	Not Or	Track	88
Complete S	tandard Water Aud	it using AWWA softwa	ara?	No	1401 01	TTACK	Com
		-	ale:				Com
	provided to CUWC						AW
<u>Municipal</u>	Water District of O	range County BMP1.	2 FY12				City
AWWA W	ater Audit Validity S	core?		^			ΑW
Complete 7	raining in AWWA A	udit Method?					Com
Complete 1	raining in Compone	nt Analysis Process?					Com
CompComp	oonent Analisys?				Not Or	Track	Com
Repaired a cost effect	II leaks and breaks tive?	to the extent		No	Not Or	n Track	Repa cost
Locate and cost effect	l repar unreported l tive?	eaks to the extent					Loca cost
leaks, inclu	iding time of report,	tem for the repair of re leak location, type of l ak running time from re	eaking		Not Or	n Track	Main leak: pipe repa
Provided 7	types of Water Los	ss Control Info					Prov
Leaks Repars 136482	Value Real Losses 211390544.61	Value Apparent Losses 167427428.556	Miles Surveyed 50835.092	Press Reduction	Cost of Interventions 177774288.6	Water Saved (AF) 228827.386	Lea Rep
	5				42 -No	t On Track	
At LeastA:	s Effective As						At L
Lines are r		on program, the City hage and other asset mo Municipal Water District of Orange County 168	anagement fac	tors. Attached	•	hows the	In lie Line redu
We encou	rage them every yea	r to join. Not On T	rack				We



CUWCC BMP Coverage Report 2011

Foundational Best Manegement Practices for Urban Water Efficiency



Foundational BMPs

BMP 1.2 Water Loss Control

	Chandrad Makes Audit union AMAMA and turner?	·
88	City of Santa Barbara, PWD	88



BMP 1.3 Metering With Commodity 2012

Agency name:	Municipal Water District of Orange County	Reporting unit number:
Reporting unit name (District name)	Municipal Water District of Orange County	168
Implementation		
Does your agency ha	ve any unmetered service connections?	
If YES, has your ager	ncy completed a meter retrofit plan?	
Enter the number of p	reviously unmetered accounts fitted with meters during reporti	ng year:
Are all new service co	nnections being metered?	<u> </u>
Are all new service co	onnections being billed volumetrically?	
	pleted and submitted electronically to the Council a written pla pair and replace meters?	n, policy No
Meters Matrix		
Error: Subreport of	ould not be shown.	
Number of CII Accour with Mixed-use Meter		
Feasibility Study		
	ducted a feasibility study to assess the merits of a program to pounts to dedicated landscape meters?	provide incentives to No
If YES, please fill in th	ne following information:	
A. When was the Fea Study conducted	sibility B. Describe,	
1/1/0001 12:00:00	AM upload or provide an electronic link to the Feasibility Study Upload File	
Comments:		
	member agency, MWDOC does not own/operate a distribution the from MWD's distribution system to the MWDOC member ago pairs meters.	



Foundational Best Manegemant Practices for Urban Water Efficiency

Foundational BMPs

BMP 2.1 Public Outreach

168 Municipal Water District of Orange County Wholesale Only

Does Agency help any retail Agency implement Public Outreach Programs?

Yes

List of retail Agencies

Public Outreach Program List	Number
General water conservation information	25000
Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets	631700
Website	38000
Newsletter articles on conservation	72800
Email Messages	555
Total	768055

On Track

Number Media Contacts	Number
Articles or stories resulting from outreach	1
Editorial board visits	
News releases	1
Newspaper contacts	2
Radio contacts	
Television contacts	
Т	Fotal 5
	On Track

On Track

An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly)

Yes

Annual Budget Category	Annual Budget Amount
Total Public Information Budget	254909
Water Use Efficiency Marketing Budget	40000
Total Amount:	294909
	On Track

Description of all other Public Outreach programs

Rebate and incentive information; California Friendly landscape training class info; water use efficiency reports and studies; surface soil textures map; water use efficiency tips; home water use calculator; native plant resources; irrigation info.

On Track



Foundational Best Manegemant Practices for Urban Water Efficiency

Foundational BMPs

BMP 2.1 Public Outreach

At Least As Effective As



Agency name:	Municipal Water District of Orange County	Re	porting unit #	168	
Reporting unit nan (District name)	Municipal Water District of Orange County	/	Wholesale Or	nly	j
Does Agency help Programs?	any retail Agency implement Public Outreach Yes				
List of retail Agend	Please provide the name	of A	gency if not Cl	JWCC Group1	members
Is your agency per	forming public outreach?				
Report a minimum	of 4 water conservation related contacts your agency had with t	he p	ublic during the	e year.	
Did at least one co	ntact take place duringeach quarter of the reporting year?)			
Public Informatio	n Programs List				
Number of Public Contacts	Public Information Programs Name				
25000	General water conservation information				
	Flyers and/or brochures (total copies), bill stuffers, messages pri information packets	inted	d on bill,		
38000	Website				
72800	Newsletter articles on conservation				
555	Email Messages				
Contact with the I	Media				
Does Agency help Programs?	any retail Agency implement Public Outreach Yes				
List of retail Agend	eies Please provide the name	of A	gency if not Cl	JWCC Group1	members
OR Retail Agency	(Contacts with the Media)				
Did at least one co	ontact take place during each quarter of the reporting year?	es			
Media Contacts I	List				
Number of Media Contacts	Public Outreach Media Contact Name List				
12	Articles or stories resulting from outreach				
1	Editorial board visits				
10	News releases				
24	Newspaper contacts				



2	Radio contacts
5	Television contacts
Does Agency help	any retail Agency implement Public Outreach

Programs?

List of retail Agencies

Please provide the name of Agency if not CUWCC Group1 members

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

Describe a minimum of four water conservationrelated updates to your agency's website thattook place during the year:

www.mwdoc.com

Rebate and incentive information; California Friendly landscape training class info; water use efficiency reports and studies; surface soil textures map; water use efficiency tips; home water use calculator; native plant resources; irrigation info.

Did at least one Website Update take place duringeach quarter of the reporting year?

Yes

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discretecategories by entering many rows. Please indicate if personnel costs are included in the entry.

Annual Budget Category	Annual Budget Amount	Personal Cost Included?	Comments
Total Public Information Budget	254909	V	
Water Use Efficiency Marketing Budget	40000		

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question relatedto your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Public Outreach Expense Category	Expense Amount	Personal Cost Included?
Professional service fees	45000	
Postage fees	1000	
Reproduction expenses	19000	



Miscellaneous expenses	33500					
Salaries wages and benefits	156409	V				
Water use efficiency marketing activities	40000					
Additional Public Information Program						
Please report additional public information contacts. importance / effectiveness with respect to conserving (where 1 = most important).						
Were there additional Public Outreach efforts?	es					
Public Outreach Additional Information						
Social Marketing Programs						
Branding						
Does your agency have a water conservation"brand	," "theme" or mascot?	s				
Describe the brand, theme or mascot. Our mascot is an animated, life-size water drop character named Ricki the Rambunctious Raindrop. He educates children of all ages about water and how to use it wisely.						
Market Research						
Have you sponsored or participated inmarket resear	ch to refine your message?	No				
Market Research Topic	_					
Brand Message						
Brand Mission Statement	Brand Mission Statement					
Community Committees						
Do you have a community conservationcommittee?	No					
Enter the names of the community committees:						
Training						
Social Marketing Expenditures						
Public Outreach Social Marketing Expenses						
Partnering Programs - Partners						
Name Type of Pro	ogram					
CLCA?						
Green Building Programs?						

CUWCC	

	Master Gardeners?				
	Cooperative Extension?				
	Local Colleges?				
٧	Other	Orange County	Garden Friendly Progra	ım	
	Retail and wholesale outlet; name(s) and type(s) of programs:				
Partnering Programs - Newsletters					
Number of newsletters per year 5					
Number of customers per year 25000					
Partnering with Other Utilities					
Describe other utilities your agency partners with, including electrical utilities			County of Orange- OC	Stormwater Program; UC Cooperative Extension	
Conservation Gardens					
Describe water conservation gardens at your agency or other high traffic areas or new homes					
Landscape contests or awards					
Describe water wise landscape contest or awards program conducted by your agency					
Additional Programs supported by Agency but not mentioned above:					
Comments					



Foundational Best Manegemant Practices for Urban Water Efficiency

Foundational BMPs

BMP 2.2 School Education Programs					
168 Municipal Water District of Orange County	Wholesale Only				
Does Agency help any retail Agency implement School Education Programs?	Yes				
List of retail Agencies					
City of Anaheim, PUD					
Materials meet state education framework requirements and are grade-level appropriate?					
Curriculum materials developed and/or provided by Agency:					
All lessons are aligned with the California Science Content Standards to achieve the state education framework requirements.					
Materials Distributed to K-6? Yes					
Describe K-6 Materials					
Grade-specific education booklets featuring mascot Ricki the Rambunctious Rahands-on activities that are designed to reinforce and augment the concepts tat (described below).					
Materials distributed to 7-12 students? No (Info Only)					
Annual budget for school education program: 201631.00					

Description of all other water supplier education programs

All lessons are aligned with the California Science Content Standards to achieve the state education framework requirements. Grade-specific education booklets featuring mascot Ricki the Rambunctious Raindrop. Booklets contain lessons and hands-on activities that are designed to reinforce and augment the concepts taught in the large group assemblies (described below). OC Water Hero Program (described below) The O.C. Water Hero Program enables students to become official water heroes by pledging to save 20 gallons of water per day. Participants receive an OC Water Hero kit with fun water-saving items, like a 5-minute shower timer, "fix-it" tickets, etc. Annual Poster & Slogan Contest wherein K-6 grade students submit original, hand-drawn posters and short slogans that reflect water conservation messages. 30 winning students are selected and invited to a special awards ceremony with Ricki Raindrop.

On Track

At Least As Effective As No.

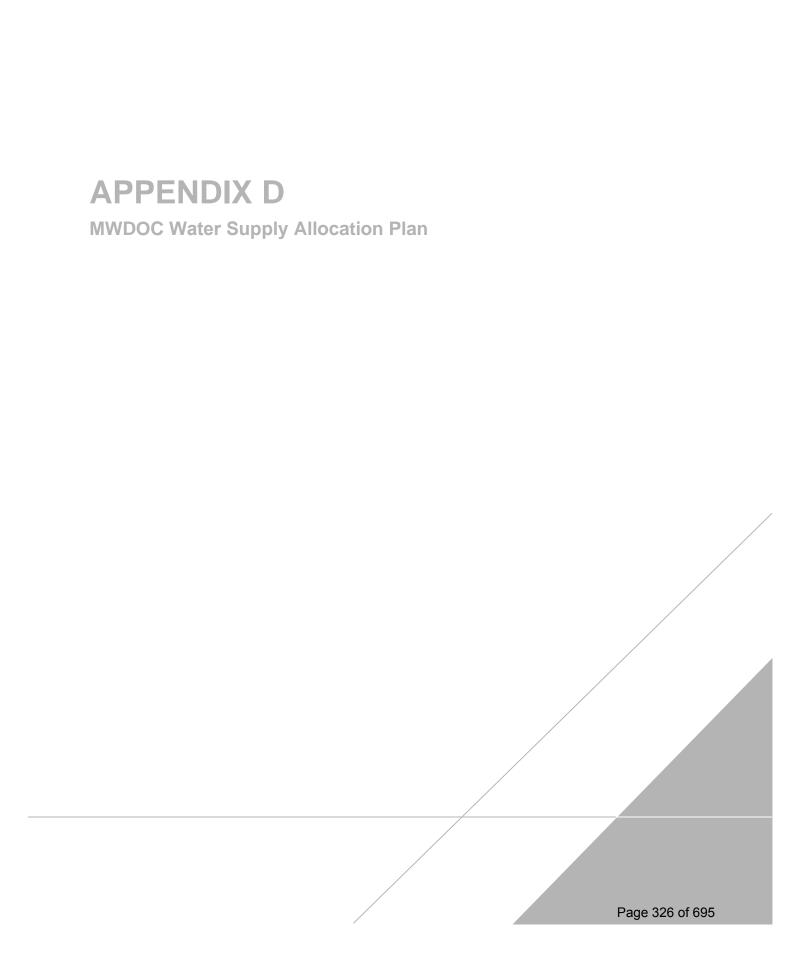


Offer monetary awards/funding or scholarships to students:

School Education Programs 168 Municipal Water District of Orange County Wholesale Only Does Agency help any retail Agency implement School Education Programs? Yes List of retail Agencies Please provide the name of Agency if not FORTECH Group1 members City of Anaheim, PUD Materials meet state education All lessons are aligned with the California Science Content Standards Description framework requirements? to achieve the state education framework requirements. Grade-specific education booklets featuring mascot Ricki the Materials distributed to K-6 Description Students? Rambunctious Raindrop. Booklets contain lessons and hands-on activities that are designed to reinforce and augment the concepts taught in the large group assemblies (described below). Number of students reached 78525 Materials distributed to 7-12 Description Students? (optional) Annual budget for school education program 201631.00 OC Water Hero Program (described below) Description of all other water supplier educationprograms School Programs Activities Classroom Presentation: Number of presentation Number of attendees Describe the topics covered in your classroom presentations: n/a Large group assemblies: Number of presentation 1033 Number of attendees 78525 Children's water festivals or other events: 500 Number of presentation Number of attendees Cooperative efforts with existing science/water education programs (various workshops, science fair awardsor judging) and follow-up: Number of presentation Number of attendees Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits): Number distributed Description Staffing children's booths at events & festivals: 5500 Number of booths 28 Number of attendees Water conservation contests such as poster and photo: Description Number of participants



Number offered 0	Total funding	0.00
Teacher training workshops:		
Number of presentation 1	Number of attendees	32
Fund and/or staff student field trips to treatment facilities, recycling facilities	s, water conservation garden	s,etc.:
Number of tours or fieldtrips O College internships in water conservation offered:	Number of participants	0
Number of internship 2	Total funding	24000.0
Career Fairs / Workshops:		^
Number of presentation 0	Number of attendees	0
Additional program(s) supported by agency but not mentioned above:		<u> </u>
Description	Number of events Num	mber of participants
Comments		



Municipal Water District of Orange County



Water Supply Allocation Plan

DRAFT Revised 2016

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Section 1: Introduction

The Municipal Water District of Orange County (MWDOC) is dedicated to ensuring water reliability for the communities we serve. Hundreds of thousands of Orange County residents have taken advantage of our water conservation rebates to install water saving toilets, clothes washers, and other water saving devices. We continue to partner with our client agencies to develop new local supplies such as recycled water, brackish water desalting, ocean water desalting, and the Groundwater Replenishment System.

However, a combination of water supply challenges have brought about the possibility that MWDOC may not have access to the imported supplies necessary to meet the demands of its client agencies in the coming years. The following factors have dramatically impacted water supply conditions not only in Orange County, but all of Southern California:

- In CY 2013 many areas of California experienced the driest year on record.
 California received record low snowpack in FY 2014-15. On January 17, 2014,
 Governor Brown proclaimed a statewide drought emergency. On May 5, 2015, the
 State Water Resources Control Board adopted an emergency conservation
 regulations in accordance with the Governor's directive. The provisions of the
 emergency regulations went into effect on May 18, 2015. On February 2, 2016, the
 SWRCB will consider a resolution to extend the existing May 2015 Emergency
 Regulation as directed in the November 2015 executive order.
- The Colorado River is recovering from a long-term drought. Reservoirs along the river are less than half full. In the summer of 2015, Lake Mead water levels reached record lows. Supplies from this source have been reduced since 2003 and will continue to be limited.

To meet the imported water demands of its member agencies, the Metropolitan Water District of Southern California (MET) is quickly withdrawing supplies from surface and groundwater storage. Over the past three years, MET has drawn down 67% of its available reserves.

The recent dry conditions and the uncertainty about future supplies from the State Water Project have raised the possibility that MET will not have access to the supplies necessary to meet the imported water demands of its member agencies. As a result, MET has developed a Water Supply Allocation Plan that allocates wholesale imported water supplies among its 26 member agencies throughout Southern California.

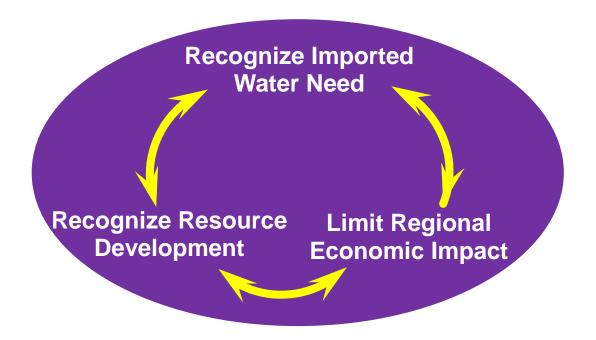
To prepare for the possibility of an allocation of imported water supplies from MET, MWDOC has worked in collaboration with its 28 client agencies to develop this Water Supply Allocation Plan to allocate imported water supplies at the retail level. This document lays out the essential components of how MWDOC plans to determine and implement each agency's allocation during a time of shortage.

Section 2: Metropolitan Water District's Water Supply Allocation Plan

In February 2008, MET approved a Water Supply Allocation Plan (WSAP) designed to allocate imported water to all of its member agencies during a shortage. In June 2014 MET convened a member agency working group to revisit the WSAP. The purpose of the working group was to collaborate with member agencies to identify potential revisions to the WSAP in preparation for mandatory supply allocations in 2015. There were eight working group meetings and three discussions at the monthly Member Agency Managers' Meetings. The WSAP follows the principles and considerations identified in MET's Water Surplus and Drought Management Plan, which calls upon the allocation of water in a fair and equitable manner to all of MET's member agencies. To the extent possible, this means developing a plan that minimizes regional hardship during times of shortage.

The MET WSAP seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level. To achieve this, it takes into account:

- The impact to retail customers and the economy
- Allowance for population and growth
- Change and/or loss of local supply
- Reclamation/Recycling
- Conservation
- Investments in local resources
- Investments in MET's facilities



The WSAP states that MET staff will go before the Board with a recommendation in April, from which the Board of Directors will make a determination on the level of the Regional Shortage. If the Board determines allocations are necessary, they will go into effect in July and remain for a twelve-month period. *Note: This schedule is at the discretion of the MET Board, and is subject to change.*

The recommendation to declare a regional shortage will be based upon water supply availability from the State Water Project, the Colorado River Aqueduct, and the amount of surface and groundwater storage remaining in MET's reserves. It will also take into account the implementation of MET's water management actions i.e. Five Year Water Supply Plan, extraordinary conservation efforts, the acceleration of local resource projects, and the purchases of water transfers.

A full copy of MET's Water Supply Allocation Plan as revised in December 2014 is available in Appendix B.

Section 3: Development Process

In preparation for possible allocation of imported water supplies from MET, MWDOC's Board first adopted the following policy principles to help guide staff and the client agency technical workgroup to develop a plan that is fair and equitable for everyone within its service area:

- > Seek best allocation available from MET
- > Develop MWDOC Plan in collaboration with client agencies
- ➤ When reasonable, use similar method/approach as MET
- When MET's method would produce significant unintended result, use an alternative approach
- Develop accurate data on local supply, conservation, recycling, rate structures, growth and other relevant adjustment factors
- Seek opportunities within MWDOC service area to provide mutually beneficial shortage mitigation

Client Agency Input

Between the months of September and January of 2014-15, MWDOC staff worked cooperatively with the client agencies through a series of technical workgroups to develop a formula and implementation plan to allocate imported supplies in the event that MET declares a regional shortage. These workgroups provided an arena for indepth discussion of the objectives, mechanics, and policy aspects of the different parts of the Plan. MWDOC staff also met individually with a number of client agencies for detailed discussions on elements of the Plan. The discussions, suggestions, and comments expressed by the client agencies during this process played a key part in the development of this Plan.

The following MWDOC client agencies participated in the Technical Workgroup:

- City of Buena Park
- City of Fountain Valley
- City of Garden Grove
- City of Huntington Beach
- City of Newport Beach
- City of Orange
- City of San Clemente
- City of San Juan Capistrano
- City of Tustin
- City of Westminster
- East Orange County Water District
- El Toro Water District
- Golden State Water Co.
- Irvine Ranch Water District
- Laguna Beach County Water District

- Mesa Water District
- Moulton Niguel Water District
- Orange County Water District
- Serrano Water District
- Santa Margarita Water District
- South Coast Water District
- Trabuco Canyon Water District
- Yorba Linda Water District

In addition to the workshops, individual meetings were held between MWDOC staff and the following MWDOC client agencies to address more specific and agency-related questions.

These individual meetings provided MWDOC staff with a great deal of insight on exactly how a retail agency would implement allocations at the customer level. Such information was extremely valuable in our regional discussion at MET and in the development of this Plan.

Board of Directors Input

Throughout the Plan's development process, the MWDOC Board of Directors was provided with regular progress reports on the status of the Plan and the technical workgroup discussions. During the months the Plan was being developed, the Board Planning and Operations Committee was kept apprised of key issues regarding MET's and MWDOC's allocation plan. Moreover, the Committee played an integral part in the development of key implementation issues such as the appeal process and the surcharge rate structure.

Section 4: Water Supply Allocation Formula

The MWDOC Water Supply Allocation Model follows five (5) basic steps to determine an agency's imported supply allocation:

- Step 1: Determine Baseline Information
- Step 2: Establish Allocation Year Information
- Step 3: Assess the Shortage Reduction Stage (Based on MET's Declared Shortage Level)
- Step 4: Apply Allocation Adjustments and Credits in the areas of retail impacts, conservation, groundwater recharge.
- Step 5: Sum total allocations and determine retail reliability

A description of how the calculation is used in each step is described below:

<u>Step 1 – Determine Baseline Information</u>

In order to determine a client agency's retail demands and imported supply needs in the allocation year, the model needs to establish a historical base period for water supply and delivery data. The base period for each of the different categories of demands and supplies is calculated using data from fiscal years (July through June) ending 2013 and 2014.

The following is a description of the base period calculations:

Base Period Local Supplies: Local supplies for the base period are calculated using a two-year average (from fiscal years ending 2013 and 2014) of groundwater production, groundwater recovery, surface water production, and other non-imported supplies.

Base Period Wholesale ("Imported") Firm Demands: Firm demands on MWDOC for the base period are calculated using a two-year average (from fiscal years ending 2013 and 2014) of full-service, and surface storage operating agreement demands.

Base Period In-lieu Deliveries: Base period in-lieu deliveries to client agencies are calculated using a two year average (from fiscal years ending 2013 and 2014) of In-lieu deliveries to long-term groundwater replenishment, conjunctive use, cyclic, and supplemental storage programs. In-lieu deliveries are not calculated as imported supplies from MET. They are calculated as local supplies to account for the corresponding reduction in base year local production that was required to take In-lieu deliveries.

Base Period Retail Demands: Total retail municipal and industrial demands for the base period are calculated by adding the Base Period Local Supplies, Base Period Wholesale Imported Firm Demands, and Base Period In-Lieu Deliveries.

<u>Step 2 – Establish Allocation Year Information</u>

In this step, the model adjusts for each member agency's water need in the allocation year. To do so, it adjusts the base period estimates for population growth and changes in local supplies.

The following is a description of how the allocation year information is established:

Allocation Year Retail Demands: Total retail M&I demands for the allocation year are calculated by adjusting the Base Period Retail Demands for growth. The method in which MWDOC determines each client agency's growth is through population increases for the fiscal years ending 2013 to 2014¹. Based on the data received from California State University of Fullerton, Center for Demographic Research, MWDOC prorates each agency's population increase share to MWDOC's growth adjustment received from MET², as shown in Appendix C.

Growth Adjustment: The growth adjustment is calculated by taking the average percent of growth from fiscal years ending 2013 and 2014, as generated by the Center for Demographic Research at California State University, Fullerton.

Allocation Year Local Supplies: Allocation year local supplies include groundwater production, groundwater recovery, surface water production, and other imported supplies not from MET. In-lieu deliveries are considered as local supplies to account for the corresponding reduction in base year local production that was required to take inlieu deliveries. Allocation year local supplies reflect a more accurate estimate of actual supplies in the allocation year, and in turn more accurately estimates an agency's demand for imported supplies.

Extraordinary Increased Production Adjustment: This adjustment accounts for extraordinary increases in local supplies above the base period. Extraordinary increases in production include such efforts as purchasing water transfers. In order not to discourage such extraordinary efforts, a percentage of the yield from these supplies is added back to Allocation Year Local Supplies in shortage levels as shown below. This has the effect of "setting aside" the majority of the yield for the agency who procured the supply. The percentage of the extraordinary increases in local supply corresponds according to the regional shortage level, as shown in Table 4.1.

¹ Although many options were discussed in the technical workgroup sessions, this option was chosen to best reflect the increase in water demand due to population growth as intended by MET's allocation formula for each client agency in the MWDOC service area.

² MET's growth adjustment is calculated by using the average of the last two year County-wide population growth rates, which include not only MWDOC's service area but also the cities of Fullerton, Anaheim, and Santa Ana.

Table 4.1
Extraordinary Increased
Production Adjustment

Regional Shortage Level	Regional Shortage Percentage	Extraordinary Increase Percentage
1	5%	5%
2	10%	10%
3	15%	15%
4	20%	20%
5	25%	25%
6	30%	30%
7	35%	35%
8	40%	40%
9	45%	45%
10	50%	50%

<u>Step 3 – Calculate Initial Minimum Allocation Based on Declared</u> Shortage Level

This step sets the initial allocation. After a regional shortage level is established, MWDOC will calculate the initial allocation as a percentage of adjusted Demand for Firm MET Supplies within the model for each client agency.

Regional Shortage Levels: The model allocates shortages of supplies over ten levels: from 5 to 50 percent, in 5 percent increments.

Initial (Wholesale Minimum) Allocation: The Wholesale Minimum Allocation is established to ensure a minimum level of imported supplies. The Wholesale Minimum Allocation ensures that client agencies will not experience shortages on the wholesale level that are greater than one-and-a-half times the percentage shortage of MET's regional water supplies. As illustrated in Table 4.2, the Wholesale Minimum Allocation percentage is equal to 100 minus one-and-a-half times the shortage level. The allocation is based on each agency's demand of firm MET water.

Table 4.2 Wholesale ("Imported") Supply Minimum Allocation

Regional Shortage Level	Wholesale Minimum Allocation
1	92.5%
2	85.0%
3	77.5%
4	70.0%
5	62.5%
6	55.0%
7	47.5%
8	40.0%
9	32.5%
10	25.0%

Step 4 – Assign Allocation Adjustments and Conservation Credit

In this step, the model assigns additional water to address disparate impacts at the retail level caused by an across-the-board cut of imported supplies. It also applies a conservation credit given to those agencies that have achieved additional water savings at the retail level as a result of successful implementation of water conservation devices, programs and rate structures.

Retail Impact Adjustment: The Retail Impact Adjustment is the factor used to address major differences in retail level shortages associated with across-the-board cuts. The purpose of this adjustment is to ensure that agencies with a high level of dependence on MET do not experience highly disparate shortages compared to other agencies when faced with a reduction in imported supplies. The Retail Impact Adjustment is calculated as the difference between the Regional Shortage Percentage and the Wholesale Imported Minimum Allocation. The amount of the adjustment each client agency receives is prorated on a linear scale, based on its dependence on imported water at the retail level. The prorated amount of allocation is referred to as the Retail Impact Adjustment Allocation. Table 4.3 below illustrates the maximum adjustment an agency may receive according to the regional shortage level.

Table 4.3
Retail Impact Adjustment

Regional Shortage Level	Regional Shortage Percentage	Retail Impact Adjustment Maximum
1	5%	2.5%
2	10%	5.0%
3	15%	7.5%
4	20%	10.0%
5	25%	12.5%
6	30%	15.0%
7	35%	17.5%
8	40%	20.0%
9	45%	22.5%
10	50%	25.0%

Unfortunately, the Retail Impact Adjustment MWDOC receives from MET may be less than the aggregate retail impact adjustment for its client agencies. To mitigate this difference, MWDOC decreases each client agency's retail impact adjustment according to their prorated share.

Conservation Demand Hardening Credit: The Conservation Demand Hardening Credit addresses the increased difficulty in achieving additional water savings at the retail level that comes as a result of successful implementation of water conserving devices and conservation savings programs. To estimate conservation savings, each member agency has a historical baseline Gallons Per Person Per Day (GPCD) calculated by the maximum usage from fiscal year ending 2004 to fiscal year ending 2014. Reductions from the baseline GPCD to the Allocation Year are used to calculate the equivalent conservation savings in acre-feet. The Conservation Demand Hardening Credit is based on an initial 10 percent of the GPCD-based Conservation savings plus an additional 5 percent for each level of Regional Shortage set by the Board during implementation of the WSAP. The credit will also be adjusted for:

- The overall percentage reduction in retail water demand
- The member agency's dependence on Metropolitan

The credit is calculated using the following formula:

Conservation Demand Harding Credit = Conservation Savings x (10% + Regional Shortage Level Percentage) x (1 +((Baseline GPCD – Allocation Year GPCD)/Baseline GCPD))x Dependence on MWD Percentage.

Minimum Per-Capita Water Use Credit: This adjustment creates a minimum daily gallons per capita (GPCD) water use threshold. Member agencies' retail-level water use is

compared to a total water use of 100 GPCD. Agencies that fall below this threshold receive additional allocation to bring them up to the minimum GPCD water use level³.

<u>Step 5 – Sum Total Allocations and Calculate Retail Reliability</u>

This is the final step in calculating an agency's total allocation for imported supplies. The model sums an agency's total imported allocation with all of the adjustments and credits and then calculates each agency's retail reliability compared to its Allocation Year Retail Demand.

Final Metropolitan Allocation: The final allocation of imported supplies to an agency for its retail demand is the sum of the Wholesale Imported Minimum Allocation, their Retail Impact Adjustment, their Conservation Demand Hardening Credit, and Per-Capita Adjustment Allocation (if applicable).

Total Metropolitan Supply Allocations: In addition to the WSAP Allocation described above, agencies may also receive separate allocations of supplies for seawater barrier and groundwater replenishment demands. Allocations of supplies to meet seawater barrier demands are to be determined by the MET Board of Directors independently, but in conjunction with the WSAP. Separating the seawater barrier allocation from the WSAP allocation allows the MET Board to consider actual barrier requirements in the Allocation Year and address the demand hardening issues associated with cutting seawater barrier deliveries. According to the principles outlined for allocating seawater barrier demands, allocations should be no deeper than the WSAP Wholesale Minimum Percentage implemented at that time. The WSAP also provides a limited allocation for drought-impacted groundwater basins based on the following framework:

- 1. Metropolitan staff will hold a consultation with the requesting member agency and the appropriate groundwater basin manager to document whether the basin is in one of the following conditions:
 - a. Groundwater basin overdraft conditions that will result in water levels being outside normal operating ranges during the WSAP allocation period; or b. Violations of groundwater basin water quality and/or regulatory parameters that would occur without imported deliveries.
- 2. An allocation is provided based on the verified need for groundwater replenishment. The allocation would start with a member agency's ten-year average purchases of imported groundwater replenishment supplies (excluding years in which deliveries were curtailed). The amount would then be reduced by the declared WSAP Regional Shortage Level.

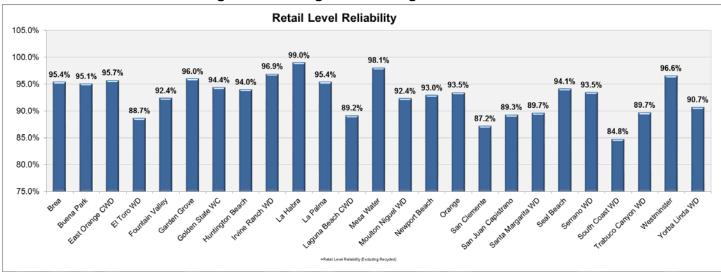
Agency's Retail Reliability: This calculates an agency's total MET allocation versus their allocation year retail demands to determine their overall reliability percentage (supplies

MWDOC Water Supply Allocation Plan - Revised 2016

³ Per capita water used based on Total Retail-Level Use and population data received from California State University of Fullerton, Center for Demographic Research

as a percentage of retail demand) under a regional shortage level. This percentage excludes recycled water supplies from an agency's total water supply. Figure 4.1 illustrates the MWDOC client agencies' reliability percentages under a stage 3 regional shortage level (15%).

Figure 4.1
MWDOC's Water Supply Allocation Plan
Stage 3 with a Regional Shortage of 15%*



Source: MWDOC Allocation Model Version 3.1 and assumes a BPP of 75%.

[*] These are estimated reliability percentages for MWDOC client agencies under a regional shortage stage 3 (15%) based on initial local supply data received from the client agencies and OCWD's projected BPP for 2015/16.

Section 5: Plan Implementation

This section covers implementation issues which include: the appeal process, penalties rate structure and billing, tracking and reporting water usage, timeline and option to revisit the plan.

Allocation Appeals Process

The purpose of the appeals process is to provide client agencies the opportunity to request a change to their allocation based on new or corrected information. The grounds for appeal can include but are not limited to:

- Adjusting errors in historical data used in the Base period calculations
- Adjusting for unforeseen losses or gains in local supplies
- Adjusting for extraordinary increases in local supplies
- Adjusting for population growth rates
- Adjusting for credits with the Conservation base data, including Conservation Rate Structure

MWDOC anticipates that under most circumstances, a client agency's appeal will be the basis for an appeal to MET by MWDOC. MWDOC staff will work with client agencies to ensure that such an appeal is a complete and accurate reflection of the client agency's allocation and is properly reviewed by MET. To accomplish this, MWDOC will require the following information from the client agency submitting an appeal:

- Written letter (in the form of a letter or e-mail) from the client agency requesting an appeal
- Brief description of the type of appeal e.g. incorrect base data, loss/gain in local supply, extraordinary increase in local supply, adjustment in agency's conservation base data, or other
- Rationale for the appeal
- Quantity in acre-feet in question
- Verifiable documentation that supports the rationale i.e. billing statements, invoices for conservation device installations, Groundwater reports

To provide clarity of the process and ensure your appeal is properly handled, the following steps will occur:

Step 1 – Submit Appeal – Client agency will submit the necessary information, described above, to MWDOC.

Step 2 – Notification of Response and Appeal Meeting – Once MWDOC staff receives the appeal information, MWDOC will send a response and schedule a meeting with MWDOC staff and the client agency, within two weeks of receiving the information, to discuss the appeal in further detail.

Step 3 – Submittal to MET & MWDOC Board Notification – Using the information received from the client agency, MWDOC will prepare and submit the appeal to MET no later than one month of receiving the information. In addition, MWDOC staff will notify its Board of the submittal to MET.

Step 4 – MET Appeal Process - MWDOC will follow the terms of MET's appeal process, as described in Appendix B. Client agencies will also be invited, as deemed appropriate, by MWDOC to attend any meetings with MET on their appeal.

Step 5 –Client Agency Notification of MET's Decision – Once MET has made a determination of the appeal, MWDOC staff will notify the client agency of the decision and determine if additional actions are needed i.e. Appeal to MET Board.

In the event that MET denies the appeal, MWDOC staff will continue to work with the appealing agency to resolve their issue(s). Any action that will result in adjustments to client agency's allocation will be submitted to the Board for review and approval.

Allocation Surcharge Rates & Billing

MET's Surcharge Rates

MET will enforce its allocations through a tiered surcharge rate structure. MET will assess surcharge rates to a member agency that exceeds its total annual allocation at the end of the twelve-month allocation period, according to the rate structure below:

Table 5.1: Metropolitan Water District Allocation Surcharge Rate Structure (FY2015/16 Rates)*

Water Use up to:	(1) Base Rate	(2) Surcharge Rate**	(1)+(2) = Total Rate
100% Allocation	Tier 1 (\$942/AF)	-	\$942/AF
100% < = 115%	Tier 1 (\$942/AF)	Tier 1 + (1,480/AF)***	\$2,422/AF
Use > 115%	Tier 1 (\$942/AF)	Tier 1 + (2,960/AF)***	\$3,902/AF

^[*] The base rate shall be the applicable water rate for the water being purchased (Model shows CY 2016 rate). [**] If MWDOC exceeds its allocation limit but is within its equivalent preferential right amount, MET will decrease the surcharge rate by one level.

These surcharge rates will be assessed according to MET water rates in effect at the time of billing. Any surcharge funds collected by MET will be invested back to the MET member agency through conservation and local resource development.

MWDOC Surcharge Rates

As a water wholesaler, MWDOC has the opportunity to assess penalties in many different ways. A number of options were discussed and analyzed with the client

^[***] Surcharge rate is applied to water use in excess of an agency's WSAP allocation.

agencies and Board Committee members. The key components that helped guide development of a surcharge structure included:

- A financial incentive to discourage water usage above a client agency's allocation
- A surcharge rate structure that is administratively easy to understand and implement
- Surcharge rates that are fair and appropriate during a shortage

From these components and input received from both the MWDOC Board and the client agencies, a melded surcharge rate structure was recommended. This was mainly due to its "region-wide" style approach and similar structure to other MWDOC rates and charges.

MWDOC Surcharge Rate Structure – At the end of the allocation year, MWDOC would charge a surcharge to each client agency that exceeded their allocation. This surcharge would be assessed according to the client agency's prorated share (acre-feet over usage) of MWDOC surcharge amount with MET. Below is an example of how this surcharge rate structure would apply:



Under the melded surcharge rate structure, client agencies will only be assessed penalties if MWDOC exceeds its total allocation and is required to pay a surcharge to MET.

MWDOC Billing

During the allocation period, MWDOC billing will remain the same. Only at the end of the twelve-month allocation period will MWDOC calculate each member agency's total potable water use based on the local supply certification and MWDOC allocation model and determine which agencies exceeded their annual allocation. From those agencies that exceeded their allocation, MWDOC will assess surcharge rates according to the melded surcharge rate structure on their next water invoice.

Understanding that the penalties can be significant to a retail agency, MET and MWDOC will allow payment of these penalties to be spread over three monthly billing periods. Therefore, a third of the penalties will be applied each month to the agency's water invoice over a three-month period

Tracking and Reporting

In preparing for allocations, it is important to track the amount of water the region and each client agency is using monthly. This data is important to help MWDOC and client agencies project their annual usage, evaluate their current demands, and avoid any over usage that will result in allocation penalties. MWDOC will provide water use monthly reports upon request or when necessary that will compare each client agency's current cumulative imported usage to their allocation target (Based off historical monthly percentages of imported usage). In addition, MWDOC will provide quarterly reports on its cumulative retail usage compared to its allocation baseline.

To develop these reports, MWDOC will need to work closely with each client agency to get their local supply data on a monthly basis. This data will not only be used by MWDOC to track monthly usage, but also by MET to assess MWDOC's total projected water demands.

Below in Figure 5.2 is an example of the type of monthly report MWDOC will provide to each client agency during the allocation period.

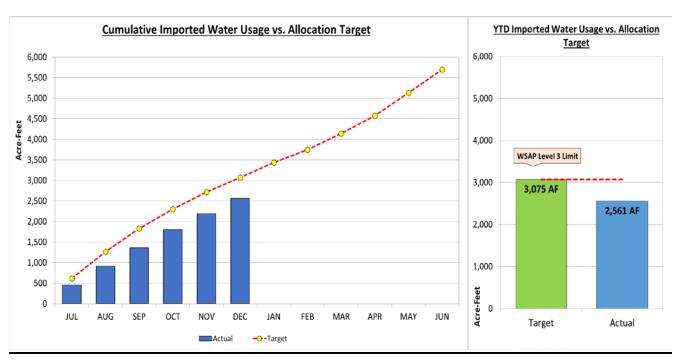


Figure 5.2 Example of a Client Agency's Monthly Usage Report

Key Dates for Implementation

If a regional shortage is declared, the allocation period will cover twelve consecutive months, e.g. July 1st of a given year through June 30. Barring unforeseen large-scale circumstances, the Regional Shortage Level will be set for the entire allocation period, which will provide the client agencies an established water supply shortage allocation amount. Figure 5.3 Illustrates the Metropolitan timeline for allocations during a two year period.

Figure 5.3: Metropolitan Water District
Adopted Allocation Timeline

Year	Month	Year 1 Board Allocation Decision	Year 1 Allocation Year	Year 2 Board Allocation Decision	Year 2 Allocation Year
YEAR 2 YEAR 1	January February March April May June July August September October November December January February March April May June	Declaration	Effective Period Continuous Tracking of Member Agency Local Supply and Imported Water Use	Declaration	
YEAR 3 YE,	July August September October November December January February March April May June		Assess Penalties		Effective Period Continuous Tracking of Member Agency Local Supply and Imported Water Use

It is important to note that MWDOC does not anticipate calling for allocation unless the MET Board declares a shortage through it WSAP; and no later than 30 days from MET's declaration will MWDOC announce allocation to its client agencies.

Revisiting the Plan

Calculating the amount of imported water each client agency receives during a water shortage is not an easy task. The key objective in developing this allocation plan is to ensure that a proper and fair distribution of water is given to each client agency. However, due to the complexity of this issue and the potential for unforeseen circumstances that may occur during an allocation year, MWDOC offers the opportunity to review and refine components of this plan where deemed necessary.

The MWDOC staff and client agencies have the opportunity to revisit the plan and offer any recommendations to the MWDOC Board that will improve the method, calculation, and approach of this plan.

MET has a similar process which will allow opportunity to review their plan when deemed necessary.

Appendix A

List of Acronyms:

AF- Acre-feet
M&I- Municipal and Industrial
MET-Metropolitan Water District of Southern California
SWRCB-State Water Resources Control Board
WSAP-Water Supply Allocation Plan

Definitions:

Extraordinary Increases in Production: water production efforts that increase local supplies during an allocation year such as purchasing water transfers.

Groundwater Recovery: The extraction and treatment of groundwater making it usable for a variety of applications by removing high levels of chemicals and/or salts.

In-lieu deliveries: MET-supplied water bought to replace water that would otherwise be pumped from the groundwater basin.

Overproducing groundwater yield: Withdrawal (removal) of groundwater over a period of time that exceeds the recharge rate of the supply aquifer. Also referred to as overdraft or mining the aquifer.

Seawater Barrier: The injection of water into wells along the coast to protect the groundwater basin from seawater intrusion. The injected water acts like a wall, blocking seawater that would otherwise migrate into groundwater basins as a result of pumping inland.

Appendix B

Metropolitan's Draft Water Supply Allocation Plan



Appendix CMWDOC Growth Adjustment Table per Client Agency

Population of MWDOC Retail Water Agencies

Water Agency	Jan-13	Jan-14	Avg of 2013 & 2014
Brea	41,129	42,181	41,655
Buena Park	82,053	82,364	82,209
East Orange CWD Retail Zone	3,233	3,247	3,240
El Toro WD	48,453	48,628	48,541
Fountain Valley	57,129	57,590	57,360
Garden Grove	175,096	175,873	175,485
Golden State Water Company	167,779	168,561	168,170
Huntington Beach	193,873	196,041	194,957
Irvine Ranch WD	357,781	369,724	363,753
La Habra	60,989	61,455	61,222
La Palma Laguna Beach CWD includ.	15,890	15,946	15,918
Emerald Bay Service District	20,130	20,204	20,167
Mesa Water	105,779	106,152	105,966
Moulton Niguel WD	168,301	169,405	168,853
Newport Beach	65,404	65,551	65,478
Orange	137,814	138,182	137,998
San Clemente	50,757	50,960	50,859
San Juan Capistrano	37,943	38,491	38,217
Santa Margarita WD	152,245	153,358	152,802
Seal Beach	23,543	23,618	23,581
Serrano WD	6,408	6,437	6,423
South Coast WD	34,672	34,816	34,744
Trabuco Canyon WD	12,588	12,640	12,614
Tustin	67,445	67,700	67,573
Westminster	92,939	93,322	93,131
Yorba Linda WD	73,378	73,990	73,684
Total of MWDOC Agencies	2,252,751	2,276,436	2,264,594

Source: Center for Demographic Research, CSU Fullerton, December 2014. CDR's estimates were based on the 2010 Census. Water agency counts were made for the actual area served, which may be different than the political boundary. Numbers are tied to the State Dept. of Finance numbers for total population of Orange County.

Water Agency	Growth % from 2012 to 2013	Growth % from 2013 to 2014	Avg Growth % 2013 to 2014
Brea	1.13%	2.56%	1.84%
Buena Park	0.62%	0.38%	0.50%
East Orange CWD Retail Zone	0.56%	0.43%	0.50%
El Toro WD	0.56%	0.36%	0.46%
Fountain Valley	0.71%	0.81%	0.76%
Garden Grove	0.19%	0.44%	0.32%
Golden State Water Company	0.87%	0.47%	0.67%
Huntington Beach	0.61%	1.12%	0.87%
Irvine Ranch WD	2.68%	3.34%	3.01%
La Habra	0.53%	0.76%	0.65%
La Palma	0.75%	0.35%	0.55%
Laguna Beach CWD includ.			
Emerald Bay Service District	0.60%	0.37%	0.48%
Mesa Water	0.58%	0.35%	0.47%
Moulton Niguel WD	0.78%	0.66%	0.72%
Newport Beach	0.51%	0.22%	0.37%
Orange	0.59%	0.27%	0.43%
San Clemente	0.55%	0.40%	0.48%
San Juan Capistrano	0.89%	1.44%	1.17%
Santa Margarita WD	0.55%	0.73%	0.64%
Seal Beach	0.59%	0.32%	0.45%
Serrano WD	0.60%	0.45%	0.52%
South Coast WD	0.61%	0.42%	0.51%
Trabuco Canyon WD	0.55%	0.41%	0.48%
Tustin	0.63%	0.38%	0.50%
Westminster	0.64%	0.41%	0.53%
Yorba Linda WD	1.11%	0.83%	0.97%
Total of MWDOC Agencies	0.95%	1.05%	1.00%

Appendix D

MWDOC Conservation Hardening Credit Table per Client Agency

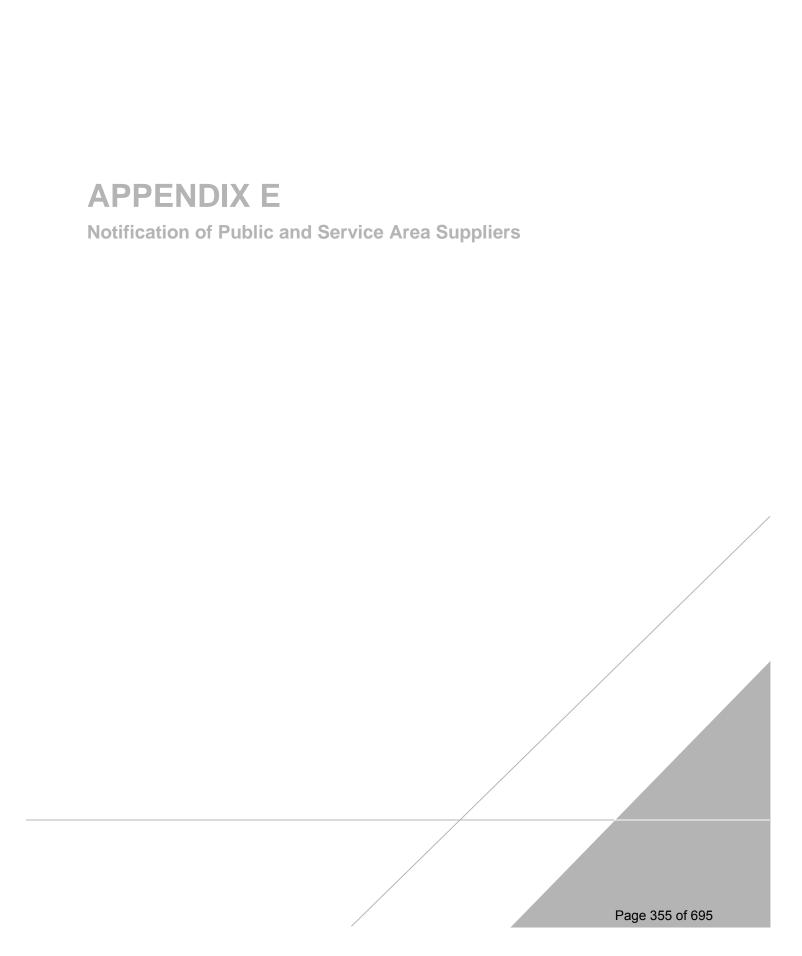
Member Agency	GPCD Baseline	GPCD for 2014	Change in GPCD	AF Savings
Brea	288.58	246.61	41.97	1,983
Buena Park	199.59	165.57	34.02	3,138
East Orange CWD includ. Tustin	196.19	170.20	25.99	2,065
El Toro WD	214.96	185.54	29.42	1,748
Fountain Valley	192.48	184.64	7.84	506
Garden Grove	166.11	133.16	32.95	6,491
Golden State Water Company	175.11	146.27	28.84	5,445
Huntington Beach	163.73	141.79	21.94	4,818
Irvine Ranch WD	304.13	244.30	59.83	24,778
La Habra	160.60	150.19	10.41	717
La Palma	154.88	123.75	31.13	556
Laguna Beach CWD includ. EBSD	203.74	173.46	30.28	685
Mesa WD	191.25	166.35	24.90	2,961
Moulton Niguel WD	236.66	194.91	41.75	7,922
Newport Beach	258.85	239.36	19.49	1,431
Orange	231.08	210.84	20.24	3,134
San Clemente	198.09	178.51	19.58	1,118
San Juan Capistrano	236.93	206.65	30.28	1,306
Santa Margarita WD	235.06	201.77	33.29	5,719
Seal Beach	157.34	147.07	10.27	272
Serrano WD	485.61	468.88	16.73	121
South Coast WD	205.86	196.91	8.95	349
Trabuco Canyon WD	314.13	270.88	43.25	612
Tustin	191.31	164.21	27.10	2,055
Westminster	145.76	120.75	25.01	2,614
Yorba Linda WD	299.73	272.75	26.98	2,236

^[*] The "GPCD Baseline" is the highest Ten-year average from 2004 to present, and includes Recycled water in order to normalize the conservation savings

Source: MWDOC 20% by 2020 OC Regional Alliance Model updated in 2014



WSAP GPCD.pdf





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Robert J. Hunter General Manager

MEMBER AGENCIES

City of Brea City of Buena Park East Orange County Water District El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. . City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange Orange County Water District City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District

Trabuco Canvon Water District

City of Tustin City of Westminster Yorba Linda Water District March 1, 2016

Ms. Mitzi Ortiz City Clerk City of Aliso Viejo 12 Journey, Suite 100 Aliso Viejo, CA 92656-5335

Dear Ms. Ortiz:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

Pursuant to the requirement of California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that MWDOC is in the process of preparing the 2015 UWMP. Based on MWDOC's current schedule, a draft will be available for review prior to the public hearing, which is tentatively scheduled for May 2016.

If your agency would like more information or has any questions, please contact Harvey De La Torre at 714/593-5027 or <a href="https://doi.org/10.2016/nd.2016

Karl W. Seckel

Sincerely,

Assistant Manager



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Trabuco Canyon Water District

City of Tustin City of Westminster Yorba Linda Water District March 1, 2016

Ms. Linda Andal City Clerk City of Anaheim 200 South Anaheim Boulevard Anaheim, CA 92805

Dear Ms. Andal:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

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This letter is intended to notify your agency that MWDOC is in the process of preparing the 2015 UWMP. Based on MWDOC's current schedule, a draft will be available for review prior to the public hearing, which is tentatively scheduled for May 2016.

If your agency would like more information or has any questions, please contact Harvey De La Torre at 714/593-5027 or hdelatorre@mwdoc.com

Sincerely



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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Lillian Harris-Neal City Clerk City of Brea '1 Civic Center Circle Brea, CA 92821

Dear Ms. Harris-Neal:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

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If your agency would like more information or has any questions, please contact Harvey De La Torre at 714/593-5027 or hdelatorre@mwdoc.com

Sincerely,



Mailing Address: P.O. Box 20895 Fountain Valley, CA 92728-0895

> (714) 963-3058 Fax: (714) 964-9389 www.mwdoc.com

Wayne S. Osborne President

> Brett R. Barbre Vice President

> > Larry D. Dick Director

Joan C. Finnegan Director

> Susan Hinman Director

Sat Tamaribuchi Director

Jeffery M. Thomas Director

Robert J. Hunter General Manager

MEMBER AGENCIES

City of Brea City of Buena Park East Orange County Water District El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange Orange County Water District City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District Trabuco Canyon Water District City of Tustin

> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Shalice Tilton City Clerk City of Buena Park 6650 Beach Boulevard Buena Park, CA 90621

Dear Ms. Tilton:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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> City of Tustin City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Brenda Green City Clerk City of Costa Mesa 77 Fair Drive Costa Mesa, CA 92628-1200

Dear Ms. Green:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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MEMBER AGENCIES

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Ms. Denise Basham City Clerk City of Cypress 5275 Orange Avenue Cypress, CA 90630

Dear Ms. Basham:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Sincerely, Kaller Select



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MEMBER AGENCIES

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Yorba Linda Water District

March 1, 2016

Ms. Kathy Ward
City Clerk
City of Dana Point
33282 Golden Lantern Street, Suite 203
Dana Point, CA 92629

Dear Ms. Ward:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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East Orange County Water District

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Trabuco Canyon Water District

City of Tustin
City of Westminster
Yorba Linda Water District

March 1, 2016

Mr. Rick Miller City Clerk City of Fountain Valley 10200 Slater Avenue Fountain Valley, CA 92708

Dear Mr. Miller:

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City of Brea

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Yorba Linda Water District

March 1, 2016

Ms. Lucinda Williams
City Clerk
City of Fullerton
303 West Commonwealth Avenue
Fullerton, CA 92832-1775

Dear Ms. Williams:

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City of Brea

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Ms. Kathy Bailor City Clerk City of Garden Grove 11222 Acacia Parkway Garden Grove, CA 92840

Dear Ms. Bailor:

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Sincerely,

Karl W. Seckel Assistant Manager

Wiferlel



Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Joan Flynn City Clerk City of Huntington Beach 2000 Main Street Huntington Beach, CA 92648

Dear Ms. Flynn:

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Yorba Linda Water District

March 1, 2016

Ms. Molly McLaughlin City Clerk City of Irvine One Civic Center Plaza Irvine, CA 92606-5208

Dear Ms. McLaughlin:

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City of Brea

MEMBER AGENCIES

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Serrano Water District

City of Tustin City of Westminster Yorba Linda Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Ms. Tamara Mason City Clerk City of La Habra 201 East La Habra Boulevard La Habra, CA 90633-0337

Dear Ms. Mason:

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Malling Address: P.O. Box 20895 Fountain Valley, CA 92728-0895

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Yorba Linda Water District

March 1, 2016

Ms. Lisette Chel City Clerk City of Laguna Beach 505 Forest Avenue Laguna Beach, CA 92651

Dear Ms. Chel:

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Karl W. Seckel

Sincerely

Assistant Manager



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March 1, 2016

Ms. Melissa Au-Yeung Assistant to the City Manager/ City Clerk City of Laguna Hills 24035 El Toro Road Laguna Hills, CA 92653

Dear Ms. Au-Yeung:

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Sincerely,



Mailing Address: P.O. Box 20895 Fountain Valley, CA 92728-0895

> (714) 963-3058 Fax: (714) 964-9389 www.mwdoc.com

Wayne S. Osborne President

> Brett R. Barbre Vice President

> > Larry D. Dick Director

Joan C. Finnegan Director

> Susan Hinman Director

Sat Tamaribuchi Director

Jeffery M. Thomas Director

Robert J. Hunter General Manager

City of Brea City of Buena Park

MEMBER AGENCIES

East Orange County Water District

El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange Orange County Water District City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District Trabuco Canyon Water District City of Tustin City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Eileen Gomez City Clerk City of Laguna Niguel 30111 Crown Valley Parkway Laguna Niguel, CA 92677

Dear Ms. Gomez:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

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Yorba Linda Water District

March 1, 2016

Ms. Yolie Trippy Deputy City Clerk City of Laguna Woods 24264 El Toro Road Laguna Woods, CA 92637

Dear Ms. Trippy:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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City of Seal Beach

City of Tustin
City of Westminster
Yorba Linda Water District

Serrano Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Ms. Stephanie Smith City Clerk City of Lake Forest 25550 Commercentre Drive Lake Forest, CA 92630

Dear Ms. Smith:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Serrano Water District

City of Tustin
City of Westminster
Yorba Linda Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Ms. Windmera Quintanar City Clerk City of Los Alamitos 3191 Katella Avenue Los Alamitos, CA 90720-5600

Dear Ms. Quintanar:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

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Sincerely



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City of Brea

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City of Tustin
City of Westminster
Yorba Linda Water District

March 1, 2016

Ms. Karen Hamman City Clerk/Director of Community Relations City of Mission Viejo 200 Civic Center Mission Viejo, CA 92691

Dear Ms. Hamman:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Sincerely,



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Ms. Leilani Brown City Clerk City of Newport Beach 100 Civic Center Drive Newport Beach, CA 92660

Dear Ms. Brown:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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City of Brea

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Mary Murphy City Clerk City of Orange 300 East Chapman Avenue Orange, CA 92866

Dear Ms. Murphy:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Sincerely,



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City of Brea

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> South Coast Water District Trabuco Canyon Water District

> > City of Tustin City of Westminster Yorba Linda Water District

March 1, 2016

Mr. Patrick Melia City Clerk City of Placentia 401 East Chapman Avenue Placentia, CA 92870

Dear Mr. Melia:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

Ms. Amy Diaz City Clerk City of Rancho Santa Margarita 22112 El Paseo Rancho Santa Margarita, CA 92688

Dear Ms. Diaz:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

Ms. Joanne Baade City Clerk City of San Clemente 100 Avenida Presidio San Clemente, CA 92673

Dear Ms. Baade:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

Ms. Maria Morris City Clerk City of San Juan Capistrano 32400 Paseo Adelanto San Juan Capistrano, CA 92675

Dear Ms. Morris:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

Ms. Maria Huizar City Clerk City of Santa Ana 20 Civic Center Plaza Santa Ana, CA 92702

Dear Ms. Huizar:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Jill Ingram City Manager City of Seal Beach 211 8th Street Seal Beach, CA 90740

Dear Ms. Ingram:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

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If your agency would like more information or has any questions, please contact Harvey De La Torre at 714/593-5027 or hdelatorre@mwdoc.com

Sincerely,

Assistant Manager

M Serlal



Mailing Address: P.O. Box 20895 Fountain Valley, CA 92728-0895

> (714) 963-3058 Fax: (714) 964-9389 www.mwdoc.com

Wayne S. Osborne President

> Brett R. Barbre Vice President

> > Larry D. Dick Director

Joan C. Finnegan Director

> Susan Hinman Director

Sat Tamaribuchi Director

Jeffery M. Thomas Director

Robert J. Hunter General Manager

City of Brea

MEMBER AGENCIES

City of Buena Park East Orange County Water District El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange Orange County Water District City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District Trabuco Canyon Water District City of Tustin City of Westminster

Yorba Linda Water District

March 1, 2016

Ms. Patricia Vazquez City Clerk City of Stanton 7800 Katella Ave. Stanton, CA 90680

Dear Ms. Vazquez:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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> > Serrano Water District

City of Tustin City of Westminster Yorba Linda Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Ms. Erica Rabe
City Clerk Services Supervisor
City of Tustin
300 Centennial Way
Tustin, CA 92780

Dear Ms. Rabe:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Serrano Water District

City of Tustin
City of Westminster
Yorba Linda Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Mr. Jarad Hildenbrand City Manager/City Clerk City of Villa Park 17855 Santiago Boulevard Villa Park, CA 92861

Dear Mr. Hildenbrand:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Serrano Water District

City of Tustin City of Westminster Yorba Linda Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Ms. Amanda Jensen
City Clerk
City of Westminster
8200 Westminster Boulevard
Westminster, CA 92683

Dear Ms. Jensen:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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City of Brea City of Buena Park

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> > City of Tustin City of Westminster Yorba Linda Water District

March 1, 2016 -

Mr. Todd Litfin City Attorney City of Yorba Linda 4845 Casa Loma Avenue Yorba Linda, CA 92886-8714

Dear Mr. Litfin:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Sincerely



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Yorba Linda Water District

March 1, 2016

Mr. Hugh Nguyen Clerk-Recorder County of Orange 10 Civic Center Plaza Santa Ana, CA 92701

Dear Mr. Nguyen:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Marilyn Thoms
Watershed Manager
County of Orange/Public Works
2301 N. Glassel St.
Orange, CA 92865

Dear Ms. Thoms:

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Lisa Ohlund General Manager East Orange County Water District 185 N. McPherson Road Orange, CA 92869-3720

Dear Ms. Ohlund:

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Sincerely,

Karl W. Seckel Assistant Manager

W. JeleC



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Mr. Robert Hill General Manager/ Assistant Secretary El Toro Water District 24251 Los Alisos Boulevard Lake Forest, CA 92630

Dear Mr. Hill:

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City of Tustin City of Westminster Yorba Linda Water District

South Coast Water District Trabuco Canyon Water District March 1, 2016

Mr. Michael Dunbar General Manager Emerald Bay Service District 600 Emerald Bay Laguna Beach, CA 92651

Dear Mr. Dunbar:

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> City of Westminster Yorba Linda Water District

March 1, 2016

Mr. Paul Cook General Manager Irvine Ranch Water District P.O. Box 57000 Irvine, CA 92619-7000

Dear Mr. Cook:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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March 1, 2016

Ms. Renae Hinchey General Manager / Board Secretary Laguna Beach County Water District 306 Third Street Laguna Beach, CA 92651

Dear Ms. Hinchey:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

(714) 963-3058 Fax: (714) 964-9389 www.mwdoc.com

Wayne S. Osborne President

> Brett R. Barbre Vice President

> > Larry D. Dick Director

Joan C. Finnegan Director

> Susan Hinman Director

Sat Tamaribuchi Director

Jeffery M. Thomas Director

Robert J. Hunter General Manager

City of Brea

MEMBER AGENCIES

City of Buena Park East Orange County Water District El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange Orange County Water District City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District Trabuco Canyon Water District City of Tustin City of Westminster

Yorba Linda Water District

March 1, 2016

Mr. Paul Shoenberger General Manager Mesa Water 1965 Placentia Avenue Costa Mesa, CA 92627

Dear Mr. Shoenberger:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Joone Lopez General Manager Moulton Niguel Water District 27500 La Paz Road Laguna Niguel, CA 92677-3489

Dear Ms. Lopez:

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March 1, 2016

Mr. Dan Ferons General Manager Santa Margarita Water District 26111 Antonio Parkway Rancho Santa Margarita, CA 92688

Dear Mr. Ferons:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

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

Dear Mr. Markus:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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> City of Westminster Yorba Linda Water District

March 1, 2016

Mr. Jerry Vilander General Manager Serrano Water District 18021 East Lincoln Street Villa Park, CA 92861-6446

Dear Mr. Vilander:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Mr. Hector Ruiz General Manager Trabuco Canyon Water District 32003 Dove Canyon Drive Trabuco Canyon, CA 92679

Dear Mr. Ruiz:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

Mr. Marc Marcantonio General Manager Yorba Linda Water District 1717 East Miraloma Ave. Placentia, CA 92870

Dear Mr. Marcantonio:

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Yorba Linda Water District

March 1, 2016

Mr. Jeffrey Kightlinger General Manager Metropolitan Water District of Southern CA 700 North Alameda Street Los Angeles, CA 90012

Dear Mr. Kightlinger:

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March 1, 2016

Ms. Danielle Gerardo Administrative Assistant/Secretary Midway City Sanitary District 14451 Cedarwood Avenue Westminster, CA 92683

Dear Ms. Gerardo:

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March 1, 2016

Ms. Maria Ayala Clerk of the Board Orange County Sanitation District 10844 Ellis Ave. Fountain Valley, CA 92708

Dear Ms. Ayala:

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March 1, 2016

Mr. Dan Ferons
Co-Administrator
San Juan Basin Authority
26111 Antonio Parkway
Rancho Santa Margarita, CA 92688

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> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Kelly Berry Clerk of the Board Santa Ana Watershed Project Authority 11615 Sterling Ave. Riverside, CA 92503

Dear Ms. Berry:

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Ms. Betty Burnett General Manager South Orange County Wastewater Authority 34156 Del Obispo Dana Point, CA 92629

Dear Ms. Burnett:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

The Municipal Water District of Orange County (MWDOC) is in the process of preparing its 2015 Urban Water Management Plan (UWMP). UWMPs are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections is required to prepare an UWMP every five years.

Pursuant to the requirement of California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that MWDOC is in the process of preparing the 2015 UWMP. Based on MWDOC's current schedule, a draft will be available for review prior to the public hearing, which is tentatively scheduled for May 2016.

If your agency would like more information or has any questions, please contact Harvey De La Torre at 714/593-5027 or hdelatorre@mwdoc.com

Sincerely,



Mailing Address: P.O. Box 20895 Fountain Valley, CA 92728-0895

> (714) 963-3058 Fax: (714) 964-9389 www.mwdoc.com

Wayne S. Osborne President

> Brett R. Barbre Vice President

> > Larry D. Dick Director

Joan C. Finnegan Director

> Susan Hinman Director

Sat Tamaribuchi Director

Jeffery M. Thomas Director

Robert J. Hunter General Manager

City of Brea

MEMBER AGENCIES

City of Buena Park East Orange County Water District El Toro Water District **Emerald Bay Service District** City of Fountain Valley City of Garden Grove Golden State Water Co. City of Huntington Beach Irvine Ranch Water District Laguna Beach County Water District City of La Habra City of La Palma Mesa Water District Moulton Niguel Water District City of Newport Beach City of Orange Orange County Water District City of San Clemente City of San Juan Capistrano Santa Margarita Water District City of Seal Beach Serrano Water District South Coast Water District Trabuco Canyon Water District City of Tustin

> City of Westminster Yorba Linda Water District

March 1, 2016

Ms. Chris Montana Clerk of the Board Sunset Beach Sanitary District P.O. Box 1185 Sunset Beach, CA 90742

Dear Ms. Montana:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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Yorba Linda Water District

March 1, 2016

Mr. Jim Byerrum Treasurer California Domestic Water Co. 15111 Whittier Blvd., Suite 220 Whittier, CA 90603

Dear Mr. Byerrum:

NOTICE OF PREPARATION OF THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY'S 2015 URBAN WATER MANAGEMENT PLAN

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If your agency would like more information or has any questions, please contact Harvey De La Torre at 714/593-5027 or hdelatorre@mwdoc.com

Sincerely,

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA,)

) ss.

County of Orange

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of The Orange County Register, a newspaper of general circulation, published in the city of Santa Ana, County of Orange, and which newspaper has been adjudged to be a newspaper of general circulation by the Superior Court of the County of Orange, State of California, under the date of November 19, 1905, Case No. A-21046, that the notice, of which the annexed is a true printed copy, has been published in each regular

May 2, 9, 2016

wit:

"I certify (or declare) under the penalty of perjury under the laws of the State of California that the foregoing is true and correct":

and entire issue of said newspaper and not in any

supplement thereof on the following dates, to

Executed at Santa Ana, Orange County, California, on

Date: May 9, 2016

Signature

The Orange County Register 625 N. Grand Ave. Santa Ana, CA 92701 (714) 796-2209

PROOF OF PUBLICATION

NOTICE OF PUBLIC HEARING 2015 URBAN WATER MANAGEMENT PLAN

Municipal Water District of Orange County ("MWDOC"), has directed the preparation of a 2015 Urban Water Management Plan ("UWMP") for the MWDOC service area pursuant to the Urban Water Management Planning Act ("Act"). Adoption of the 2015 UWMP is required under the Act by July 1, 2016.

The Act requires that an urban water supplier hold a public hearing before adopting a plan, MWDOC's public hearing is scheduled for May 18, 2016 at 8:30 a.m. and will take place at the MWDOC Board Room located in the MWDOC Administration Building at 18700 Ward Street; Fountain Valley CA 92708.

For additional information regarding the public hearing, please contact Maribeth Goldsby, MWDOC Board Secretary, at (714)593-5006.

Published: Orange County Register May 2, 9, 2016 10156597

With the West

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA,)

) ss.

County of Orange I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of The Orange County Register, a newspaper of general circulation, published in the city of Santa Ana, County of Orange, and which newspaper has been adjudged to be a newspaper of general circulation by the Superior Court of the County of Orange, State of California, under the date of November 19, 1905, Case No. A-21046, that the notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to

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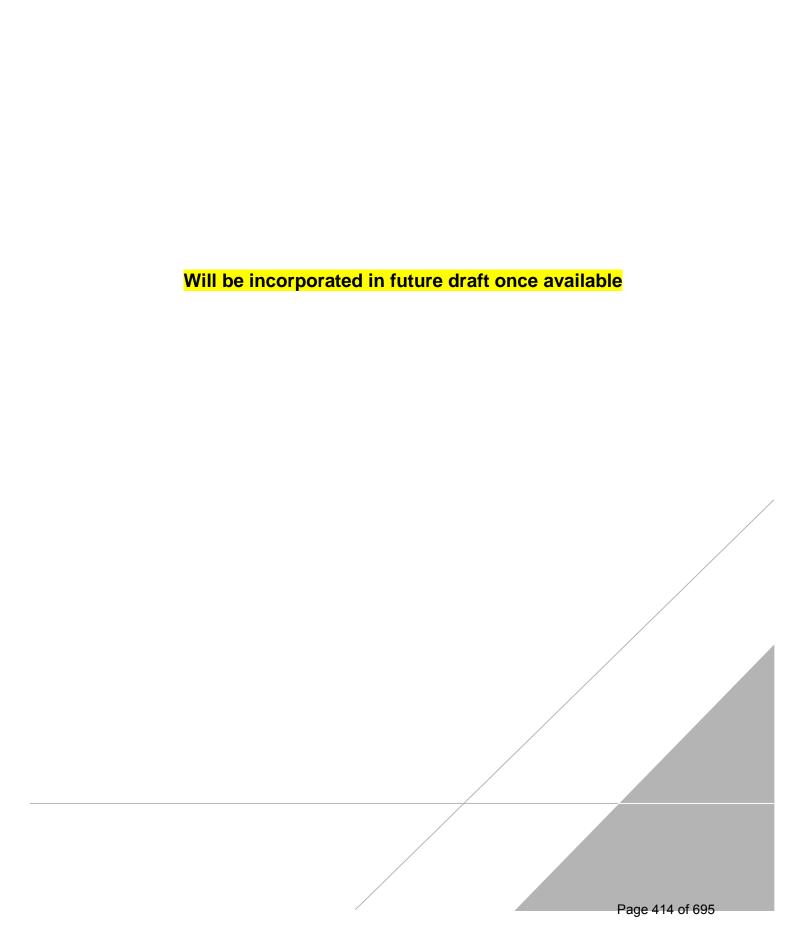
The Act requires that an urban water supplier hold a public hearing before adopting a plan. MWDOC's public hearing is scheduled for May 13, 2016 at 8:30 a.m. and will take place at the MWDOC Board Room located in the MWDOC Administration Building at 18700 Ward Street, Fountain Valley CA 92708.

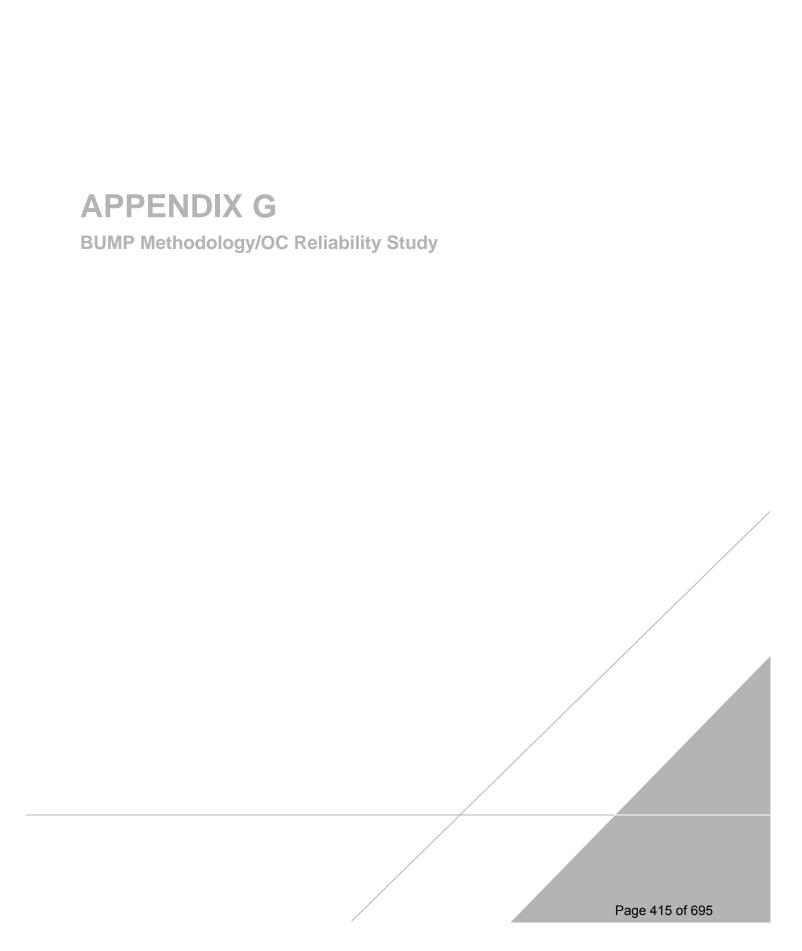
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Published: Orange County Register May 2, 9, 2016 10156597

APPENDIX F Adopted UWMP Resolution

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Final Technical Memorandum #1

To: Karl Seckel, Assistant Manager/District Engineer

Municipal Water District of Orange County

From: Dan Rodrigo, Senior Vice President, CDM Smith

Date: April 20, 2016

Subject: Orange County Reliability Study, Water Demand Forecast and Supply Gap Analysis

1.0 Introduction

In December 2014, the Municipal Water District of Orange County (MWDOC) initiated the Orange County Reliability Study (OC Study) to comprehensively evaluate current and future water supply and system reliability for all of Orange County. To estimate the range of potential water supply gap (difference between forecasted water demands and all available water supplies), CDM Smith developed an OC Water Supply Simulation Model (OC Model) using the commercially available Water Evaluation and Planning (WEAP) software. WEAP is a simulation model maintained by the Stockholm Environment Institute (http://www.sei-us.org/weap) that is used by water agencies around the globe for water supply planning, including the California Department of Water Resources.

The OC Model uses indexed-sequential simulation to compare water demands and supplies now and into the future. For all components of the simulation (e.g., water demands, regional and local supplies) the OC Model maintains a given index (e.g., the year 1990 is the same for regional water demands, as well as supply from Northern California and Colorado River) and the sequence of historical hydrology. The planning horizon of the model is from 2015 to 2040 (25 years). Using the historical hydrology from 1922 to 2014, 93 separate 25-year sequences are used to generate data on reliability and ending period storage/overdraft. For example, sequence one of the simulation maps historical hydrologic year 1922 to forecast year 2015, then 1923 maps to 2016 ... and 1947 maps to 2040. Sequence two shifts this one year, so 1923 maps to 2015 ... and 1948 maps to 2040.

The OC Model estimates overall supply reliability for MET using a similar approach that MET has utilized in its 2015 Draft Integrated Resources Plan (MET IRP). The model then allocates available imported water to Orange County for direct and replenishment needs. Within Orange County, the OC Model simulates water demands and local supplies for three areas: (1) Brea/La Habra; (2) Orange County Basin; (3) South County; plus a Total OC summary (see Figure 1).

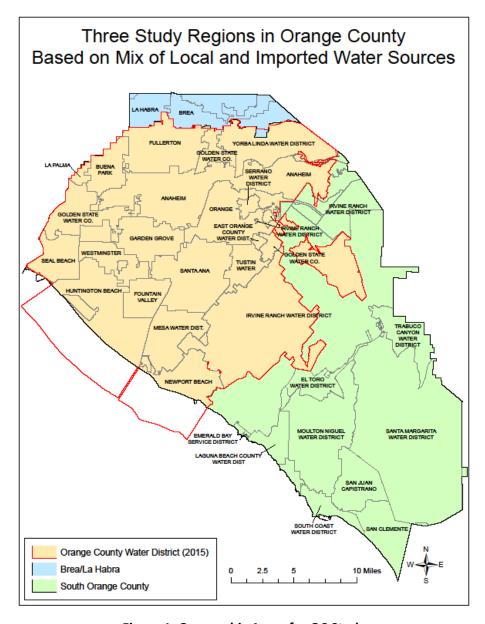


Figure 1. Geographic Areas for OC Study

The OC Model also simulates operations of the Orange County Groundwater Basin (OC Basin) managed by the Orange County Water District (OCWD). Figure 2 presents the overall model schematic for the OC Model, while Figure 3 presents the inflows and pumping variables included in the OC Basin component of the OC Model. A detailed description of the OC Model, its inputs, and all technical calculations is documented in Technical Memorandum #2: Development of OC Supply Simulation Model.

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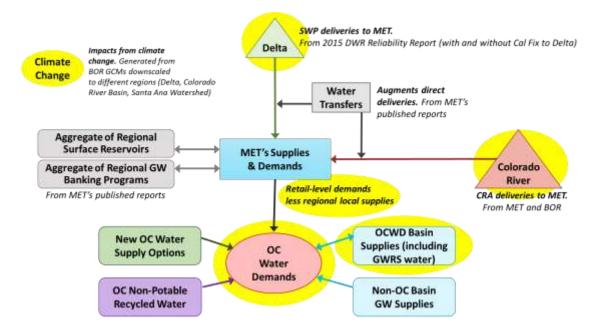


Figure 2. Overall Schematic for OC Model

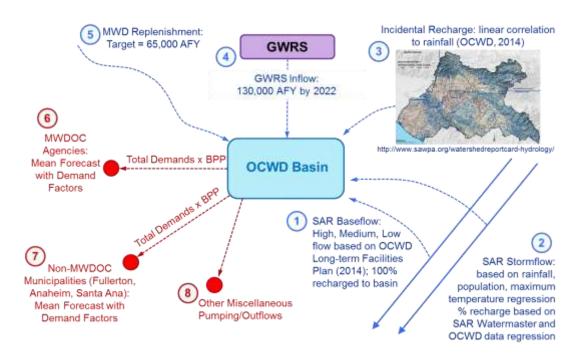


Figure 3. Inflows and Pumping Variables for OC Basin Component of OC Model

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The modeling part of this evaluation is a necessity to deal with the number of issues impacting water supply reliability to Orange County. Reliability improvements in Orange County can occur due to water supply investments made by MET, the MET member agencies outside of Orange County, or by Orange County agencies. In this sense, future decision-making regarding reliability of supplies should not take place in a vacuum, but should consider the implications of decisions being made at all levels.

This technical memorandum summarizes the water demand forecast for Orange County and the water supply gap analysis that was generated using the OC Model. The outline for this technical memorandum is as follows:

- Section 1: Water Demand Forecast for Orange County
- Section 2: Planning Scenarios
- Section 3: Water Supply Gap
- Section 4: Conclusions
- Section 5: References

2.0 Water Demand Forecast for Orange County

The methodology for the water demand forecast uses a modified water unit use approach. In this approach, water unit use factors are derived from a baseline condition using a sample of water agency billing data and demographic data. In early 2015, a survey was sent by MWDOC to all water agencies in Orange County requesting Fiscal Year (FY) 2013-14 water use by billing category (e.g., single-family residential, multifamily residential, and non-residential). In parallel, the Center for Demographic Research (CDR) in Orange County provided current and projected demographics for each water agency in Orange County using GIS shape files of agency service areas. Water agencies were then placed into their respective areas (Brea/La Habra, OC Basin, South County), and water use by billing category were summed and divided by the relevant demographic (e.g., single-family water use \div single-family households) in order to get a water unit use factor (expressed as gallons per day/demographic unit).

In addition, the water agency survey collected information on total water production. Where provided, the difference between total water production and billed water use is considered non-revenue water. Table 1 summarizes the results of the water agency survey information and calculates the water unit use factors for the three areas within Orange County.

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Table 1. Water Use Factors from Survey of Water Agencies in Orange County (FY 2013-14)

	SF Re	5	MF	Res	Com/	Instit.	Ind	ust.	Non Rev	enue		
	Units ¹	Unit Use ²	Units	Unit Use	Units	Unit Use	Units	Unit Use	total acc	%		
Basin Area												
ANAHEIM	50,030	441	58,618	193	169,902	90	19,260	160	63,004	7%		
BUENA PARK	16,455	346	8,600	224	31,566	137	4,837	39	19,004	11%		
FOUNTAIN VALLEY	12,713	336	6,964	141	30,282	124	2,093	134	17,149	13%		
FULLERTON	26,274	454	22,575	176	60,839	115	6,251	398	31,557	5%		
GARDEN GROVE	31,400	422	17,580	295	48,394	134	7,221	163	No da	2+2		
GSWC	38,038	383	17,218	215	58,901	122	6,857	68	NO U	ald		
HUNTINGTON BEACH	44,605	297	35,964	154	69,266	99	10,355	58	52,855	6%		
IRVINE RANCH WATER DISTRICT	39,182	444	80,854	196	263,393	80	39,484	207	85,508	9%		
MESA WATER DISTRICT	16,585	320	23,173	215	80,999	97	4,832	87	No da	ata		
NEWPORT BEACH	19,455	329	15,517	177	59,754	86			26,517	5%		
ORANGE	28,545	470	15,483	246	96,606	97	No	data	35,363	9%		
SANTA ANA	35,547	461	42,027	288	151,008	96					No da	ata
TUSTIN	11,788	505	9,435	253	25,265	79	1,293	92	14,178	3%		
WESTMINSTER	17,648	318	10,973	215	24,148	109	976	84	20,379	5%		
YORBA LINDA WATER DISTRICT	22,046	586	3,746	249	22,164	120	2,745	230	No da	ata		
Weighted Average		411		211		97		167		7.3%		
South County												
IRVINE RANCH WATER DISTRICT	16,581	444	12,864	196	32,554	80			22,730	9%		
MOULTON NIGUEL WATER DISTRICT	47,673	345	17,077	189	70,067	156	Inclu	ded in	55,149	10%		
SAN CLEMENTE	12,047	361	9,045	186	22,921	119	comm	erical/	No da	ata		
SAN JUAN CAPISTRANO	7,176	502	6,146	206	16,483	158	institu	ıtional	11,277	3%		
SANTA MARGARITA WATER DISTRICT	36,022	436	19,885	268	37,241	254	cate	gory	54,129	2%		
Weighted Average		397		216		158				65%		
Brea/La Habra												
BREA	9,094	425	6,898	160	42,654	93	5,931	140	No da	ata		
LA HABRA	11,995	436	8,051	177	17,331	90	680	135	13,674	6%		
Weighted Average		431.06		169.31		92.13		139.49		6%		

¹Units represent:

To understand the historical variation in water use and to isolate the impacts that weather and future climate has on water demand, a statistical model of monthly water production was developed. The explanatory variables used for this statistical model included population, temperature, precipitation, unemployment rate, presence of mandatory drought restrictions on water use, and a cumulative measure of passive and active conservation. Figure 4 presents the results of the statistical model for the three areas and the total county. All models had relatively high correlations and good significance in explanatory variables. Figure 5 shows how well the statistical model performs using the OC Basin model as an example. In this figure, the solid blue line represents actual per capita water use for the Basin area, while the dashed black line represents what the statistical model predicts per capita water use to be based on the explanatory variables.

Using the statistical model, each explanatory variable (e.g., weather) can be isolated to determine the impact it has on water use. Figure 6 presents the impacts on water use that key explanatory variables have in Orange County.

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SF Res = SF accounts or SF housing (CDR) if SF account data looks questionable.

MF Res = total housing (CDR) minus SF units.

Com/Instit = total employment (CDR) minus industrial employment (CDR).

Industrial = industrial employment (CDR).

²Unit Use represents billed water consumption (gallons/day) divided by units.

Regression Parameters	Basin Area	South Orange County	Brea / La Habra	OC Total
Adjusted R ² *	0.90	0.91	0.89	0.91
Standard Error **	0.07	0.09	0.09	0.07
Explanatory Variable Significance***	All at <0.0001	All at <0.0001	All at <0.0001	All at <0.0001

^{*} Adjusted R2 greater than 0.70 considered good overall correlation.

Figure 4. Results of Statistical Regression of Monthly Water Production

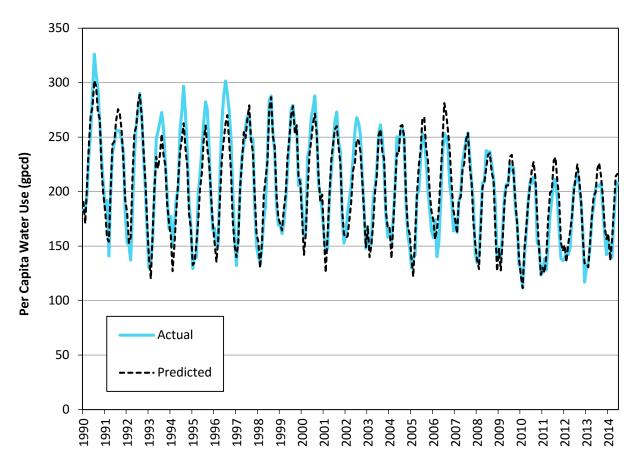


Figure 5. Verification of Statistical Water Use Model

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^{**} Standard Errors less than 0.10 considered good overall predictive models.

^{***} Explanatory Variables are considered statistically significant (valid) at the 0.05 level or less.

Impacts (% impact on per capita use)	Basin Area	South Orange County	Brea / La Habra	OC Total
Hot/Dry Weather*	+6%	+9%	+6%	+6%
Cool/Wet Weather**	-4%	-7%	-5%	-5%
Economic Recession***	-13%	-12%	-13%	-13%
Drought Conservation	-6%	-5%	-5%	-6%
Passive/Active Cons. (Since 1990)	-20%	-17%	-7%	-19%

^{*}FY 2013-14 for Hot/Dry Weather, relative to average (1990-2014).

Figure 6. Impacts of Key Variables on Water Use

2.1 Base Demand Forecast (No Additional Conservation post 2014)

For the purposes of this analysis three types of water conservation were defined. The first type is passive conservation, which results from codes and ordinances, such plumbing codes or model landscape water efficient ordinances. This type of conservation requires no financial incentives and grows over time based on new housing stock and remodeling of existing homes. The second type is active conservation, which requires incentives for participation. The SoCal Water\$mart grant that is administered by MET, through its member agencies, provides financial incentives for approved active water conservation programs such as high efficiency toilets and clothes washer retrofits. The third type is extraordinary conservation that results from mandatory restrictions on water use during extreme droughts. This type of conservation is mainly behavioral, in that water customers change how and when they use water in response to the mandatory restrictions. In droughts past, this type of extraordinary conservation has completely dissipated once water use restrictions were lifted—in other words curtailed water demands fully "bounced back" (returned) to pre-curtailment use levels (higher demand levels, within a relatively short period of time (1-2 years).

The great California Drought, which started around 2010, has been one of the worst droughts on record. It has been unique in that for the last two years most of the state has been classified as extreme drought conditions. In response to this epic drought, Governor Jerry Brown instituted the first-ever statewide call for mandatory water use restrictions in April 2015, with a target reduction of 25 percent. Water customers across the state responded to this mandate, with most water agencies seeing water demands reduced by 15 to 30 percent during the summer of 2015. Water agencies in Southern California also ramped up incentives for turf removal during this time. Because of the unprecedented nature of the drought, the statewide call for mandatory water use restrictions, and the success of turf removal incentives it was assumed that the bounce back in water use after water use restrictions are lifted would take longer and not fully recover. For this study, it was assumed (hypothesized) that unit use rates would take 5 years to get to 85 percent

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^{**}FY 1997-98 for Cool/Wet Weather, relative to average (1990-2014).

^{***} Comparing unemployment for FY 2009-10 to average (1990-2014).

and 10 years to get to 90 percent of pre-drought water use levels. After 10 years, it was assumed that water unit use rates would remain at 90 percent of pre-drought use levels throughout the planning period—reflecting a long-term shift in water demands. Table 2 presents the assumed bounce back in water unit use rates (derived from Table 1) for this drought.

Table 2. Bounce Back in Water Unit Use from Great California Drought

Water Billing Sector	Time Period	Brea/La Habra Unit Use (gal/day)	OC Basin Unit Use (gal/day)	South County Unit Use (gal/day)
Single-Family Residential	2015	431	411	397
	2020	366	349	337
	2025 to 2040	388	369	357
Multifamily Residential	2015	169	211	216
	2020	144	179	183
	2025 to 2040	152	190	194
Commercial	2015	92	97	158
(or combined commercial/ industrial for South County)	2020	78	83	134
maustraryor south country)	2025 to 2040	83	87	142
Industrial	2015	139	167	NA
	2020	119	142	NA
	2025 to 2040	126	150	NA

^{*} Units for single-family and multifamily are households, units for commercial and industrial are employment.

Table 3 presents the demographic projections from CDR for the three areas. These projections were made right after the most severe economic recession in the United States and might be considered low given that fact. In fact, *draft* 2015 demographic forecasts do show higher numbers for 2040.

Table 3. Demographic Projections

Demographic	Time Period	Brea/La Habra	OC Basin	South County	Total Orange County
Single-Family Housing	2020	20,463	386,324	133,989	540,776
	2030	20,470	389,734	138,709	548,913
	2040	20,512	392,387	142,008	554,907
Multifamily Housing	2020	18,561	453,758	118,306	590,625
	2030	19,113	468,972	125,030	613,115
	2040	19,585	478,362	126,736	624,683
Commercial Employment	2020	63,909	1,254,415	255,050	1,573,374
(or combined commercial/ industrial employment for	2030	64,961	1,304,353	266,553	1,635,867
South County)	2040	65,743	1,343,509	271,808	1,681,060
Industrial Employment	2020	6,583	138,474	NA	145,057
	2030	6,552	137,763	NA	144,315
	2040	6,523	137,066	NA	143,589

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To determine the water demand forecast with no additional (post 2014) water conservation, the water unit use factors in Table 2 are multiplied by the demographic projections in Table 3; then a non-revenue percentage is added to account for total water use (see Table 1 for non-revenue water percentage). These should be considered normal weather water demands. Using the statistical results shown back in Figure 4, demands during dry years would be 6 to 9 percent greater; while during wet years demands would be 4 to 7 percent lower. Table 4 summarizes the demand forecast with no additional conservation post 2014. In year 2040, the water demand with no additional conservation for the total county is forecasted to be 617,466 acre-feet per year (afy). In 2014, the actual county water demand was 609,836; in 2015, the demand was 554,339 and the projected forecast for 2016 is 463,890. This represents a total water demand growth of only 1.25 percent from 2014 to 2040. In contrast, total number of households for the county is projected to increase 4.24 percent for the same period; while county employment is projected to increase by 6.22 percent.

Table 4. Normal Weather Water Demand Forecast with No Additional Conservation Post 2014

Brea / La Habra

Baseline Demand Forecast (no new conservation) COM IND Non Rev Total AFY AFY AFY AFY AFY AFY 2015 9,404 3,140 6,190 1,033 1,186 20,953 2020 8,397 2,992 5,605 874 1,072 18,941 1,147 2025 6,033 921 8.894 3,262 20.257 2030 8.913 3,342 6,105 917 1,157 20.434 2035 8,913 3,501 6,163 913 1,169 20,659 2040 8,919 3,513 6,205 909 1,173 20,719

South County

	Bas	Baseline Demand Forecast (no new conservation)										
	SF	MF	СОМ	IND	Non Rev	Total						
	AFY	AFY	AFY	AFY	AFY	AFY						
2015	56,181	26,940	41,990		7,507	132,616						
2020	50,644	24,300	38,355		6,798	120,097						
2025	55,512	27,191	42,443		7,509	132,655						
2030	56,832	27,562	43,280		7,660	135,335						
2035	57,350	27,884	43,970		7,752	136,956						
2040	57,635	28,047	44,459		7,809	137,950						

OC Basin

	Bas	Baseline Demand Forecast (no new conservation)									
	SF	MF	COM	IND	Non Rev	Total					
	AFY	AFY	AFY	AFY	AFY	AFY					
2015	175,544	100,997	127,252	26,027	30,087	459,907					
2020	150,978	91,182	116,082	22,015	26,618	406,874					
2025	161,270	99,782	127,803	23,190	28,843	440,889					
2030	162,368	101,780	131,640	23,073	29,320	448,181					
2035	162,772	103,766	134,543	22,958	29,683	453,722					
2040	162,969	105,890	137,083	22,840	30,015	458,797					

Total Orange County

	Bas	Baseline Demand Forecast (no new conservation)										
	SF	MF	СОМ	IND	Non Rev	Total						
	AFY	AFY	AFY	AFY	AFY	AFY						
2015	241,129	131,076	175,431	27,059	38,780	613,476						
2020	210,019	118,473	160,042	160,042 22,889		545,911						
2025	225,676	130,236	176,279	24,111	37,499	593,801						
2030	228,113	132,685	181,025	23,990	38,137	603,950						
2035	229,034	135,151	184,676	23,871	38,604	611,338						
2040	229,524	137,450	187,747	23,750	38,996	617,466						

2.2 Future Passive and Baseline Active Water Conservation

2.2.1 Future Passive Water Conservation

The following future passive water conservation estimates were made:

- High efficiency toilets affecting new homes and businesses (post 2015) and remodels
- High efficiency clothes washers affecting new homes (post 2015)
- Model Water Efficient Landscape Ordinance affecting new homes and businesses (post 2015)

High Efficiency Toilets

A toilet stock model was built tracking different flush rates over time. All new homes (post 2015) are assumed to have one gallon per flush toilets. This model also assumes a certain amount of turn-over of older toilets due to life of toilet and remodeling rates. This analyses was done for single-family, multifamily and non-residential sectors. The following assumptions were made:

- Number of toilet flushes is 5.5 per person per day for single-family and multifamily homes.
- Household size is calculated from CDR data on persons per home. In single-family, household size decreases over time.
- Number of toilet flushes is 2.5 per employee per day for non-residential.
- Replacement/remodeling rates are 7% per year for 5 gal/flush toilet; 6% per year for 3.5 gal/flush toilets; and 5% per year for 1.6 gal/flush toilets.

Table 5 shows this toilet stock model for the OC Basin for single-family and non-residential sectors as an example.

	Table 3. Tollet Stock Wodel for de Basili (example)											
	OC Basin Single-Family											
#		Total		Portion of		Savings	Savings					
Flushes	Year	Housing	7 5 3.5 1.6 1 Av Flush						(GPD/H)	(AFY)		
17.40	2000	348,114	3,133	53,261	123,232	168,487	-	2.84				
17.40	2013	379,999	-	4,794	27,111	348,094	-	1.78				
17.40	2015	381,806	-	4,122	23,858	313,285	40,541	1.69				
17.37	2020	386,324	-	2,680	16,700	234,964	131,980	1.50	3.32	1,435		
17.31	2025	389,734	-	-	11,690	176,223	201,821	1.35	5.98	2,610		
17.23	2030	392,387	-	-	8,183	132,167	252,037	1.25	7.54	3,312		
17.14	2035	393,363	-	-	5,728	99,125	288,509	1.19	8.64	3,806		
17.05	2040	393,840	-	-	4,010	74,344	315,486	1.14	9.43	4,159		

Table 5. Toilet Stock Model for OC Basin (example)

	OC Basin Non-Residential										
#				Portion	Savings	Savings					
Flushes	Year	Empl	7	(GPD/E)	(AFY)						
		·									
3,298,440	2015	1,319,376	-	13,194	131,938	461,782	712,463	1.50			
3,510,508	2020	1,404,203	-	8,576	92,356	346,336	956,935	1.34	0.41	641	
3,633,438	2025	1,453,375	-	5,574	64,649	259,752	1,123,399	1.23	0.67	1,083	
3,729,448	2030	1,491,779	-	3,623	45,255	194,814	1,248,087	1.16	0.84	1,404	
3,801,693	2035	1,520,677	-	2,355	31,678	146,111	1,340,533	1.12	0.96	1,635	
3,864,600	2040	1,545,840	-	1,531	22,175	109,583	1,412,551	1.08	1.04	1,808	

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High Efficiency Clothes Washers

It was assumed that all new clothes washers sold after 2015 would be high efficiency and roughly save 0.033 afy per washer¹. These savings would only apply to new homes (post 2015), and only for the single-family sector.

Model Water Efficient Landscape Ordinance (2015)

The new California Model Water Efficient Landscape Ordinance (MWELO) will take place in 2016. For single-family and multifamily homes it will require that 75 percent of the irrigable area be California Friendly landscaping with high efficiency irrigation systems, with an allowance that the remaining 25 percent can be turf (high water using landscape). For non-residential establishments it will require 100 percent of the irrigable area to be California Friendly landscaping with high efficiency irrigation systems (and no turf areas). There are exemptions for non-potable recycled water systems and for parks and open space. To calculate the savings from this ordinance a parcel database provided by MWDOC was analyzed. This database had the total irrigable area and turf area delineated for current parcels. For each parcel, a target water savings was set depending on the sector. For residential parcels, 25 percent of the total irrigable area was assumed to be turf and the savings from a non-compliant parcel was estimated. For each square feet of turf conversion the estimate savings is 0.00013 afy¹. Table 6 summarizes the per parcel savings for the total county using this method.

Parcel Type	Number of Parcels	Total Irrigable Area (sq. feet)	Current Turf Area (sq. feet)	Turf Conversion (sq. feet)*	Turf Conversion (sq. ft / parcel)	Conservation Savings (afy/parcel)
Single-Family Residential	527,627	2,114,679,368	897,177,779	368,507,937	698	0.091
Multifamily Residential	555,255	155,315,983	51,697,361	12,868,365	23	0.003
Businesses (Non-Residential)	1,623,307	499,127,269	212,043,667	212,043,667	131	0.017

Table 6. Estimated Parcel Savings from MWELO for Total Orange County

The conservation savings in afy/parcel where then multiplied by <u>new</u> homes and businesses (post 2015), assuming a 75 percent compliance rate.

2.2.2 Future Baseline Active Water Conservation

To estimate a baseline water savings from future active water conservation measures, the actual average annual water savings for the last seven years for the SoCal Water\$mart program within Orange County were analyzed. A continuation of this program through 2040 at similar annual implementation rates was assumed to be representative of a baseline estimate for active water conservation into the future.

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^{*} Assumes 25% turf conversion for single-family and multifamily, and 100% for businesses.

¹ Per MET's SoCal Water\$mart conservation estimates, table provided by MWDOC (2015).

New active conservation measures or more aggressive implementation of existing active conservation will be evaluated as part of a portfolio analysis of water demand and supply options in Phase 2 of the OC Study.

2.2.3 Total Future Water Conservation Savings

Combing future passive and active water conservation results in a total estimated water savings, which is summarized in Table 7. The total passive and active conservation for the total Orange County is shown in Figure 7.

Table 7. Future Passive and Baseline Active Water Conservation Savings

Brea/La Habra Area

Brea/ Earri													
	Single-Family Savings (AFY)					Multifamily Savings (AFY)				Non-Residential Savings (AFY)			
	MWELO HEC Pass Toilets Active Total					MWELO	Toilets	Active	Total	MWELO	Toilets	Active	Total
2020	186	32	78	8	304	11	51	5	67	63	32	17	112
2025	169	33	131	15	348	13	85	10	108	79	52	34	166
2030	166	34	163	30	394	16	106	20	142	91	67	68	226
2035	156	34	186	61	437	21	127	40	188	101	77	136	314
2040	149	34	203	79	465	21	137	53	211	108	85	177	370

OC Basin

O O Dubiii													
	Single-Family Savings (AFY)				Multifamily Savings (AFY)				Non-Residential Savings (AFY)				
	MWELO	HEC Pass	Toilets	Active	Total	MWELO	Toilets	Active	Total	MWELO	Toilets	Active	Total
2020	272	148	1,435	221	2,076	61	1,217	171	1,449	759	641	556	1,956
2025	430	260	2,610	441	3,742	96	2,165	342	2,603	1,199	1,083	1,112	3,394
2030	542	347	3,312	883	5,084	118	2,738	684	3,540	1,542	1,404	2,224	5,170
2035	557	379	3,806	1,766	6,509	139	3,182	1,369	4,690	1,801	1,635	4,447	7,883
2040	544	395	4,159	2,472	7,570	162	3,537	1,916	5,615	2,026	1,808	6,226	10,059

South County

00000	,												
	Single-Family Savings (AFY)				Multifamily Savings (AFY)				Non-Residential Savings (AFY)				
	MWELO	HEC Pass	Toilets	Active	Total	MWELO	Toilets	Active	Total	MWELO	Toilets	Active	Total
2020	558	251	507	116	1,432	11	335	160	506	582	119	329	1,029
2025	812	406	877	232	2,326	22	599	321	942	960	202	657	1,819
2030	972	514	1,148	463	3,097	25	761	642	1,428	1,133	257	1,314	2,704
2035	990	556	1,332	927	3,805	27	876	1,283	2,187	1,275	298	2,628	4,201
2040	967	580	1,480	1,112	4,139	29	969	1,540	2,537	1,376	327	3,154	4,857

Total County

	Single-Family Savings (AFY)				Multifamily Savings (AFY)			Non-Residential Savings (AFY)					
	MWELO	HEC Pass	Toilets	Active	Total	MWELO	Toilets	Active	Total	MWELO	Toilets	Active	Total
2020	1,017	431	2,020	344	3,812	83	1,602	337	2,022	1,404	792	901	3,097
2025	1,411	698	3,618	688	6,416	132	2,848	673	3,653	2,238	1,337	1,803	5,378
2030	1,680	895	4,624	1,377	8,575	159	3,606	1,346	5,111	2,766	1,728	3,606	8,100
2035	1,704	969	5,325	2,754	10,752	188	4,185	2,692	7,065	3,177	2,010	7,212	12,399
2040	1,660	1,009	5,842	3,663	12,175	212	4,643	3,509	8,363	3,510	2,219	9,557	15,286

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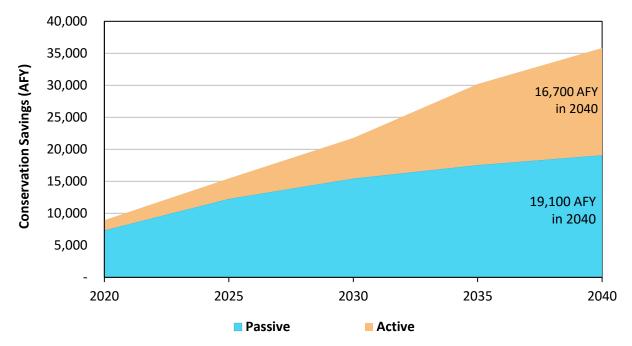


Figure 7. Total Water Conservation in Orange County

1.3 With Conservation Demand Forecast

Subtracting the future water conservation savings shown in Table 7 from the base water demand forecast shown in Table 4 results in the water demand forecast with conservation that is used to model potential water supply gaps for the OC Study. Table 8 presents the demand forecast by area and total Orange County, while Figure 8 presents the historical and forecasted water demands for total Orange County.

Note: Price elasticity of water demand reflects the impact that changes in retail cost of water has on water use. Theory states that if price goes up, customers respond by reducing water use. A price elasticity value of -0.2 implies that if the real price of water increases by 10%, water use would decrease by 2%. Price elasticity is estimated by detailed econometric water demand models, where price can be isolated from all other explanatory variables. Many times price is correlated with other variables making it difficult to estimate a significant statistical value. In addition, there is a potential for double counting reduction in water demand if estimates of future conservation from active programs are included in a demand forecast because customers who respond to price take advantage of utility-provided incentives for conservation. MET's 2015 IRP considers the impact of price elasticity in their future water demand scenarios, but does not include future active conservation in its demand forecast. The OC Study included future estimates of water conservation from active conservation, and thus did not include a price elasticity variable in its statistical modeling of water demand. Including both price elasticity and active conservation would have resulted in "double counting" of the future water savings.

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Table 7. Water Demand Forecast with Conservation

Brea / La Habra

	With Conservation Demand							
	SF	MF	CII	Non Rev	Total			
	AFY	AFY	AFY	AFY	AFY			
2020	8,094	2,925	6,368	1,043	18,429			
2025	8,546	3,154	6,789	1,109	19,598			
2030	8,519	3,200	6,796	1,111	19,626			
2035	8,475	3,313	6,762	1,113	19,663			
2040	8,454	3,302	6,745	1,110	19,611			

OC Basin

00 203111									
	With Conservation Demand								
	SF	MF	CII	Non Rev	Total				
	AFY	AFY	AFY	AFY	AFY				
2020	148,902	89,733	136,077	26,230	400,941				
2025	157,528	97,180	147,532	28,157	430,396				
2030	157,284	98,240	149,476	28,350	433,350				
2035	156,263	99,076	149,552	28,342	433,233				
2040	155,399	100,275	149,797	28,383	433,854				

South County

	With Conservation Demand							
	SF	MF	CII	Non Rev	Total			
	AFY	AFY	AFY	AFY	AFY			
2020	49,212	23,793	37,326	6,620	116,951			
2025	53,186	26,250	40,624	7,204	127,263			
2030	53,735	26,135	40,575	7,227	127,672			
2035	53,545	25,697	39,769	7,141	126,151			
2040	53,496	25,509	39,602	7,116	125,725			

	With Conservation Demand							
	SF	MF	CII	Non Rev	Total			
	AFY	AFY	AFY	AFY	AFY			
2020	206,207	116,451	179,770	33,893	536,321			
2025	219,260	126,583	194,945	36,470	577,257			
2030	219,537	127,575	196,848	36,688	580,647			
2035	218,283	128,086	196,082	36,596	579,047			
2040	217,349	129,087	196,144	36,610	579,189			

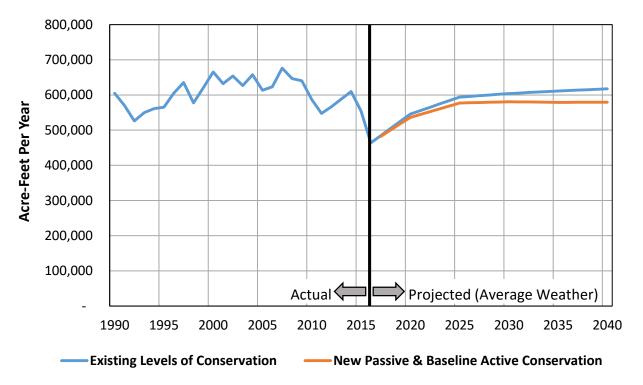


Figure 8. Water Demand Forecast for Total Orange County

3.0 Planning Scenarios

At the start of the Orange County Water Reliability Study, a workgroup was formed made up of representatives from Orange County water agencies. This OC Workgroup met 13 times during the

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12-month Phase 1 of the study. During the first four meetings of the OC Workgroup, three basic planning scenarios emerged, each with and without a California WaterFix to the Delta—thus resulting in six scenarios in total. While there was discussion on assigning probabilities or weights to these planning scenarios, consensus was not reached on which scenario was more probable than the others. Assignment of the likelihood that one scenario is more probable than the others will be revisited in Phase 2 of the Orange County Reliability Study. There was, however, general agreement that all of the scenarios represent plausible future outcomes and thus all scenarios should be evaluated in terms of assessing potential water supply gaps (difference between forecasted water demands and existing water supplies). It is important to note that the purpose of estimating the water supply gaps for Orange County is to determine what additional MET and Orange County water supply investments are needed for future reliability planning. Thus, other than the California WaterFix to the Delta, all planning scenarios assume no new additional regional or Orange County water supply investments, with a couple of exceptions. In Orange County, it was assumed that existing and planned non-potable recycling projects would build additional supplies out into the future. It was also assumed that the OCWD GWRS Phase 3 expansion project would be implemented by 2022 to increase the recycled supplies for groundwater replenishment from 100,000 afy to 130,000 afy.

To develop the planning scenarios, the OC Workgroup considered the following parameters:

- California WaterFix to Sacramento-San Joaquin Delta (Cal Fix), which impacts the reliability of the State Water Project.
- Regional MET water demands and supplies, which impacts the availability of water from MET and supply reliability for Orange County.
- Orange County water demands, which impacts the supply reliability for Orange County.
- Santa Ana River baseflows, which impacts the replenishment of the OC Basin and the supply reliability for the water agencies within the OC Basin.
- Climate variability impacts on regional and local water demands and supplies, which impacts the availability of water from MET and the supply reliability for Orange County.

The definition of the six scenarios are:

- Scenario 1a Planned Conditions, No Cal Fix: Essentially represents MET's IRP planning assumptions, with very little climate variability impacts (only impacting Delta supplies and not through 2040), no California Fix to the Delta, and no new regional or OC water supply investments.
- **Scenario 1b Planned Conditions, with Cal Fix:** Same as Scenario 1a, but with new supply from the California Fix to the Delta beginning in 2030.

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- Scenario 2a Moderately Stressed Conditions, No Cal Fix: Moderate levels of climate variability impacts (affecting Delta, Colorado River, and Santa Ana watershed), slightly lower regional local supplies than MET assumes in IRP, 4% higher demand growth reflecting climate impacts and higher demographic growth, no California Fix to the Delta, and no new regional or OC water supply investments. The higher demand growth and fewer local supplies reflects potential future impacts if our existing demographics are low and if local supplies become more challenged, a continuation of the trend in recent times.
- **Scenario 2b Moderately Stressed Conditions, with Cal Fix:** Same as 2a, but with new supply from California Fix to the Delta beginning in 2030.
- Scenario 3a Significantly Stressed Conditions, No Cal Fix: Significant levels of climate variability impacts (affecting Delta, Colorado River, and Santa Ana watershed), 8% higher demand growth reflecting climate impacts and higher demographic growth, no California Fix to the Delta, and no new regional or OC water supply investments.
- **Scenario 3b Significantly Stressed Conditions, with Cal Fix:** Same as 3a, but with new supply from California Fix to the Delta beginning in 2030.

All of these scenarios were deemed plausible and likely carry about the same likelihood of occurring. While no attempt was made to specifically assign the probability of any one of the six scenarios occurring over the others, some might postulate that Scenario 2 would be the most likely to occur given that most climate experts believe we are already seeing evidence of climate variability impacts today. But even with this postulation, assigning a probability to the success of the Cal Fix would be difficult at this time.

4.0 Water Supply Gap

To plan for future water supply reliability, a gap between forecasted water demands and existing supplies (plus planned projects that are a certainty) should be estimated. In past planning efforts, this gap is often done for average conditions or at best, using one reference drought condition. However, due to recent droughts and environmental restrictions in the Delta, a more sophisticated approach to estimating the potential water supply gap is needed. The OC Model, described in detail in TM #2: Development of OC Supply Simulation Model, uses "indexed-sequential" simulation to evaluate regional water demands and supplies, and Orange County water demands and supplies. All model demands and supply sources are referenced to the same hydrologic index—meaning that if a repeat of the year 1991 occurred, the OC Model would represent the availability of Delta water supplies in 1991 to MET, the availability of Colorado River water supplies in 1991 to MET, and the local Santa Ana watershed conditions in 1991. The OC Model also preserves the historical sequence of the hydrologic years. This is necessary because the source of availability of Delta and Colorado River water supplies are hydrologic models run by California Department of Water Resources (DWR) and the Bureau of Reclamation (BOR). These hydrologic models incorporate water rights (or contract rights) and storage conditions that are run using a specific sequence of hydrologic conditions. Both MET IRP and OC modeling of water supply maintain these sequences in order to

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preserve the accuracy of the DWR and BOR model inputs. The hydrologic period used by the OC Model is 1922 to 2014 (which differs from MET's IRP which is 1922 to 2012). The forecast period is 2015 to 2040. Thus, in the OC Model there are 93 25-year sequences that are mapped to the forecast period. When the year 2014 is reached in any of the sequences, the next year wraps back around starting in 1922. Table 8 illustrates how the indexed-sequential method works.

Table 8. Illustration of Indexed-Sequential Supply Simulation

Forecast Year	Hydrologic Simulation Year – Sequence 1	Hydrologic Simulation Year – Sequence 2	 Hydrologic Simulation Year – Sequence 93
2015	1922	1923	2014
2016	1923	1924	1922
•	•	•	•
•	•	•	•
2040	1947	1948	1946

Using the SWP system as an index, approximately 12 of the 93 historical hydrologic years (13 percent) are considered critically dry; 20 years (22 percent) are considered very wet; and the remaining 61 years (65 percent) are along the below-normal, normal, and above-normal spectrum.

4.1 Assumptions for Supply Gap Analysis

Figure 9 presents the overall assumptions for the water supply gap analysis. Figure 10 presents more specific assumptions regarding groundwater in the OC Basin. In addition to these assumptions, the following summarizes some of the differences between the MET IRP and the supply gap analysis for the OC Study:

- **Simulation Period:** MET IRP uses a historical hydrology from 1922 to 2012; while the OC Study uses a historical hydrology from 1922 to 2014—capturing the recent drought.
- **Cal Fix:** When the Cal Fix is included, MET IRP assumes that new supply from Cal Fix begins in 2020, based on the assumption that a "commitment" to move forward with the Cal Fix project will result in regulatory relief, beginning in 2020; while the OC Study assumes that supplies from Cal Fix begins when project is fully operational in 2030.
- Water Conservation: MET IRP only includes new passive conservation in their demand forecast (with new active conservation being reserved as a new supply option); while the OC Study assumes new passive and baseline new active conservation for water demands in Orange County (additional new active conservation will be evaluated in Phase 2 of the OC Study).

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• **Climate Variability:** MET IRP only includes minimal impacts of climate variability for Delta water supplies through 2030; while the OC Study includes a range of climate scenario impacts on water supplies from Delta, Colorado River and Santa Ana Watershed through 2040.

Water Demands (AFY)	FY 2014 Actual	FY 2015 Actual	2025 Projected	2040 Projected
MET Demands*	2,300,000	1,850,000	1,920,000	2,028,000
OCWD Basin Demands**	453,000	410,000	425,000	434,000
OC Total Demands**	610,000	554,000	565,000	579,000

^{*} With future passive conservation only

^{**} With future passive and baseline new active conservation

OC Groundwater (AFY)	Brea/La Habra	Net OC Basin	South County	Total
Groundwater Supply	15,000*	188,500**	10,000	213,500

^{*} Based on firm yield from La Habra Basin and groundwater purchases from Main San Gabriel Basin.

^{**} Includes GWRS, SAR baseflows, SAR stormflows, incidental recharge, MET replenishment, and miscellaneous pumping.

OC Non-Potable Recycled Water (AFY)	2015	2040
OC Basin Recycled Water	22,000	27,700
South County Recycled Water	23,900	41,800
Total	45,900	69,500

Note: Irvine Ranch Water District (IRWD) is split between the Basin and South County

Figure 9. Overall Assumptions for Water Supply Gap Analysis

OC Basin Groundwater (AFY)	Near-Term	Long-Term	Range Within Model
Groundwater Replenishment System (GWRS)	100,000	130,000	100,000 to 130,000
SAR Baseflow (mid level assumption)	53,000	53,000	34,000 to 53,000
SAR Stormflow (average of all hydrologies)	53,000	53,000	6,000 to 150,000
SAR Incidental Recharge (average of all hydrologies)	59,000	59,000	20,000 to 140,000
MET Replenishment (average of all hydrologies)*	54,000	34,000	0 to 65,000
BEA Outflows	-22,000	-9,000	-22,000 to -9,000
Misc. Pumping (golf courses, etc.)	-8,500	-8,500	-8,500
Net Groundwater for OC Basin Agencies	288,500	311,500	168,000 to 455,000

^{*} While OCWD replenishment target is 65,000 AFY, replenishment water is not assumed to be taken during very wet years when SAR stormflows are high, and only a portion of replenishment water is available during years in which MET is in allocation of imported water.

Figure 10. Assumptions for Groundwater in OC Basin

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4.2 Availability of Water from MET

Key to the assessment of water reliability for Orange County is estimating the availability of imported water from MET under a wide range of scenarios. Availability of MET water to Orange County is a function of the water demands on MET and the reliability of imported water from the Colorado River and Delta to MET, supplemented by withdrawals from various MET storage accounts.

4.2.1 Demands on MET

MET water demands represent that difference between regional retail water demands (inclusive of groundwater replenishment) and regional local supplies (which includes groundwater, Los Angeles Aqueducts, surface reservoirs, groundwater recovery, recycled water, and seawater desalination). Table 9 presents the MET demand forecast under normal/average weather conditions.

A significant challenge for MET in terms of reliability planning is it represents the "swing" water supply for the region. This compounds the variability on demands on MET due to weather and hydrology. For retail water demands, variations in weather can cause water use to change \pm 5 to 9 percent in any given year due to varying demands for irrigation and cooling. In addition to retail water demand variability, local supplies can vary \pm 80 percent for the Los Angeles Aqueducts and \pm 55 percent for surface reservoirs. Thus, the variability for demands on MET in any given year can be \pm 15 to 25 percent. This fact alone makes storage so key in assuring supply reliability for MET and the region.

Table 9. Demands on MET

Total Demand (AFY)	2020	2030	2040
Retail M&I	3,707,546	3,865,200	3,954,814
Retail Agricultural	169,822	163,121	159,537
Seawater Barrier	66,500	66,500	66,500
Replenishment	292,777	272,829	272,847
Total Demand	4,236,645	4,367,650	4,453,698

Local Supplies (AFY)

Groundwater Production	1,308,101	1,321,220	1,322,197
Surface Production	113,705	113,705	113,705
Los Angeles Aqueduct	261,100	264,296	267,637
Seawater Desalination	50,637	50,637	50,637
Groundwater Recovery	142,286	158,816	162,688
Recycled Water	425,131	468,862	495,698
Other Non-Metropolitan Imports	13,100	13,100	13,100
Total Local Supplies	2,314,061	2,390,637	2,425,663

Demand On MET (AFY)

Consumptive Use	1,743,866	1,826,245	1,880,131
Seawater Barrier	11,635	8,708	5,877
Replenishment	167,083	142,060	142,027
Total Net Demand on Metropolitan	1,922,584	1,977,013	2,028,035

4.2.2 Supplies from Colorado River and Delta

MET's water supply from the Colorado River, via the Colorado River Aqueduct (CRA), has historically been the backbone to MET's supply reliability. Before the settlement agreement between lower Colorado River Basin states and water agencies that use Colorado River water within California, MET kept the CRA full at 1.2 million acre-feet (maf) per year or nearly at that level in many years. The settlement agreement requires California to live within its 4.4 maf apportionment, and dictates how Colorado River water within California is prioritized. This eliminated most of the surplus water that MET was using to keep the CRA full. To deal with this challenge, MET has developed a number of water transfers and land fallowing programs to mitigate the impacts of the settlement agreement. The 2015 MET IRP is assuming that it will maintain minimum CRA supply of 0.90 maf, with a goal of a full CRA during dry years, when needed (although it is not specified exactly how that will occur).

For the OC Study, we have assumed similar baseline assumptions as the MET IRP, but have added some uncertainties with regard to climate scenarios under Scenario 2 and more significant impacts under Scenario 3. Under significant climate scenario impacts (Scenario 3), where the BOR simulates that Lake Mead elevation would fall below 1,000 feet about 80 percent of the time, the OC Study assumed MET would get a proportionate share of shortages that are allocated by BOR. Exactly how BOR would manage water shortages when Lake Mead elevation falls below 1,000 is uncharted territory, but assuming some proportional allocation of Colorado River water among the Lower Basin states and within California is a plausible scenario. Figure 11 presents the assumed CRA water supplies to MET for the OC Study with (Scenario 3) and without (Scenarios 1 & 2) significant climate scenario impacts. Under the significant climate scenario (Scenario 3), there is a 50 percent probability that CRA deliveries would be below 815,000 afy and a 20 percent probability that CRA deliveries would be below 620,000 afy.

The other main source of imported water available to MET is from the Delta and is delivered to Southern California via the State Water Project (SWP). Although MET's contract for SWP water is 2.0 maf, it has never received that amount. Prior to the QSA (in 2003) when MET relied more heavily on CRA supplies, the maximum water taken by MET from the SWP exceeded 1.1 maf in only three years (1989, 1990 and 2000). Beginning in 2001, MET has tried to maximize their delivery of SWP water. In very wet years, MET typically receives about 1.7 maf of supply from the SWP (about 80 to 85% of their total contract). More typically, MET receives closer to 1.2 maf of supply from the SWP (about 60% of their maximum contract). Droughts and environmental regulatory restrictions in the Delta have greatly impacted the reliability of SWP supply. Biological opinions regarding endangered species not only limit Delta exports during dry years, but have greatly impacted exports during more normal years when water agencies such as MET are counting on such water for storage replenishment.

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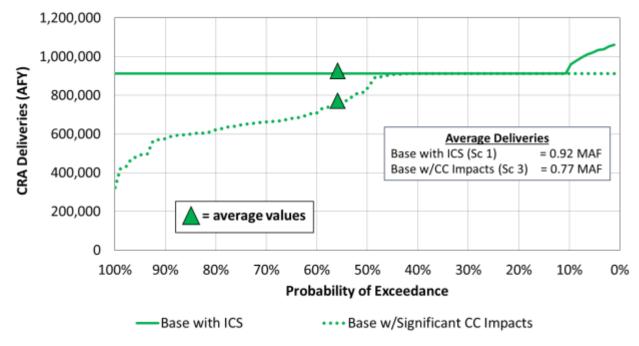


Figure 11. Colorado River Aqueduct Deliveries to MET

To stabilize the decline in SWP deliveries, California has committed to the California WaterFix (Cal Fix) and California EcoRestore. In the long-term, the preferred alternative identified in Cal Fix is expected to increase SWP deliveries (above what they otherwise would have been) by providing more flexible water diversions through improved conveyance and operations. It is important to note that the Cal Fix does not generate **NEW** water supplies per se, but allows supplies lost due to regulatory restrictions to be regained. This project would also provide much needed resiliency during seismic events in the Delta. The new conveyance and diversion facilities will allow for increased water supply reliability and a more permanent solution for flow-based environmental standards. The anticipated implementation of the Cal Fix is expected to be around 2030. Assuming a more flexible, adaptive management strategy, MET is assuming that if Cal Fix moves forward that regulatory relief from further biological opinions in the Delta would occur and SWP deliveries would return to pre-biological opinion deliveries as soon as 2020. However, some might argue this is an optimistic assumption, and there is no certainty that such relief would occur until the project is operational. Therefore for the GAP analysis, the OC Study assumed that improved SWP deliveries from Cal Fix would begin in 2030.

Climate variability can further reduce the reliability of SWP deliveries. The source of water that is pumped from the Delta originates in the Sierra Nevada Mountains as snowpack. It is widely accepted by climate and hydrology experts that climate scenario impacts on snowpack-driven water supplies is even more significant because even a fraction of a degree increase leads to early snowmelt which reduces the ability to capture river flows in surface reservoirs. Using methods described in TM#2, CDM Smith and its climate scenario expert Dr. David Yates estimated the potential impacts to the SWP under significant climate scenario. These estimates are similar to

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earlier work that California DWR did on climate scenario impacts on SWP reliability. Figure 12 presents the full range of SWP deliveries to MET with and without Cal Fix and with and without significant climate scenario impacts. As shown, the Cal Fix greatly improves the reliability of SWP supplies to MET—with an average increase in supply (restoration of supplies compared to the no project alternative) of over 400,000 afy. Significant climate scenario reduces SWP deliveries by an average of 200,000 afy, even with the Cal Fix.

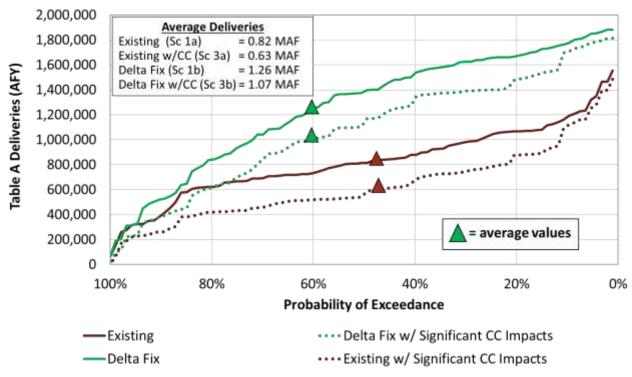


Figure 12. State Water Project Deliveries to MET

4.2.3 Overall MET Reliability

In addition to CRA and SWP water, MET has significant surface storage and groundwater storage programs. MET also has a number of water transfers in the Central Valley. These investments have been critical for the region's supply reliability during droughts. However, since the first MET IRP in 1996 MET has had to allocate its imported water to its member agencies three in the last seven years.

Using the indexed-sequential simulation method described in TM#2, MET water reliability can be illustrated for several hydrologic sequences. Figures 13, 14 and 15 utilize just 2 of the 93 hydrology sequences to demonstrate how the analysis works. Figure 13 shows the MET demands and supplies without a Cal Fix for the forecast period 2015 to 2040 with the last 25-year hydrologic sequence of 1989 to 2014 imposed. In other words, forecast year 2015 is 1989, 2016 is 1990 ... and 2040 is 2014. Of all the 93 possible 25-year hydrologic sequences, this one is the worst in terms of cumulative supply shortages.

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Figure 14 shows Met demands and supplies without a Cal Fix for a more normal hydrology sequence imposed on the forecast period (this sequence begins with 1950 and ends in 1975). Even with a normal hydrology, there are still some water shortages in the later years. Figure 15, shows this same hydrology (1950 to 1975) but with a Cal Fix. Under this scenario, regional storage replenishes greatly and shortages in the later years are eliminated.

When all 93 hydrologic sequences are simulated, and under all six scenarios representing various climate scenarios and Cal Fix assumptions, the probability of MET shortages exceeding 15 percent can be derived. A regional 15 percent shortage is similar to the allocation MET imposed in 2015. Figure 16 presents this probability of MET shortage. The results presented here for Scenario 1 with and without Cal Fix are similar to those presented in MET's Draft IRP.

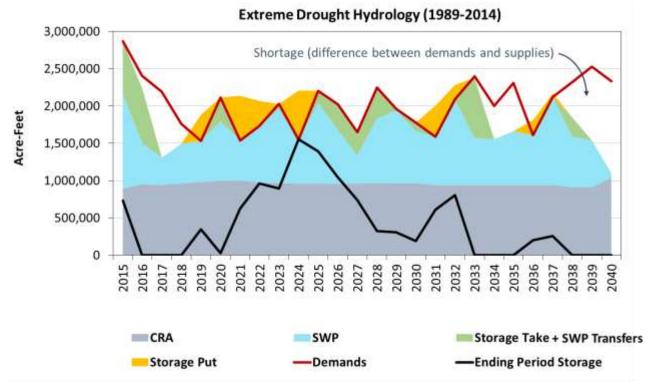


Figure 13. MET Reliability under Drought, for Scenario 1a (no Climate variability, no Cal Fix)

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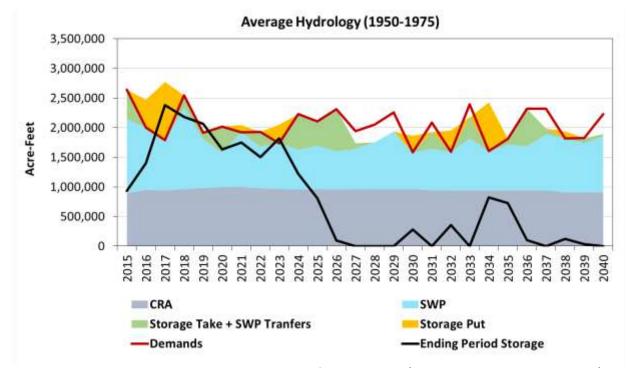


Figure 14. MET Reliability under Average Hydrology, for Scenario 1a (no Climate variability, no Cal Fix)

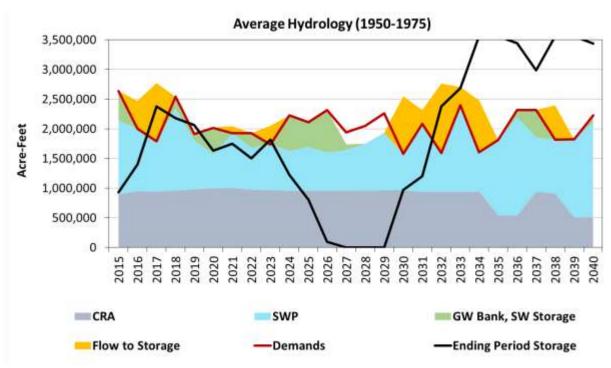


Figure 15. MET Reliability under Average Hydrology, for Scenario 1b (no Climate variability, with Cal Fix)

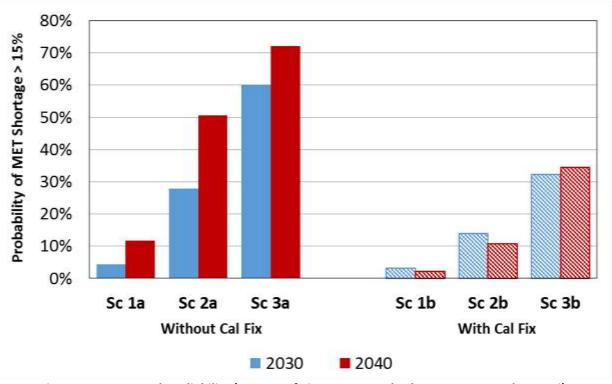


Figure 16. MET Supply Reliability (Percent of Time MET Supply Shortage Greater than 15%)

As shown in Figure 16, the impacts of climate variability (Scenarios 2 and 3) can be significant in increasing the probability and magnitude of MET shortages. In 2040, significant climate scenario (Scenario 3) can increase the probability of shortage by 60 percent without Cal Fix. The analysis also shows the enormous benefit that Cal Fix can have on MET reliability, decreasing the probability of shortage from 50 percent in 2040 to 10 percent under Scenario 2.

4.3 Orange County Water Supply Gap

When MET shortages occur, imported water is allocated to Orange County based on MET's current drought allocation formula. For the OC Basin, the estimation of the water supply gap required that the OC Model be able to simulate the way OCWD manages the OC Basin. The OC Basin's Basin Production Percentage (BPP) was set in the model to look forward each year and estimate all inflows to the basin, then set the BPP so that the cumulative overdraft in the basin would not exceed 500,000 af. In addition, the model does not allow the change in overdraft to exceed certain thresholds—essentially trying to keep some managed overdraft in the basin.

Note: Modeling the management of the OCWD basin is complex, especially with respect to future uncertainties. The discussion of this effort herein was an <u>initial</u> attempt to reflect on how the BPP could be set within the context of a modeling effort. Since this initial effort, CDM Smith and OCWD have met a number of times to refine the analysis for the Phase 2 effort. The refined analysis will be documented in the final Project Technical Memorandum.

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Figure 17 presents a simulation of the OC Basin for the forecast period of 2015 to 2040, under an extreme drought hydrology of 1989 to 2014. Under Scenario 1, with no climate scenario and no Cal Fix, Figure 17 shows the pumping from the basin (blue line), the sources of inflows to the basin (shaded color areas), the cumulative basin overdraft (red line), and the BPP (dashed black line read on right-hand axis).

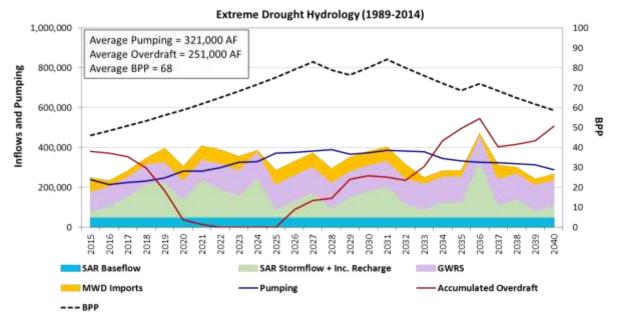


Figure 17. Simulation of OC Basin under Drought, for Scenario 1a (no Climate scenario, no Cal Fix)

When the other local Orange County water supplies from the Brea/La Habra and South County areas are added to the simulation, the OC Model estimates the overall supply reliability for the OC County total. Using all 93 hydrologic sequences, a probability chart can be created. The probability chart shows the percent time that any water shortage occurs and to what magnitude. Figure 18 shows the overall reliability for OC County total for Scenarios 1a, 2a and 3a (no Cal Fix) for the year 2040. As shown on this chart, there is a 50 percent chance that some level of shortage occurs for Scenario 1a. This probability of some shortage occurring increases to 80 percent for Scenario 2a and 98 percent for Scenario 3a. The average shortages are 32,000 afy, 74,000 afy, and 126,000 afy for Scenarios 1a, 2a, and 3a respectively.

Figure 19 compares Scenarios 1, 2, and 3 with and without the Cal Fix. As shown in Figure 19, the Cal Fix dramatically reduces the probability of shortages and thus the average shortages. The average shortages under the Cal Fix are 5,000 afy, 17,000 afy, and 64,000 afy for Scenarios 1b, 2b, and 3b respectively. The one thing to note, however, is that the maximum shortages (which occur about 1 to 3 percent of the time) are not reduced substantially with the Cal Fix. These maximum shortages may require a multipronged strategy to minimize or eliminate, such as new base-loaded supplies, storage, water transfers and mandatory restrictions on some water uses.

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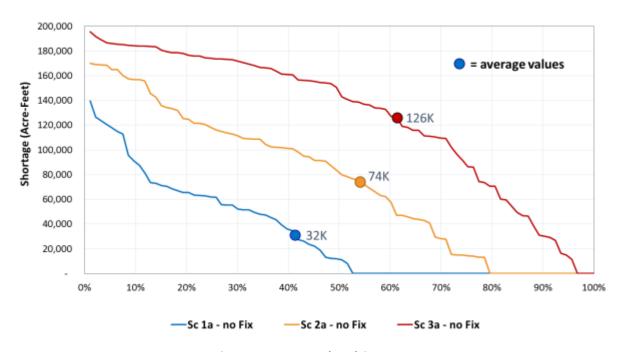


Figure 18. Probability of Water Shortages (Gap) for Orange County Total, No Cal Fix

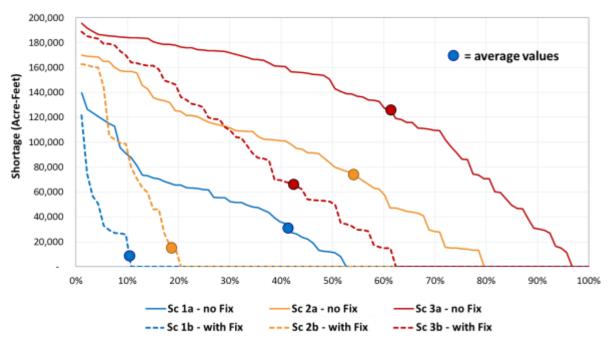


Figure 19. Probability of Water Shortages (Gap) for Orange County Total, with Cal Fix

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This supply reliability analysis was done for all three areas of the Orange County, Brea/La Habra, OC Basin, and South County. The average water shortages (averaged for all 93 hydrologic sequences) are shown in Table 10 for all six scenarios.

Table 10. Summary of Average Water Supply Gap for Orange County Areas (acre-feet year)

Area Scenario 1		Scena	Scenario 2		Scenario 3	
Brea / La Habra	a – no Fix	b – with Fix	a – no Fix	b – with Fix	a – no Fix	b – with Fix
2020	110 (1%)	110 (1%)	160 (1%)	160 (1%)	250 (1%)	250 (1%)
2040	820 (4%)	130 (1%)	1,800 (9%)	430 (2%)	3,100 (15%)	1,600 (8%)
OC Basin	a – no Fix	b – with Fix	a – no Fix	b – with Fix	a – no Fix	b – with Fix
2020	3,800 (1%)	3,800 (1%)	5,300 (1%)	5,300 (1%)	9,300 (2%)	9,300 (2%)
2040	19,000 (5%)	2,800 (1%)	49,000 (12%)	11,000 (3%)	85,000 (20%)	42,000 (10%)
South County	a – no Fix	b – with Fix	a – no Fix	b – with Fix	a – no Fix	b – with Fix
2020	2,100 (2%)	2,100 (2%)	3,000 (3%)	3,000 (3%)	4,800 (4%)	4,800 (4%)
2040	12,000 (9%)	1,900 (2%)	23,000 (18%)	5,600 (4%)	38,000 (28%)	20,000 (15%)
OC Total	a – no Fix	b – with Fix	a – no Fix	b – with Fix	a – no Fix	b – with Fix
2020	6,000 (1%)	6,000 (1%)	8,500 (2%)	8,500 (2%)	14,000 (3%)	14,000 (3%)
2040	32,000 (6%)	4,800 (1%)	74,000 (13%)	17,000 (3%)	126,000 (21%)	64,000 (11%)

^{*} Numbers in parentheses () represent % of water demand.

5.0 Conclusions

While no attempt was made during Phase 1 of the OC Study to assign the likelihood of any one of the six scenarios occurring over the others, some might postulate that Scenario 2 would be the most likely to occur given that most climate experts believe we are already seeing evidence of climate variability impacts today. This all said, a number of observations can be made from this study, which are:

- 1. The most sensitive model parameters are:
 - Whether or not the Cal Fix is implemented, and by when
 - The extent that climate variability impacts our supply reliability, which can take many forms:
 - Loss of the snowpack in the Sierras and Rocky's affecting imported water
 - Higher reservoir evapotranspiration
 - Reduced groundwater recharge statewide and locally
 - Increased water demands for irrigation and cooling from higher temperatures
 - Requires increase storage to capture and utilize available supplies

- 2. The range in water supply gaps carry different implications, namely:
 - Under Scenario 1a (no climate variability, no Cal Fix), supply shortages are fairly manageable, with average shortages in 2040 being about 6% of demand with an occurrence of about 4 in 10 years.
 - Under Scenario 2a (moderate climate variability, no Cal Fix), supply shortages require moderate levels of new investments, with average shortages in 2040 being about 13% of demands with an occurrence of about 5 in 10 years.
 - Under Scenario 3a (significant climate variability, no Cal Fix), supply shortages require significant levels of new investments, with average shortages in 2040 being about 21% of demands with an occurrence of about 6 in 10 years.
 - Scenarios with Cal Fix <u>significantly reduce average shortages</u> by 85% for Scenario 1, by 77% for Scenario 2, and by 50% for Scenario 3 in 2040.
 - Modest shortages begin in 2020, 8,500 AF per year on average (about 2% of demands) with an occurrence of about 1 in 10 years
- 3. Decisions made by Orange County water agencies to improve water supply reliability with local water supply investments should consider the following:
 - The large influence of the Cal Fix. MET and Orange County are much more reliable with the Cal Fix; however, the following questions are posed:
 - What is the implication for triggering Orange County supply investments as long as the Cal Fix is an uncertainty?
 - How long should Orange County wait to see where the Cal Fix is headed? 3, 5 or 10 years?
 - What types of Orange County supply investment decisions would be beneficial whether or not the Cal Fix proceeds ahead?
 - MET is potentially undertaking a NEW Indirect Potable Reuse project.
 - What are the implications of this project for decision-making in Orange County?
 - Other MET investments in its recommended 2015 IRP.
 - What success rate does Orange County attribute to these planned MET water supply investments?
 - Will the success rate be influenced by the Cal Fix? (e.g., additional storage without Cal Fix may not provide much benefit if there is no replenishment water during normal hydrologic years)

Phase 2 of the OC Study seeks to address these observations in a collaborative way by providing insights as to the various cost implications of different portfolios made up from MET, the MET member agencies and Orange County water supply options and to discuss policy implications for MET and Orange County. The combined information from Phases 1 and 2 would give local decision

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makers both an idea of the risk of water supply shortages under a wide range of plausible scenarios, and the range of cost implications for mitigating the shortages. The intent of the OC Study, however, is to not to make any specific recommendations as to which supply options should be implemented, but rather present common information in an objective manner for local decision making.

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ACTION ITEM May 18, 2016

TO: Board of Directors

FROM: Administration & Finance Committee

(Directors Thomas, Barbre, Finnegan)

Robert J. Hunter, General Manager Staff Contacts: Hilary Chumpitazi

SUBJECT: MWDOC's Rate Study Services

STAFF RECOMMENDATION

It is recommended that the Board of Directors: Review and approve the rate structure labeled as Scenario 1A offered by Raftelis.

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation. In addition, Kelly Salt from BBK reviewed and edited the document and recommends approval as presented.

DETAILED REPORT

Raftelis has completed their Rate Study Services and is offering two scenarios for our Board to choose from. The difference between the two scenarios will be presented by Raftelis showing how to calculate OCWD's share, either by using specific cost centers or by using all cost centers divided by all agencies. In addition we received a memo from Kelly Salt at BBK supporting the need to charge OCWD for our services to be in compliance with Prop 26.

Budgeted (Y/N): Y	Budgeted amount: \$75,000		Core _X_	Choice
Action item amount: NA Line item: 7040-2000-41				
Fiscal Impact (explain if unbudgeted):				

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

FY 2017 Wholesale Water Rate Study

Final Report / May 11, 2016





Phone **213.262.9300**

Fax 213.262.9303



May 11, 2016

Ms. Hilary Chumpitazi Accounting Manager/Treasurer Municipal Water District of Orange County 18700 Ward Street Fountain Valley, CA 92708

Subject: Wholesale Water Rate Study Report

Dear Ms. Chumpitazi,

Raftelis Financial Consultants, Inc. (RFC) is pleased to present this report on the Wholesale Water Rate Study (Study) to the Municipal Water District of Orange County (District). We are confident that the results based on this analysis will result in rates that impose wholesale water service fees in an amount that is no more than necessary to cover the reasonable costs of the District in providing wholesale water services, and that the manner in which those costs are allocated to its member agencies bear a fair or reasonable relationship to the member agencies' burdens on, or benefits received from, the wholesale water services provided.

The Study involved a review of MWDOC's Core services and solicited input from stakeholder member agencies on several occasions. We feel that the input provided by your staff, Board, and member agencies were an integral part of making this a successful Study.

It was a pleasure working with you and we wish to express our thanks to you, Mr. Robert Hunter, Mr. Harvey De La Torre, Mr. Karl Seckel and participating MWDOC staff members for the support and cooperation extended throughout the Study. If you have any questions, please call me at (213) 262-9304.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Sanjay Gaur

Vice President

Steve Gagnon Senior Consultant

Akbar Alikhan Consultant

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1.STUDY BACKGROUND AND PURPOSE

1.1 AGENCY BACKGROUND

The Municipal Water District of Orange County (MWDOC or District) is a wholesale, imported water supplier that delivers approximately 240,000 acre feet (AF) of water per year to its 28 member agencies/retailers, with a population of 2.3 million. MWDOC sells imported water from the Metropolitan Water District of Southern California (MET) to its 28 member agencies. Aside from selling imported water to its member agencies, MWDOC is also responsible for sound planning and appropriate investments in water reliability, water supply development and water use efficiency, public information, legislative advocacy, water education, and emergency preparedness.

1.2 MWDOC'S HISTORICAL RATE STRUCTURE

Historically, MWDOC's wholesale water rate structure has been comprised of a fixed charge component and a variable charge component. The variable charge component was structured as an incremental rate added to the MET water rate for each acre foot of water purchased by each member agency. The fixed charge component was charged on per retail meter served by each retailer basis, without accounting for the size of the meter or customer class served. One retail member agency, Orange County Water District (OCWD), however, was charged the incremental rate times the eight-year average of imported water purchased by OCWD. MWDOC's annual budgeting process prompted adjustments to the fixed and variable rates to meet revenue goals.

Prior to 2011, some of MWDOC's member agencies voiced concerns regarding MWDOC's budget, services, and rate structure. Some of the member agencies raised the issue of whether MWDOC's rate structure was equitable and if a member agency can opt out of services provided by MWDOC since it may already provide those services to its customers. These concerns led to the creation of the 2011 Settlement Agreement¹ between MWDOC and its member agencies.

The Settlement Agreement resulted in two major changes. First, MWDOC would phase out the variable charge component of its rate structure and transition to a 100% fixed charge structure, beginning in fiscal year (FY) 2011-12. The transition would be phased in by increasing the percentage of revenue generated from fixed charges each year, until MWDOC achieved 100% fixed revenue. In FY 2010-11, MWDOC received 65% of its revenue through fixed charges, and increased the fixed percentage share each year thereafter to reach 100% fixed revenue by FY 2015-16. The second major change was separating MWDOC's budget into "Core" and "Choice" services, to allow member agencies to only pay for programs they elected to participate in.

¹ The agreement is formally referred to as "Agreement between MWDOC and its Member Agencies on Budget, Activities, Charges, and Other Issues. Amended 12-14-10," adopted June 2011.

Because the Settlement Agreement expires at the end of FY 2015-16 (June 30, 2016) and the parties do not intend to extend it, MWDOC has determined to conduct a review and an update of its rates and charges. In addition, MWDOC wishes to explore whether there are other rate structure alternatives that may better address the anomalies associated with the current rate structure. For example, one of MWDOC's largest volumetric customers, OCWD, is a wholesale water agency that serves retail water agencies and therefore does not have any retail water meters. As a consequence, although OCWD receives the benefit of direct services to OCWD, OCWD does not pay the fixed charge component of MWDOC's current rates and, therefore, does not contribute to MWDOC's operating revenues. Conversely, one of MWDOC's other member agencies relies on MWDOC as a secondary source of water supply and has not recently purchased water from MWDOC. However, since this particular member agency has retail meters, it pays for each meter despite not purchasing any imported water.

To review these issues and explore different rate structure options and alternative methodologies to properly distribute costs among MWDOC's member agencies, Raftelis Financial Consultants, Inc. (RFC) has been retained to review and develop rate structure alternatives, calculate the resulting rates from each alternative, and present the alternatives to MWDOC and its member agencies for adoption and implementation for FY 2016-2017.

1.3 **CORE AND CHOICE SERVICES**

As part of the 2011 Settlement Agreement, MWDOC began separating its budget between "Choice" and "Core" services. Core services are District functions that benefit all member agencies and are funded by the current fixed charge based on the number of retail meters within an agency's service area. Choice services are optional services offered by MWDOC that member agencies may elect to receive on a contractual basis. A summary of MWDOC's core and choice services are shown in Table 1-1 below.

Table 1-1: Core and Choice Services

Core Services	Choice Services
Accounting and General Administration, including Budget	Water Use Efficiency Program
MET Representation	Public Outreach/Comm. Program – Value of Water
Governmental Affairs	Specific Programs (e.g., school programs, Desal)
Public Affairs	
Water Supply Planning	
Water Emergency Response Organization of O.C. (WEROC)	

MWDOC's FY 2015-16 Core services and Choice services budget is shown in Table 1-2.2 RFC reviewed the Core and Choice services and concludes that these services follow industry standard cost of service principles since Core services benefit all member agencies equally, and the costs of the Core services are borne by all member agencies. Choice services benefit only those member agencies that choose to receive

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² It is important to note that this budget (FY 2015-16) was used for discussion purposes for developing alternatives to the rate structure. Any changes adopted would be first applied to the FY 2015-16-17 Budget.

and pay for Choice services. For example, Water Supply Planning and MET advocacy services benefits all of the member agencies, while the School program benefits the member agencies' service area schools and which subscribed.

Table 1-2: District FY 2015-16 Budget

Cost Center		FY 2015-16	% of Total
	Core Services		
11	Administrative – Board	\$1,131,747	17.8%
12	Administrative – General	\$471,461	7.4%
13	Personnel / Staff Development	\$304,655	4.8%
19	Overhead	\$779,267	12.3%
21	Planning & Resource Development	\$743,370	11.7%
22	Research Participation	\$39,740	0.6%
23	Met Issues and Special Projects	\$751,674	11.8%
31	Governmental Affairs	\$418,009	6.6%
35	Policy Development	\$145,864	2.3%
32	Public Affairs	\$629,110	9.9%
41	Finance	\$563,041	8.9%
45	Information Technology	\$223,827	3.5%
25	MWDOC's Contribution to WEROC	\$141,807	2.2%
	MWDOC Building Improvements less Misc. Income	\$343,087	
	Core Total	\$6,686,660	100%
	Choice Services		
62	Water Use Efficiency Program	\$899,925	55.7%
63	School Programs	\$295,049	18.3%
67	Value of Water	\$177,645	11.0%
64	Foundational Action - Doheny Desal	\$136,983	8.5%
65	Poseidon Desal	\$45,162	2.8%
69	2008 Fund - Doheny Desal	\$31,194	1.9%
68	2014 Fund - Doheny Desal	\$30,000	1.9%
	Choice Total	\$1,615,957	100%
	Core Total	\$6,343,573	
	Choice Total	\$1,615,957	
	District Total	\$7,959,530	

The Study scope is limited to evaluating rate structures to allocate only the Core services costs to each member agency. The charges for Choice services are set through individual contracts and are not part of this Study.

1.4 **METROPOLITAN WATER DISTRICT (MET) RATES & CHARGES**

MWDOC's charges its member agencies the following MET Rates and Charges:

- MET volumetric rate: a simple pass-through of costs per AF from MET to the member agency, via MWDOC for the delivery of imported water.
- MET fixed charges: consist of the Readiness-To-Serve (RTS) Charge and Capacity Charge, which are also passed through to member agencies through a similar methodology as MET RTS, which takes into account each member agency's historical usage. The RTS Charge methodology accounts for an agency's 4-year average of imported purchases to recover the cost of MET's standby services. The Capacity Charge takes in account an agency's peak daily flow of water for the last three years to recover MET's costs of providing system capacity.

2. LEGAL BACKGROUND

On November 2, 2010 California voters approved Proposition 26, a ballot initiative that established new limitations on the State's and local governments' power to impose fees and charges. Proposition 26 amended Article XIII A of the California Constitution, which govern the imposition of taxes by the State, and Article XIII C of the California Constitution, which governs the imposition of taxes by local governments, by providing a definition of the term "tax." For local governments, this definition defines "tax" to mean any levy, charge, or exaction of any kind imposed by a local government, except for seven specifically identified exceptions. As a consequence, fees and charges that do not fall within one of the seven exceptions are redefined as taxes and subject to voter approval.

With respect to the fees and charges that are the subject of this Study, the following exception under Proposition 26 applies:

- (e) As used in this article, "tax" means any levy, charge, or exaction of any kind imposed by a local government, **except** the following:
 - (2) A charge imposed for a specific government service or product provided directly to the pay[e]r that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.

The agency imposing the fee or charge bears the burden of proving that the amount of the fee or charge "is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity." The rates for the Core services developed as part of this Study are designed to meet this burden and to recover MWDOC"s costs associated with providing the services discussed in Section 1.3.

The rates for the fees and charges for the Choice services are not the subject of this Study because they not "imposed" by MWDOC but are agreed to by the member agencies via separate agreements entered into between MWDOC and those member agencies that elect to participate in and receive the Core services.

3.STUDY PROCESS

3.1 STAKEHOLDER PARTICIPATION

One of MWDOC's primary directives for the Study was ensuring that stakeholders had an opportunity to participate in the development of the new rate structure. RFC solicited input from member agency managers, the Administrative and Finance Committee (A&F Committee), and MWDOC staff at each step of the process. A list of the stakeholder meetings held is shown in Table 3-1 below.

The four phases of this Study are outlined in Figure 3-1 below. In the first phase, RFC reviewed each Core service to gain an understanding of the type and nature of the services provided. RFC then defined, explained, and assigned a weight to each guiding principle (such as fairness and equity, revenue stability, etc.) and solicited feedback from member agency managers and MWDOC staff. Next, member agency managers, elected officials, and MWDOC staff ranked alternative rate structure components according to the weighted guiding principles. Of all the rate structure components presented, the best candidates were selected for inclusion in the rate model for WMDOC's rates for the Core services (Rate Model). After completion of the Rate Model, the resulting rates were shown to MWDOC and member agency managers. Finally, the optimal rate structure was recommended to MWDOC Board for adoption.

Figure 3-1: Phases of Rate Study

• Identify different types of Core servcies
• Determine the type of benefit (general or specific)
• Identify the alternative rate structure to allocate benefits

• Develop guiding principles
• Evaluate rate structures based on guiding principles
• Determine which rate structures should be modeled

• Calculate alternative rates
• Determine impacts to member agencies

• Determine which rate structure is best suited for MWDOC based on stakeholder input

Table 3-1: Stakeholder Meetings during Study

Meeting	Date	Phase of Study
Project Kick-off Meeting	January 6, 2016	Cost of Service
Administrative & Finance Committee January Meeting	January 13, 2016	Cost of Service/Policy Framework
Member Agency Managers Meeting	February 4, 2016	Policy Framework
Administrative & Finance Committee February Meeting	February 10, 2016	Policy Framework
Administrative & Finance Committee March Meeting	March 8, 2016	Rate Workshop
Member Agency Managers Meeting	March 17, 2016	Rate Workshop
Administrative & Finance Committee April Meeting	April 13, 2016	Rate Workshop
Administrative & Finance Committee May Meeting	May 11, 2016	Presentation of Rates/Report
Board Meeting	May 18, 2016	Presentation of Rates/Report

3.2 **GUIDING PRINCIPLES**

To evaluate potential rate structures, RFC developed, with input from MWDOC and member agency managers, several guiding principles. To place higher importance on certain guiding principles, weights were assigned to them as shown in Table 3-2. Once defined and weighted, stakeholders were then asked to rate how well a particular rate structure satisfied each guiding principle. The guiding principles are defined as follows:

- Legal Compliance Complies with Proposition 26 in its request that charges for specific services do not exceed the reasonable costs to confer such benefits. (Legal compliance was assumed a basic requirement).
- Fairness/Equity Best aligns costs of services with the benefit received by each agency. (fairness/equity assumed a basic requirement).
- Revenue stability Produces stable revenues for MWDOC and minimizes revenue volatility.
- Administrative Complexity Can be implemented with existing MWDOC staff, available information and infrastructure.
- **Communication** Easily understood by member agencies and the public at large.

Table 3-2: Weights for Guiding Principles

Guiding Principle	Weight
Legal Compliance	35%
Fairness/Equity	35%
Revenue stability	15%
Administrative Complexity	5%
Communication (Ease of Understanding)	10%

3.3 RATE STRUCTURE DEFINITIONS

A total of six rate structure components were presented to MWDOC and member agencies for evaluation with respect to the guiding principles presented above. The rate structure components evaluated included the following:

- 1. Number of Meters (current rate structure)
- 2. Number of hydraulically equivalent meters
- 3. Historical water use by member agency
- 4. Population in service area
- 5. Fixed charge for each member agency
- 6. Number of turnout meters

The rate implications for each component are discussed in the following sub-sections.

3.3.1 Number of Meters

MWDOC currently allocates costs based on the number of retail meters served by each member agency. There is no adjustment made to account for larger meters. In other words, a standard 5/8" household meter is treated no differently than a 4-inch industrial meter (e.g., single family homes versus multi-family developments on master meters). The assumption is made that the distribution of sizes of meters in each retail agency is about the same and therefore, the additional administrative burden of differential treatment would not be of benefit.^{3 4} Allocating costs in proportion to the number of meters results in a cost distribution that is more proportional to water use than if allocated equally to member agencies (Section 3.3.5). Similarly it results in a cost distribution that is less proportional to (potential) water use than if allocated by the number of hydraulically equivalent meters (3.3.2) or historical water use (3.3.3).

3.3.2 *Number of Hydraulically Equivalent Meters*

This rate structure allocates costs based on the number of hydraulically equivalent retail meters and therefore makes adjustments for different size meters. Unlike the current rate structure, an adjustment would be made to account for the hydraulic capacity of different meter sizes. For example, based on American Water Works Association (AWWA) capacity factors, a 4-inch meter is equivalent to twenty-one 5/8" meters. Allocating costs in proportion to the number of hydraulically equivalent meters recognizes that much of the work that MWDOC does relates to ensuring standby capacity is available. It results in a cost distribution that is more proportional to water use than the number of meters (Section 3.3.2) and less proportional to water use compared to historical water use (Section 3.3.3). This methodology maintains the fixed revenue structure.⁵

³ As currently structured, however, MWDOC would not recover all of its costs of providing the services because OCWD does not have retail meters.

⁴ OCWD's average historical water use over the last 10 years is 10.8% of MWDOC's annual water sales.

⁵ This rate structure, however, results in MWDOC also not recovering its full costs of service from OCWD.

3.3.3 Historical Use by Member Agency

Under this rate structure, costs are allocated based on each member agency's historical average of imported water⁶, using a specified number of trailing years (e.g. previous 3, 5, or 10 years). The analysis presented in this report uses a 10-year historical average to account for long term fluctuations in historical imported water use. Allocating costs based on historical imported water use assumes the imported water use is proportional to MWDOC's costs and corresponding service benefits. However, MWDOC's costs are not directly related to the amount of historic imported water delivered. Rather, the service provided, and therefore costs incurred, by MWDOC is more directly related to the availability and reliability of providing imported water to its member agencies.

3.3.4 Population in Service Area

This rate structure allocates costs based on the population within each member agency's service area. The advantage of this rate structure is that it is easily explained and understood (i.e., benefits flow to the population). Drawbacks to this methodology include scenarios where costs are allocated to high population member agencies even if they have low per capita water use; agencies with low population and perhaps higher per capita water use would be assigned a lower portion of costs. Another drawback of this rate structure is that it may be complicated to assign costs to OCWD, whose service area encompasses the service area of many of MWDOC's other member agencies.

3.3.5 Fixed Charge for every Member Agency

Under this methodology, costs are equally split among all member agencies, regardless of size. Each member agency is responsible for exactly 1/26 of MWDOC's costs for Core services. MWDOC has 28 member agencies, two of these agencies fall under parent agencies⁷, which yields the denominator of 26. The methodology treats every agency the same in terms of the benefits they receive (and therefore their cost allocation) from MWDOC's services. It is best suited for services that are not correlated to agency size or water use.

3.3.6 Number and Size of Turnout Meters

This rate structure allocates costs based on the number and size of turnout meters serving each member agency. Turnout meters are the meters that measure the amount of wholesale water delivered by MET. Similar to alternative #2, this rate structure takes into account the number of turnout meters and their size. While this methodology would allocate costs to OCWD, it may disproportionately place costs on some member agencies whose turnout meters were oversized (based on assumptions made long ago) in anticipation of greater development that has not materialized or may over-burden agencies that have several turnouts to provide operational flexibility.

⁶ Historical imported water refers only to the water purchased from MWDOC by the member agency, and not the member agency's total water use. Member agencies may have more than one source of water.

⁷ The City of Tustin is included in its parent agency – East Orange County Water District. Emerald Bay is included in its parent agency - Laguna Beach County Water District.

4. RATE STRUCTURE SELECTION

4.1 RATE STRUCTURE SURVEY RESULTS

MWDOC and RFC solicited member agency input through a short online survey. Member agencies ranked how well each rate structure component satisfied each guiding principle. In addition to the ratings from the member agencies, MWDOC staff and RFC provided ratings as well. The participating member agencies are shown below in Figure 4-1.

Table 4-1: Member Agencies Participating in Rate Structure Survey

1	Brea, City of	13	Moulton Niguel Water District
2	Buena Park, City of	14	Newport Beach, City of
3	East Orange County Water District	15	Orange, City of
4	El Toro Water District	16	Orange County Water District
5	Fountain Valley, City of	17	San Clemente, City of
6	Garden Grove, City of	18	Santa Margarita Water District
7	Golden State Water Company	19	Seal Beach, City of
8	Huntington Beach, City of	20	Serrano Water District
9	Irvine Ranch Water District	21	South Coast Water District
10	La Palma, City of	22	Trabuco Canyon Water District
11	Laguna Beach County Water District	23	Westminster, City of
12	Mesa Water District	24	Yorba Linda Water District

Participants were asked to use a rating scale of 1 (does not satisfy guiding principle) to 4 (fully satisfies guiding principle). The average score from all participants was then multiplied by the weights found in Table 3-2 to determine a total score. RFC developed the weights with input from MWDOC staff. These weights were presented to the A&F Committee and Member Agency managers for review and provide feedback. Member agency managers agreed that the first two guiding principles (legality and equity/fairness) should be weighted the highest (35%).

Table 4-2 shows an example of how the rating was determined for the current rate structure. The weights for each guiding principle are repeated on Line 1. The weights are then multiplied by the average of the ratings found on Line 2. The resulting values on Line 3 are then added across to derive the total score.

Table 4-2: Ratings Example - Current Rate Structure

	Legal Compliance	Fairness/Equity	Revenue stability	Administrative Complexity	Communication	Total
1	35%	35%	15%	5%	10%	
2	3.17	3.00	3.54	3.63	3.42	
3	1.11	1.05	0.53	0.18	0.34	3.21

The same process is repeated for all rate structure alternatives. The full results for each rate structure alternative are presented in Table 4-3 below.

Table 4-3: Member Agency Ratings of Rate Structure Components

Rate Structure Alternative	Legal Compliance	Fairness/ Equity	Revenue stability	Administrative Complexity	Communication	Total
Weight	35%	35%	15%	5%	10%	
Number of Meters	3.2	3.0	3.5	3.6	3.4	3.2
Number of hydraulically equivalent meters	3.3	3.3	3.6	2.9	3.0	3.3
Historical water use by member agency	3.0	2.8	2.6	2.9	2.7	2.8
Population in Service Area	2.2	1.8	3.1	3.0	2.1	2.2
Fixed charge for each member agency	2.5	2.1	2.9	2.7	2.6	2.4
Number of turnout meters	1.5	1.3	3.0	3.3	2.3	1.8

As stated above, MWDOC staff and RFC also rated each rate structure alternative. The summary results from the member agencies, MWDOC staff, and RFC ratings are presented in Table 4-4.

Table 4-4: Summary of Ratings for Rate Structure Components

	Rate Structure Alternative	Member Agencies	MWDOC staff	RFC
1	Number of Meters	3.2	3.3	3.0
2	Number of hydraulically equivalent meters	3.3	3.4	3.9
3	Historical water use by member agency	2.8	3.2	3.9
4	Population in Service Area	2.2	3.8	2.5
5	Fixed charge for each member agency	2.4	2.1	2.0
6	Number of turnout meters	1.8	2.1	2.2

Based on the results presented in Table 4-4, the lowest scoring rate structure alternatives were eliminated from consideration - Fixed Charge for each Member Agency and Number of Turnout Meters8.

4.2 ORANGE COUNTY WATER DISTRICT (OCWD)

OCWD purchases imported water from MWDOC and blends this water with advance treated recycled water from OCWD's Groundwater Replenishment System (GWRS) and Santa Ana River water to replenish the Orange County Groundwater Basin. Prior to the transition to a fully fixed charge, MWDOC charged OCWD the MWDOC incremental rate times OCWD's 8-year historical average of imported water

⁸ This discussion concerns how costs are allocated to all member agencies (Step 2, as discussed in Section 4.3) and the elimination of the two lowest scoring rate structure alternatives. However, the Fixed Charge methodology was still considered for Step 1 (allocation to OCWD, as discussed in the following sub-section).

purchases. However, once the incremental rate was phased out in FY 2015-16, OCWD was no longer charged.

One of the main goals of this rate study is to ensure legal, fair and equitable rates. RFC and MWDOC staff consulted with legal counsel regarding the legality of not charging OCWD. Legal counsel advised that there is a cost associated with providing services to OCWD and a commensurate fee needs be assessed. If a fee is not assessed, then the cost of providing services to OCWD is unfairly borne by other member agencies.

On average, over the past 10 years, OCWD has accounted for nearly 11% of District's water sales and is the fourth largest water user among all member agencies. MWDOC incurs costs to provide Core services to OCWD, much like its other member agencies. MWDOC works with MET to coordinate and administer recharge groundwater, groundwater programs (e.g., a conjunctive use program (CUP)), and advocacy on behalf of OCWD⁹. The costs for these services are particularly reflected in Planning and Resource Development (Cost Center 21) and MET Issues and Special Projects (Cost Center 23) line items shown in Table 1-2. Note that OCWD is not charged, via the rate structure, for the Water Emergency Response Organization of Orange County (WEROC) program since OCWD is a funding partner of WEROC.

In light of legal counsel advice, the rate structure must allocate to OCWD its share of the costs of the Core services provided. The below sections discuss how costs are first allocated to OCWD and then to the remaining retail water agencies.

4.3 TWO-STEP COST ALLOCATION

RFC allocated costs to OCWD and the remaining retail agencies using a two-step process. Many of the rate structures discussed in Section 3.3 are not amenable to OCWD since OCWD does not have retail meters. Also, using population would allocate a disproportionally greater share of costs of service to OCWD. Therefore the remaining alternatives for OCWD include allocating costs by historical water use and allocating costs equally to all member agencies (1/26). MWDOC's costs are allocated in two steps, as shown in Figure 4-1.

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⁹ A list of MWDOC services is shown in Appendix A

Figure 4-1: Two Step Allocation of District's Core Services Costs

Core Services Costs are determined by District

STEP 1

Costs are allocated only to **OCWD**

STEP 2

Remaining costs are allocated to the other member agencies

4.4 RATE ALTERNATIVES

4.4.1 Step 1: Allocation of Costs to OCWD

In light of the legal issues discussed in Section 2, and with input from stakeholders, RFC developed two alternatives to allocate costs to OCWD which are termed 1A and 1B. Note that under both scenarios, OCWD is not charged via the rate structure for MWDOC's WEROC costs.

Alternative 1A: 10-year historical use method for Cost Centers 21 and 23 of Table 4-5, plus the equal distribution (OCWD assigned 1/26 of costs) for the other Cost Centers, not including WEROC.

Alternative 1B: OCWD is allocated an equal proportional share (1/26) of all cost centers except WEROC (Cost Center 25 of Table 4-5).

4.4.2 Step 2: Allocation of Remaining Costs to Retail Member Agencies

After allocating costs to OCWD, the next step is to allocate the remaining costs to the retail agencies using one of the below methodologies:

- 1) Number of meters;
- 2) Number of hydraulically equivalent meters;
- 3) Historical imported water use; and
- 4) Population.

RFC presented the rate results of the above two-step allocation to the Administrative and Finance Committee and member agency managers. Their feedback is discussed below.

4.5 STAKEHOLDER INPUT

RFC presented the above rate alternatives to the Administrative and Finance Committee on March 9th and to the member agencies on March 17th.

The feedback and results from both these meetings is summarized as follows:

- The historical use alternative was eliminated because many member agencies felt that MWDOC's costs were not necessarily tied to water use therefore, water use should not be used as a proxy for allocating costs at the retail agency level. Additionally, some agencies who use local groundwater in addition to imported MWDOC water may have large usage swings in years when groundwater yields were low/high. However, this concern can be alleviated by using the 10-year imported water use average. Historical water use is used to allocate costs to OCWD (in Alternative 1A) since the only two viable alternatives to allocated costs to OCWD include historical water use and equal cost allocation (1/26) since OCWD does not have meters.
- 2) Allocating costs by population was eliminated. Using service area population to allocate costs dramatically increases costs for densely populated member agencies even though these agencies likely have low per-capita water use compared to more sparsely populated agencies.
- 3) Allocating costs by the number of hydraulically equivalent meters was eliminated since this methodology accounts for the potential water use from larger meters. As mentioned in item 1 above, meeting participants felt MWDOC's services, and therefore costs, are not necessarily tied to water use. This alternative was eliminated since it allocates costs in proportion to potential water use as judged by meter size. RFC believes that MWDOC works for all agencies, regardless of size or water use, and therefore MWDOC's costs are arguably unrelated to agency water use. However, one could argue that the high (imported) water use agencies benefit more from MWDOC's services which include working to ensure water availability from MET.

During the March 17th meeting, several member agencies proposed Alternative 1B, expressing that historical water use to allocate costs to OCWD may not be appropriate, but that treating OCWD as an "average" agency (e.g., 1/26 share) may be more appropriate. The feedback from stakeholders narrowed the rate alternatives down to two – Alternatives 1A and 1B (summarized in Table 4-5).

Table 4-5: Summary Allocation Methodology for Scenarios 1A/1B

Cost Center		1A - OCWD	1B - OCWD	Allocation to Other Agencies for both Alternatives
11	Administrative - Board	Fixed Charge	Fixed Charge	Number of Agency Meters
12	Administrative - General	Fixed Charge	Fixed Charge	Number of Agency Meters
13	Personnel / Staff Development	Fixed Charge	Fixed Charge	Number of Agency Meters
19	Overhead	Fixed Charge	Fixed Charge	Number of Agency Meters
21	Planning & Resource Development	10 Year Historical Use	Fixed Charge	Number of Agency Meters
22	Research Participation	Fixed Charge	Fixed Charge	Number of Agency Meters
23	Met Issues and Special Projects	10 Year Historical Use	Fixed Charge	Number of Agency Meters
31	Governmental Affairs	Fixed Charge	Fixed Charge	Number of Agency Meters
35	Policy Development	Fixed Charge	Fixed Charge	Number of Agency Meters
32	Public Affairs	Fixed Charge	Fixed Charge	Number of Agency Meters
41	Finance	Fixed Charge	Fixed Charge	Number of Agency Meters
45	Information Technology	Fixed Charge	Fixed Charge	Number of Agency Meters
25	MWDOC's Contribution to WEROC	Not allocated to OCWD	Not allocated to OCWD	Number of Agency Meters
	MWDOC Building Improvements	Fixed Charge	Fixed Charge	Number of Agency Meters

The resulting cost allocations under both scenarios are discussed in the following Section.

5. DERIVATION OF CHARGES

5.1 **CURRENT CHARGES**

FY 2015-16 is MWDOC's final year in its transition to a 100% fixed charge based on the number of retail meters served. As stated in previous sections, OCWD does not have retail meters and is not charged for MWDOC services under the current methodology. Table 5-1 summarizes how MWDOC currently allocates its \$6.69M budget to member agencies for FY 2015-16. The number of meters for each agency with respect to the total number of retail meters District-wide is used to determine a percentage; the percentage is then multiplied by MWDOC's total Core services budget to get each member agency's allocation.

Table 5-1: Summary of Charges for FY 2015-16

Member Agency	Number of Meters (A)	% of Total (B)	Allocation (C) = B × \$6.68M
Brea, City of	12,466	2.00%	\$133,791
Buena Park, City of	18,730	3.04%	\$203,025
East Orange County Water District	20,833	3.38%	\$226,038
El Toro Water District	9,648	1.60%	\$106,699
Fountain Valley, City of	16,711	2.72%	\$182,085
Garden Grove, City of	33,602	5.48%	\$366,263
Golden State Water Company	41,156	6.65%	\$444,459
Huntington Beach, City of	53,085	8.60%	\$575,007
Irvine Ranch Water District	101,807	16.16%	\$1,080,693
La Habra, City of	13,800	2.21%	\$147,951
La Palma, City of	4,347	0.70%	\$47,024
Laguna Beach County Water District	8,648	1.40%	\$93,787
Mesa Water	23,464	3.80%	\$253,890
Moulton Niguel Water District	52,707	8.54%	\$570,916
Newport Beach, City of	26,095	4.23%	\$282,610
Orange, City of	33,053	5.36%	\$358,527
Orange County Water District	0	0.00%	\$0
San Clemente, City of	17,372	2.80%	\$187,271
San Juan Capistrano, City of	11,541	1.84%	\$122,876
Santa Margarita Water District	52,113	8.41%	\$562,497
Seal Beach, City of	5,377	0.87%	\$58,406
Serrano Water District	2,263	0.37%	\$24,510
South Coast Water District	12,063	1.95%	\$130,677
Trabuco Canyon Water District	3,962	0.64%	\$42,868
Westminster, City of	20,181	3.26%	\$218,237
Yorba Linda Water District	24,704	3.99%	\$266,552
Total	619,728	100.0%	\$6,686,659

5.2 **SCENARIO 1A**

Scenario 1A (Step 1) from Section 4.4 utilizes 10 years of historical water usage data to determine OCWD's percentage allocation of Cost Centers 21 and 23. Based on historical water usage data provided by MWDOC, OCWD's historical imported water use is approximately 10.8% of MWDOC sales over the past 10 years, as shown in Table 5-2 below. Therefore 10.8% of cost centers 21 and 23 is allocated to OCWD.

Table 5-2: OCWD Historical Water Purchase and MWDOC Total Sales

Fiscal Year	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Total
OCWD											201 = 11
Total	7,237	42,173	-	-	185	16,772	61,645	24,364	50,707	58,633	261,714
Purchases											
MWDOC	291,568	327,474	224,054	235,056	196,273	204,158	256,315	212,999	240,529	225,508	2,413,933
Total Sales	291,300	327,474	224,034	233,030	190,273	204,130	230,313	212,999	240,323	223,308	2,413,933
OCWD (%)	2.5%	12.9%	0.0%	0.0%	0.1%	8.2%	24.1%	11.4%	21.1%	26.0%	10.84%

For the remaining Cost Centers (all but Cost Centers 21 and 23), 1/26th of each Cost Center is allocated to OCWD. Using OCWD's 10-year historical percentage from Table 5-2 to allocate Cost Centers 21 and 23, and distributing 1/26th of the remaining Cost Centers yields the total cost allocation for OCWD found in Table 5-3. The difference between the total budget amount for each cost center and the costs allocated to OCWD is then allocated to all other member agencies based on the Step 2 methodology.

Table 5-3: Scenario 1A - Allocation to OCWD

Cost Center	Budget Item	FY 2015-16 Budget (A)	% Allocation (B)	OCWD Costs (C)= A × B	Balance (D) = A - C
11	Administrative - Board	\$743,370	3.8%	\$80,595	\$662,775
12	Administrative - General	\$751,674	3.8%	\$81,495	\$670,179
13	Personnel / Staff Development	\$418,009	3.8%	\$16,077	\$401,931
19	Overhead	\$629,110	3.8%	\$24,197	\$604,914
21	Planning & Resource Development	\$1,131,747	10.8%	\$43,529	\$1,088,219
22	Research Participation	\$471,461	3.8%	\$18,133	\$453,328
23	Met Issues and Special Projects	\$304,655	10.8%	\$11,718	\$292,938
31	Governmental Affairs	\$779,267	3.8%	\$29,972	\$749,295
35	Policy Development	\$39,740	3.8%	\$1,528	\$38,212
32	Public Affairs	\$145,864	3.8%	\$5,610	\$140,254
41	Finance	\$563,041	3.8%	\$21,655	\$541,385
45	Information Technology	\$223,827	3.8%	\$8,609	\$215,219
	MWDOC Building Improvements	\$343,087	3.8%	\$13,196	\$329,891
25	MWDOC's Contribution to WEROC	\$141,807	0%10	\$0	\$141,807
	Total	\$6,686,660		\$356,313	\$6,330,346

¹⁰ As discussed in previous sections, OCWD is not charged for any of MWDOC's WEROC costs.

Under Scenario 1A, the remaining balance of \$6.33M is allocated to all other member agencies. The remaining balance is shown in Column D of Table 5-3. Step 2 distributes this balance in proportion to the number of retail meters. Therefore, the same allocation percentage shown in Column B of Table 5-1 are used to determine each agency's allocation. The resulting allocations are determined by multiplying the allocation factor, shown in Column A¹¹, by the balance of \$6.33M, as shown in Table 5-4.

Table 5-4: Scenario 1A - Allocations to Member Agencies

Member Agency	% Allocation (A)	Allocation B = A × \$6.33M	Current Charges From Table 5-1 (C)	Change (\$) (D)	Change (%) (E)
Brea, City of	2.00%	\$126,662	\$133,791	-\$7,129	-5.3%
Buena Park, City of	3.04%	\$192,207	\$203,025	-\$10,819	-5.3%
East Orange County Water District	3.38%	\$213,993	\$226,038	-\$12,045	-5.3%
El Toro Water District	1.60%	\$101,013	\$106,699	-\$5,686	-5.3%
Fountain Valley, City of	2.72%	\$172,382	\$182,085	-\$9,703	-5.3%
Garden Grove, City of	5.48%	\$346,746	\$366,263	-\$19,517	-5.3%
Golden State Water Company	6.65%	\$420,775	\$444,459	-\$23,684	-5.3%
Huntington Beach, City of	8.60%	\$544,366	\$575,007	-\$30,640	-5.3%
Irvine Ranch Water District	16.16%	\$1,023,105	\$1,080,693	-\$57,587	-5.3%
La Habra, City of	2.21%	\$140,067	\$147,951	-\$7,884	-5.3%
La Palma, City of	0.70%	\$44,518	\$47,024	-\$2,506	-5.3%
Laguna Beach County Water District	1.40%	\$88,790	\$93,787	-\$4,998	-5.3%
Mesa Water	3.80%	\$240,361	\$253,890	-\$13,529	-5.3%
Moulton Niguel Water District	8.54%	\$540,494	\$570,916	-\$30,423	-5.3%
Newport Beach, City of	4.23%	\$267,550	\$282,610	-\$15,059	-5.3%
Orange, City of	5.36%	\$339,422	\$358,527	-\$19,105	-5.3%
Orange County Water District	From Step 1	\$356,313	\$0	\$356,313	∞
San Clemente, City of	2.80%	\$177,292	\$187,271	-\$9,979	-5.3%
San Juan Capistrano, City of	1.84%	\$116,329	\$122,876	-\$6,548	-5.3%
Santa Margarita Water District	8.41%	\$532,523	\$562,497	-\$29,974	-5.3%
Seal Beach, City of	0.87%	\$55,293	\$58,406	-\$3,112	-5.3%
Serrano Water District	0.37%	\$23,204	\$24,510	-\$1,306	-5.3%
South Coast Water District	1.95%	\$123,714	\$130,677	-\$6,963	-5.3%
Trabuco Canyon Water District	0.64%	\$40,584	\$42,868	-\$2,284	-5.3%
Westminster, City of	3.26%	\$206,608	\$218,237	-\$11,629	-5.3%
Yorba Linda Water District	3.99%	\$252,348	\$266,552	-\$14,204	-5.3%
Total	100%	\$6,686,660	\$6,686,659	\$0	

5.3 **SCENARIO 1B**

Scenario 1B from Section 4.4 allocates all cost centers for OCWD by dividing all of them by 26, the number of member agencies. Similar to Scenario 1A, costs are first allocated to OCWD based on the Step 1 methodology (3.8% for all Cost Centers). The difference between the total budget amount for each cost center and the costs allocated to OCWD is then allocated to all other member agencies based on the Step 2 methodology. The results are shown in Table 5-5.

¹¹ Restated from column B, Table 5-1

Table 5-5: Scenario 1B - Allocation to OCWD

Cost Center	Budget Item	FY 2015-16 Budget (A)	% Allocation (B)	OCWD Costs C = A × B	Balance D = A - C
11	Administrative - Board	\$743,370	3.8%	\$28,591	\$714,778
12	Administrative - General	\$751,674	3.8%	\$28,911	\$722,764
13	Personnel / Staff Development	\$418,009	3.8%	\$16,077	\$401,931
19	Overhead	\$629,110	3.8%	\$24,197	\$604,914
21	Planning & Resource Development	\$1,131,747	3.8%	\$43,529	\$1,088,219
22	Research Participation	\$471,461	3.8%	\$18,133	\$453,328
23	Met Issues and Special Projects	\$304,655	3.8%	\$11,718	\$292,938
31	Governmental Affairs	\$779,267	3.8%	\$29,972	\$749,295
35	Policy Development	\$39,740	3.8%	\$1,528	\$38,212
32	Public Affairs	\$145,864	3.8%	\$5,610	\$140,254
41	Finance	\$563,041	3.8%	\$21,655	\$541,385
45	Information Technology	\$223,827	3.8%	\$8,609	\$215,219
	MWDOC Building Improvements	\$343,087	3.8%	\$13,196	\$329,891
25	MWDOC's Contribution to WEROC	\$141,807	0%12	\$0	\$141,807
	Total	\$6,686,660		\$251,725	\$6,434,935

Under Scenario 1B, the remaining balance to be allocated to all other member agencies is \$6.43M, as shown in Column D of Table 5-5. Since OCWD is assuming less of MWDOC's costs compared to Scenario 1A, the other member agencies are charged more. The same allocation factors from Column B, Table 5-1 are multiplied by \$6.434M to determine the allocation to the rest of the member agencies, as shown in Table 5-6.

¹² As discussed in previous sections, OCWD is not charged for any of MWDOC's WEROC costs.

Table 5-6: Scenario 1B – Allocations to Member Agencies

Member Agency	% Allocation (A)	Allocation (B) = A × \$6.43M	Current Charges From Table 5-1 ©	Change (\$) (D)	Change (%) (E)
Brea, City of	2.00%	\$128,755	\$133,791	-\$5,037	-3.8%
Buena Park, City of	3.04%	\$195,382	\$203,025	-\$7,643	-3.8%
East Orange County Water District	3.38%	\$217,529	\$226,038	-\$8,509	-3.8%
El Toro Water District	1.60%	\$102,682	\$106,699	-\$4,017	-3.8%
Fountain Valley, City of	2.72%	\$175,230	\$182,085	-\$6,855	-3.8%
Garden Grove, City of	5.48%	\$352,475	\$366,263	-\$13,788	-3.8%
Golden State Water Company	6.65%	\$427,727	\$444,459	-\$16,732	-3.8%
Huntington Beach, City of	8.60%	\$553,360	\$575,007	-\$21,647	-3.8%
Irvine Ranch Water District	16.16%	\$1,040,009	\$1,080,693	-\$40,684	-3.8%
La Habra, City of	2.21%	\$142,381	\$147,951	-\$5,570	-3.8%
La Palma, City of	0.70%	\$45,254	\$47,024	-\$1,770	-3.8%
Laguna Beach County Water District	1.40%	\$90,257	\$93,787	-\$3,531	-3.8%
Mesa Water District	3.80%	\$244,332	\$253,890	-\$9,558	-3.8%
Moulton Niguel Water District	8.54%	\$549,424	\$570,916	-\$21,493	-3.8%
Newport Beach, City of	4.23%	\$271,971	\$282,610	-\$10,639	-3.8%
Orange, City of	5.36%	\$345,030	\$358,527	-\$13,497	-3.8%
Orange County Water District	From Step 1	\$251,725	\$0	\$251,725	∞
San Clemente, City of	2.80%	\$180,221	\$187,271	-\$7,050	-3.8%
San Juan Capistrano, City of	1.84%	\$118,250	\$122,876	-\$4,626	-3.8%
Santa Margarita Water District	8.41%	\$541,321	\$562,497	-\$21,176	-3.8%
Seal Beach, City of	0.87%	\$56,207	\$58,406	-\$2,199	-3.8%
Serrano Water District	0.37%	\$23,587	\$24,510	-\$923	-3.8%
South Coast Water District	1.95%	\$125,758	\$130,677	-\$4,919	-3.8%
Trabuco Canyon Water District	0.64%	\$41,255	\$42,868	-\$1,614	-3.8%
Westminster, City of	3.26%	\$210,021	\$218,237	-\$8,216	-3.8%
Yorba Linda Water District	3.99%	\$256,517	\$266,552	-\$10,035	-3.8%
Total	100%	\$6,686,660	\$6,686,659	\$0	

6. CONCLUSIONS AND RECOMMENDATIONS

RFC and MWDOC solicited stakeholder feedback during each stage of this study. Specifically RFC solicited feedback pertaining to:

- 1) Guiding principle development;
- 2) How each rate structure attained each guiding principle; and
- 3) Rate structure selection.

RFC and MWDOC also sought legal counsel regarding whether or not OCWD should be charged. Legal counsel advised that, since there is a cost associated with serving/working on behalf of OCWD, it should be charged for the services provided to it. This study first allocates costs to OCWD in Step 1 and then allocates remaining costs to the remaining retail agencies in Step 2.

RFC presented a total of five rate structures (discussed in Section 4) to stakeholders throughout this Study. Three of the rate structure alternatives were eliminated, as discussed in Section 4.5, which leaves two scenarios to choose from – Alternatives 1A and 1B. The MWDOC Board has actively participated in this process through a series of presentations and discussions at the A&F Committee meetings. The MWDOC Board of Directors must now select one rate structure for adoption in May 2016. That rate structure will be utilized to allocate the budget costs beginning in FY 2016-17. While RFC believes both scenarios are defensible, comply with Proposition 26, and have broad support from MWDOC and its member agencies, RFC views Alternative 1A as slightly more equitable since it properly accounts more closely for the cost of services provided to OCWD in Step 1 compared to Alternative 1B.

RFC bases its recommendation on research and discussions with MWDOC staff regarding the amount of staff effort spent working on issues that pertain to OCWD. Alternative 1B treats all agencies equally and it would be appropriate if MWDOC staff spent the same amount of time and effort lobbying for/working for each member agency equally. However, RFC finds that MWDOC staff spends more time¹³ (on average) working on OCWD planning, resource development, and MET issues (Cost Centers 21 and 23) than would be implied by equally (1/26) distributing these costs to all member agencies. Therefore, Alternative 1A more accurately reflects the rate setting principles of cost causation – meaning that if a customer or group of customers causes a cost, they should pay those costs, or stated differently, Alternative 1A reasonable and fairly allocates to each of the member agencies the costs of providing MWDOC's services in relationship to each member agency's burdens on, or benefits received from, the services provided by MWDOC.

 $^{^{13}}$ More time is defined as more than (1/26) 3.8% of their time.

7. APPENDIX A

Table A - MWDOC Breakdown of Services/Activities/Costs											
Core Services	Choice Services	Overhead Costs									
Core Services Board Compensation & Benefit Retiree Costs Legal Costs Board Elections Accounting and General Admin MET Representation MET Director Support MET policy analysis, programs and special projects MET operations, water rates and accounting Staff time for MWDOC's Water Use Efficiency Programs Manager Governmental Affairs In-house staff for legislative info WACO, ISDOC and other support Federal lobbyist for countywide funding State lobbyist for countywide legislative, grant funding and policy access Local lobbyist for Board of Supervisors Public Affairs Coordination with MET, other regional and local retailers Basic communications functions-media outreach and inquiries, water information and messaging, MWDOC website MWDOC newsletter (e-currents) Countywide surveys as appropriate Countywide water awareness in coordination with retail agencies Research – support for Center for Demographic Research Water Supply Planning	Choice Services Water Use Efficiency Residential clothes washers Sprinkler nozzles SmarTimers CII Plumbing Fixtures Synthetic Turf Hotel Program Industrial Program Landscape Certification Program Includes marketing materials for WUE activities, staff time, overhead and grant funds (MET and other) Governmental Relations Any project or program legislative or grant support on choice activities – Townsend Public Affairs Specific Programs School program South Orange Coastal Ocean Desal Project Federal lobbying for SOCODP – Barker Federal lobbying for SOCODP – Townsend Support for Poseidon Desal Project Other Project specific studies Non-countywide issue studies	Overhead Costs Salary charged to overhead function (vacation, sick leave and holidays) Personnel development Legal costs charged to overhead function Employee benefits Personnel/staff development Information technology Conference employee Travel & Accommodations employee Automotive/Mileage/Toll Office maintenance Rents & Leases Office supplies Insurance expenses Utilities – telephone Miscellaneous expenses Professional fees for overhead activities Software support Computers/software									
Research – support for Center for Demographic Research	Non-countywide issue studies										



ACTION ITEM

May 18, 2016

TO: Board of Directors

FROM: Administration & Finance Committee

(Directors Thomas, Barbre & Finnegan)

Rob Hunter General Manager

SUBJECT: APPROVAL OF MWDOC'S BUDGET FOR 2016-17

STAFF RECOMMENDATION

Staff recommends the Board of Directors approve the budget as follows:

- 1. Adopt the budget Resolution as proposed, with a budget total of \$153,590,571 (expenses) and a consolidated general fund budget of \$8,914,735 (Revenue).
- 2. The total revenue amount for the consolidated operating budget (CORE + CHOICE) represents an increase of 5.8% (\$490,782).
- 3. The potential election expense is \$592,000 for all four divisions. The budget includes a planned draw on the Election Reserve of approximately \$475,000.
- 4. The building improvements expense is estimated at \$495,000 including a draw on the Building Reserve.
- 5. The total amount of Water Use Efficiency (WUE) outside funding for rebates and grants will decrease from a FY2015-16 budget of approximately \$22.8 million to a proposed budget of almost \$4.3 million. This is directly related to the decrease in the proposed rebate budget at the Metropolitan Water District of Southern California (MET). However, the \$4.3 million is approximately a 16% increase over the FY2014-2015 budget levels.
- 6. The total outside funding from WUE and Local Resource Project (LRP) sources will be approximately \$20.3 million in FY2016-17. This means that MWDOC will be bringing in outside revenue that is approximately 2.2 times its total consolidated operating budget and 2.7 times the CORE budget.
- 7. OPEB will be funded at the annual level pay amount of \$155,000. Combined with the estimates provided in our most recent actuarial evaluation, this level of annual contribution should allow satisfaction of the OPEB liabilities by the year 2023.
- 8. For dealing with the Pension Liability issue, staff is recommending continuation of the practice of increasing the staff contribution towards pension payments by 1% each

- year until a total of 7% has been achieved. This year, the budget was developed assuming the staff contribution is 5%.
- 9. Staffing levels include a marginal increase the total Full-Time Equivalent (FTE) staff by 0.14 FTEs with the total number of full-time MWDOC and WEROC employees increasing from 30 to 31.
- 10. The proposed budget for FY2016-17 incorporates the current 100% fixed rate structure which was implemented for the current fiscal year for the Core Budget, as well as Option A from the Rate Study (OCWD is charged for cost centers 21 and 23 (Planning and Resource Development, Met Issues and Special Projects) by 10-year historical water use (10.8%) and the remaining cost centers are equally divided (1/26) amongst OCWD and the remaining agencies (excluding WEROC).
- 11. The proposed increase in the fixed rate is \$0.10 per retail meter (.92%).
- 12. Significant project activities in FY2015-16 will include:
 - Metropolitan activities and communication of those activities to our Member Agencies including policy issues from the Integrated Resource Plan, groundwater allocation and delivery models, business and investment models, the Carson IRP project, Local Resource Program (LRP) funding, and water reuse and groundwater recharge and storage issues including cyclic storage.
 - Orange County Reliability Study continuing actions
 - Communication outreach programs related to drought, the California Water Fix (Bay Delta) and Met activities
 - Water Use Efficiency efforts on water savings potential and cost-efficient programs
 - Rebuilding the MWDOC website and implementation of communication surveys
 - Government Affairs activities at the local, state and federal level.
- 13. The CHOICE Activities for this year will include:
 - School Program
 - Water Use Efficiency
 - Communications Plan (Public Affairs)
 - Doheny Desal Site Closure
 - Poseidon
 - Water Loss Control Program

A reminder to the Board that Memberships outlined in the Budget (Exhibit D) are approved by the Board with approval of the budget and therefore, each membership will NOT be brought to the Board for approval. Any NEW memberships not included in the budget will be brought to the Board for consideration.

In a similar procedure to Memberships, budget approval includes Board and Staff approval for attendance at "standard conferences". Standard conferences are those included on Exhibits E and F. Any NEW conferences will be brought to the Board for consideration.

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation.

CHANGES FROM THE SECOND DRAFT TO THE CURRENT DRAFT

Changes from the SECOND DRAFT to the CURRENT DRAFT of the Budget include:

- 1. Utilities/Telephone in Cost Center 19 was increased by \$2,100
- 2. Poseidon Desalination Project cost decreased by \$746 (Cost Center 65)
- 3. Pursuant to the Board's direction (at the April 20th Board meeting), Option 1A from the Rate Study was incorporated into the proposed budget.
- 4. The Membership in the California Council on Environmental and Economic Balance (CCEEB) (\$29,500) was left in the Budget. The A&F Committee, as well as the Board, made inquiry as to the nature of this membership, and whether it was a worthwhile entity. It was ultimately decided to leave the membership in the budget and wait for Director Tamaribuchi to return to answer any questions from the Board. If CCEEB membership is not approved, then the draw on reserve funds will be decreased.

DETAILED REPORT

The FY 2016-17 MWDOC budget is developed through a transparent and iterative process. Key topics discussed below include:

- 1. MWDOC Budget Process & Schedule
- 2. Budget Principles
- 3. Budget Input from Member agencies
- 4. MWDOC Priorities & Practices Overview
- 5. Key Initiatives
- 6. Core/Choice Programs
- 7. Reserves
- 8. Water Rates and Charges

A short discussion on each item follows:

1. MWDOC Budget Process & Schedule

MWDOC's budget is developed in a process that begins in December with initial notification of Member Agencies and concludes with the formal budget approval by the Board of Directors in May or June. A budget must be approved prior to the beginning of the fiscal year on July 1st. Feedback from the Member Agency staff indicates a preference for MWDOC to approve rates sooner rather than later to facilitate the costs into the Member Agency budgets and rates. The Metropolitan Water District of Southern California (MET) budget and rate package should be approved by May 12, 2016. The MWDOC general budget schedule is outlined below.

December 2015

• Notification to Member Agencies of start of budget process and solicitation of input.

January 2016

- MWDOC staff begins preparation of budget hours and costs on program and line-item basis.
- Review of five month actuals and fiscal year-end projections.
- Review budget adjustments for current fiscal year.
- Preparation of internal, draft conceptual budget (review changes for upcoming fiscal year).

February 2016

- Initial review of budget issues with A&F Committee for feedback.
- Initial discussion of budget issues with Member Agencies for feedback.
- Request for Member Agencies' preliminary indication of participation in CHOICE Services.

March 2016

- Publish and post the First Draft Budget in the packet for the Administration and Finance (A&F) Committee in early March.
- Review Full Draft Budget with A&F Committee.
- Formally request comments from all Member Agencies.
- DRAFT information completed on prior year WUE benefits to Member Agencies to serve as basis of charging agencies for the upcoming year for WUE activities.
- Member Agencies are to confirm participation in CHOICE Services by March 15. However in practice, this often doesn't occur until the end of April and after Elected Officials meeting.
- Discuss First Draft Budget at Member Agency Managers' Meeting.
- Meet with Member Agencies as requested or scheduled.

April 2016

- FINAL information completed on prior year WUE benefits to Member Agencies to serve as basis of charging agencies for the upcoming year for WUE activities.
- Member Agencies' submit Formal Comments about the Budget before April 15.
- Review Final Draft Budget and MWDOC's rates with Member Agencies.
- Discuss Final Draft Budget at Member Agency Managers' Meeting
- Discuss Final Draft Budget in A&F Committee.
- Conduct meeting with Elected Officials from Member Agencies to discuss budget and other topics before the end of April.
- Confirm CHOICE Participation.

May 2016

- Final Draft Budget and Rates presented to A&F Committee.
- Member Agencies' Formal Comments presented to A&F Committee.
- Discussion at Member Agency Manager's meeting.
- Board approval of FY2016-17 Budget and Rates.

2. MWDOC Budget Principles for 2016-17

Staff continues to utilize several Budget Principles to develop the draft budget including:

- Principle #1: Budget Investments Align with MWDOC's Priorities & Value
 The budget should reflect the mission and goals of MWDOC and align proposed
 activities with the valued benefits of the Board and our stakeholders.
- Principle #2: Activities Based on a County-wide Perspective
 MWDOC's service area extends to the Orange County's borders and the budgeted activities must comprehensively address issues, needs and benefits for the entire county.
- Principle #3: Efficient Program Design & Performance

The budgeted programs must consider complementary and cooperative designs to maximize benefits from other regional and local water resource programs to maximize value.

• Principle #4: Full Cost Recovery

The budget will be developed so as to support full cost recovery of all expenses via the rates and charges without the unplanned use of reserves

• Principle #5: Compliance with Administrative Code & Settlement Agreement
The proposed budget and budget process should fully comply with applicable sections of the code and agreement.

3. Budget Input From Member Agencies

Input has been received from Member Agencies in several forums including MWDOC committee and board meetings, General Manager meetings, the Elected Officials Forum, as well as during presentations and meetings with the agencies' governing bodies. In additions, several letters have been received regarding MWDOC's budget and rates as well as MET's budget and rates. These letters include:

- Santa Margarita Water District (3-18-16) SMWD sent three letters commenting on MWDOC's budget, MWDOC's rate study and MET's budget and rate proposals.
 While supporting MWDOC's budget principles, SMWD desired more specific links between goals and priorities and budget categories and performance metrics. SMWD also emphasized the coordination between MWDOC communication team and the Member Agencies.
- Mesa Water District (3-21-16) Mesa Water's letter focused on MWDOC's rate study.

- Moulton Niguel Water District (3-28-16) MNWD's letter outlined their positions on options from MWDOC's rate study.
- Trabuco Canyon Water District (3-29-16) Trabuco Canyon's letter dealt with MWDOC's budget and information presented on cost centers. While stating that the program cost centers provide a means of communicating the value of MWDOC's services, TCWD requested that the data reported in the budget be expanded to include five years of budget and actual expenses.
- City of Brea (3-30-16) The City of Brea's letter made comments on MWDOC's rate study.
- South Orange County Agencies (3-29-16) This letter represents comments from ten Member Agencies from South Orange County (City of San Clemente, City of San Juan Capistrano, El Toro Water District, Emerald Bay Service District, Irvine Ranch Water District, Laguna Beach County Water District, Moulton Niguel Water District, Santa Margarita Water District, South Coast Water District and Trabuco Canyon Water District). Their letter addresses the MWDOC rate study.
- Orange County Water District (4-5-16) OCWD submitted a letter that commented on MET's proposed treatment fixed charge, their priorities at MET (allocation rules & inlieu storage programs), and MWDOC's budgeting for follow-up studies from the OC Reliability Study.
- City of Seal Beach (4-20-16) The City of Seal Beach's letter made comments on MWDOC's rate study

4. Priorities & Practices Overview

Key priorities and practices include MWDOC's major areas of concentration:

- Metropolitan as a main source of reliability
- Regional Reliability and the OC Water Reliability Study
- Water Use Efficiency (WUE)
- Water Emergency Response
- Communications
- Government Affairs

These are discussed below.

Metropolitan Water District of Southern California (MET)

MWDOC's number one effort remains ensuring that policies, supplies, programs and projects developed and implemented by MET have significant value to the citizens and ratepayers in Orange County and to Southern California.

 MET is key to providing and underwriting SUPPLY reliability and regional SYSTEM reliability in Southern California. Many of MWDOC's initiatives are aimed at maintaining a close working relationship with MET and other MET member agencies to guide the efforts at MET in a constructive manner; in the best interest of the region and Orange County. Key issues will include IRP policy discussions, allocations, reliability, the California Water Fix, and communication of activities and positions to MWDOC stakeholders.

- MWDOC appoints four MET directors who sit on the MET Board and directly advocate issues. These four MET directors work with the other three directors from Orange County (Anaheim, Fullerton, Santa Ana) and directors from outside of Orange County. Our Orange County MET contingent and the overall MET Board are faced with ensuring the economic health of MET which directly impacts the economic health for Orange County, the region and the State. To this end, our directors have advocated for financial issues at MET to ensure its viability over the long run, appropriate levels of reserves, and financial policies that minimize and level long-term costs and rates impacts. Over the past year, the advocacy of our MET directors has resulted in MET significantly improving its position with respect to pension liability, OPEB liability, investments in rehabilitation and repair of facilities and in incorporating future long term investments such as the BDCP while remaining strong financially.
- MWDOC will continue its involvement in the lawsuit between SDCWA and MET, as
 well as other litigation. The outcome is critically important to Orange County and our
 involvement in the litigation is to ensure the taxpayers and ratepayers of Orange
 County are fully represented.
- The current year involved an update to MET's Integrated Resources Plan (IRP), the first update since 2010. The IRP is the Region's Roadmap to Reliability, combining both local supplies and imported supplies to meet total Southern California demands over the next 20 years. MWDOC dovetailed the MET IRP process with the work on the OC Reliability Study. Both efforts highlight the importance of the California Water Fix in the Bay Delta to meeting future water demands for Southern California and Orange County. Questions also remain on how reliability will be achieved in California and Southern California over the next 20 years or so until the CA Water Fix comes on-line. Other key issues are climate variability and how this will affect our ability to store water in wet years for use in dry years and how we might collectively plan to meet demands in Southern California if the San Andreas Fault simultaneously interrupted the Colorado River Aqueduct and the State Water Project.

Regional Water Reliability and the OC Water Reliability Study

The improvement of water supply and system reliability is key for the ratepayers and citizens of the County and is of primary concern in MWDOC's budget. Reliability cannot be improved by OC investments alone and it is imperative that our reach in this area is both local and regional to MET and DWR. This current year included Phase 1 of the OC Water Reliability Study with excellent participation by our Member Agencies. Phase 2 will be completed in FY2015-16 with the clear definition of alternative project portfolios to meet future demand. The goals for the OC Water Reliability Study are:

 To understand Orange County's current and future situation with respect to WATER SUPPLY and SYSTEM RELIABILITY issues

- 2. Develop and provide information towards prioritization and decision-making for reliability improvements in Orange County
- Involve/engage the large stakeholder group in the process of improving SUPPLY and SYSTEM reliability
- 4. To foster actions that produce quantifiable reliability improvements in Orange County that are timely and cost-effective

In FY2016-17 MWDOC anticipates a series of studies to further analyze, facilitate and implement specific projects to increase supply and system reliability in Orange County.

Water Use Efficiency (WUE)

Sound water management policy requires a continuing effort to improve water use efficiency. This requirement is intensified by the continuing drought conditions. Providing the technical expertise and the program support along with securing funds for water use efficiency efforts is a priority for MWDOC and our Member Agencies. The initial MET budget indicates significantly lower funding for WUE rebates next year. However the anticipated WUE outside funding is expected to be 16% greater than in FY2014-15. The WUE group also has a continuing project on assessing and correcting distribution system water loss.

Water Emergency Response

MWDOC made significant changes towards the preparedness of the Water Emergency Response Organization of Orange County (WEROC) this past year to improve and strengthen the state of readiness to assist in a time of emergency. WEROC will pursue further changes this coming year to enhance response efforts and to seek additional funding options for improved resilience across the county. WEROC did secure grants for both fuel trailers and for generator connection cables to allow added flexibility when sharing generators from agency to agency. Additional recommended actions are anticipated as an outcome of the OC Reliability Study.

Communication

Communications to our citizens, in coordination with our member agencies, is a key part of MWDOC's efforts. Communication with our Member Agencies is equally important. Communication related to critical water resource issues, water supply and system reliability, and water resource projects and investments are all essential elements of the Communications Plan. To maximize both effectiveness and efficiency MWDOC is working with our member agencies on coordinated communication efforts. MWDOC generally provides program efforts at the regional level and above while providing necessary assistance to the retail agencies for communications with the local ratepayers. This division of responsibilities is a key area of coordination on behalf of MWDOC. Crucial issues in the coming year will be water use efficiency, the drought, SWQCB emergency regulations and performance, Bay Delta discussions, and regional reliability.

Government Affairs

Governmental Affairs continues to work at the local, state and national levels with our Member Agencies, organizations, delegations, agencies and bureaus to advance Orange County's agenda. Central to this effort are not only funding opportunities such as Prop1 but also policy legislative and regulatory developments and opportunities. In FY2016-17 there will be tremendous activity in the legislative session in Sacramento for water issues. On the Federal level, a California and Western States water bill is still active and Federal action on permits for the California Water Fix is crucial. MWDOC will be increasing efforts on the regulatory and executive branch organizations in the coming year. This is reflected in the addition of the California Council for Environmental & Economic Balance (CCEEB) to the budget.

5. MWDOC Key Initiatives

Besides the items previously discussed above, the key initiatives from staff for 2016-17 that are included in the budget include:

- MWDOC's first priority is the management, assessment and leadership of MET issues. Continue to work closely with MET on rate/stability issues, support for the Bay-Delta, completion of the IRP policy review and management of water in Southern California, especially since water allocations from MET may continue for next fiscal year. The discussion and resolution of potential business models for source project ownership and/or investment will be significant developments. The drought and water management issues it brings will likely remain at the fore-front as a short-term priority. Long-term, the California Water Fix, property investments and water purchases and exchanges are important issues.
- Advance projects and portfolios from the OC Water Reliability Study. The OC Water Reliability Study will be completed in the current fiscal year. It is too early to predict the exact nature of the spin-off efforts from the Study work, however, staff will seek to provide sufficient budget to accommodate whatever work efforts may arise, which could include:
 - o A conjunctive use program between OCWD and South Orange County
 - Consideration of ocean desalination
 - Consideration of central valley banking and transfers
 - Support for additional recycling, Indirect Potable Reuse and Direct Potable Reuse planning
 - Improvements to respond to emergency outages
 - Work with MET and DWR on Emergency Colorado River and State Water Project Outages
 - Examination of additional investments in WUE to reduce demands
 - Sharing of supplies and resources within the County
 - On-going work with OCWD on basin issues

- A key element is to obtain concurrence for the introduction and conveyance of local water in the East Orange County Feeder No. 2 (EOCF#2). This has never been done, but when accomplished opens up a number of options for Orange County.
- Continue to examine opportunities for local or regional reliability via banking programs.
- Continue with implementation of the Water Use Efficiency Master Plan including methods to firm up local funding options for local agencies. Begin integrating recycled water use into Water Use Efficiency programs by accelerating recycled water connections through customer incentives.
 - Secure MET funding; over the past several years, MWDOC has brought in about \$4 million annually for WUE funding. Last year MET funding to MWDOC for WUE was almost \$21 million. This year funding will return to normal levels. Identification and procurement of funding for OC will be a greater emphasis. Our WUE staff continues to perform for the benefit of OC.
 - Conduct a Turf Removal Rebate Program water savings evaluation to establish an OC based water savings metric
 - o Engage with the SWRCB regarding Drought Regulations
 - Develop a methodology for implementation of "efficiency targets" as a way of measuring how we are doing and examining the potential for future savings from investments in WUE
- Continue to expand drought response assistance to Member Agencies and customers. This includes understanding the implications of the water supply situation, continuing MET allocations, and the SWRQB emergency regulations and how to manage local issues including the development of key messages, input to MET on their key messages, coordination of messages internal to the County and the Choice Communications Program.
- The Choice Communications Program is an ongoing, adaptive program to work with our Member Agencies to target both immediate and long-term issues. Previously, the Value of Water Communications Plan was a long-term effort designed to engage, educate and inform Orange County residents and businesses of the value water service provides. The value of reliable water service includes building support for local projects, repair and replacement programs and water rate increases. In addition, one of the core elements of this plan was to improve public trust and credibility. Changing public perception and sentiment as well as instilling public trust is a long-term effort. These communication needs are occurring against a backdrop of reduced consumption with the drought, raising rates, aging infrastructure, regulatory changes, and competition for resources. This is all the more critical with the erosion of trust caused by the Flint, Michigan events.

Last year the program, implemented as a Choice program, was significantly modified to provide coordinated messaging on the drought and emergency conservation

regulations. Among other activities, this included weekly, full-page information pieces in the OC Register.

This coming year, the Choice Communications Program will provide a menu of options for our Member Agencies which will include message points relative to the drought and allocation situation as well as the core messages from the Value of Water project including rates.

- Public Affairs activities increase focus on a few critical areas. MWDOC will implement a major upgrade of our website in FY2016-17. The current website is not functional for some mobile devices and iPads.
- MWDOC's renewed efforts on Government Affairs will focus on funding and regulatory programs at the state and federal level. We are accelerating efforts with the Orange County and California delegations and select Committee Members to marshal support, funding and beneficial modifications for national programs. At the state level, significant efforts will be made in tracking and obtaining funding opportunities for Orange County projects. A large volume of legislation is already evident which will require actions to either support or oppose.
- The State Water Resources Control Board's expanding role in state water management and regulation will be matched with an increased effort by Government Affairs work with the regulatory agencies.
- Government Affairs will also coordinate with other water organizations on a local and statewide basis including WACO, ISDOC, ACWA, and CCEEB.
- Protect MWDOC and local agency interests in MET via continued participation in the SDCWA lawsuit against MET.
- Participate in other water-related lawsuits, as appropriate, in support of our Member agencies and the residents of Orange County.
- Continue to seek areas of efficiency in the District's operations.
- The renewed effort for WEROC this past year will continue. It includes the enhanced training program for MWDOC staff to ensure sufficient support staff exists and is fully cross-trained to staff both a North and South Emergency Operations Centers and to search for more grant funding for resiliency improvements in the County. Again this coming year, each of the MWDOC staff members will participate in about 40 hours of training to help WEROC remain at a high state of readiness. Also, in this coming year, the grants for fuel trailers and generator cabling to allow connections to differing types of electrical transfer switches will be completed. Both of these improvements should improve our resiliency in the County. Also, the outcome of the OC Water Reliability Study SYSTEM evaluation should result in proposals for further improvements in the County resiliency in dealing with earthquakes or other events and allow us to seek further grant funding.

- Promoting Orange County positions in the policy formation based on the MET Update
 of its Integrated Resources Plan. Work from the OC Water Reliability Study
 positioned us well to provide input into the IRP process. This activity will continue in
 the policy discussions being initiated now. Topics are likely to include MET business
 model discussions including investments in supply projects like the Carson IRP
 project, as well as LRP funding policy and decisions, modifications to allocation
 policies and procedures, and MET's groundwater policies (cyclic storage program).
- Tracking progress on the California Water Fix and education of local officials.
- Review of staffing levels and succession planning issues.

6. Choice Programs for 2016-17

The Choice Programs for 2015-16 include:

- Water Use Efficiency Will continue to access MET WUE funding and grants from other sources for implementation programs for OC.
- School Program The current contracts for the school program will continue with program modifications where appropriate. The grade school program will be run in conjunction with the Discovery Science Center with the keypad program for all of the assembly programs in grades 1-6. The High School program is completing the first year under contract with the County's Inside the Outdoors program. As planned, the success and performance of the first year is being assessed and program modifications and improvements are anticipated for the second year.
- Choice Communications Plan Given the continuation of the drought, MET allocations and the State Water Board emergency drought regulations, it is anticipated that this program will be implemented at a higher funding level than last year. A menu of possible activities will be presented to the Member Agencies for evaluation and subscription.
- Doheny Desal 2008 –Limited funding remains from the 2008 Participation
 Agreement to fund the State Lease and electrical costs of the facility. The group of
 five Participants has made a decision to close out the existing facilities. Funds in
 the amount of \$356,000 have been retained for the removal effort. Contractor bids
 will be solicited for the removal with construction activities starting in the fall of
 2016.
- Poseidon While there will be extensive activity regarding the Poseidon project in the coming year, it is unclear whether the working group will reconvene.
- Water Loss Control Program The first year of this program which makes technical assistance on water loss audits, investigations, and corrective actions continues until the end of the calendar year. Continuation of the program on a Choice basis is anticipated.

7. MWDOC's Reserve Funds

The MWDOC Reserve Policy includes the following categories:

- General District
- Cash Flow
- Election Expense
- Building Expense
- OPEB Reserves

General District Reserves:

The General District Reserves were set at \$1.85 million as of July 1, 2010 and increase by the inflation rate each year. In FY2016-17 the target reserve balance will be \$2,058,963. The general district reserve balance will be above target but is being utilized for planned expenditures. The result of the planned activities will be to reduce the General District Reserve to support the Building Reserve.

Cash Flow Reserve:

Cash flow reserves were set at \$1.00 million in 2010 and this amount is reviewed from time to time for appropriateness, based on the District's current operational needs. Due to the tremendous increase in WUE rebates, the cash flow reserve was increased to \$1.5 million in the FY2015-16 budget.

Election expense:

MWDOC's election reserve is managed to fund seven elections every four years. Based on previous election costs, we have determined that \$1.04 million (or \$148,000 per division) is sufficient to cover seven elections. This requires that \$260,000 be contributed to the election reserve annually. In FY2016-17 MWDOC's budget draws on the existing election reserves of approximately \$450,000 to partially meet the potential election expense of \$592,000 for four division seats.

Building Expense Reserve:

MWDOC's Building Reserves were set in 2010 to be kept at a minimum of \$350,000 and adjusted from time to time to reflect the improvement needs of the office facility.

- Staff has working with OCWD and others on estimates of the costs involved for a number of projects, which include:
 - Completion of the replacement of Boiler, Chiller and Energy Management System that serves both the MWDOC and the OCWD
 - Security system improvements
 - IT Fire Suppression System
 - o Office Improvements including building space and office furniture
 - Renovation of office roof for future years

Overall, these costs are estimated at about \$495,000 in expenses next year.

The FY2016-17 budget plans to draw down the Building Reserve both this year and next year.

OPEB Reserve:

In managing MWDOC's OPEB liability, the Board has taken the following actions:

- Employees hired after July 1, 2012 are not eligible to receive District-paid retiree and elective health and welfare benefits. This will substantially reduce future OPEB costs after dealing with the existing employees who qualified for the prior benefits.
- The Board has requested that staff examine options for accelerating the payoff of the OPEB liability by increased annual payments.
- Based on the July 1, 2014 actuarial, it is recommended that the Board set a payment schedule of \$155,000 per year to fully fund by 2013.
- The July 2014 actuarial we received on January 8, 2015 shows a reduced liability with a minimum payment of \$120,820 which should fully fund the liability in ten years (or by 2023). We have decided to maintain our annual payment at \$155,000 which should fully fund the liability before 2023.

8. Water Rates and Charges

Historically, MWDOC's revenue towards funding of its Core Budget has been derived from charges associated with a retail meter charge (fixed) and a water volume increment charge (variable). Beginning in 2015-16, MWDOC's Core Budget was supported ONLY by the retail meter charge and in FY2016-17 MWDOC is proposing a retail meter charge along with a ground water customer charge which is the result of a rate study done in the first half of 2016.

The total amount of revenue from water sales also includes charges to cover the cost of MET water purchases and MET's associated charges. The proposed Total Water Sales for FY2016-17 are \$139,755,385.

For FY 2016-17 the proposed Retail Meter Charge is \$10.95.

For FY 2016-17 the proposed Ground Water Customer Charge is \$392,666.

The rate structure has been changed as a result the ongoing rate study. This third draft budget includes the preliminary recommendation of the Board to adopt Option 1A from the rate study. Any changes made by the Committee will be made for the final Board vote.

Attachments:

Attached hereto is the detailed budget for this coming year.

RESOLUTION NO. _____ MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

APPROVING AND ESTABLISHING THE MWDOC BUDGET FOR FISCAL YEAR 2016-2017 INCLUDING THE RESERVE FUND, GENERAL FUND, WATER FUND, WATER USE EFFICIENCY FUND, WEROC FUND, AMP FUND, AND DEBT SERVICE FUND

BE IT RESOLVED by the Board of Directors of Municipal Water District of Orange County that the Budget for financing the District's operations for Fiscal Year 2016-2017, as recommended, be and the same is hereby adopted as follows:

General Fund Budget (Inclusive of Expenses funded by Reserves)	\$9,246,417
Water Purchases Budget	139,755,385
Water Use Efficiency Budget	4,263,730
WEROC Budget	300,780
AMP Budget	19,505
AMP Sales Proceeds Distribution Budget	4,746
Total Budget Resolution	\$153,590,571

Upon Board approval and the adoption of the Budget and rate resolutions, the General Manager will expend, under District policy, such budgeted amounts as necessary for the purposes identified in the Budget for the Municipal Water District of Orange County.

Said Resolution was adopted, on roll call, by the following vote:

BSENT: BSTAIN:
hereby certify the foregoing is a full, true and correct copy of Resolution No, by the Board of Directors of Municipal Water District of Orange County at its meeting May 18, 2016.

Maribeth Goldsby, Secretary Municipal Water District of Orange County

AYES: NOES:



Annual Budget for Fiscal Year 2016-17

Final Budget

(Option 1A)

MWDOC's mission is:

To provide reliable, high-quality supplies from MWD and other sources to meet present and future needs, at an equitable and economical cost, and to promote water use efficiency for all of Orange County

Exhibit A2 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS CORE FUND

	FY 2015-2016 ADOPTED BUDGET	FY 2015-2016 PROJECTED ACTUALS	VARIANCE ACTUALS TO BUDGET	FY 2016-2017 PROPOSED BUDGET	VARIANCE TO PROJECTED ACTUALS	VARIANCE TO FY 2015-2016 BUDGET
OPERATING EXPENSES:						
Salaries & Wages	\$ 2,811,451	\$ 2,423,718	\$ (387,733)	\$ 2,943,115	1 \$ 519,397	\$ 131,664
less for Recovery from Grants	\$ -	\$ -	\$ -	\$ -	-	0
Employee Benefits	738,389	714,105	(24,284)	834,890	120,785	96,501
Director Compensation	220,588	179,118	(41,470)	231,937	52,819	11,349
Director Benefits	60,024	69,420	9,396	66,297	(3,123)	6,273
MWD Representation	126,050	117,155	(8,895)	132,535	15,380	6,485
OPEB Annual Contribution	105,188	180,906	75,718	105,249	(75,657)	61
Overhead Reimbursement	(223,770)	(214,800)	8,969	(193,712)	21,088	30,058
Health Insurance Coverage for Retirees	50,387	45,530	(4,857)	50,326	4,796	(61)
Audit Expense	23,000	23,000	-	24,000	1,000	1,000
Automotive & Toll Road Expenses	14,775	13,900	(875)	14,928	1,028	153
Conference Expense - Staff	19,450	19,000	(450)	22,125	3,125	2,675
Conference Expense - Directors	9,800	9,200	(600)	10,725	1,525	925
Engineering Expense	300,000	430,918	130,918	405,000	(25,918)	105,000
Insurance Expense	96,000	85,000	(11,000)	90,000	5,000	(6,000)
Legal Expense - General	355,000	280,000	(75,000)	320,000	40,000	(35,000)
Maintenance Expense	126,670	124,000	(2,670)	123,185	(815)	(3,485)
Membership / Sponsorship	103,961	98,906	(5,055)	134,458	35,552	30,497
CDR Participation	39,740	39,740	-	39,972	232	232
Miscellaneous Expense	104,170	95,175	(8,995)	111,020	15,845	6,850
Postage / Mail Delivery	11,285	10,300	(985)	11,400	1,100	115
Professional Fees	785,278	544,600	(240,678)	698,178	153,578	(87,100)
Rents & Leases	19,000	19,000	-	7,000	(12,000)	(12,000)
Outside Printing, Subscription & Books	48,620	19,320	(29,300)	38,225	18,905	(10,395)
Office Supplies	29,400	31,000	1,600	38,280	7,280	8,880
Building Repair & Maintenance	11,000	9,500	(1,500)	11,000	1,500	0
Computer Maintenance	7,100	7,100	-	10,000	2,900	2,900
Business Expense	6,800	5,100	(1,700)	6,000	900	(800)
Software Support & Expense	52,500	52,500	-	77,300	24,800	24,800
Computers and Equipment	21,150	21,500	350	32,500	11,000	11,350
Telecommunications Expense	15,650	15,950	300	19,200	3,250	3,550
Temporary Help Expense	_	1,260	1,260	-	(1,260)	-
Training Expense	18,000	6,000	(12,000)	12,000	6,000	(6,000)
Tuition Reimbursement	5,000	-	(5,000)	5,000	5,000	-

Exhibit A2 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS CORE FUND

	4	Y 2015-2016 ADOPTED BUDGET	PI	Y 2015-2016 ROJECTED ACTUALS	VARIANCE CTUALS TO BUDGET	Y 2016-2017 PROPOSED BUDGET	PF	ARIANCE TO ROJECTED ACTUALS	F١	ARIANCE TO 7 2015-2016 BUDGET
OPERATING EXPENSES: continued										
Travel & Accommodations - Staff		56,510		57,000	490	71,130		14,130		14,620
Travel & Accommodations - Directors		27,600		26,000	(1,600)	38,250		12,250		10,650
MWDOC's Contribution to WEROC		141,807		141,807	0	150,390		8,583		8,583
Capital Acquisition (excluding building)		6,000		34,357	28,357	62,500		28,143		56,500
NORMAL OPERATING EXPENSES	\$	6,343,573	\$	5,736,284	\$ (607,289)	\$ 6,754,403	\$	1,018,119	\$	410,830
MWDOC's Building Expense	\$	400,000	\$	400,000	\$ -	\$ 495,000	\$	95,000	\$	95,000
Election Expense		-		-	-	592,000		592,000		592,000
TOTAL EXPENSES	\$	6,743,573	\$	6,136,284	\$ (607,289)	\$ 7,841,403	\$	1,705,119	\$	1,097,830
REVENUES:										
Retail Meter Charge	\$	6,687,322	\$	6,687,322	\$ -	\$ 6,786,865	\$	99,543	\$	99,543
Ground Water Customer Charge		-		-	-	392,666		392,666		392,666
Water Increment Charge		-		-	-	-		-		0
Interest Revenue		117,675		104,000	(13,675)	123,000		19,000		5,325
Miscellaneous Income		3,000		3,000	-	3,000		-		0
Inter Fund In		-		-	-	-		-		0

EFFECT ON RESERVES:						
TOTAL CONTRIBUTION (DRAW) FROM RESERVES	\$ 64,423	\$ 658,037	\$ 593,614	\$ (535,873)	\$ (1,193,910)	\$ (600,296)

\$ 6,794,322

\$

(13,675) \$ 7,305,530

\$

511,209

\$

497,534

\$ 6,807,997

TOTAL REVENUES

- Election Reserve \$475,000

¹ Total Salaries & Wages includes \$34,010 for intern support

² Total Benefits includes \$3,665 for intern support

² Includes a \$65,000 lump sum payment (CALPERS unfunded Liability)

Total Benefits assumes a Calpers contribution for full time employees of 10.88% for legacy classic employees, 8.88% for classic employees and 6.555% for PEPRA Calpers employees. A further assumption is that medical, dental and vision insurance rates will increase by 8% for calendar year 2017.

³ Major Planned Reserve draws:

Exhibit A3 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS CHOICE FUNDS

	А	2015-2016 DOPTED BUDGET	PR	2015-2016 OJECTED CTUALS	4	VARIANCE ACTUALS TO BUDGET	PF	2016-2017 ROPOSED BUDGET	VARIANCE TO PROJECTED ACTUALS		VARIANCE TO FY 2015-2010 BUDGET	
OPERATING EXPENSES:												
Salaries & Wages	\$	498,498	\$	497,148	,	\$ (1,350)	\$	501,505	1 \$	4,357	\$	3,007
less for Recovery from Grants	\$	(23,500)	\$	(28,487)	•	\$ (4,987)	\$	(31,600)	1	(3,113)		(8,100)
Employee Benefits		124,680		132,706		8,025		133,269	2	563		8,589
Director Compensation		-		-		-		-		-		-
Director Benefits		-		-		-		-		-		-
MWD Representation		-		-		-		-		-		-
OPEB Annual Contribution												
Overhead Reimbursement		223,770		214,800		(8,969)		193,712		(21,088)		(30,058
Health Insurance Coverage for Retirees		-		-		-		-		-		-
Audit Expense		-		-		-		-		-		-
Automotive & Toll Road Expenses		-		-		-		-		_		-
Conference Expense - Staff				1		-		-		-		-
Conference Expense - Directors		-		-		-		-		-		-
Engineering Expense		-		-		-		-		-		-
Insurance Expense		-		-		-		-		-		-
Legal Expense - General		-		-		-		-		-		-
Maintenance Expense		-		-		-		-		-		-
Membership / Sponsorship		-		-		-		-		-		-
CDR Participation		-		-		-		-		-		-
Miscellaneous Expense		12,500		7,250		(5,250)		13,500		6,250		1,000
Postage / Mail Delivery				1		-		-		-		-
Professional Fees		756,559		1,094,813		338,254		798,819		(295,994)		42,260
Rents & Leases		-		-		-		-		-		-
Outside Printing, Subscription & Books		23,450		19,250		(4,200)		-		(19,250)		(23,450
Office Supplies		-		-		-		-		-		-
Computer Maintenance		-		-		-		-		-		-
Software Support & Expense						-		-		-		-
Telecommunications Expense		-				-		-		-		-
Computers and Equipment		-				-		-		-		-
Temporary Help Expense		-		-		-		-		-		-
Training Expense		-		-		-		-		-		-
Tuition Reimbursement		-		-		-		-		-		-

Exhibit A3 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS CHOICE FUNDS

	FY 2015-2016 ADOPTED BUDGET	FY 2015-2016 PROJECTED ACTUALS	VARIANCE ACTUALS TO BUDGET	FY 2016-2017 PROPOSED BUDGET	VARIANCE TO PROJECTED ACTUALS	VARIANCE TO FY 2015-2016 BUDGET
OPERATING EXPENSES: continued	-	-		-		
Travel & Accommodations - Staff	-	-		-	-	-
Travel & Accommodations - Directors	-	-	-	-	-	-
Capital Acquisition (excluding building)	-	-		-	-	-
TOTAL EXPENSES	\$ 1,615,957	\$ 1,937,480	\$ 321,523	\$ 1,609,205	\$ (328,275)	\$ (6,752)

REVENUES:						
Choice Revenue	1,615,957	1,937,480	321,523	1,609,205	(328,275)	(6,752)
TOTAL REVENUES	\$ 1,615,957	\$ 1,937,480	\$ 321,523	\$ 1,609,205	\$ (328,275)	\$ (6,752)

[☐] Total Salaries & Wages includes \$69,282 for intern support

² Total Benefits includes \$7,691 for intern support

Total Benefits assumes a Calpers contribution for full time employees of 10.88% for legacy classic employees, 8.88% for classic employees and 6.555% for PEPRA Calpers employees. A further assumption is that medical, dental and vision insurance rates will increase by 8% for calendar year 2017.

Exhibit A4 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS CONSOLIDATED

	FY 2015-2016 ADOPTED BUDGET	FY 2015-2016 PROJECTED ACTUALS	VARIANCE ACTUALS TO BUDGET	FY 2016-2017 PROPOSED BUDGET	VARIANCE TO PROJECTED ACTUALS	VARIANCE TO FY 2015-2016 BUDGET
OPERATING EXPENSES:						
Salaries & Wages	\$ 3,309,949	\$ 2,920,866	\$ (389,083)	\$ 3,444,620[1\$ 523,754	\$ 134,671
less for Recovery from Grants	\$ (23,500)	\$ (28,487)	\$ (4,987)	\$ (31,600)	(3,113)	(8,100)
Employee Benefits	863,069	846,811	(16,258)	968,159 [[]	121,348	105,090
Director Compensation	220,588	179,118	(41,470)	231,937	52,819	11,349
Director Benefits	60,024	69,420	9,396	66,297	(3,123)	6,273
MWD Representation	126,050	117,155	(8,895)	132,535	15,380	6,485
OPEB Annual Contribution	105,188	180,906	75,718	105,249	(75,657)	61
Overhead Reimbursement	-	-	-	-	-	0
Health Insurance Coverage for Retirees	50,387	45,530	(4,857)	50,326	4,796	(61)
Audit Expense	23,000	23,000	-	24,000	1,000	1,000
Automotive & Toll Road Expenses	14,775	13,900	(875)	14,928	1,028	153
Conference Expense - Staff	19,450	19,000	(450)	22,125	3,125	2,675
Conference Expense - Directors	9,800	9,200	(600)	10,725	1,525	925
Engineering Expense	300,000	430,918	130,918	405,000	(25,918)	105,000
Insurance Expense	96,000	85,000	(11,000)	90,000	5,000	(6,000)
Legal Expense - General	355,000	280,000	(75,000)	320,000	40,000	(35,000)
Maintenance Expense	126,670	124,000	(2,670)	123,185	(815)	(3,485)
Membership / Sponsorship	103,961	98,906	(5,055)	134,458	35,552	30,497
CDR Participation	39,740	39,740	-	39,972	232	232
Miscellaneous Expense	116,670	102,425	(14,245)	124,520	22,095	7,850
Postage / Mail Delivery	11,285	10,300	(985)	11,400	1,100	115
Professional Fees	1,541,837	1,639,413	97,577	1,496,997	(142,416)	(44,840)
Rents & Leases	19,000	19,000	-	7,000	(12,000)	(12,000)
Outside Printing, Subscription & Books	72,070	38,570	(33,500)	38,225	(345)	(33,845)
Office Supplies	29,400	31,000	1,600	38,280	7,280	8,880
Building Repair & Maintenance	11,000	9,500	(1,500)	11,000	1,500	0
Computer Maintenance	7,100	7,100	-	10,000	2,900	2,900
Business Expense	6,800	5,100	(1,700)	6,000	900	(800)
Software Support & Expense	52,500	52,500	-	77,300	24,800	24,800
Computers and Equipment	21,150	21,500	350	32,500	11,000	11,350
Telecommunications Expense	15,650	15,950	300	19,200	3,250	3,550
Temporary Help Expense	-	1,260	1,260	-	(1,260)	-
Training Expense	18,000	6,000	(12,000)	12,000	6,000	(6,000)
Tuition Reimbursement	5,000	-	(5,000)	5,000	5,000	-

Exhibit A4 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS CONSOLIDATED

	Α	2015-2016 DOPTED BUDGET	PI	Y 2015-2016 ROJECTED ACTUALS	AC	VARIANCE CTUALS TO BUDGET	FY 2016-2017 PROPOSED BUDGET	PI	ARIANCE TO ROJECTED ACTUALS	F١	ARIANCE TO 2015-2016 BUDGET
OPERATING EXPENSES: continued		-		-							
Travel & Accommodations - Staff		56,510		57,000		490	71,130		14,130		14,620
Travel & Accommodations - Directors		27,600		26,000		(1,600)	38,250		12,250		10,650
MWDOC's Contribution to WEROC		141,807		141,807		0	150,390		8,583		8,583
MWDOC's Contribution to Desalination		-		-		-	-		-		-
Expenses billed to AMP, WFC				-		-	•		1		-
Election Expense		-		-		-	-		-		-
Capital Acquisition (excluding building)		6,000		34,357		28,357	62,500		28,143		56,500
NORMAL OPERATING EXPENSES	\$	7,959,530	\$	7,673,764	\$	(285,766)	\$ 8,363,608	\$	689,844	\$	404,078
MWDOC's Building Expense	\$	400,000	\$	400,000	\$	-	\$ 495,000	\$	95,000	\$	95,000
Election Expense		-		-		-	592,000		592,000		592,000
TOTAL EXPENSES	\$	8,359,530	\$	8,073,764	\$	(285,766)	\$ 9,450,608	\$	1,376,844	\$	1,091,078

REVENUES:						
Retail Meter Charge	\$ 6,687,322	\$ 6,687,322	\$ -	\$ 6,786,865	\$ 99,543	\$ 99,543
Ground Water Customer Charge	1	-	ı	392,666	392,666	392,666
Water Increment Charge	-	-	ı	-	-	0
Interest Revenue	117,675	104,000	(13,675)	123,000	19,000	5,325
Miscellaneous Income	3,000	3,000	-	3,000	-	0
Inter Fund In	-	-	-	-	-	0
Choice Revenue	1,615,957	1,937,480	321,523	1,609,205	(328,275)	(6,752)
TOTAL REVENUES	\$ 8,423,954	\$ 8,731,802	\$ 307,848	\$ 8,914,735	\$ 182,933	\$ 490,782

EFFECT ON RESERVES:				3		
TOTAL CONTRIBUTION (DRAW) FROM RESERVES	\$ 64,423	\$ 658,037	\$ 593,614	\$ (535,873)	\$ (1,193,910)	\$ (600,296)

¹ Total Salaries & Wages includes \$103,292 for intern support

² Total Benefits includes \$11,356 for intern support

² Includes a \$65,000 lump sum payment (CALPERS unfunded Liability)

Total Benefits assumes a Calpers contribution for full time employees of 10.88% for legacy classic employees, 8.88% for classic employees and 6.555% for PEPRA Calpers employees. A further assumption is that medical, dental and vision insurance rates will increase by 8% for calendar year 2017.

³ Major Planned Reserve draws:

⁻ Election Reserve \$475,000

Exhibit A5 SUMMARY OF REVENUES AND EXPENSES BY LINE ITEMS WATER FUND

	FY 2015-2016 ADOPTED BUDGET	FY 2015-2016 PROJECTED ACTUALS	,	VARIANCE ACTUALS TO BUDGET	FY 2016-2017 PROPOSED BUDGET	VARIANCE TO PROJECTED ACTUALS	VARIANCE TO FY 2015-2016 BUDGET
Water Revenues							
Water Sales	\$ 154,475,665	\$ 139,405,612	\$	(15,070,053)	\$ 137,953,560	\$ (1,452,052)	\$ (16,522,105)
Local Resource Program Incentives	(15,450,587)	\$ (15,546,984)		(96,397)	(16,071,858)	(524,874)	(621,271)
Readiness-To-Serve Charge	13,214,277	12,636,123		(578,154)	12,674,093	37,971	(540,184)
Capacity Charge	4,424,460	4,627,125		202,665	4,829,790	202,665	405,330
Tier 2 Contingency	_			-	-	-	-
Interest Revenue - CC				-		-	-
Interest Revenue - Tier 2 Cont.	2,900	4,600		1,700	4,800	200	1,900
SCP Operation Surcharge	380,000	362,512		(17,488)	365,000	2,488	(15,000)
TOTAL WATER REVENUES	\$ 157,046,715	\$ 141,488,987	\$	(15,557,728)	\$ 139,755,385	\$ (1,733,602)	\$ (17,291,330)
Water Expenses							
Water Purchases	\$ 154,475,665	\$ 139,405,612	\$	(15,070,053)	\$ 137,953,560	\$ (1,452,052)	\$ (16,522,105)
Local Resource Program Incentives	(15,450,587)	\$ (15,546,984)		(96,397)	(16,071,858)	(524,874)	(621,271)
Readiness-To-Serve Charge	13,214,277	12,636,123		(578,154)	12,674,093	37,971	(540,184)
Capacity Charge	4,424,460	4,627,125		202,665	4,829,790	202,665	405,330
Tier 2 Surcharge	-			-	-	-	-
SCP Operation Surcharge	380,000	362,512		(17,488)	365,000	2,488	(15,000)
TOTAL WATER EXPENSES	\$ 157,043,815	\$ 141,484,387	\$	(15,559,428)	\$ 139,750,585	\$ (1,733,802)	\$ (17,293,230)
Changes to Fund Balance:							
Capacity Charge	\$ -	\$ -	\$	-	\$ -	\$ -	\$ -
Tier 2 Contingency	\$ 2,900	\$ 4,600	\$	1,700	\$ 4,800	\$ 200	\$ 1,900

Exhibit A6 SUMMARY OF FUNDING AND EXPENSES For All Water Use Efficiency Programs

	FY 2015-2016 ADOPTED BUDGET	FY 2015-2016 PROJECTED ACTUALS	VARIANCE ACTUALS TO BUDGET	FY 2016-2017 PROPOSED BUDGET	VARIANCE TO PROJECTED ACTUALS	VARIANCE TO FY 2015-2016 BUDGET
Funding						
Metropolitan Water District	\$ 18,519,094	\$ 20,915,190	\$ 2,396,096	\$ 823,323	\$ (20,091,868)	\$ (17,695,771)
USBR	380,548	401,757	21,209	368,788	(32,969)	(11,760)
DWR	305,829	1,228,730	922,901	1,145,602	(83,128)	839,773
Member Agencies	3,511,734	2,629,129	(882,605)	1,877,025	(752,104)	(1,634,709)
MWDOC	49,000	2,054	(46,946)	49,000	46,946	0
						0
TOTAL OUTSIDE FUNDING	\$ 22,766,204	\$ 25,176,860	\$ 2,410,656	\$ 4,263,738	\$ (20,913,122)	\$ (18,502,467)
Program Expenses Funded from Outsi	de Sources					
Project Administration - Staff Time	\$ 14,000	\$ 21,638	\$ 7,638	\$ 9,920	\$ (11,718)	\$ (4,080)
Consultant Administration	142,420	62,588	(79,833)	118,900	56,313	(23,520)
Monitoring and Evaluation	121,947	10,633	(111,314)	22,056	11,423	(99,891)
Installation Verification	148,592	216,456	67,865	62,190	(154,266)	(86,402)
Rebate Incentives	22,140,474	24,743,911	2,603,438	4,016,075	(20,727,836)	(18,124,398)
Surveys and Audits	185,475	114,018	(71,457)	33,500	(80,518)	(151,975)
Databasing	1,097	616	(481)	1,097	481	0
Marketing and Outreach	10,575	7,000	(3,575)	0	(7,000)	(10,575)
Engineering Assistance	1,626	0	(1,626)	0	0	(1,626)
TOTAL PROGRAMS EXPENSES	\$ 22,766,204	\$ 25,176,860	\$ 2,410,656	\$ 4,263,738	\$ (20,913,122)	\$ (18,502,467)

Exhibit B Expenditures by Program

Cost Center	PROGRAM	FY 2015-2016 BUDGET FTE	FY 2016-2017 BUDGET FTE	FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
11	Administrative - Board	1.78	1.97	\$ 1,131,747		\$ 1,264,229
12	Administrative - General	2.92	2.62	471,461		541,237
13	Personnel / Staff Development	1.48	1.42	304,655		286,546
19	Overhead	3.64	3.53	779,267		1,204,533 ^{[3}
21	Planning & Resource Development	3.71	3.78	743,370		816,876
22	Research Participation	0.00	0.00	39,740		39,972
23	Met Issues and Special Projects	4.06	4.68	751,674		907,844
31	Governmental Affairs	0.84	1.18	418,009		479,535
35	Water Use Efficiency (Core)	0.39	0.58	145,864		171,239
32	Public Affairs	3.40	2.90	629,110		571,671
41	Finance	3.23	3.18	563,041		521,660
45	Information Technology	1.06	1.00	223,827		285,672
25	MWDOC's Contribution to WEROC 1	2.00	2.00	141,807		150,390
	CORE TOTAL	28.50	28.82	\$ 6,343,573		\$ 7,241,403
62	Water Use Efficiency Program	6.23	6.48	899,925		928,798
63	School Programs	0.07	0.15	295,049		358,691
67	Outreach	0.55	0.19	177,645		277,300
64	Foundational Action - Doheny Desal	0.10	0.00	136,983		-
65	Poseidon Desal	0.00	0.00	45,162		44,416
69	2008 Fund - Doheny Desal	0.04	0.00	31,194		<u>-</u>
68	2014 Fund - Doheny Desal	0.00	0.00	30,000		-
	CHOICE TOTAL	7.00	6.82	\$ 1,615,957		\$ 1,609,205
	CORE & CHOICE TOTAL	35.50	35.64	\$ 7,959,530		\$ 8,850,608
Includes:	Full-time employees WEROC Full-time employee Part-time employees Interns	28.00 2.00 2.22 3.28	29.00 2.00 1.68 2.96			

TETE accounts for WEROC, Manager Kelly Hubbard and 1 full time employee. Total cost of WEROC is allocated among MWDOC, OCWD, OCSD, Anaheim, Santa Ana, Fullerton, and South Orange County Wastewater Authority. Dollars shown are MWDOC's share only

² Includes Net Revenue Requirement for Elections.

³ Includes Net Revenue Requirement for Building Expense.

Municipal Water District of Orange County 2016-2017 FISCAL MASTER PLAN PROJECTIONS

(in thousands)

Projected ACTUALS FY15-16	BUDGET FY16-17	FY17-18	FISCAL MAS	STER PLAN PF FY19-20	ROJECTIONS FY20-21	1 FY21-22
\$4,783 93	\$ 5,454 106	\$ 4,931 119	\$ 5,092 139	\$ 4,987 158	\$ 5,507 182	\$ 5,700 205
4,690	5,348	4,812	4,953	4,829	5,325	5,495
]						
6,687					,	7,757 444
6,687	7,180	7,347	7,704	8,032	8,142	8,202
1,937	1,609	1.649	1.691	1.733	1.776	1,821
104	123	131	133	158	193	225
3	3	3	3	3	3	3
2,044	1,735	1,783	1,827	1,894	1,973	2,049
8,732	8,915	9,130	9,530	9,926	10,115	10,250
7						
⊐ 5,702	6,692	6,915	7,144	7,323	7,506	7,693
1,937	1,609	1,649	1,691	1,733	1,776	1,821
34	63	20	20	20	20	20
7,674	8,364	8,585	8,855	9,076	9,302	9,534
1,058		546	675	850	813	716
		-	260	76	336	4
		260		260		260
		200		200		004
4/5	-	260	76	336	4	264
500	350	225	119	185	350	340
250	370	299	421	520	40	60
400	495	405	355	355	50	50
350	225	119	185	350	340	350
						_
	1,500	1,500	1,500	1,500	1,500	1,500
			1,000	1,000		
1,500						1,555
	\$4,783 93 4,690 6,687 - 6,687 1,937 104 3 2,044 8,732 5,702 1,937 34 7,674 1,058 215 260 475	FY15-16 FY16-17 \$4,783 \$ 5,454 93 106 4,690 5,348 6,687 6,787 - 393 6,687 7,180 1,937 1,609 104 123 3 3 2,044 1,735 8,732 8,915 5,702 6,692 1,937 1,609 34 63 7,674 8,364 1,058 551 215 475 260 117 - 592 475 - 500 350 250 370 400 495 350 225	FY15-16 FY16-17 FY17-18 \$4,783 \$ 5,454 \$ 4,931 93 106 119 4,690 5,348 4,812 6,687 6,787 6,945 - 393 402 6,687 7,180 7,347 1,937 1,609 1,649 104 123 131 3 3 3 2,044 1,735 1,783 8,732 8,915 9,130 5,702 6,692 6,915 1,937 1,609 1,649 34 63 20 7,674 8,364 8,585 1,058 551 546 215 475 - 260 117 260 - 592 475 - 260 475 - 260 475 - 260 400 495 405 350 <t< td=""><td>FY15-16 FY16-17 FY17-18 FY18-19 \$4,783 \$ 5,454 \$ 4,931 \$ 5,092 93 106 119 139 4,690 5,348 4,812 4,953 6,687 6,787 6,945 7,291 - 393 402 413 6,687 7,180 7,347 7,704 1,937 1,609 1,649 1,691 104 123 131 133 3 3 3 3 3 2,044 1,735 1,783 1,827 8,732 8,915 9,130 9,530 5,702 6,692 6,915 7,144 1,937 1,609 1,649 1,691 34 63 20 20 7,674 8,364 8,585 8,855 1,058 551 546 675 215 475 - 260 260 117 260 <td< td=""><td>FY15-16 FY16-17 FY17-18 FY18-19 FY19-20 \$4,783 93 \$ 5,454 106 \$ 4,931 119 \$ 5,092 139 \$ 4,987 158 4,690 5,348 4,812 4,953 4,829 6,687 6,787 - 393 6,945 402 7,291 413 7,609 423 1,937 1,609 104 1,649 133 1,691 133 1,733 133 158 3 3 3 3 3 3 3 3 3 3 2,044 1,735 1,783 1,827 1,894 8,732 8,915 9,130 9,530 9,926 5,702 6,692 6,915 1,649 1,691 1,733 1,733 34 7,144 7,323 7,323 1,897 1,609 1,649 1,691 1,733 1,733 34 63 20 20 20 7,674 8,364 1,058 8,585 551 8,855 500 9,076 675 850 215 475 260 - 260 260 76 260 260 260 260 260 225 370 299 421 444 520 444 475 250 355 355 350 350 225 119 1185 350 350</td><td>FY15-16 FY16-17 FY17-18 FY18-19 FY19-20 FY20-21 \$4,783 \$ 5,454 \$ 4,931 \$ 5,092 \$ 4,987 \$ 5,507 93 106 119 139 158 182 4,690 5,348 4,812 4,953 4,829 5,325 6,687 6,787 6,945 7,291 7,609 7,709 - 393 402 413 423 433 6,687 7,180 7,347 7,704 8,032 8,142 1,937 1,609 1,649 1,691 1,733 1,76 104 123 131 133 158 193 3 1,926 10,115 1,973 1,760 1,</td></td<></td></t<>	FY15-16 FY16-17 FY17-18 FY18-19 \$4,783 \$ 5,454 \$ 4,931 \$ 5,092 93 106 119 139 4,690 5,348 4,812 4,953 6,687 6,787 6,945 7,291 - 393 402 413 6,687 7,180 7,347 7,704 1,937 1,609 1,649 1,691 104 123 131 133 3 3 3 3 3 2,044 1,735 1,783 1,827 8,732 8,915 9,130 9,530 5,702 6,692 6,915 7,144 1,937 1,609 1,649 1,691 34 63 20 20 7,674 8,364 8,585 8,855 1,058 551 546 675 215 475 - 260 260 117 260 <td< td=""><td>FY15-16 FY16-17 FY17-18 FY18-19 FY19-20 \$4,783 93 \$ 5,454 106 \$ 4,931 119 \$ 5,092 139 \$ 4,987 158 4,690 5,348 4,812 4,953 4,829 6,687 6,787 - 393 6,945 402 7,291 413 7,609 423 1,937 1,609 104 1,649 133 1,691 133 1,733 133 158 3 3 3 3 3 3 3 3 3 3 2,044 1,735 1,783 1,827 1,894 8,732 8,915 9,130 9,530 9,926 5,702 6,692 6,915 1,649 1,691 1,733 1,733 34 7,144 7,323 7,323 1,897 1,609 1,649 1,691 1,733 1,733 34 63 20 20 20 7,674 8,364 1,058 8,585 551 8,855 500 9,076 675 850 215 475 260 - 260 260 76 260 260 260 260 260 225 370 299 421 444 520 444 475 250 355 355 350 350 225 119 1185 350 350</td><td>FY15-16 FY16-17 FY17-18 FY18-19 FY19-20 FY20-21 \$4,783 \$ 5,454 \$ 4,931 \$ 5,092 \$ 4,987 \$ 5,507 93 106 119 139 158 182 4,690 5,348 4,812 4,953 4,829 5,325 6,687 6,787 6,945 7,291 7,609 7,709 - 393 402 413 423 433 6,687 7,180 7,347 7,704 8,032 8,142 1,937 1,609 1,649 1,691 1,733 1,76 104 123 131 133 158 193 3 1,926 10,115 1,973 1,760 1,</td></td<>	FY15-16 FY16-17 FY17-18 FY18-19 FY19-20 \$4,783 93 \$ 5,454 106 \$ 4,931 119 \$ 5,092 139 \$ 4,987 158 4,690 5,348 4,812 4,953 4,829 6,687 6,787 - 393 6,945 402 7,291 413 7,609 423 1,937 1,609 104 1,649 133 1,691 133 1,733 133 158 3 3 3 3 3 3 3 3 3 3 2,044 1,735 1,783 1,827 1,894 8,732 8,915 9,130 9,530 9,926 5,702 6,692 6,915 1,649 1,691 1,733 1,733 34 7,144 7,323 7,323 1,897 1,609 1,649 1,691 1,733 1,733 34 63 20 20 20 7,674 8,364 1,058 8,585 551 8,855 500 9,076 675 850 215 475 260 - 260 260 76 260 260 260 260 260 225 370 299 421 444 520 444 475 250 355 355 350 350 225 119 1185 350 350	FY15-16 FY16-17 FY17-18 FY18-19 FY19-20 FY20-21 \$4,783 \$ 5,454 \$ 4,931 \$ 5,092 \$ 4,987 \$ 5,507 93 106 119 139 158 182 4,690 5,348 4,812 4,953 4,829 5,325 6,687 6,787 6,945 7,291 7,609 7,709 - 393 402 413 423 433 6,687 7,180 7,347 7,704 8,032 8,142 1,937 1,609 1,649 1,691 1,733 1,76 104 123 131 133 158 193 3 1,926 10,115 1,973 1,760 1,

¹ Assumptions for FMP:

Inflation factor: Rate of return on Investment of portfolio:

2.50% per year 1.25% per year

Total Core Expenses

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	2,811,451	2,423,718	2,943,115
	S & W Reimb. DSC or Recov from Grants	-	-	-
6090	Directors Compensation - MWDOC	220,588	179,118	231,937
6095	Directors Compensation - MWD	126,050	117,155	132,535
6105	Benefits - Admin	738,389	714,105	834,890
	OPEB Annual Contribution	105,188	180,906	105,249
	Overhead Reimbursement	(223,770)	(214,800)	(193,712)
6115	Benefits - Directors	60,024	69,420	66,297
6120	Health Insurance Coverage for Retirees	50,387	45,530	50,326
6205	Training	18,000	6,000	12,000
6210	Tuition Reimbursement	5,000	-	5,000
6220	Temporary Help	-	1,260	-
7010	Engineering - Outside Services	300,000	430,918	405,000
7020	Legal - General	355,000	280,000	320,000
7030	Audit	23,000	23,000	24,000
7040	Other Professional Fees	785,278	544,600	698,178
7047	Prof Service-Grant Recovery	-	-	-
7110	Conference - Employee	19,450	19,000	22,125
7115	Conference - Directors	9,800	9,200	10,725
7150	Travel & Accommodations - Employee	56,510	57,000	71,130
7155	Travel & Accommodations - Director	27,600	26,000	38,250
7210	Membership / Sponsorship	103,961	98,906	134,458
7250	CDR Participation	39,740	39,740	39,972
7305	Business Expense	6,800	5,100	6,000
7310	Office Maintenance	126,670	124,000	123,185
7315	Building Repair & Maintenance	11,000	9,500	11,000
7320	Rents & Leases	19,000	19,000	7,000
7330	Office Supplies	29,400	31,000	38,280
7340	Postal / Mail Delivery	11,285	10,300	11,400
7350	Subscriptions / Books	2,060	1,800	2,000
7360	Reproduction Expense	46,560	17,520	36,225
7410	Computer & Peripherals Maint	7,100	7,100	10,000
7430	Software Purchase	18,500	18,500	31,300
7440	Software Support	34,000	34,000	46,000
7450	Software Development	-	-	-
7510	Site Maintenance	_	_	_
7540	Computers and Equipment	21,150	21,500	32,500
7580	Maintenance Expense	-	-	-
7610	Automotive / Mileage	13,500	13,200	13,828
7615	Toll Road Charges	1,275	700	1,100
7620	Insurance Expense	96,000	85,000	90,000
7640	Utilities - Telephone	15,650	15,950	19,200
7650	Bank Fees	17,900	10,000	10,500
7670	Miscellaneous Expenses	86,270	85,175	100,520
8410	Overhead Reimbursement	-	-	-
8610	Depreciation Expense	_	_	_
8810	Capital Acquisition	6,000	34,357	62,500
	Total Expenditure	6,201,766	5,594,477	6,604,013
<u> </u>	MWDOC's Contribution to WEROC	141,807	141,807	150,390
	MWDOC's Election Expense	_	-	592,000
	MWDOC's Building Expense	400,000	400,000	495,000
	-	6,743,573	6,136,284	7,841,403
	-	. ,	· ,	· · ·

Total Choice Revenue and Expense

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
	Choice Revenue	1,302,618	1,353,183	1,494,789
4205	School Contracts	70,000	70,000	70,000
4705	Prior Year Carry Over	243,290	61,194	44,416
		-	-	-
	Choice billing over/under	49	97,103	-
		-	-	-
		-	-	-
		-	356,000	-
		-	-	-
	Total Revenue	1,615,957	1,937,480	1,609,205

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	498,498	497,148	501,505
	S & W Reimb. DSC or Recov from Grants	(23,500)	(28,487)	(31,600)
6090	Directors Compensation - MWDOC	-	-	-
6095	Directors Compensation - MWD	-	-	_
6105	Benefits - Admin	124,680	132,706	133,269
	Overhead Reimbursement	223,770	214,800	193,712
6115	Benefits - Directors	-	-	-
6120	Health Insurance Coverage for Retirees	-	-	_
6205	Training	-	-	_
6210	Tuition Reimbursement	-	-	_
6220	Temporary Help	_	_	_
7010	Engineering - Outside Services	_	_	_
7020	Legal - General	_	_	_
7030	Audit	_ 1	_	_
7040	Other Professional Fees	499,159	794,813	463,330
7010	Other Professional Fees - School Programs	257,400	300,000	335,489
7110	Conference - Employee	-	-	-
7115	Conference - Directors	_	_	
7150	Travel & Accommodations - Employee	_	_	
7155	Travel & Accommodations - Director	_	_	
7210	Membership / Sponsorship			
7210	CUWA Participation	_	_	
7240	AWWARF Participation			
7250	CDR Participation			
7310	Office Maintenance	_	-	
7320	Rents & Leases	-	-	
7330	Office Supplies	_		
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense	23.450	19.250	
7410	Computer & Peripherals Maint	20,400	10,200	
7430	Software Purchase			
7440	Software Support	_	-	
7450	Software Development	_		
7510	Site Maintenance	-	-	
7540	Computers and Equipment		-	
7580	Maintenance Expense		-	
7610	Automotive / Mileage	- -	-	<u> </u>
7615	Toll Road Charges		-	
7620	Insurance Expense	-	-	
7640	Utilities - Telephone			
7650	Bank Fees	 		
7670	Miscellaneous Expenses	12,500	7,250	13,500
8410	Overhead Reimbursement	12,500	1,230	13,300
8610	Depreciation Expense	-	-	-
8710	Election Expenses	- +	-	-
8810	Capital Acquisition	-	-	
0010		- 4 045 057	- 4 007 400	4 000 005
	Total Expenditure	1,615,957	1,937,480	1,609,205

Total Core and Choice Expenses

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	3,309,949	2,920,866	3,444,620
	S & W Reimb. DSC or Recov from Grants	(23,500)	(28,487)	(31,600)
6090	Directors Compensation - MWDOC	220,588	179,118	231,937
6095	Directors Compensation - MWD	126,050	117,155	132,535
6105	Benefits - Admin	863,069	846,811	968,159
	OPEB Annual Contribution	105,188	180,906	105,249
	Overhead Reimbursement	-	-	-
6115	Benefits - Directors	60,024	69,420	66,297
6120	Health Insurance Coverage for Retirees	50,387	45,530	50,326
6205	Training	18,000	6,000	12,000
6210	Tuition Reimbursement	5,000	-	5,000
6220	Temporary Help	-	1,260	-
7010	Engineering - Outside Services	300,000	430,918	405,000
7020	Legal - General	355,000	280,000	320,000
7030	Audit	23,000	23,000	24,000
7040	Other Professional Fees	1,284,437	1,339,413	1,161,508
	Other Professional Fees - School Programs	257,400	300,000	335,489
7047	Prof Service-Grant Recovery	-	-	-
7110	Conference - Employee	19,450	19,000	22,125
7115	Conference - Directors	9,800	9,200	10,725
7150	Travel & Accommodations - Employee	56,510	57,000	71,130
7155	Travel & Accommodations - Director	27,600	26,000	38,250
7210	Membership / Sponsorship	103,961	98,906	134,458
7250	CDR Participation	39,740	39,740	39,972
7305	Business Expense	6,800	5,100	6,000
7310	Office Maintenance	126,670	124,000	123,185
7315	Building Repair & Maintenance	11,000	9,500	11,000
7320	Rents & Leases	19,000	19,000	7,000
7330	Office Supplies	29,400	31,000	38,280
7340	Postal / Mail Delivery	11,285	10,300	11,400
7350	Subscriptions / Books	2,060	1,800	2,000
7360	Reproduction Expense	70,010	36,770	36,225
7410	Computer & Peripherals Maint	7,100	7,100	10,000
7430	Software Purchase	18,500	18,500	31,300
7440	Software Support	34,000	34,000	46,000
7450	Software Development	-	-	-
7510	Site Maintenance	-	-	-
7540	Computers and Equipment	21,150	21,500	32,500
7580	Maintenance Expense	-	-	-
7610	Automotive / Mileage	13,500	13,200	13,828
7615	Toll Road Charges	1,275	700	1,100
7620	Insurance Expense	96,000	85,000	90,000
7640	Utilities - Telephone	15,650	15,950	19,200
7650	Bank Fees	17,900	10,000	10,500
7670	Miscellaneous Expenses	98,770	92,425	114,020
8410	Overhead Reimbursement	-		-
8610	Depreciation Expense	-	-	-
8810	Capital Acquisition	6,000	34,357	62,500
	Total Expenditure	7,817,723	7,531,957	8,213,218
		, , ,	, ,	, , -

 MWDOC's Contribution to WEROC
 141,807
 141,807
 150,390

 MWDOC's Election Expense
 592,000

 MWDOC's Building Expense
 400,000
 400,000
 495,000

 8,359,530
 8,073,764
 9,450,608

Administrative - Board

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010 Salari	Salaries & Wages - Admin		201,740	263,608
6090 Direct			179,118	231,937
			117,155	132,535 2
6105 Benef	its - Admin	62,720	56,134	71,508
6115 Benef	its - Directors	60,024	69,420	66,297
	Insurance Coverage for Retirees			
6205 Traini	ng			
6210 Tuition	n Reimbursement			
6220 Temp	orary Help			
7010 Engin	eering - Outside Services			
7020 Legal	- General	320,000	260,000 3	285,000
7030 Audit				
7040 Other	Professional Fees			
7110 Confe	rence - Employee			
	rence - Directors	9,800	9,200	10,725
7150 Trave	& Accommodations - Employee			
7155 Trave	& Accommodations - Director	27,600	26,000	38,250
7210 Memb	ership / Sponsorship	25,040	23,181	25,040
7250 CDR	Participation			_
7310 Office	Maintenance			
7320 Rents	& Leases			
7330 Office	Supplies			
7340 Posta	/ Mail Delivery	4,500	3,500	4,500
7350 Subso	riptions / Books			
7360 Repro	duction Expense			
7410 Comp	uter & Peripherals Maint			
7430 Softwa	are Purchase			
7440 Softwa	are Support			
7450 Softwa	are Development			
7510 Site M	laintenance			
7540 Comp	uters and Equipment			
7580 Mainte	enance Expense			
7610 Auton	notive / Mileage	9,300	9,500	9,828
7615 Toll R	oad Charges	700	450	700
7620 Insura	nce Expense			
7640 Utilitie	s - Telephone	1,150	950	1,100
7650 Bank				
7670 Misce	llaneous Expenses	5,100	7,500	6,200
8410 Overh	ead Reimbursement			-
8610 Depre	ciation Expense			
8810 Capita	al Acquisition			
	Expenditure	1,131,747	963,847	1,147,229

1&2 Based on 5% increase from Jan to June 2016.

3	Best, Best & Krieger Aleshire & Wynder	\$ \$	231,965 28,035
		\$	260,000
4	Best, Best & Krieger	\$	260,000
	Aleshire & Wynder	\$	25,000

\$ 285,000

- 5 See Exhibit F.
- 6 LAFCO Annual Assessment See Exhibit D.
- 7 Misc board expenses (supplies)

MWDOC's Election Expense 592,000 1,131,747 963,847 1,739,229

Administrative - General 12

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	260,773	248,570	208,804
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	56,852	63,151	58,591
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help		1,260	-
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees			72,900
7110	Conference - Employee	19,450	19,000	22,125
7115	Conference - Directors			
7150	Travel & Accommodations - Employee	56,510	57,000	71,130
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship	62,791	62,581	93,287 3
7250	CDR Participation			
7305	Business Expense	6,800	5,100	6,000
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books	2,060	1,800	2,000
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense	4.000	0.700	4.000
7610	Automotive / Mileage	4,200	3,700	4,000 400
7615	Toll Road Charges	575	250	400
7620	Insurance Expense			
7640 7650	Utilities - Telephone Bank Fees			
	Miscellaneous Expenses	1.450	2 500	2,000
7670	·	1,450	3,500	2,000
8410 8610	Overhead Reimbursement Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
0010		474.404	46E 040	E44 227
	Total Expenditure	471,461	465,912	541,237

1 See Exhibit J.

2 See Exhibit E.

3 See Exhibit D.

Personnel / Staff Development

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					1		
		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET			
6010	Salaries & Wages - Admin	163,771	168,441	168,504			
6090	Directors Compensation - MWDOC						
6095	Directors Compensation - MWD				1	1 • Staff Technical Training & Leadership	
6105	Benefits - Admin	46,134	49,834	49,292		Development Training	
6115	Benefits - Directors						
6120	Health Insurance Coverage for Retirees						
6205	Training	18,000	6,000	12,000	1		
6210	Tuition Reimbursement	5,000	-	5,000			
6220	Temporary Help					2 Best, Best & Krieger	\$ 35,000
7010	Engineering - Outside Services			_	L		
7020	Legal - General	35,000	20,000	35,000	2		
7030	Audit						
7040	Other Professional Fees	25,000	-	_	1		
7110	Conference - Employee						
7115	Conference - Directors						
7150	Travel & Accommodations - Employee				1		
7155	Travel & Accommodations - Director				1		
7210	Membership / Sponsorship						
7250	CDR Participation				1		
7310	Office Maintenance				1	3 • Employee Recognition program	\$ 1,500
7320	Rents & Leases					 Applicant Background Checks 	\$ 2,400
7330	Office Supplies					 Team Building, Lunch meetings 	\$ 1,500
7340	Postal / Mail Delivery					Holiday Lunch	\$ 2,400
7350	Subscriptions / Books				1	OCWD Health Fair	\$ 100
7360	Reproduction Expense					Employee Flu Shots	\$ 250
7410	Computer & Peripherals Maint					 Job Ads Recruting 	\$ 3,800
7430	Software Purchase				1	 TAD Executive Assesments 	\$ 4,800
7440	Software Support						\$ 16,750
7450	Software Development						
7510	Site Maintenance						
7540	Computers and Equipment						
7580	Maintenance Expense						
7610	Automotive / Mileage						
7615	Toll Road Charges						
7620	Insurance Expense						
7640	Utilities - Telephone]		
7650	Bank Fees						
7670	Miscellaneous Expenses	11,750	12,000	16,750	3		
8410	Overhead Reimbursement				Γ		
8610	Depreciation Expense				1		
8710	Election Expenses				1		
8810	Capital Acquisition]		
	Total Expenditure	304,655	256,275	286,546	1		

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET	
6010	Salaries & Wages - Admin	404.418	312,142	399.696	
6090	Directors Compensation - MWDOC	,	¥ 1, 1 1		
6095	Directors Compensation - MWD				
6105	Benefits - Admin	105,189	90.991	111.408	
6109	OPEB Annual Contribution	105,188	180,906	105,249	
6111	Overhead Reimbursement from Choice	(223,770)	(214,800)	(193,712)	
6115	Benefits - Directors	(===,::=)	(=::,:::)	(100,110)	1 Retirees:
6120	Health Insurance Coverage for Retirees	50,387	45,530	50,326	" ,
6205	Training		,		T
6210	Tuition Reimbursement				
6220	Temporary Help				2 • Pension Plan administration by
7010	Engineering - Outside Services				Dissinger Associates \$ 4,2
7020	Legal - General				Cafeteria Plan Wageworks \$ 1,96
7030	Audit				6.10
7040	Other Professional Fees	5.800	5.900	6,100 2	4
7110	Conference - Employee	0,000	0,000	0,100 [2	- T
7115	Conference - Directors				
7150	Travel & Accommodations - Employee				
7250	CDR Participation		1		
7310	Office Maintenance	126,670	124,000	123,185	3
7310	Building Repair & Maintenance	11.000	9.500	11.000	3 • Site maintenance and receptionist
7313	Rents & Leases	19,000	19,000	7,000	"
7320	Office Supplies	29,400	31,000	38,280	• Plant Maintenance \$ 2,70
7340			6,800	6,900	41
7340	Postal / Mail Delivery Subscriptions / Books	6,785	0,800	6,900	4
7360		2,400	2,100	9.000	Binding Machine Renewal Solution
7410	Reproduction Expense	2,400	2,100	9,000	Carpet Cleaning \$ 1,20 A 100 44
7410	Computer & Peripherals Maint Software Purchase				\$ 123,18
7440					
7440	Software Support Software Development				
7450 7510	Site Maintenance				4 Incor Manustain
					4 • Iron Mountain \$ 6,00
7540	Computers and Equipment				• El Toro Water District \$ 1,00
7580	Maintenance Expense				(South EOC site)
7610	Automotive / Mileage				\$ 7,00
7615	Toll Road Charges	00.000	05.000	00.000	
7620	Insurance Expense	96,000	85,000	90,000	5 • Misc equipment repairs, fees etc.
7640	Utilities - Telephone	14,500	15,000	18,100	
7650	Bank Fees	17,900	10,000	10,500	6 • RICOH Copier Machine
7670	Miscellaneous Expenses	8,400	7,000	8,000	5
8410	Overhead Reimbursement				7 • Office Furniture/Displays
8610	Depreciation Expense				
8710	Election Expenses				8 • Entrance area lighting \$ 5,00
8810	Capital Acquisition		30,000		• Atrium Landscaping 30,0
	Total Expenditure	779,267	760,069	834,533	Security system improvements \$ 25,00
	MWDOC's Building Expense (8811)	400,000	400,000	495,000	Office Improvements \$ 100,00 HVAC Completion, Chillers, Boilers, Controls \$ 265,00
	3()	1,179,267	1,160,069	1,329,533	• IT Fire Suppression \$ 70,00
			,,	,,	\$ 495.00

Planning and Resource Development 21

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	481,564	380,062	486,651
6012	Salaries & Wages - Reimb. from Grants	-		-
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	114,806	109,463	125,725
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services	140,000	196,000	2 197,500
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees			
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses	7,000	6,925	7,000
8410	Overhead Reimbursement	.,500	3,320	.,550
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	743,370	692,450	816,876

- Includes general consulting, reliability of MET, conjunctive use, climate change and value of being reliable.
- 2 Over budget portion funded via the use of carry over funds from FY14-15.

Research Participation

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin			
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin			
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees			
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship			
7250	CDR Participation	39,740	39,740	39,972
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	39,740	39,740	39,972

 Center for Demographic Research at Cal State University Fullerton \$ 39,972

Met Issues and Special Projects

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	466,513	419,152	544,550
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	125,162	125,146	155,794
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220 7010	Temporary Help Engineering - Outside Services	160,000	224 040	4 207 500
7010	Legal - General	160,000	234,918	1 207,500
7020	Audit			
7040	Other Professional Fees			
7045	Other Professional Fees - MET			
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense	-	-	-
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Development			
7510 7540	Site Maintenance Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			_
8810	Capital Acquisition			
	Total Expenditure	751,674	779,216	907,844

1 The \$74,918 increased amount over budget will be funded by carry-over funds from FY14-15. The FY14-15 carry-over funds total \$139,000 for cost center 23.

Government Affairs

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET	
6010	Salaries & Wages - Admin	86,110	88,315	136,892	
6090	Directors Compensation - MWDOC	,	•	,	
6095	Directors Compensation - MWD				
6105	Benefits - Admin	29,159	30,730	43,903	
6115	Benefits - Directors	,	•	,	
6120	Health Insurance Coverage for Retirees				
6205	Training				
6210	Tuition Reimbursement				
6220	Temporary Help				
7010	Engineering - Outside Services				
7020	Legal - General				
7030	Audit		Ī.		
7040	Other Professional Fees	279,000	253,300	275,000	2
7110	Conference - Employee			-,	
7115	Conference - Directors				1 • Townsend, BB&K \$ 91,000
7150	Travel & Accommodations - Employee				• Barker \$ 96,000
7155	Travel & Accommodations - Director				Travel/Miscellaneous \$ 3,000
7210	Membership / Sponsorship				Lewis Consulting \$ 37,000
7220	CUWA Participation				• Ackerman \$ 26,300
7240	AWWARF Participation				\$ 253,300
7250	CDR Participation				·
7310	Office Maintenance				
7320	Rents & Leases				
7330	Office Supplies				
7340	Postal / Mail Delivery				
7350	Subscriptions / Books				2 • BB & K \$ 94,000
7360	Reproduction Expense	420	420	420	• Barker \$ 94,000
7410	Computer & Peripherals Maint				• Travel/Miscellaneous \$ 3,000
7430	Software Purchase				Lewis Consulting \$ 48,000
7440	Software Support				• Ackerman \$ 36,000
7450	Software Development				\$ 275,000
7510	Site Maintenance				
7540	Computers and Equipment				
7580	Maintenance Expense				
7610	Automotive / Mileage				
7615	Toll Road Charges				
7620	Insurance Expense				
7640	Utilities - Telephone				
7650	Bank Fees				
7670	Miscellaneous Expenses	23,320	19,500	23,320	3 • State & Federal Legislative Tracking \$ 3,320
8410	Overhead Reimbursement				Legislative Outreach & Briefings \$ 7,000
8610	Depreciation Expense				Legislative Staff Trip Travel Costs \$ 10,000
8710	Election Expenses				• WACO \$ 3,000
8810	Capital Acquisition				\$ 23,320
	Total Expenditure	418,009	392,265	479,535	

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	268,678	167,949	250,473
	Salaries & Wages - Reimb. from Grants		·	·
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	70,965	45,910	69,965
6115	Benefits - Directors	,	,	55,555
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees	220,478	150,000	191,178 1
7047	Prof Service-Grant Recovery		·	
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery	-		
7350	Subscriptions / Books			
7360	Reproduction Expense	43,740	15,000	26,805
7410	Computer & Peripherals Maint			
7430	Software Purchase	-		
7440	Software Support			
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses	25,250	25,250	33,250
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	629,110	404,109	571,671

1	Dublic	Affaire	Activities

PA Consultant Resolutions Member Agency Workshops PAW Consumer Confidence Reports Website Hosting & Maintenance Event Registration Fees PAW meeting materials New Website Subtota	\$ \$ \$ \$	15,000 5,000 15,000 34,178 10,000 2,500 2,500 50,000 134,178
Communcations Plan Activities: Outreach Advertising Survey - Phone	\$ \$ \$	20,000
Subtota		57,000 191,178
2 • Briefing Papers • Attire & Promo items • MWDOC Bags 1500@\$3.98 • Brochures 1500@ 2.50 • Awards and Events • Promotional Items	\$ \$ \$ \$ \$,
 Ricki Maint and Repair Children's Water Festival Sponsorship Industry Events Event Display Materials Speaker Recognition OC Water Hero Scouting Programs 	\$ \$ \$ \$ \$ \$	

Water Use Efficiency (Core) 35

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	50,567	76,104	91,137
6010	Salaries & Wages - Recovery from Grants			
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	14,168	28,462	25,971
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees	65,000	65,000	38,000 1
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship	16,130	13,144	16,131 2
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	145,864	182,710	171,239

1 • Project Audit	\$ 5,000
 Water Loss Control Work Grp 	\$ 33,000
	\$ 38,000
2 • CUWCC Dues • South O.C. Watershed Mngmt	\$ 8,006
Area Dues	6,625
OC CLCA	1,500
	\$ 16,131

General Finance 41

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	270,180	269,104	294,702
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	78,860	79,718	86,958
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit	23,000	23,000	24,000
7040	Other Professional Fees	190,000	70,400	115,000
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Director			
7210	Membership / Sponsorship			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support	-	-	-
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses	1,000	500	1,000
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	563,041	442,722	521,660

1 • Custodial Bank fees \$ 3,000 • Financial Consulting \$ 112,000

\$ 115,000

Information Technology 45

		FY 2015-2016	FY 2015-2016 PROJECTED	FY 2016-2017 PROPOSED		
		BUDGET	ACTUALS	BUDGET		
6010	Salaries & Wages - Admin	99,703	92,138	98,096		
6090	Directors Compensation - MWDOC					
6095	Directors Compensation - MWD					
6105	Benefits - Admin	34,374	34,565	35,776		
6115	Benefits - Directors					
6120	Health Insurance Coverage for Retirees					
6205	Training					
6210	Tuition Reimbursement					
6220	Temporary Help					
7010	Engineering - Outside Services					
7020	Legal - General					
7030	Audit					
7040	Other Professional Fees				1 • Misc repairs, maint & components	\$ 10,000
7110	Conference - Employee					
7115	Conference - Directors				2 • Misc software upgrades and license	\$ 31,300
7150	Travel & Accommodations - Employee				. •	
7155	Travel & Accommodations - Director					
7210	Membership / Sponsorship					
7250	CDR Participation				3 • Baracuda message archiver	\$ 1,000
7310	Office Maintenance				Investment software usage cost	\$ 2,340
7320	Rents & Leases				Financial Management System	\$ 22,286
7330	Office Supplies				Cisco Smartnet support	\$ 3.300
7340	Postal / Mail Delivery				Misc NAV development	\$ 2.000
7350	Subscriptions / Books				Jet Reports support	\$ 1,277
7360	Reproduction Expense				Blythco ABRA	\$ 500
7410	Computer & Peripherals Maint	7,100	7,100	10.000	7	\$ 12,557
7430	Software Purchase	18,500	18,500	31,300		\$ 740
7440	Software Support	34,000	34,000	46,000		\$ 46.000
7450	Software Development	- 1,000	,	10,000		+ 10,000
7510	Site Maintenance				4 • 3 Surface Pro, 2 iPad and 1 Laptop	\$ 8,950
7540	Computers and Equipment	21,150	21,500	32,500		\$ 11.350
7580	Maintenance Expense	21,100	21,000	02,000	2 Enclosed Server Racks w/ Console	\$ 5,000
7610	Automotive / Mileage				RICOH color printer support	\$ 350
7615	Toll Road Charges				Cisco Firewall Upgrade	\$ 4,500
7620	Insurance Expense				Camcorder	\$ 1,500
7640	Utilities - Telephone				Miscellaneous hardware	\$ 850
7650	Bank Fees				Wilderia i Coustia i Gware	\$ 32,500
7670	Miscellaneous Expenses	3,000	3,000	3 000	5 5 • Misc supplies	Ψ 32,300
8410	Overhead Reimbursement	0,000	0,000	0,000	MWDOC Website	
	Depreciation Expense				WIVE DOO WEDSILE	
	Election Expenses				6 • Mass Storage device for Records Mgnt	\$ 14,000
8810	Capital Acquisition	6,000	4,357	29,000		\$ 15,000
0010	Total Expenditure	223.827	215.161	285.672	- Scarifiers	\$ 29,000
	Total Experiulture	223,021	210,101	200,072		\$ 29,000

Water Use Efficiency (choice) 62

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4215	Choice Revenue	899,925	899,925	928,798
4705	Prior Year Carry over			
	Choice billing over/under		2,687	
	Total Revenue	899,925	902,612	928,798

Choice billing over/under reflects revenue overage or shortfall to be reconciled with participating member agencies. Final charges will be revised by August 2016 to reflect the new budget year charges plus/minus prior year over/under.

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET	
6010	Salaries & Wages - Admin	432,740	460,985	475,474	L
6012	Salaries & Wages - Recovery from Grants	(23,500)	(28,487)	(31,600)	1 Recovery from WUE Grants for some Salaries
6090	Directors Compensation - MWDOC				and Benefits:
6095	Directors Compensation - MWD				 CII Performance Based - North County
6105	Benefits - Admin	113,126	120,336	125,895	 Comprehensive Landscape Water Use
	Overhead Reimbursement	189,359	201,892	184,114	 DWR Strategic Turf - So. Cnty
6115	Benefits - Directors				
6120	Health Insurance Coverage for Retirees				
6205	Training				
6210	Tuition Reimbursement				
6220	Temporary Help				
7010	Engineering - Outside Services				
7020	Legal - General				 Marketing of WUE programs
7030	Audit				Water Smart Landscape
7040	Other Professional Fees	183,200	141,886	168,914	CSANS & Base Schedule Calculator Web Turf Rebate Processing Platform - Droplet
7110	Conference - Employee				Drip Rebate Processing Platform - Droplet Drop Rebate Processing Platform - Droplet
7110	Conference - Employee Conference - Directors				Drip Repate Processing Platform - Droplet
7150	Travel & Accomodations - Employee				
7155	Travel & Accomodations - Employee Travel & Accomodations - Director				
	1				
7210	Membership / Sponsorship				
7220	CUWA Participation				
7240	AAWARF Participation				
7250	CDR Participation				
7310	Office Maintenance				
7320	Rents & Leases	-		-	
7330	Office Supplies				
7340 7350	Postal / Mail Delivery Subscriptions / Books				
7360	Reproduction Expense				
7410	Computer & Peripherals Maint				
7430	Software Purchase				
7440	Software Support				
7450	Software Devlopment Site Maintenance				
7510 7540	Computers and Equipment				
7540 7580	Maintenance Expense				
7610	Automotive / Mileage				
7615	Toll Road Charges				
7620	Insurance Expense				
7640	Utilities - Telephone				
7650	Bank Fees				
7670	Miscellaneous Expenses	5.000	6,000	6.000	
8410	Overhead Reimbursement	5,000	0,000	0,000	
8610	Depreciation Expense				
8710	Election Expenses				
8810	Capital Acquisition				
0010	Total Expenditure	899,925	902,612	928,798	
	rotai Experiulture	099,925	902,012	920,198	

	and Benefits:	
	CII Performance Based - North County	\$ 18,000
	Comprehensive Landscape Water Use	\$ 11,500
	DWR Strategic Turf - So. Cnty	\$ 2,100
		\$ 31,600
2	Marketing of WUE programs	\$ 50,000
	Water Smart Landscape	\$ 50,000
	CSANS & Base Schedule Calculator Web	\$ 2,400
	Turf Rebate Processing Platform - Droplet	\$ 41,514
	Drip Rebate Processing Platform - Droplet	\$ 25,000
		\$ 168,914

School Program (choice) 63

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4215	Choice Revenue	225,049	265,258	288,691
4205	School Contracts	70,000	70,000	70,000
4705	Prior Year Carry over			
	Choice billing over/under		(6,939)	
	Total Revenue	295,049	328,319	358,691

Choice billing over/under reflects revenue overage or shortfall to be reconciled with participating member agencies. Final charges will be revised by August 2016 to reflect the new budget year charges plus/minus prior year over/under.

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	6,415	4,602	9,505
6010	Sal & Wages - Reimb. from DSC & Grants		_	
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	1,652	1,341	3,069
	Overhead Reimbursement	2,832	1,876	3,128
6115	Benefits - Directors	, , ,	, , , , , , , , , , , , , , , , , , , ,	-,
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees			
7040	Other Professional Fees - School Programs	257,400	300,000	335,489
7110	Conference - Employee	201,400	000,000	000,400
7115	Conference - Directors			
7150	Travel & Accommodations - Employee			
7155	Travel & Accommodations - Employee Travel & Accommodations - Director			
7210	Membership / Sponsorship			
7220	CUWA Participation			
7240	AWWARF Participation			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense	19,250	19,250	<u> </u>
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Development			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses	7,500	1,250	7,500
8410	Overhead Reimbursement		,	
8610	Depreciation Expense			
8710	Election Expenses	1		
8810	Capital Acquisition			
	Total Expenditure	295.049	328.319	358,691

2 • School books and other printings

3 • Demonstration supplies including new Ricki Pencils and Stickers for education presentation

Foundational Action - Doheny Desal (choice) 64

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4215	Choice Revenue	-		-
4705	Prior Year Carry over	136,934		
	Choice billing over/under	49	128,099	ı
_	Total Revenue	136,983	128,099	-

Choice billing over/under reflects revenue overage or shortfall to be reconciled with participating member agencies. Final charges will be revised by August 2016 to reflect the new budget year charges plus/minus prior year over/under.

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	17.059	11.830	-
	Salaries & Wages - Reimb. from Grants	11,000	,	
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	3,393	2,196	-
	Overhead Reimbursement	8,531	6,073	-
6115	Benefits - Directors	- /	- ,	
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees	108,000	108,000	
7110	Conference - Employee	,	,	
7115	Conference - Directors			
7150	Travel & Accomodations - Employee			
7155	Travel & Accomodations - Director			
7210	Membership / Sponsorship			
7220	CUWA Participation			
7240	AAWARF Participation			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Devlopment			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	136,983	128,099	-

To Be Funded by South Coast Water District. An additional \$160,000 was added during FY14-15 for the Environmental Baseline Monitoring Project. All Revenue and expense are shown here in FY15-16. The revenue amount is less that \$160,000 because it was partly used in the previous year.

Poseidon Desal (choice) 65

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4215	Choice Revenue			
4705	Prior Year Carry over	45,162		44,416
	Choice billing over/under		-	
	Total Revenue	45,162	ı	44,416

Prior year carry over was lowered due to more hours worked in FY14-15 than was projected. Recommendation for 2016-17 is to maintain existing funds for efforts that might arise this coming year.

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin		_	-
	, , , , , , , , , , , , , , , , , , ,			
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin		-	-
	Overhead Reimbursement		_	-
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees	45,162		44,416
7110	Conference - Employee	·		•
7115	Conference - Directors			
7150	Travel & Accomodations - Employee			
7155	Travel & Accomodations - Director			
7210	Membership / Sponsorship			
7220	CUWA Participation			
7240	AAWARF Participation			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Devlopment			
7510	Site Maintenance			·
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	45,162	-	44,416

Actual activity for 2016-17 are uncertain at this time.

Public Affairs (choice) 67

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4215	Choice Revenue	177,645	188,000	277,300
	Choice billing over/under		3,256	
	Total Revenue	177,645	191,256	277,300

Choice billing over/under reflects revenue overage or shortfall to be reconciled with participating member agencies. Final charges will be revised by August 2016 to reflect the new budget year charges plus/minus prior year over/under.

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	34,988	8,391	16,526
		,	,	,
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	4,973	1,682	4,305
	Overhead Reimbursement	19,483	4,183	6,470
6115	Benefits - Directors	.,	,	-, -
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees	114,000	177,000 1	250,000
7110	Conference - Employee	111,000	111,000[1	200,000
7115	Conference - Directors			
7150	Travel & Accomodations - Employee			
7155	Travel & Accomodations - Director			
7210	Membership / Sponsorship			
7220	CUWA Participation			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense	4,200		
7410	Computer & Peripherals Maint	1,200		
7430	Software Purchase			
7440	Software Support			
7450	Software Devlopment			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense		+	
7610	Automotive / Mileage		+	
7615	Toll Road Charges		+	
7620	Insurance Expense		+	
7640	Utilities - Telephone		+	
7650	Bank Fees		+	
7670	Miscellaneous Expenses		+	
8410	Overhead Reimbursement			
8610	Depreciation Expense		+	
8710	Election Expenses			
8810	Capital Acquisition			
3010	Total Expenditure	177,645	191,256	277,300

- 2 1 OC Register Value of Water Page
 - 2 Communications Plan

2014 Fund - Doheny Desal (choice) 68

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4215	Choice Revenue			
4705	Prior Year Carry over	30,000	30,000	
	Monies to be refunded		(30,000)	
	Total Revenue	30,000	-	-

Deposits from South Coast, LBCWD and San Clemente are scheduled to be returned to the three agencies with interest.

6010 6090 6095 6105 6115 6120 6205 6210 6220	Salaries & Wages - Admin Salaries & Wages - Reimb. from Grants Directors Compensation - MWDOC Directors Compensation - MWD Benefits - Admin Overhead Reimbursement Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services			
6095 6105 6115 6120 6205 6210	Directors Compensation - MWDOC Directors Compensation - MWD Benefits - Admin Overhead Reimbursement Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services			-
6095 6105 6115 6120 6205 6210	Directors Compensation - MWDOC Directors Compensation - MWD Benefits - Admin Overhead Reimbursement Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services			
6105 6115 6120 6205 6210	Directors Compensation - MWD Benefits - Admin Overhead Reimbursement Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services			-
6105 6115 6120 6205 6210	Benefits - Admin Overhead Reimbursement Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services		-	-
6115 6120 6205 6210	Overhead Reimbursement Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services		-	-
6120 6205 6210	Benefits - Directors Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services			
6120 6205 6210	Health Insurance Coverage for Retirees Training Tuition Reimbursement Temporary Help Engineering - Outside Services			
6205 6210	Training Tuition Reimbursement Temporary Help Engineering - Outside Services			
6210	Tuition Reimbursement Temporary Help Engineering - Outside Services			
	Temporary Help Engineering - Outside Services			
	Engineering - Outside Services			
7010				
	Legal - General			
7030	Audit			
7040	Other Professional Fees	30,000		
7110	Conference - Employee	00,000		
7115	Conference - Directors			
7150	Travel & Accomodations - Employee			
7155	Travel & Accomodations - Director			
7210	Membership / Sponsorship			
7220	CUWA Participation			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Devlopment			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
0010	Total Expenditure	30,000		

2008 Fund - Doheny Desal (choice) 69

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET	
4215	Choice Revenue]
					L,
4705	Prior Year Carry over	31,194	31,194		1
	Choice billing over/under		(0)		1
	Previously Retained funds for Project				1
	Decommissioning		356,000]
		•]
	Total Revenue	31,194	387,194	-]

The source of funding for these efforts are remaining funds from the 2008 participation agreement for Doheny desalination as well as a DWR grant.

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	7,297	11,340	-
	Salaries & Wages - Reimb. from Grants			
6090	Directors Compensation - MWDOC			
6095	Directors Compensation - MWD			
6105	Benefits - Admin	1,537	7,150	-
	Overhead Reimbursement	3,563	777	-
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees			
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General			
7030	Audit			
7040	Other Professional Fees	18,797	367,927	
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accomodations - Employee			
7155	Travel & Accomodations - Director			
7210	Membership / Sponsorship			
7220	CUWA Participation			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7430	Software Purchase			
7440	Software Support			
7450	Software Devlopment			
7510	Site Maintenance			
7540	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7620	Insurance Expense			
7640	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
	Total Expenditure	31,194	387,194	-

Anticipated activities consist of payment of state park lease, electrical costs, coordination with state park planning for removal of the facilities.

WEROC 25

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4320	Revenues from MWDOC	141,807	141,807	150,390
4210	WEROC Contracts	141,807	141,807	150,390 1
4705	Prior Years Carryover	(0)	6,185	(0)
4205				
4230	Reimbursements		5,461	
4240				
4410				
4805				
	Total Revenue	283,613	295,259	300,780

1 · OCSD	\$	29,476
• SOCWA	\$	11,430
• OCWD	\$	75,195
 3 Cities \$11,431 ea 	\$	34,289
	Ф	150 200

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET	
6010	Salaries & Wages - Admin	159,880	155,980	168,740	1
	Salaries & Wages - Recovery from Grants	Í		•	1
	Directors Compensation - MWDOC				1
	Directors Compensation - MWD				1
6105	Benefits - Admin	55,489	58,479	58,513	1
6115	Benefits - Directors				1
6120	Health Insurance Coverage for Retirees				1
6205	Training				1
6210	Tuition Reimbursement				1
6220	Temporary Help				1
7010	Engineering - Outside Services				1
7020	Legal - General				1
	Audit				1
7040	Other Professional Fees	3,000	3,000	3,000	2
	Conference - Employee	1,800	2,160	2,180	T
	Conference - Directors		,	,	1
7150	Travel & Accomodations - Employee	3,500	4,170	4,300	1
	Travel & Accomodations - Director		,	,	1
	Membership / Sponsorship	420	335	390	1
	CDR Participation				1
	Office Maintenance				1
	Rents & Leases	19,092	19,092	20,046	3
	Office & Radio Supplies	1,000	800	1,000	Ť
	Postal / Mail Delivery	,		,	1
	Subscriptions / Books				1
	Reproduction Expense	200	200	1,000	,
	Computer & Peripherals Maint	4,207	4,207	4,373	Ť
	Software Purchase	, -	, -	, , , , , , , , , , , , , , , , , , , ,	1
	Software Support	6,750	6,750	7,087	5
7450	Software Development	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		.,	Ť
	Site Maintenance	850	850	850	1
	Computers and Equipment	333	333	333	1
	Maintenance - Generators	2,000	1,000	2,000	1
	Maintenance - Radios	2,000	15,100		1
	Maintenance - EOC's	3,000	3,258	3,000	1
	Automotive / Mileage	800	1,788	1,700	1
	Toll Road Charges	125	90	100	1
	Insurance Expense	1,500	1,500	1,500	1
	Utilities - Telephone	10,000	8,500	9,000	1
	Bank Fees		5,550	5,550	1
	Miscellaneous Expenses	1,000	1,000	1,000	1
	Miscellaneous Training	2.000	2.000	2,000	1
	Overhead Reimbursement	2,000	2,000	2,000	┨
	Depreciation Expense				1
	Election Expenses	†			┨
	Capital Acquisition				1
5010	Total Expenditure	278,613	290,259	293,780	╣
	Total Experiulture	210,013	290,259	293,780	┙

2 EOC Electric & Space Study

- 3 Catalina Repeater (5% increase)
- 4 Updated WEROC Map Printing
- 5 Safety Center Software (Est 5% increase)
- 6 Used Reserves to Conduct Radio Assessment

Sinking Fund (generator/radio)

5,000	5,000	7,000
283,613	295,259	300,780

AMP Proceeds Agreement Administration 61

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
4020	Interest Revenue	-		
4050	O & M Maintenance Deposit	-	-	-
4230	Reimbursement	17,558	16,348	19,505
4680	Miscellaneous Income	-		-
	Billing over/under		(0)	
			`	
				·
	Total Revenue	17,558	16,348	19,505

Participating Member agencies will be billed annually per the AMP sales admin agreement to cover legal and audit expenses until the RPOI ends in 2016

		FY 2015-2016 BUDGET	FY 2015-2016 PROJECTED ACTUALS	FY 2016-2017 PROPOSED BUDGET
6010	Salaries & Wages - Admin	2,098	1,999	3,626
6090	Directors Compensation - MWDOC	,	,	•
6095	Directors Compensation - MWD			
6105	Benefits - Admin	460	498	879
6115	Benefits - Directors			
6120	Health Insurance Coverage for Retirees	_	-	-
6205	Training			
6210	Tuition Reimbursement			
6220	Temporary Help			
7010	Engineering - Outside Services			
7020	Legal - General	15,000	13,851	15,000
7030	Audit	.0,000	.0,00.	.0,000
7040	Other Professional Fees			
7110	Conference - Employee			
7115	Conference - Directors			
7150	Travel & Accomodations - Employee			
7155	Travel & Accomodations - Director			
7210	Membership / Sponsorship			
7250	CDR Participation			
7310	Office Maintenance			
7320	Rents & Leases			
7330	Office Supplies			
7340	Postal / Mail Delivery			
7350	Subscriptions / Books			
7360	Reproduction Expense			
7410	Computer & Peripherals Maint			
7410	Software Purchase			
7440	Software Support			
7450	Software Devlopment			
7510	Site Maintenance			
7510	Computers and Equipment			
7580	Maintenance Expense			
7610	Automotive / Mileage			
7615	Toll Road Charges			
7615	Insurance Expense			
7620	Utilities - Telephone			
7650	Bank Fees			
7670	Miscellaneous Expenses			
8410	Overhead Reimbursement			
8610	Depreciation Expense			
8710	Election Expenses			
8810	Capital Acquisition			
0010		47.550	40.040	40.505
	Total Expenditure	17,558	16,348	19,505

Exhibit D

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Proposed District Participation Costs Fiscal Year 2016-2017

	3udget 2015-2016	FY 2	ojected 2015-2016 actuals	Budget 2016-2017	Approval included in
Required Participation or Service	 2010-2010		lotuuis	 2010-2017	<u>Buaget Approvat</u>
LAFCO	25,000		23,141	25,000	\checkmark
Colorado River Water Users Assn. (CRWUA 2-Director's)	40		40	40	V
Subtotal Cost Center 11	25,040		23,181	25,040	·
Association. of Calif. Water Agencies (ACWA)	 18,200		17,189	18,000	√
Subtotal Cost Center 12	18,200		17,189	18,000	
OC Chapter-Calif. Landscape Contractors Assoc.	1,500		1,500	1,500	\checkmark
CA Urban Water Conservation Council Dues	8,005		8,006	8,006	\checkmark
South OC Watershed Management Area Dues	 6,625		3,638	6,625	√
Subtotal Cost Center 35	16,130		13,144	16,131	
Subtotal - Required Participation or Service	\$ 59,370	\$	53,514	\$ 59,171	
Elective Participation					
Association of California Cities- Orange County (ACCOC)	\$ 5,000	\$	5,000	\$ 5,000	\checkmark
American Water Works Association (AWWA)	1,550		1,550	1,550	$\sqrt{}$
Association of Metropolitan Water Agencies (AMWA)	16,004		16,805	17,000	\checkmark
CA Chamber of Commerce (HR California)	499		499	499	\checkmark
CALDESAL	5,000		5,000	5,000	\checkmark
California Municipal Treasurers Association (CMTA)	155		155	155	$\sqrt{}$
California Society of Municipal Finance Officers (CSMFO)	125		125	125	$\sqrt{}$
CA Special Districts Assn. (CSDA)	6,100		6,100	6,100	$\sqrt{}$
Colorado River Water Users Assn. (CRWUA 3-staff)	60		60	60	\checkmark
Government Finance Officers Association (GFOA)	165		165	165	\checkmark
Indep. Special Districts of Or. Co. (ISDOC)	200		200	200	\checkmark
International Personnel Management Association	105		105	105	\checkmark
Latino Business Association	250		250	250	\checkmark
Municipal Information Systems Association of California (MISAC)	200		200	200	\checkmark
National Water Resources Assn., Mun. Caucus	500		500	500	\checkmark
Orange County Business Council (OC Chamber)	5,000		5,000	5,000	\checkmark
Orange County Public Affairs Association				200	New
California Council for Environmental & Economic Balance				29,500	New
Orange County Water Association (OCWA)	100		100	100	\checkmark
Public Agency Risk Managers Asociation (PARMA)	100		100	100	\checkmark
Public Relations Society of America/O.C.	300		300	300	\checkmark
Society of Human Resources Management (SHRM)	200		200	200	\checkmark
Southern California Personnel Management Assoc. (SCPMA)	50		50	50	\checkmark
South Orange County Economic Coalition	1,500		1,500	1,500	\checkmark
Southern California Water Committee	850		850	850	V
Water Education Foundation	578		578	578	$\sqrt{}$
Subtotal Cost Center 12	 44,591		45,392	75,287	•
Subtotal - Elective Participation	\$ 44,591	\$	45,392	\$ 75,287	

Exhibit D

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Proposed District Participation Costs Fiscal Year 2016-2017

		Pr	ojected			
E	Budget	FY 2	2015-2016	-	Budget	Approval included in
FY 2	2015-2016	A	ctuals	FY	2016-2017	Budget Approval
						•
\$	185	\$	130	\$	185	$\sqrt{}$
	55		55		55	$\sqrt{}$
	180		150		150	√
	420		335		390	
\$	104,381	\$	99,241	\$	134,848	•
	FY 2	55 180 420	### Budget FY 2015-2016 ### FY 2015-2016	\$ 185 \$ 130 55 55 180 150 420 335	Budget FY 2015-2016 FY 2015-2016 FY \$ 185 \$ 130 \$ 55 55 55 180 150 420	Budget FY 2015-2016 FY 2015-2016 Actuals Budget FY 2016-2017 \$ 185 \$ 130 \$ 185 55 55 55 180 150 150 420 335 390

New or Increa	ased Membersh	ips for 201	6-17		
	Dudant	Projec		7da.a4	Annuarial in alcoded in
Association	Budget FY 2015-20	FY 2015- 6 Actua		3udget 2016-2017	Approval included in Budget Approval
Orange County Public Affairs Association				200	New
California Council for Environmental & Economic Balance				29,500	New
Total of New or Increased Memberships	\$ -	\$	_	\$ 29.700	

Exhibit E

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY Summary of Proposed Staff Registration & Travel Budget (1) Fiscal Year 2016-2017

Conference / Meeting	Registration	Travel (1)	Approval included in Budget Approval
ACWA - DC Conference (2 staff)	\$ 1,250	\$ 5,000	<u>−</u> √
- Fall Conference (3 staff)	2,400	2,500	1
- Spring Conference (3 staff)	2,400	5,000	,
- Legislative Symposium (1 staff)	200	650	· ·
ACC-OCBC Legislative Advocacy Trip	950	450	
ACWA Region 10 (2 Staff)	150	200	· ·
Association of Metropolitan Water Agencies (AMWA)	2,400	3,700	i i
AWWA Cal Nevada & National Conference (2) 2x year	1,600	3,600	i i
AWWA Fall Conference (1 staff)	550	1,200	,
AWWA Spring Conference (1 staff)	550	1,200	
Bond Buyers Conference (1 Staff)	200	500	i
California Dept. of Health Svcs Certif Stakeholder Mtg. (2 Trips)	200	1,200	· ·
California Dept. of Water Resources (USC & ITP) (1 staff)		600	· ·
Calif. Soc. of Mun. Finance Officers (2 staff)	200	400	i
Cal Desal Conference (1 staff)	500	1,200	,
Exec. Committee Meetings	000	600	,
CRWUA - Fall (3 staff)	1,350	3,750	i i
CSDA Annual Conference (1 staff)	550	700	i
CSDA Legislative Days	175	650	· ·
California Counsil for Environmental & Economic Balance (6 Trips)	1,000	4,000	
CUWCC Board Plenary & Committee Meetings (13 meetings)	.,000	6,980	and the second s
DWR Stakeholder Meetings (4x)		1,250	
Gov. Finance Officers Assoc. Seminar (1 staff)	200	400	
Information Technology Seminar (2 staff)	600	1,200	
Irrigation Association Annual Conference (3 staff)	1,200	,	
Liebert Cassidy & Whitmore Employment Law Conference (2 Staff)	950		$\sqrt{}$
Sacramento Legislative Advocacy (18 trips)		9,500	· ·
Urban Water Institute (2x)	300	300	and the second s
Washington Legislative Advocacy (6 trips)		11,000	· ·
Water Smart Innovations (1 Staff)	400	900	i
Miscellaneous*	2,050	2,500	
General Fund Total **	\$ 22,125	\$ 71,130	_
International Assoc. of Emergency Managers (Georgia) (1 Staff)	\$ 700	\$ 1,800	New
AWWA Spring Conf. CalWARN (1 WEROC staff)		500	$\sqrt{}$
California Emergency Services Association (2 WEROC staff)	1,480	2,000	_
WEROC Program Total	\$ 2,180	\$ 4,300	=
PROPOSED GENERAL FUND BUDGET	\$ 22,125	\$ 71,130	_

^{*} Includes OCWA lunch meetings, ISDOC, OCBC, SCWC, League of Cities, Misc. Assoc/Committee meetings and related business meeting expenses.

^{**} Excludes automotive mileage.

⁽¹⁾ Includes all modes of travel (except automotive mileage), room accommodations, meals, and related misc. expenses.

Exhibit F

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY **Summary of Proposed Board Registration & Travel Budget** Fiscal Year 2016-2017

					Approval included in
Conference	Reg	gistration	Т	ravel (1)	Budget Approval
ACWA DC Conference (2 Directors)	\$	1,250	\$	5,000	
ACWA Fall Conference (3 Directors)	\$	2,400	\$	2,500	$\sqrt{}$
ACWA Spring Conference (3 Directors)	\$	2,400	\$	5,000	$\sqrt{}$
ACWA Region 10 (2 Directors)	\$	150	\$	200	$\sqrt{}$
Bond Buyers Conference (2 Directors)	\$	400	\$	1,000	$\sqrt{}$
CRWUA Fall Conf (2 Directors)	\$	900	\$	2,500	$\sqrt{}$
CSDA Annual Conference (1 Director)	\$	550	\$	700	$\sqrt{}$
CSDA Legislative Day (1 Director)	\$	175	\$	650	New
California Counsil for Environmental & Economic Balance (6 Trips)	\$	1,000	\$	4,000	New
Sacramento Legislative Advocacy (8 Trips)		-	\$	4,000	$\sqrt{}$
Washington DC Legislative Advocacy (6 trips)		-	\$	11,000	$\sqrt{}$
Urban Water Institute (2 Directors)		300	\$	300	$\sqrt{}$
Miscellaneous*	\$	1,200	\$	1,400	$\sqrt{}$
TOTAL**	\$	10,725	\$	38,250	
PROPOSED GENERAL FUND BUDGET	\$	10,725	\$	38,250	- -

^{*} Includes OCWA lunch meetings, ISDOC, OCBC, SCWC, League of Cities, Misc. Assoc/Committee meetings and related business meeting expenses.

^{**} Excludes automotive mileage.

⁽¹⁾ Includes all modes of travel (except automotive mileage), room accommodations, meals, and related misc. expenses.

Exhibit H

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY **Schedule of Capital Expenditures** Fiscal Year 2016-2017

	Proposed	Approval included in
	Budget	Budget Approval
Finance - 45-8810:		
Hybrid storage device for records management.	14,000	New
Scanners for records management.	15,000	$\sqrt{}$
Subtotal Cost Center 45	29,000	
Furniture and Fixtures- 19-8810:		
Office Furniture	18,500	New
Entrance Area Displays	15,000	$\sqrt{}$
Subtotal Cost Center 19	33,500	
Total Capital Expenditures	\$ 62,500	

Exhibit J Professional / Special Services Authorized Core Fund

Department	Consultant	Service	Budget FY 15-16	Budget FY 16-17	* Approval included in Budget Approval
Engineering Expe	enses				
Planning & Operation (21)	(To be determined)	Various Engineering/Technical Services	140,000	197,500	
	Ed Means Consulting	Consulting on MET issues	60,000	50,000	V
Met Issues & Special	Ron Gastelum Consulting	Consulting on MET issues	10,000		√
Projects (23)	(To be determined)	Urban Water Management Plan	30,000		√
	(To be determined)	MET and Reliability Planning	60,000	157,500	V
	,	Total Engineering Expenses	300,000	405,000	
Legal Expenses					
Administration	Best, Best & Krieger	General Legal Counsel Services	305,000	260,000	√
(11 & 13)	Aleshire & Wynder	Legal Counsel Services Regarding San Diego County Water Authority	15,000	25,000	√
	Best, Best & Krieger	Labor Counsel Services	35,000	35,000	√
		Total Legal Expenses	355,000	320,000	
Audit Expenses					
Finance (41)	Vavrinek, Trine, Day & Co., LLP	Annual Financial Audit and Federal Single Audit	23,000	24,000	√
Fraining					
Administration (13)	TBD/Cal State University Fullerton Leadership	Staff Development/Training/indiv. Employee training	18,000	12,000	√
Professional Fee	S				
	Dissinger Associates	Pension Plan Administration	4,000	4,200	V
Administration	(To be determined)	Evaluate fund portfolio on a semi annual basis for 401 and 457 Plan/RFP for 401 & 457	25,000		
(12 & 13 & 19)	Wage Works	Cafeteria Plan Administration	1,800	1,900	V
	(To be determined)	Records Management Consulting		24,900	
	(To be determined)	Scanning Services/Staffing		48,000	
	Townsend/BBK Legislation	State Legislative Advocate	96,000	94,000	√
Governmental Affairs	James C. Barker	Federal Legislative Advocate	96,000	94,000	√
(31)	Lewis Consulting	County Issues Consulting	48,000	48,000	√ -
()	Ackerman	Legal and Regulatory	36,000	36,000	√
	(To be determined)	Miscellaneous	3,000	3,000	
	Stetson Engineers	Consumer Confidence Report (CCR) Technical Water Quality Advisor	34,178	34,178	√
	(To be determined)	Public Outreach	7,500	2,000	
	(To be determined)	Collateral materials update and resolutions	5,000	5,000	
Dublic Aff	(To be determined)	Event Registration Fees	2,500	2,500	
Public Affairs	(To be determined)	PAW Meeting Materials	2,500	2,500	
(32)	(To be determined)	Client Agency Workshops for PAW	10,000	15,000	
	(To be determined)	Marketing Materials	15,000	05.000	
	(To be determined)	Surveys - Phone and IPSO	40,000	35,000	
	(To be determined)	Advertising	68.800	20,000	.1
	Tuckman\Ouwerkerk	Temp PA consultant in lieu of PA director	35,000	15,000 60,000	√
	(To be determined) (To be determined)	Website updates and Maintenance/New Website Water Savings Potential Study	60.000	00,000	
WUE - Core (35)	(To be determined)	Water Loss Control	50,000	33,000	
. ,	Gilbert & Associates	Project Audit	5,000	5,000	√
Finance & IT	Raftelis	Rate Study	75,000		
(41 & 45)	Union Bank	Custodial Bank fees	3,000	3,000	√
•	(To be determined)	Financial Consulting	112,000	112,000	
		Total Professional Fees	785,278	698,178	

Trustee Activities

Department Legal Expenses	Consultant	Service	Budget FY 15-16	Budget FY 16-17	* Approval included in Budget Approval
AMP Administration (61)	Best, Best & Krieger	AMP Administration, 1996 COPS	15,000	15,000	V

^{*} Approval of the budget constitutes authorization for spending within the policy guidelines set out in Chapter 8, Contracts section of the Administrative code including authorization limitations. A check mark indicates final board approval of the expenditure.

Exhibit J1 Professional / Special Services Authorized Choice Funds

Department	Consultant	Service	Budget FY 15-16	Budget FY 16-17	* Approval included in Budget Approval
Professional Fees	· S				
Water Use Efficiency	(To be determined)	Water Smart Landscape	50,000	50,000	
(62)	Various Printers	Printing of marketing materials for all WUE programs	60,000	50,000	V
(02)	Enterprise Information Systems	California Sprinkler Adjustment Program (Web Hosting)	1,200	2,400	$\sqrt{}$
	Droplet	Web Based Rebate Processing Platform (Turf & Drip)	72,000	66,514	V
	(To be determined)	Communications Consultant	32,500		
	(To be determined)	Gas Station Pump Video Adds	35,000		
Public Affairs (67)	(To be determined)	Bus Shelter Adds	7,500		
	(To be determined)	Communications Plan	-	250,000	
	(To be determined)	Movie Theaters	35,000		
	(To be determined)	Social Media Advertising	4,000		
Poseidon Desal	(To be determined)	(To be determined)	45,162	45,162	
2008 Fund Doheny	(To be determined)	Decommissioning of Pilot Plant	18,797		√
Desal			·		
	Discovery Science Center	Assemblies (Grades 1-6)	257,400	253,089	√
School Program (63)	(To be determined)	Assemblies (Grades 9-12)	·	82,400	
Foundational Action	(To be determined)	(To be determined)	108,000		
Doheney Desal					
	1	Total Professional Fees	791,559	799,565	

^{*} Approval of the budget constitutes authorization for spending within the policy guidelines set out in Chapter 8, Contracts section of the Administrative code including authorization limitations. A check mark indicates final board approval of the expenditure.

Municipal Water District of Orange County Fiscal Year 2015-2016 Consolidated Budget Summary

	Core & Choice	Water Fund	Water Use Efficiency	WEROC	AMP Proceeds Agreement Administration	RPOI 1	Total with Inter-Fund Transfers	Less Inter-Fund Transfers 2	Consolidated Budget Total	ited
Revenues: Water Sales Local Resource Program Incentives Retail Meter Change Ground Water Customer Change	6,687,322	\$ 172,494,402 \$ (15,450,587)					\$ 172,494,402 \$ (15,450,587) 6,687,322		\$ 172,494,402 \$ (15,450,587) 6,687,322	,402 ,587) ,322
Water Increment Charge Interest Revenue MWDOC's Contribution Outside Fundings Carryover Funds Choice Revenue Miscalianous Increme	- 1,615,957 1,615,957	2,900	49,000 22,717,204	141,807 141,807 (0)	17,558	4,823	120,575 190,807 22,881,392 1,615,957 3,000	(190,807)	120,575 120,575 22,881,392 (0 1,615,957	120,575
Total Revenues	8,423,954	157,046,715	22,766,204	283,613	17,558	4,823	188,542,867	(190,807)	188,352,060	090;
Expenses: Water Purchases Salaries & Wages less S & W Remb. DSC or Recov from Grants Employee Benefits Engineering Expense Professional Fees	3,309,949 (23,500) 968,257 300,000 1,541,837	157,043,815	22,766,204	159,880 55,489 3,000	2,098		157,043,815 3,471,927 (23,500) 1,024,207 300,000 24,311,041	(49,000)	157,043,815 3,471,927 (23,500) 1,024,207 300,000 24,262,041	043,815 471,927 (23,500) 024,207 300,000 262,041
Legale Expense - General Maintenance Expense Insurance Expense Insurance Expense Membership / Sponsorship Director Compensation MWDOC Contribution to WEROC	355,000 137,670 96,000 103,961 220,588 141,807			- 4,850 1,500 420	15,000	!	370,000 142,520 97,500 104,381 220,88 141,807	(141,807)	370, 142, 97, 104,	370,000 142,520 97,500 104,381 220,588
RPOI Distribution to Member Agencies Others:						4,823	4,823		4	4,823
Outrets. MWD Representation Director Benefits Health Insurance Coverage for Retirees Audit Expense Automotive & Toll Road Expenses Conference Expense - Staff Conference Expense - Directors Conference Expense - Directors	126,050 60,024 60,024 23,000 19,450 9,800 9,800			925			126,050 60,024 50,387 23,000 15,700 21,250 9,800 3,9740		12 60 80 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13	126,050 60,024 50,387 23,000 15,700 21,250 9,800 39,740
business Expense Miscellaneous Expense	6,600 116,670			000'9	•		6,000 122,670		122,	6,800 122,670
Postage / Mail Delivery Rents & Leases Outside Printing, Subscription & Books	11,285 19,000 72,070			19,092			11,285 38,092 72,270		11, 38, 72,	11,285 38,092 72,270
Office Supplies Computer Maintenance	29,400 7,100			1,000			30,400		30,	,400
Software Support & Expense Computers and Equipment	52,500 21,150			6,750			59,250 21,150		59, 21,	59,250 21,150
Telecommunications Expense Temporary Help Expense	15,650			10,000			25,650		25,	25,650
Training Expense Training Expense Tuition Reimbursement	18,000						18,000		8, r,	18,000 5,000
Travel & Accommodations - Staff Travel & Accommodations - Directors	56,510 27,600			3,500			60,010 27,600		60°, 27,	60,010 27,600
MAYOCO Chairming Laborates MAYOCO Chairming Fund Expense (generator & radios) Canital Accurisition				2,000			5,000		i i	5,000
Total Expenses	8,359,530	157,043,815	22,766,204	283,613	17,558	4,823	188,475,543	(190,807)	188,284,737	,737
EFFECT ON RESERVES / FUND BALANCE	\$ 64,424	\$ 2,900 3	, \$	· \$, \$	У	\$ 67,324	· \$	\$ 67,	67,323

Revised Percentage Of Investment (RPOI) - distribution of installment AMP sales proceeds from bond participants.
 Adjustment for MWDOC's contributions to other funds.
 Net change to restricted reserves for interest revenue.

Municipal Water District of Orange County Fiscal Year 2016-2017 Consolidated Budget Summary

	Core & Choice	Water Fund	Water Use Efficiency	WEROC	AMP Proceeds Agreement Administration		RPOI	Phase III Desalination	Total with Inter-Fund Transfers	Less Inter-Fund Transfers 2	Consolidated Budget Total
Revenues: Water States Water States Local Resource Program Incentives Retail Meter Charge Ground Water Clustomer Charge	6,786,865 392,666	\$ 155,822,443 (16,071,858)							\$ 155,822,443 (16,071,858) 6,786,865 392,666		\$ 155,822,443 (16,071,858) 6,786,865 392,666
Water Indicement Charge Interest Revenue MWDC's Contribution Outside Fundings Carryover Funds Choice Revenue Monda Charge Revenue Management Charge C	123,000	4,800	49,000 4,214,738	150,390 150,390 (0)	19,505	,	4,746		127,800 199,390 4,389,379 (0) 1,609,205	(199,390)	127,800 4,389,379 1,609,205
Miscellatiegus income Total Revenues	8,914,735	139,755,385	4,263,738	300,780	19,505		4,746		153,258,889	(199,390)	153,059,499
Expenses: Water Purchases Salaries & Wages less & W. Reimb. DSC or Recov from Grants	3,444,620 (31,600)	139,750,585		168,740	3,626	'			139,750,585 3,616,986 (31,600)		139,750,585 3,616,986 (31,600)
Employee Benefits Engineering Expense Professional Fees	1,073,408 405,000 1,496,997 592,000		4,263,738	3,000	6/8				1,132,800 405,000 5,763,735 592,000	(49,000)	1,132,800 405,000 5,714,735 592,000
Legal Expense (annualized) Legal Expense - General Maintenance Expense	320,000 320,000 134,185			4,850	15,000	•			335,000 139,035		335,000 139,035
insurance Expense Membership / Sponsorship Director Compensation MW DOC Contribution to WEROC	90,000 134,458 231,937 150,390			390 390					91,500 134,848 231,937 150,390	(150,390)	91,500 134,848 231,937
MWDOC Contribution to Desalination RPOI Distribution to Member Agencies							4,746		4,746		4,746
Outers. MWD Representation Director Benefits Health Insurance Coverage for Retirees	132,535 66,297 50,326								132,535 66,297 50,326		132,535 66,297 50,326
Audit Expense Automotive & Toll Road Expenses Conference Expense - Staff Conference Expense - Interdires	24,000 14,928 22,125 10,725			1,800		•			24,000 16,728 24,305		24,000 16,728 24,305 10,725
Conference Expense - Directors CDR Participation Business Expense Miscellaneous Expense	39,972 39,972 6,000 124,520			000'9		,			39,972 39,972 6,000 130,520		39,972 39,972 6,000 130,520
Postage / Mail Delivery Rents & Leases	11,400 7,000			20,046					11,400 27,046		11,400 27,046
Outside Printing, Subscription & Books Office Supplies	38,225 38,280			1,000					39,225 39,280		39,225
Computer Maintenance Software Support & Expense	000,01			4,373 7,087					14,3/3 84,387		14,373 84,387
Computer sand Equipment Telecommunications Expense	19,200			000'6					28,200 28,200		28,200
reinporaly melly expenses Training Expense Tuition Reimbursement	12,000								12,000		12,000 5,000
Travel & Accommodations - Staff Travel & Accommodations - Directors	71,130 38,250			4,300					75,430 38,250		75,430 38,250
MWDOC Building Expense (generator & radios)	495,000			7,000					495,000 7,000		495,000 7,000
Capital Acquisition All Other Expenses	62,500 1,409,213	-		63,786					62,500 1,472,999		62,500 1,472,999
Total Expenses	9,450,608	139,750,585	4,263,738	300,780	19,505	•	4,746		153,789,962	(199,390)	153,590,571
EFFECT ON RESERVES / FUND BALANCE	\$ (535,873)	\$ 4,800	·	,	, sa	· •	٠ ج	· •	\$ (531,073)	· •	\$ (531,072)

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Revised Percentage Of Investment (RPOI) - distribution of installment AMP sales proceeds from bond participants.
 Adjustment for MWDOC's contributions to other funds.
 Net change to restricted reserves for interest revenue.



ACTION ITEM May 18, 2016

TO: Board of Directors

FROM: Administration & Finance Committee

(Directors Thomas, Barbre, Finnegan)

Robert J. Hunter, General Manager

Staff Contacts: Karl Seckel, Harvey De La Torre

SUBJECT: Proposed MWDOC Water Rate Resolution for Fiscal Year 2016-17

STAFF RECOMMENDATION

It is recommended that the Board of Directors:

- 1. Increase the MWDOC Retail Meter Charge from \$10.85 to \$10.95 per meter, and
- 2. Assess a new Groundwater Customer Charge of \$392,666.00 to Orange County Water District, effective July 1, 2016, and
- 3. Adopt the Water Rate Resolution setting forth rates and charges to be effective July 1, 2016 and January 1, 2017 as identified in the Water Rate Resolution for Fiscal Year 2016-17.

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation.

DETAILED REPORT

MWDOC adopts a Water Rate Resolution annually to reflect water rates and charges required to collect revenue to support MWDOC's annual budget and to recover the costs of providing imported water. Attachment A is a copy of the new Water Rate Resolution. Normally, staff provides a markup copy of the new water rate resolution to show the

Budgeted (Y/N): NA	Budgeted a	amount: NA	Core _X_	Choice
Action item amount: NA	١	Line item:		
Fiscal Impact (explain if	unbudgete	d):		

proposed changes compared to last year's version; which typically are minor in scale. However, this year with the assistance of District's Legal Counsel, Best, Best & Krieger, staff completely realigned and revised the rate resolution's recitals and sections, deleted outdated language, and incorporated a new section (e.g. Groundwater Customer Charge).

As recommended in the MWDOC Rate Study, staff is incorporating in the Rate Resolution a description of a new charge known as the Groundwater Customer Charge to Orange County Water District (OCWD) to recover the cost of services MWDOC provides to OCWD.

Below is a summary of the Proposed Rates and Charges for FY2016-17:

Proposed Rates	Proposed Rates July 1, 2016	Proposed Rates January 1, 2017
MWDOC Retail Meter Charge	\$10.95/meter	\$10.95/meter
MWDOC Groundwater Customer Charge*	\$392,666	-
System Access Rate	\$259.00	\$289.00
System Power Rate	\$138.00	\$124.00
Water Stewardship Rate	\$41.00	\$52.00
MWDOC Melded Supply Rate	\$156.00	\$201.00
Treatment Surcharge	\$348.00	\$313.00
Treated Full Service Rate	\$942.00	\$979.00
Untreated Full Service Rate	\$594.00	\$666.00

^[*] This is a one-time charge to OCWD

Attachment A – Proposed MWDOC Water Rate Resolution for Fiscal Year 2016-17

RESOLUTION NO. MUNICIPAL WATER DISTRICT OF ORANGE COUNTY ESTABLISHING WATER RATES

WHEREAS, pursuant to Water Code sections 71614 and 71616, the Municipal Water District of Orange County ("MWDOC") is authorized to establish water rates and charges for water which will result in revenues sufficient to meet the operating expenses of the District, provide for repairs and depreciation of works, provide a reasonable surplus for improvements, extensions and enlargements, and cover principal and interest payments and costs associated with bonded debt; and,

WHEREAS, the Metropolitan Water District of Southern California ("Metropolitan"), adopted rates for water service consisting of a two-tiered water supply rate, and separate unbundled rates for system access, water stewardship, system power, water treatment, and fixed charges for system capacity and Readiness-to-Serve, which are imposed on MWDOC as a condition of receiving water deliveries from Metropolitan; and,

WHEREAS, pursuant to Section 1117 of the MWDOC Administrative Code, the MWDOC Board of Directors adopted Ordinance No. ____ establishing classes of water service, and terms and conditions of such service, and adopted Resolution No. ___ fixing the rates and charges for said classes of water service (including Choice services in Section 6); and

WHEREAS, the Board of Directors has reviewed the cost of water and other charges imposed on MWDOC by Metropolitan, and with respect to the projected MWDOC operating expenses and financial needs, and has determined that it is necessary and appropriate to establish new rates and charges for water service and programs provided by MWDOC; and

WHEREAS, the Board of Directors has reviewed the water supply, water demand and replenishment conditions in the Orange County Water District (OCWD) Basin and the impact

these conditions will have on MWDOC imported water purchases from Metropolitan; and

WHEREAS, MWDOC's Administration and Finance Committee and Board reviewed the issue of tiered or melded water rates for Tier-1 and Tier-2 purchases from Metropolitan in November 2004, and retained the melded rate, with a provision for further review should the OCWD's basin pumping percentage fall below 60% in the future; and

WHEREAS, Metropolitan continues to levy its Standby Charge within the MWDOC service area, which will be credited against Metropolitan's Readiness to Serve Charge and will provide an equivalent offset on the Metropolitan charges imposed on MWDOC; and

WHEREAS, Metropolitan assesses the Capacity Charge to MWDOC based on MWDOC's highest cumulative peak day delivery rate in cubic feet per second (CFS) between May 1 and September 30 in the three preceding calendar years, ending on the year prior to the year of the charge being imposed; and

WHEREAS, MWDOC engaged Raftelis Financial Consultants, Inc. to prepare a cost of service and rate study (Rate Study) for MWDOC's rates and charges; and

WHEREAS, the Rate Study was completed in 2016 and affirmed MWDOC's Retail

Meter Charge, and added a new Groundwater Customer Charge effective with the fiscal year

2016-17 rates and charges; and

WHEREAS, beginning with the budget year commencing July 1, 2011 through June 30, 2012, the MWDOC Board approved changing the format of the budget and how certain "Choice" services are to be funded by those MWDOC member agencies and the cities of Anaheim, Fullerton and Santa Ana (3 Cities) electing to receive such services; and

WHEREAS, the MWDOC Board has approved the "Choice" services, the associated budgets, and the methods for allocating such costs to the member agencies, and has directed staff to bill for those costs pursuant to Section 11 of this Resolution as part of MWDOC's water rates and charges; and

WHEREAS, there is a need to charge for costs associated with the transfer or wheeling of water into the MWDOC service area by any member agency as is provided for in this Resolution.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Municipal Water District of Orange County that, subject to the terms and conditions set forth herein, the rates and charges for the classes of water service provided by MWDOC to MWDOC's member agencies shall be as follows:

SECTION 1. RATES FOR CLASSES OF WATER SERVICE.

The rates per acre-foot of Metropolitan water sold or delivered by MWDOC to its member agencies shall be as follows:

(a) For Full Service, including water delivered for seawater barrier and groundwater replenishment purposes and for agricultural purposes.

Rate Component	July 1 through	Beginning
	December 31, 2016	January 1, 2017
Untreated Full Service	\$594.00	\$666.00
Treated Full Service	\$942.00	\$979.00
Unbundled Rate By Component:		
System Access Rate	\$259.00	\$289.00
System Power Rate	\$138.00	\$124.00
Water Stewardship Rate	\$41.00	\$52.00
MWDOC Melded Supply Rate*	\$156.00	\$201.00
Tiered Supply Rate (Tier 1/Tier 2)*	N/A	N/A
Subtotal Untreated Full Service:	\$594.00	\$666.00
Treatment Surcharge	\$348.00	\$313.00
Total Treated Full Service:	\$942.00	\$979.00

^{*} Any unused revenue will be applied to the Tier 2 Contingency Fund as described in MWDOC's Administrative Code. As a result of MWDOC not applying the Tier 2 Contingency Fund rate, the MWDOC Melded Supply Rate is equal to MET's Tier-1 Supply Rate at this time.

(b) **Drought Allocation Surcharge**

Rates for a Drought Allocation Surcharge are established by Board action in accordance with the Water Supply Allocation Plan (WSAP), as required.

<u>SECTION 2.</u> <u>MWDOC READINESS-TO-SERVE CHARGE</u>.

(a) Amount Due to Metropolitan from MWDOC

Metropolitan has notified MWDOC that for fiscal year 2016-17 Metropolitan estimates that the amount of Metropolitan's Readiness to Serve ("RTS") Charge applicable to MWDOC,

which exceeds the standby charges collected in MWDOC's service area ("Net RTS") is \$11,532,284. The Net RTS Charge will be allocated among the MWDOC member agencies, as provided herein and invoiced as a fixed charge to each MWDOC member agency.

Metropolitan will bill MWDOC for the Net RTS Charge on a monthly installment basis. The MWDOC Net RTS Charge will be invoiced to the MWDOC member agencies on a monthly basis.

(b) Apportionment of Net Metropolitan RTS Charge to MWDOC's Member Agencies

The MWDOC method of apportioning the Net RTS Charge to the MWDOC member agencies uses the most recently completed four-year rolling average of fiscal year full service purchases of water ending one year prior to the year of the charge being imposed (i.e., for fiscal year 2016-17 charges, the four-year average shall be based on fiscal years 2011-12 through 2014-15). The Net Metropolitan RTS Charges to MWDOC shall be apportioned to the MWDOC member agencies based on the four-year average of full service sales, which would include wheeled and transferred water.

(c) Fiscal Year 2016-17 MWDOC Readiness to Serve Charge Rate

For fiscal year 2016-17, MWDOC will charge the MWDOC member agencies total Net RTS Charges of \$11,532,284. The amount of the Net RTS Charge to be apportioned to each of the MWDOC member agencies is set forth in **Exhibit A**, attached hereto and by this reference incorporated herein made an operative part hereof.

(d) Adjustment of RTS Charge

Metropolitan determines its Net RTS Charge to each agency based on the estimated revenue derived from the Metropolitan Standby Charge within each member agency (less delinquencies and administrative costs). The projected Net Standby Charge revenue for MWDOC in fiscal year 2016-17 is set forth in **Exhibit A**. Once the actual Net Standby Charge revenue is known, Metropolitan may adjust the amount of the Net RTS Charge for the

prior year through an additional charge or credit. Any adjustment necessary to reconcile the estimated Net RTS Charge with the actual Net RTS Charge will be charged or credited to each MWDOC member agency in the next regularly scheduled water billing following the preparation of the reconciliation report by Metropolitan.

SECTION 3. MWDOC CAPACITY CHARGE

(a) Amount due to Metropolitan from MWDOC

Metropolitan has notified MWDOC that for calendar year 2017, the amount of the Metropolitan Capacity Charge to be imposed on MWDOC will be \$3,544,800. The Metropolitan Capacity Charge will be allocated among the MWDOC member agencies as provided herein and invoiced as a fixed charge to each member agency. Metropolitan will bill MWDOC for the Capacity Charge on a monthly installment basis. The MWDOC Capacity Charge will be invoiced to the MWDOC member agencies on a monthly basis.

(b) Apportionment of Metropolitan's Capacity Charge to MWDOC's Member Agencies

The MWDOC Method of apportioning the Capacity Charge to the MWDOC member agencies uses each member agency's highest peak day flow for delivery of full service water, which includes wheeled and transferred water, during the period of May 1 through September 30 of each year for the three-year period ending one year prior to the year of the charge being imposed (i.e., for calendar year 2017 charges, the highest peak day flow shall be based on May 1 through September 30, 2013, 2014 and 2015). The peak day flow for each MWDOC member agency is used to apportion the Capacity Charge based upon the ratio of each agency's highest peak day flow to the sum of all member agencies' highest peak day flows. The amount of the 2017 Capacity Charge apportioned to each member agency is set forth in **Exhibit B**, attached hereto and by this reference incorporated herein and made an operative part hereof.

SECTION 4. MWDOC'S RETAIL METER CHARGE.

The annual charge to be imposed by MWDOC on each member agency for each retail water meter served by a MWDOC member agency which is in service as of January 1 of each year ("MWDOC's Retail Meter Charge") shall be \$10.95. MWDOC's Retail Meter Charge shall be collected in accordance with Section 11 of this Resolution. Annually, or at such time as determined to be necessary, MWDOC will request supporting documentation from each member agency to verify the number of retail meters within their service area, and such documentation shall be signed by a representative of the member agency. MWDOC is also authorized to conduct random on-site visits with the member agencies to verify the data on the number of retail meters.

SECTION 5. MWDOC Groundwater Customer Charge

The annual charge to be imposed on OCWD for Core services provided by MWDOC for fiscal year 2016-17 shall be \$392,666.00. MWDOC's Groundwater Customer Charge to be imposed on OCWD shall be collected in accordance with Section 11 of this Resolution.

The Groundwater Customer Charge is calculated based on OCWD's portion of MWDOC's Cost Centers #21 (Planning and Resource Development) and #23 (MET Issues and Special Projects), plus one-twenty-sixth of the remaining MWDOC cost centers of MWDOC's fiscal year 2016-17 general fund core budget, but not including the WEROC cost item. OCWD's portion of Cost Centers #21 and #23 is based on the most recent 10-year historical water purchases as a percentage of the sum of the MWDOC member agencies' 10-year historical water purchases.

SECTION 6. CHOICE Services to the MWDOC Member Agencies 2016-17

The Choice services to the member agencies shall be provided and charged for as follows for 2016-17:

- (a) Water Use Efficiency Program The cost of MWDOC's Water Use Efficiency Program shall be allocated to those agencies electing to participate in the program. The costs shall be apportioned to the participants in proportion to the benefits received from incentive payments received from Metropolitan and any other sources of funding from the program in calendar year 2015. There may be other costs allocated over and above these costs for participation in certain water use efficiency program efforts in various parts of Orange County and under the Integrated Regional Water Management Plans that are separate from this basic program. Anything beyond the basic program will be implemented separately by agreement or memorandum of understanding with each participating member agency. The costs to be charged shall reflect any carry-over or deficit funds from the preceding fiscal year.
- (b) School Education Program Each participating member agency may set a target number of students for which the School Education program for grades 1-6 ("basic program") be made available in their service area. The basic program will be charged based on the actual number of students to which the program is provided, at a cost of \$3.91 per student. The School Education Program in fiscal year 2016-17 offers other additional services to the member agencies that may be provided pursuant to a contract entered into with MWDOC and under a separate fee structure. A High School Education Program is also offered for grades 9-12. The High School program is charged based on each member agency's school participation in their service area. The costs to be charged

- shall reflect any carry-over or deficit funds from the preceding fiscal year.
- (c) 2014 Doheny Desalination Program During fiscal year 2014-15, given an uncertain scope of work for new Doheny activities, MWDOC requested \$10,000 from each of the five member agencies (City of San Juan Capistrano, Moulton Niguel WD, South Coast WD, Laguna Beach CWD, and San Clemente). Only three of the five agencies contributed funding (South Coast WD, Laguna Beach CWD and San Clemente). These funds were retained in fiscal year 2015-16. With the transition of the Doheny Project to South Coast Water District, the \$30,000 funds from fiscal year 2014-15 will be returned to the contributing agencies.
- (d) 2008 Fund for Doheny Desal (Phase 3 efforts) The label 2008 is used to signify the year the efforts began. Funding for this Project has involved five participating member agencies (City of San Juan Capistrano, Moulton Niguel WD, South Coast WD, Laguna Beach CWD, and San Clemente), MWDOC and grants brought into the program such that the total revenue for the effort is \$6.2 million. MWDOC's latest accounting indicates that approximately \$31,194 of available revenue remains, plus the \$356,000 retained to remove the facilities at such time it is appropriate to do so. The combined total of \$387,194 is being used to carry out the operations for fiscal year 2015-16 (State Parks lease and electrical costs) and for the decommissioning work for the slant well, the mobile test facility and to restore the site. In the event additional funds are needed to complete this work, MWDOC will invoice all five participating member agencies, until such time as a close-out arrangement has been completed.
- (e) Poseidon Huntington Beach Ocean Desalination Program The Poseidon
 Ocean Desalination project Choice activities for fiscal year 2016-17 are

uncertain at the time the Board is adopting the budgets and setting the rates and charges. During fiscal year 2014-15, 17 member agencies participated in the Poseidon Choice program. MWDOC will not charge the participating member agencies during fiscal year 2016-17, and will maintain the existing accumulation of funds that will be made available for such uses as decided by the Poseidon Workgroup. Approximately \$44,416 remains in the fund.

- (f) Value of Water Communications Program – The charge for the Value of Water Communications Program Choice activities for fiscal year 2016-17 are uncertain at the time the Board is adopting the budgets and setting the rates and charges. The Core development phase of the program was initiated in fiscal year 2013-14. The first phase of implementation occurred in fiscal year 2014-15. Additional media buys and refinements of messaging and use of the public service announcement and other materials will be carried out by a combination of MWDOC and the member agencies. However, given the drought discussions occurring as the budget is being approved, the actual activities anticipated under the value of water have become uncertain this coming year. The actual work to be completed will have to be worked out between MWDOC and the participating agencies. Staff has developed and provided to the MWDOC member agencies a conceptual forecast of the CHOICE costs for the Value of Water Communications Plan for FY2016-17. It was noted that these dollar estimates are placeholders for determining the initial CHOICE selections for FY2016-17 and will not be billed with the other CHOICE selections. Instead. final decisions on the level of the CHOICE participation by the various agencies will be made later in the year. The charge for services will occur at that time.
- (g) Water Loss Control Program: The 2015 Urban Water Management Plan

("UWMP") requires a water loss control effort to be included as a new component within one's UWMP. MWDOC hired a consultant on December 3, 2015 for the water loss control effort, and will ask for member agency commitments towards participation for the next three years. It is estimated that the cost for the completion of this effort will range from \$9,400 to \$49,000 per year for each participating member agency based on their elected level of consultant assistance.

The details on these Choice options and charges to the member agencies are included in Section 11 and are set forth in **Exhibit C**, attached hereto and by this reference incorporated herein and made an operative part hereof.

<u>SECTION 7</u>. <u>AMP SURCHARGE</u>.

The surcharge on water delivered through the Allen-McColloch Pipeline, in accordance with the Diemer Agreements (the "AMP Surcharge"), shall continue to be suspended and shall not apply to water delivered through the Allen-McColloch Pipeline pending Metropolitan's completion of its performance under the Agreement for Sale and Purchase of the Allen-McColloch Pipeline, as long as Metropolitan is not in default thereunder.

SECTION 8. RATES AND CHARGES FOR WHEELED, EXCHANGED OR TRANSFERRED WATER

Unless otherwise specified by written agreement with MWDOC, MWDOC shall charge the member agencies for water wheeled, exchanged or transferred through exchanges with Metropolitan into the MWDOC service area in accordance with the provisions below. Wheeled, exchanged or transferred water will also be assessed, unless otherwise specified by written agreement, at the then-applicable rates for wheeling services set by Metropolitan's Board of Directors from time to time pursuant to its Administrative Code for the use of Metropolitan's facilities to transport water not owned or controlled by Metropolitan to Metropolitan's member agencies. Metropolitan's rates for "wheeling service" are defined in the Metropolitan Administrative Code. Metropolitan's rate for wheeling service does not include power utilized for delivery, which the wheeling party must provide or pay directly at its own cost (if power can be scheduled by Metropolitan) or pay to Metropolitan at Metropolitan's actual (not system average) cost.

In addition to these charges, MWDOC shall assess the following charges related to costs, pursuant to applicable law:

- (a) A one-time administrative charge, based on actual time spent to account for the staff time and legal counsel time required for preparation of an agreement or agreements to establish the legal and administrative framework for water to be wheeled or transferred through exchanges with Metropolitan.
- (b) Unless otherwise specified by written agreement with MWDOC, an annual charge will be assessed, based on actual time spent in any year

in which water is wheeled or transferred through exchanges with Metropolitan, to cover staff time to account for and bill for the water.

(c) Other charges established by written agreement between MWDOC and a Member Agency.

SECTION 9. MWDOC WATER SUPPLY ALLOCATION PLAN (WSAP)

In the event that a regional water shortage is declared, the MWDOC Board can implement, adjust, or adopt an updated Water Supply Allocation Plan ("Plan"). This Plan, as adopted in 2009, updated in 2014 and 2016, and as amended from time to time, established procedures allowing MWDOC to assess an allocation surcharge to its member agencies in the event MWDOC is assessed an allocation surcharge under Metropolitan's own "Water Supply Allocation Plan." Under MWDOC's Plan, surcharges may be assessed according to a particular member agency's prorated share of it's over usage relative to the MWDOC surcharge amount assessed by Metropolitan. However, the rates set forth in this Resolution do not include or otherwise account for potential surcharges that may be assessed by MWDOC under its Water Supply Allocation Plan.

<u>SECTION 10.</u> <u>EFFECTIVE DATE.</u>

The rates set forth in this Resolution shall become effective as of July 1, 2016 or thereafter as specified and shall remain in effect until changed by subsequent Resolution of the Board of Directors.

<u>SECTION 11.</u> <u>BILLING AND PAYMENT.</u>

Billing Schedule. MWDOC member agencies shall be billed for water delivered and

for other charges as follows:

- (a) MWDOC's cost of acquisition of the water, and the AMP Surcharge (if applicable) shall be billed in the month following delivery of the water;
- (b) MWDOC's Retail Meter Charge shall be billed once annually on or after

 July 1st of each year, for each retail water service meter within each

 member agency's service area;
- the MWDOC Readiness-to-Serve Charge shall be billed in monthly installments on the water billing in accordance with **Exhibit A**, the MWDOC Capacity Charge shall be billed in monthly installments on the water billing in accordance with **Exhibit B**; and
- (d) the MWDOC Choice services shall be billed once annually on or after July 1st of each year in accordance with **Exhibit C** and/or as may be adjusted during the fiscal year in discussions with and as agreed to by the Choice Program participants.
- (e) The fixed annual Groundwater Customer Charge to OCWD, as set forth in MWDOC's Water Rate Ordinance No. and referred to in Section 5 hereof, shall be billed to OCWD annually in advance on July 1. All such billings shall be due on receipt by the member agency and shall be delinquent if payment is not received by MWDOC by the 15th day of the month following the mailing of the billing or within 30 days of mailing of such billing, whichever date is later.

SECTION 12. EXEMPTION FROM CEQA.

The Board of Directors finds that the adoption of the rates and charges as set forth in this Resolution are exempt from the California Environmental Quality Act under Section

21080(b)(8) of the Public Resources Code in that the water rates established herein are for the purpose of meeting operating expenses of MWDOC, including employee wages and fringe benefits, purchasing or leasing of supplies, equipment and materials, meeting financial reserve needs and requirements and obtaining funds for capital projects necessary to maintain service within existing service areas.

SECTION 13. REASONABLE COST.

The Board of Directors finds that the water rates established herein are in accordance with the adopted fiscal year 2016-17 budget, and that said rates do not exceed the reasonable cost of providing water service and other services and regulatory functions for which they are charged.

SECTON 14. <u>SUPERSEDES PRIOR RESOLUTIONS</u>.

All resolutions, ordinance or administrative actions by the Board or parts thereof that are inconsistent with any provision of this Resolution are hereby superseded only to the extent of such inconsistency.

<u>SECTION 15.</u> <u>RATES SUBJECT TO ORDINANCE.</u>

The rates for water service established herein are subject to Ordinance No. __ as it may be amended from time to time.

SECTION 16. IMPLEMENTATION.

The General Manager is directed to establish procedures to implement this Resolution.

BE IT FURTHER RESOLVED that a copy of this Resolution be sent to each of MWDOC's member agencies.

Said Resolution No	_was adopted May 18, 2016 by the following roll call vote:
AYES: NOES: ABSENT: ABSTAIN:	
	MARIBETH GOLDSBY, District Secretary Municipal Water District of Orange County

Exhibit A

Readiness-to-serve Charge for MWDOC Client Agencies for FY 2016-17

|--|

		•		•			AF Share		FY 2014-15	1	010	Monthly Charge	rge	Monthly Charge
Agency	2011-12	2012-13	2013-14	2014-15	14-15 CPTP Varience	4-Yr Ave	(%)	Net RTS	RTS Adjustment	Net KIS		July - December	per	January - June
Brea	2,812	3,163	3,459	3,285	0.00	3,180	1.45%	\$ 167,735.50	- \$	\$ 167	167,735.50	\$ 15,353.68	3.68	12,602.25
Buena Park	4,998	5,252	4,571	2,782	0.00	4,401	2.01%	\$ 232,139.58	- \$	\$ 232	232,139.58	\$ 21,248.90	3.90	17,441.03
East Orange County Water District	4,108	3,512	4,765	3,365	243.40	3,938	1.80%	\$ 207,704.11	- \$	\$ 207	207,704.11	\$ 19,012.19	2.19 \$	15,605.16
El Toro Water District	9,005	9,420	10,165	8,631	0.00	9,305	4.26%	\$ 490,845.87	- \$	\$ 490	490,845.87	\$ 44,929.57	3.57	36,878.07
Fountain Valley	3,373	3,201	2,644	2,618	2616.00	2,959	1.35%	\$ 156,089.64	-	\$ 156	56,089.64	\$ 14,287.66	.66	11,727.28
Garden Grove	8,775	6,893	5,183	5,928	0.00	6,695	3.06%	\$ 353,148.81	- \$	\$ 353	353,148.81	\$ 32,325.48	5.48 \$	26,532.66
Golden State Water Company	9,285	8,793	8,209	5,863	171.10	8,037	3.68%	\$ 423,966.89	-	\$ 423	423,966.89	\$ 38,807.81	.81	31,853.34
Huntington Beach	10,431	9,545	9,342	7,692	(3455.20)	9,253	4.23%	\$ 488,073.86	-	\$ 488	488,073.86	\$ 44,675.84	5.84 \$	36,669.80
Irvine Ranch Water District	17,633	23,516	21,127	16,479	0.00	19,689	9.01%	\$ 1,038,585.17	- \$	\$ 1,038	,038,585.17	\$ 95,066.89	\$ 68.9	78,030.64
La Habra	1,976	938	42	232	0.00	797	%96.0	\$ 42,045.64	- \$	\$ 42	42,045.64	\$ 3,848.65	3.65	3,158.96
La Palma	756	202	663	539	538.70	616	0.28%	\$ 32,480.76	- \$	\$ 32	32,480.76	\$ 2,973.13	3.13 \$	2,440.33
Laguna Beach County Water District	3,556	3,637	3,926	3,641	0.00	3,690	1.69%	\$ 194,641.91	- \$	\$ 194	94,641.91	\$ 17,816.55	3.55 \$	14,623.77
Mesa Water District	6,169	2,900	0	0	(1997.80)	2,267	1.04%	\$ 119,590.65	- \$	\$ 119	119,590.65	\$ 10,946.73	3.73 \$	8,985.05
Moulton Niguel Water District	27,551	28,361	28,869	26,792	0.00	27,893	12.76%	\$ 1,471,369.21	- \$	\$ 1,471	,471,369.21	\$ 134,681	.77	110,546.43
Newport Beach	5,536	4,651	6,045	4,338	0.00	5,143	2.35%	\$ 271,269.08	- \$	\$ 271	271,269.08	\$ 24,830.61	3.61	20,380.90
Orange	9,065	8,583	7,796	6,516	0.00	7,990	3.65%	\$ 421,470.50	- \$	\$ 421	421,470.50	\$ 38,579.30	30 \$	31,665.78
Orange County Water District	2	24,360	55,215	62,759	1883.80	36,334	16.62%	\$ 1,916,603.55	- \$	\$ 1,916	,916,603.55	\$ 175,436.30	3.30	143,997.63
San Clemente	9,118	9,014	9,654	8,917	0.00	9,176	4.20%	\$ 484,022.67	- \$	\$ 484	484,022.67	\$ 44,305.01	5.01 \$	36,365.43
San Juan Capistrano	3,876	4,731	5,189	5,166	0.00	4,741	2.17%	\$ 250,064.93	- \$	\$ 250	250,064.93	\$ 22,889.69	\$ 69.6	18,787.80
Santa Margarita Water District	26,532	27,929	28,779	26,725	0.00	27,491	12.57%	\$ 1,450,145.28	- \$	\$ 1,450	,450,145.28	\$ 132,739.04	9.04	108,951.84
Seal Beach	1,287	1,188	1,164	787	0.00	1,107	0.51%	\$ 58,369.10	- \$	\$ 58	58,369.10	\$ 5,342.82	2.82	4,385.37
Serrano Water District	0	501	4,034	4,682	0.00	2,304	1.05%	\$ 121,545.04	- \$	\$ 121	121,545.04	\$ 11,125.62	5.62	9,131.88
South Coast Water District	5,558	5,625	6,030	5,714	0.00	5,732	2.62%	\$ 302,349.33	- \$	\$ 302	302,349.33	\$ 27,675.54	5.54 \$	22,716.01
Trabuco Canyon Water District	2,187	2,832	3,183	2,968	0.00	2,793	1.28%	147,306.51	- \$	\$ 147	147,306.51	\$ 13,483.70	3.70 \$	11,067.38
Westminster	4,179	3,980	3,760	2,356	0.00	3,568	1.63%	\$ 188,235.43	- \$	\$ 188	188,235.43	\$ 17,230.13	3.13	14,142.44
Yorba Linda Water District	10,807	10,820	10,881	5,595	0.00	9,526	4.36%	\$ 502,485.14	- \$	\$ 502	502,485.14	\$ 45,994.98	\$ 86.1	37,752.55
Sum of MWDOC Agencies	188,574	213,850	244,694	227,369	00.00	218,622	%001	\$ 11,532,284.15	- \$	\$ 11,532,284.15		\$ 1,055,607.59	\$ 65.	866,439.78

2016	July - December	9,856,838	(3,523,193)	6,333,646	1,055,608
		6 Month RTS Charge	Estimated Standby Charge Revenue	6 Month Net RTS Charge	Monthly Net RTS Charge

٠		
	2016	2017
	July - December	January - June
rs Charge	868'958'6	8,721,831
Revenue	(3,523,193)	(3,523,193)
rs Charge	6,333,646	5,198,639
rs Charge	1,055,608	866,440
•		
		11.00.00

	CY 2016		CY 2017
MWDOC Share	12.88%		12.92%
RTS Total	\$ \$ 153,000,000	↔	135,000,000
MWDOC RTS	\$ 19,713,676	\$	17,443,662

Capacity Charge for MWDOC Member Agencies for CY 2017

	2013	2014	2015	Peak	DRAFT 5/3/16
MWDOC's Peak to MWD (cfs)	379.4	443.1	293.0	443.1	
Date	8/30/13	8/30/13 7/25/14 7/3/15	7/3/15	7/25/14	
					Two shared connections not yet allocated

Metropolitan Capacity Charge to MWDOC for CY 2017 \$ 3,544,800

	Capacity	/ Charge I	<u>∃ligible Fl</u>	Capacity Charge Eligible Flows (CFS)	CFS Share	Annual Capacity	Monthly Capacity
Agency	2013	2014	2015	3-Yr Peak	(%)	Charge	Charge
City of Brea	12.1	12.4	8.5	12.4	2.31%	\$ 81,722	\$ 6,810
City of Buena Park	8.7	4.9	7.6	8.7	1.62%	\$ 57,397	4,783
City of San Juan Capistrano	18.8	14.8	15.4	18.8	3.50%	\$ 123,911	10,326
East Orange County Water District	21.2	18.9	11.4	21.2	3.95%	\$ 139,982	11,665
El Toro Water District	18.1	20.2	15.9	20.2	3.75%	\$ 133,047	11,087
City of Fountain Valley	3.3	0.0	3.6	3.6	%290	\$ 23,890	1,991
City of Garden Grove	14.1	14.2	9.0	14.2	2.65%	\$ 93,904	7,825
City of Huntington Beach	29.5	29.7	25.0	29.7	5.53%	\$ 196,020	16,335
Irvine Ranch Water District	41.6	43.3	41.2	43.3	8.07%	\$ 285,924	23,827
City of La Habra	8.5	0.0	2.3	8.5	1.59%	\$ 56,190	4,682
City of La Palma	3.4	0.0	1.4	3.4	0.63%	\$ 22,203	1,850
Laguna Beach County Water District	7.3	7.5	7.0	7.5	1.40%	\$ 49,776	4,148
Mesa Consolidated Water District	0.0	0.0	0.0	0.0	%00.0	٠	•
Moulton Niguel Water District	56.4	52.5	49.0	56.4	10.50%	\$ 372,334	31,028
City of Newport Beach	13.4	11.8	10.3	13.4	2.49%	\$ 88,107	7,342
Orange County Water District	9.0	101.4	61.0	101.4	18.88%	\$ 669,208	55,767
City of Orange	18.0	18.5	15.8	18.5	3.44%	\$ 121,973	10,164
City of San Clemente	20.0	20.0	20.0	20.0	3.72%	\$ 131,978	10,998
Santa Margarita Water District	60.5	61.1	53.9	61.1	11.38%	\$ 403,458	33,621
City of Seal Beach	5.4	5.2	5.5	5.2	1.02%	\$ 36,329	3,027
Serrano Water District	0.0	0.0	0.0	0.0	%00.0	- \$	•
Golden State Water Company	14.8	14.1	7.9	14.8	2.75%	\$ 97,357	8,113
South Coast Water District	11.4	10.9	10.7	11.4	2.12%	\$ 75,078	6,257
Trabuco Canyon Water District	6.3	6.5	0.9	6.5	1.21%	\$ 43,028	3,586
City of Westminster	5.5	4.8	5.3	5.3	0.98%	\$ 34,799	2,900
Yorba Linda Water District	31.4	15.1	12.6	31.4	5.84%	\$ 207,186	17,265
			Total	537.2	400%	\$ 3,544,800	\$ 295,400
			MWDOC	Capacity Cr	MWDOC Capacity Charge Per CFS:	\$ 6,599	

* Based on MWDOC's aggregate peak flow of 443.1 cfs on 7/25/2014 charge at MET's rate of \$8,000 per cfs 2012 & 2013 peak flows adjusted for MET OC-88 metering error.

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Exhibit C

MWDOC Member Agency Choice Services Program Summary

Cost Allocations by Agencies for FY 2016-17

DRAFT

					No contr	o contributions needed	this year			
Program Budget	Water Use Efficiency	School Education (Elementary) [6]	School Education Communications Posei (High School) [6] Program [7] Desa	County Wide Communications Program [7]	te Poseidon Ocean Doheny 2008 [4] Do Fig. 1 Pd	Doheny 2008 [4]	Doheny 2014 Refund [5]	Doheny 2014 Water Loss Control Refund [5] Program [8]	AMP Administration [9]	Total Choice Allocation
Draft Budget (4/13/2016) [1]										- \$
Prior Year Adjustment [2]										*
Net Project Budget	\$	- \$	\$	*	\$ 44,416 \$	\$ 387,194	- \$	-	- \$	*

Net Project Budget	Ð		Ð		- ₽	Ð	•	\$ 44,416	387,194		2		Ð		æ	
Retail Agency	≥ Ⅲ	Water Use Efficiency	S Edu	School ducation	School Education (High School) [6]	<u>ح</u>	County Wide	Poseidon Ocean Desalination[3]	Doheny 2008 [4]	Doheny 2014 Refund [5]		Water Loss Control Program [8]	AMP Administration	[6] uo	Total Choi Program	Total Choice Program
Brea	မာ	14.213	+	5.574	\$ 4.594	છ	6.792			9	69		8		69	65,464
Buena Park	S	5,041	8	8,223		8	9,247			· 69			· 69	,	4	53,218
East Orange County WD	₩.	1,526	8	1,104	\$ 2,000	· &	4,207			· 69	φ.	39,032	· 69	902	· 69	48,474
El Toro WD	8	41,261	8	5,628		\$	7,304			\$	€9	27,032	\$	922	€9-	86,169
Fountain Valley	↔	8,560	8	4,908	\$ 1,716	& C	7,671)()(€9	€9	9,432	&	,	€9	32,288
Garden Grove	↔	15,521	8	18,231	\$ 3,230	\$	15,319)()(€	↔	9,432	&	ı	€9	61,734
Golden State Water Company	↔	39,026	8	4,885	\$ 11,418	8	14,785],],	€	⇔	27,032	8		₩	97,146
Huntington Beach	s	45,867	69	21,504	\$ 2,983	3	16,606	\	V	€	⇔	48,672	\$		€	135,632
Irvine Ranch WD	છ	205,611	8		· •	49	19,000	۱1	۱1	\$	⇔		₩	8,356	₩	232,967
La Habra	↔	4,167	69	7,026	8	8	7,911	\J	\ <u> </u>	\$	⇔	34,292	s			54,797
La Palma	↔	5,798	\$	2,708	\$ 684	\$	4,973	/	/	€	⇔	27,032	8		₩	41,196
Laguna Beach County WD	s	9,471	8	1,057	€	\$	5,267	\c	(0	\$ (10,0	\$ (000	27,032	€		€	37,072
Mesa Water	↔	22,494	\$	3,327	\$ 4,762	8	10,786		1	\$	⇔	27,032	⇔		\$	68,402
Moulton Niguel WD	s	156,398	8	18,329		\$	14,783	р	р	\$	⇔		6	2,707	49	199,197
Newport Beach	↔	37,403	\$	٠		69	8,170	ΙƏ	ΙƏ	69	↔	27,032	⇔		₩	72,605
Orange	s	27,606	8	8,756	\$ 1,598	8	12,697	-) -	\$	⇔	27,032	8	1,051	₩	78,739
Orange County WD	↔	٠	↔	•	· •	↔		4		\$	⇔		\$		\$	
San Clemente	s	45,381	8	1,581	\$ 4,910	\$ 0	7,238	۱۸	۸۱	\$ (10,000	\$ (000	27,032	⇔	,	\$	76,142
San Juan Capistrano	↔	17,832	8	7,652		\$	6,474	Ol	01	\$	⇔	34,292	⇔	,	\$	67,304
Santa Margarita WD	↔	88,222	8	14,548	\$ 6,102	\$	14,061	26	26	\$	↔			5,528	€9	128,462
Seal Beach	છ	2,664	\$	2,391		49	5,531	ЭJ	ЭJ	\$	€9		€		\$	20,019
Serrano WD	↔	7,323	\$	1,640	\$ 737	\$ 2	4,404	\		\$	⇔	27,032	s	,	s	41,135
South Coast WD	↔	36,109	\$	4,619	\$ 4,811	\$	6,334	√	√	\$ (10,000	\$ (00)	27,032	ક	,	s	68,905
Trabuco Canyon WD	s	8,625	8	1,898	\$ 20	\$	4,776	S	S	\$	⇔	27,032	8	337	₩	42,688
Tustin	ઝ	12,732	8	11,151	\$ 3,426	\$	8,036	р	р	€	⇔	27,032	\$,	\$	62,377
Westminster	↔	7,869	8	9,143	_	8	9,992	u	u	₩	φ.		S	,	s	28,425
Yorba Linda WD	ક્ર	25,899	\$	5,413	_	\$	8,794	n	n	\$	\$	34,292	\$	184	\$	74,583
Anaheim	↔	950	\$	29,089	•	\$	19,000	_	_	€9	\$		₩	215	↔	59,393
Fullerton	↔	252	↔	10,302	\$ 2,618	8	12,981			€9	↔	27,032	\$,	↔	53,184
Santa Ana	↔	5,105	8	42,402		\$	19,000			€	↔	27,032	\$,	ss	98,693
Orange County Total	s	898.928	\$	253.089	\$ 90,640	8	292.140	\$ 44.416	\$ 387.194	\$ (30.0	\$ (00)	661.708	\$ 16	19.905	\$ 2.	2,186,410

Note: Totals may not foot due to rounding.

** These numbers are draft and subject to change

To These numbers are from the MWDOC Draft Budget dated 4/13/2016

The adjustment amounts reflect prior year revenue overage or (shortfall) to be reconciled with participating member agencies

The adjustment amounts reflect prior year revenue overage or (shortfall) to be reconciled with participating member agencies

The activity for Poseidon Desal for FY 2015-16 remain uncertain at this time. The funds in the account are from prior years and are recommended to remain to assist with efforts that may arise in this coming Fiscal Year

The activity for Doheny 2008 is utilizing existing remaining funds (\$34.164) to pay the state lease and the power costs at the pilot plant site and \$365,000 retained for decomissioning

The activity for Doheny 2014 was uncertain. MWDOC collected \$10,000 each from the agencies to cover potential work. With the trasition of the Doheny Project to South Coast W.D. the funds are being returned

The Preliminary cost, To be confirmed by agency by agency basis, white board cost (water education video) allocated by agency percent of population with in Orange County

The Preliminary cost, To be confirmed by agency agency. The actual cost will vay based on the select of the firm and the scope of work. Line items were based on 15-16 participation of AMP sales Agreement only paid by AMP Participation



ACTION ITEM May 18, 2016

TO: Board of Directors

FROM: Administration & Finance Committee

(Directors Thomas, Barbre, Finnegan)

Robert J. Hunter, General Manager

Staff Contact: Karl Seckel, Harvey De La Torre

SUBJECT: Adoption of MWDOC Ordinance to Establish Classes of Water Service

and Terms and Conditions of Water Service within the District

STAFF RECOMMENDATION

Staff recommends the Board of Directors: Adopt the attached Ordinance No. 53 to Establish Classes of Water Service and Terms and Conditions of Water Service within the District. (MWDOC Administrative Code Section 1117 states that MWDOC shall provide at least ten days written notice that the Board will consider the adoption of a water service Ordinance and/or rates Resolution. Staff has met this requirement by emailing the Board letter and proposed Ordinance and Resolution to the member agencies on May 5, 2016.)

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation.

DETAILED REPORT

As needed, the Board may adopt an Ordinance for water service. To reflect recent changes in water service, proposed revisions to Ordinance No. 52 are attached, which would become Ordinance No. 53, and would supersede Ordinance No. 52.

With the assistance of District's legal counsel, Best, Best, & Krieger, staff's changes from Ordinance No. 52 to Ordinance No. 53 reflect a number of revisions, edits, and elimination of outdated language and sections. Also included in the Ordinance is the addition of the new Groundwater Customer Charge to OCWD that is recommended in our Rate Study to recover the cost of service MWDOC provides to OCWD.

Attached: Adopted Ordinance No. 52 (redlined); Proposed Ordinance No. 53

Budgeted (Y/N): NA	Budgeted a	amount: NA	Core	Choice
Action item amount: NA	4	Line item:		
Fiscal Impact (explain if	unbudgete	d):		

ORDINANCE NO. 53,

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY ESTABLISHING CLASSES OF WATER SERVICE AND TERMS AND CONDITIONS OF WATER SERVICE WITHIN THE DISTRICT

WHEREAS, the Municipal Water District of Orange County (hereinafter "MWDOC") is a member agency of the Metropolitan Water District of Southern California (hereinafter "Metropolitan") and the sole purveyor of imported water purchased from Metropolitan to retail water agencies and municipalities within MWDOC's service area; and

WHEREAS, MWDOC is authorized and directed by section 71616 of the Water Code of the State of California to establish water rates and charges for the sale of such water which will result in revenues sufficient to meet the operating expenses of the District, provide for repairs and depreciation of works, provide a reasonable surplus for improvements, extensions and enlargements, and cover principal and interest payments and costs associated with the bonded debt; and

WHEREAS, Metropolitan has established classes of service for water service available to MWDOC consisting of Treated and Untreated Full Service, and rates, charges and conditions of service applicable to each class of water service as set forth in the Metropolitan Water District Administrative Code; and

whereas, Mwdoc's 2001 Strategic Plan and the 2010 Update emphasizes Mwdoc's role in pursuing a regional approach to providing a reliable water supply to the residents of Mwdoc and Orange County; and

Deleted: __. 52

Deleted: §

Deleted: WHEREAS, on March 12, 2002, Metropolitan adopted a revised rate structure to become effective January 1, 2003, which eliminated or changed the method of calculation of various existing charges and added new charges for water service, consisting of a two tier water supply rate, and separate unbundled charges for system access, water stewardship, system power, water treatment; and a new charge for capacity, in addition to Metropolitan's existing Readiness-to-Serve Charge, which is imposed on MWDOC as a condition of receiving water deliveries from Metropolitan;

and, MHEREAS, Metropolitan also took action in 2002 to eliminate Metropolitan's New Demand Charge, Connection Maintenance Charge, and Short Term Seasonal Storage (seasonal shift) rates effective January 1, 2003; and WHEREAS, in 2002 and 2003, the MWDOC Administration

. WHEREAS, in 2002 and 2003, the MWDOC Administration and Finance Committee and the Board of Directors of MWDOC reviewed several options for implementation of Metropolitan's rates within MWDOC's service area; and

1

WHEREAS, the MWDOC Board views MWDOC's service area (and Orange County) as a single economic unit in which water supply reliability in one area of the County has an economic impact to the entire County; and

WHEREAS, beginning with the budget year commencing July 1, 2011, the MWDOC Board approved changing the format of the budget and how certain "CHOICE" services are to be funded by those MWDOC member agencies and others (such as the cities of Anaheim, Fullerton and Santa Ana) electing to receive such services; and

WHEREAS, pursuant to section 71614 of the California Water Code MWDOC may establish different rates for different classes of customers, and such rates shall be uniform throughout MWDOC for like classes and conditions of service; and

WHEREAS, the Board of Directors of MWDOC desires to establish classes of water service that will enable MWDOC to fix water rates and charges that will cover MWDOC's cost of water and other operating expenses including financial requirements; and

WHEREAS, the Board of Directors of MWDOC desires to adopt terms and conditions for the provision of the various classes of water service and to establish water rates and charges for such classes of service to be imposed by resolution periodically; and

WHEREAS, the MWDOC Rate Study was completed in 2016, which added a new Groundwater Customer Charge effective with the FY2016-17 rates and charges...

NOW, THEREFORE, BE IT ORDAINED by the Board of Directors subject to the provisions set forth herein that Ordinance No. 52 is hereby repealed and superseded and this Ordinance No. ____ is adopted and enacted as follows:

SECTION 1. SCOPE:

Deleted: WHEREAS, in 2008 Metropolitan approved a phase-out provision in its Interim Agricultural Water Program (IAWP) for member agencies that participated in the IAWP, including MWDOC, as a result of severe limitations on Metropolitan water supplies due in part to Bay-Delta pumping restrictions; and¶

. WHEREAS, in 2012 Metropolitan took action to discontinue the Replenishment Service Program and rates effective January 1, 2013 in response to significant increases to regional storage capacity (accomplished by and in coordination with Metropolitan's Member Agencies), concerns about the Program's effectiveness, and issues regarding regional equity; and

Deleted: WM

Deleted: may

Deleted: Orange County Water District ("OCWD") has agreed to pay, (on behalf of its member agencies) an incremental rate on water delivered by MWDOC which directly or indirectly results in groundwater replenishment

Deleted: ; and

Deleted: WHEREAS, on January 17, 2001, MWDOC was consolidated with the Coastal Municipal Water District ("Coastal") into a single agency which comprises the combined territories formerly within Coastal and MWDOC. The combined agency is referred to herein as Municipal Water District of Orange County or "MWDOC," and the territory within the former Coastal Municipal Water District is referred to herein as "Coastal."

Deleted: 1

Deleted: 52

- 1.1 This Ordinance establishes classes of water service, the terms and conditions for water delivery by MWDOC to Customers of the district, and "CHOICE" services as defined herein. This Ordinance shall apply to Customers of MWDOC after the effective date of the Ordinance.
- 1.2 General definitions are set forth in Section 2. Definitions concerning Rates are set forth in Section 3. Definitions for Charges are set forth in Section 4.

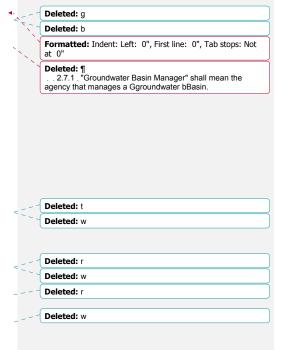
SECTION 2. DEFINITIONS:

- 2.1 Whenever used in this Ordinance, the following terms shall have the meaning indicated herein:
 - 2.2 "Board" shall mean the Board of Directors of MWDOC.
 - 2.3 "MWDOC" shall mean the Municipal Water District of Orange County.
- 2.4 "MWDOC Member Agency" shall mean any city, county, water district, county water board, mutual water company, investor owned utility or other entity, including a joint powers agency, which receives water from MWDOC, directly or indirectly (excepting the cities of Anaheim, Fullerton and Santa Ana), the corporate area of which, in whole or in part, is included in MWDOC.
 - 2.4.1 "Retail Water Meter" shall mean a water meter, or water measuring device, through which water, other than replenishment, construction and recycled water, directly or indirectly supplied by MWDOC, is delivered to any consumer within the boundaries of each MWDOC Member Agency or customer. Retail Water Meters are considered to be "in service" if they were used at any time within the



preceding calendar year. Meters on dedicated fire lines shall <u>not</u> be considered as being "in service"; retail meters not being utilized due to temporary interruption as a result of a change in service or a past due account shall be considered as being "in service."

- 2.5 "Customer" shall mean any MWDOC Member Agency or other purchaser of water or services from MWDOC and shall include the cities of Anaheim, Fullerton and Santa Ana.
 - 2.6 "General Manager" shall mean the General Manager of MWDOC.
- 2.7 "Groundwater Basin" shall mean any managed Groundwater Basin located entirely or partially within the boundaries of MWDOC.
 - 2.8 "State" shall mean the State of California.
- 2.9 "Metropolitan" shall mean the Metropolitan Water District of Southern California.
- 2.10 "Treated Water" shall mean water that is treated at any Metropolitan water treatment facility.
 - 2.11 "Untreated Water" shall mean water that is not Treated Water.
- 2.12 "Imported Water" shall mean water which is acquired by MWDOC from Metropolitan, except for Recycled Water.
- 2.13 "Surface Water" shall mean water which is not groundwater or Recycled Water.



- 2.14 "Domestic and Municipal Purposes" shall mean the use of water for all domestic, municipal, commercial, industrial, and recreational purposes commonly, but not exclusively, serviced by the water supply of a city, town, or other similar population group.
 - 2.15 Blank
- 2.16 "Groundwater Replenishment" shall mean the act of spreading or injecting water or causing water to be spread or injected, and utilizing Imported Water in-lieu of producing groundwater for the purpose of replenishing natural Groundwater Basins, without regard to the subsequent use of such water.
 - 2.16.1 "Groundwater Replenishment by Spreading or Injecting" shall mean Groundwater Replenishment that results from the act of spreading or injecting water, and shall not include water used for Seawater Barrier Groundwater Replenishment.
 - 2.16.2 "Seawater Barrier Groundwater Replenishment" shall mean groundwater replenishment by injection of water for the principal purpose of maintaining groundwater barriers designed and intended to avoid the contamination of groundwater storage basins by the intrusion of seawater.
- 2.16.3 "In-lieu Groundwater Replenishment" shall mean maintenance or replenishment of water supplies in Groundwater Basins by reduction or elimination of extraction therefrom through the substitution of deliveries of water to gustomers and their consumers from imported water distribution facilities in-lieu of such extraction.
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- 2.20 "Full Service" shall mean service of water for domestic or municipal purposes, agricultural purposes and Groundwater Replenishment purposes that is not subject to reduction or interruption except by application of the preferential rights referred to in Section 135 of the Metropolitan Water District Act or by application of the then effective MWDOC Water Supply Allocation Plan ("WSAP") or other shortage allocation plan as adopted by the Board.
- 2.21 "Emergency Service" shall mean service of water when a determination has been made by the General Manager that serious hardship would result to a MWDOC Member Agency in the event of the MWDOC Member Agency's inability to sustain all or any part of a reduction or interruption in the delivery of water to the extent and for the time mandated by the Board pursuant to Section 6.3 and such inability results from a cause other than an unforeseeable catastrophic event or loss of water supplies from sources other than MWDOC, or due to circumstances determined by the General Manager to be exceptional. If the inability to sustain an interruption is determined by the General Manager to be due to a catastrophic event, loss of water source or exceptional circumstances, then the water service provided to avoid hardship shall be treated as Full Service.
- 2.22 "Recycled Water," which is sometimes referred to as non-potable water, is water that does not meet criteria established by the State Department of Health Services for domestic use, and shall mean wastewater which has been collected in a sanitary sewer system and treated within a water reclamation plant or is untreated low quality water

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extracted from Groundwater Basins, both types of water being suitable for selected non-potable uses.

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- 2.25 "Summer Period" shall mean May 1 through September 30 of a calendar year.
- 2.26 "Fiscal Year" shall mean the period which commences July 1 of each calendar year and ends June 30 of the following calendar year.
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- 2.28 "New AMP Connection" shall mean a service connection to the Allen-McColloch Pipeline requested by a MWDOC Member Agency which is not a party to the Agreement for Allocation of Proceeds of Sale of the Allen-McColloch Pipeline.
- 2.29 "Metropolitan Readiness-to-Serve Charge" or "Metropolitan RTS Charge" shall mean the total monetary charge imposed by Metropolitan on MWDOC and collected either (1) by Metropolitan as a standby charge on property within MWDOC's boundaries or (2) directly from MWDOC.
- <u>2.30</u> "Net Metropolitan Readiness-to-Serve Charge" or "Net Metropolitan RTS Charge" shall mean that portion of the Metropolitan Readiness-to-Serve Charge which is not collected as a standby charge on property within MWDOC's boundaries, which is billed by Metropolitan directly to MWDOC, and which, if no standby charge is levied, shall constitute the entire <u>Metropolitan RTS Charge</u>.

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2.31 "MWDOC Member Agency Readiness-to-Serve Charge" or "MWDOC Member Agency RTS Charge" shall mean the apportionment of the Net Metropolitan RTS Charge

to the MWDOC Member Agencies based upon the rolling average water sales, as may be

established from time to time by the MWDOC Board.

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2.37 "MWDOC Water Supply Allocation Plan" or "WSAP," shall mean a plan, established by the Board, to allocate water among the MWDOC Member Agencies, during times of water shortage.

2.38 "CHOICE" services (as distinguished from "Core" services imposed on all Member Agencies) shall mean those services made available by MWDOC to its Customers on an elective basis. Each Customer will make a decision whether and to what extent it will engage the services and participate in the activities (depending on the nature of the services and the manner in which they are charged).

2.39 "Water Rate Resolution" shall mean a Resolution adopted by MWDOC periodically at the discretion of the Board that establishes MWDOC's water rates and other charges.

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2.41 "MWDOC's Retail Meter Charge" shall have the meaning set forth in Section
3(b) of this Ordinance No.

2.42 "AMP Surcharge" shall have the meaning set forth in Section 3(d) of this Ordinance No.

2.43 "AMP Connection Charge" shall have the meaning set forth in Section 4.5(a) of this Ordinance No.

2.44 "Groundwater Customer Charge" shall have the meaning set forth in Section 3(c) of this Ordinance No.

SECTION 3. MWDOC's WATER RATE:

The water rate shall be established in an amount that, in combination with revenues from other charges collected by MWDOC, will result in revenues sufficient for the purposes set forth in <u>section</u> 71616 of the California Water Code. The water rate shall include components for:

(a) The cost of acquiring water or wheeling service (i.e., for water acquired from Metropolitan, the cost of acquisition would include, a per acre foot rate based on a melding of Metropolitan's Tier 1 and Tier 2 supply rates, plus Metropolitan's System Access Charge, Water Stewardship Rate, System Power Rate, and, for Treated Water deliveries, Metropolitan's Treatment Surcharge); including other Metropolitan rates, charges, fees, penalties and other applicable charges to MWDOC; and

Deleted: Capacity Charge (if collected as a water rate, otherwise cost will be recovered at time the Capacity Charge is assessed annually),

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(b) Retail Meter Charge - An annual basic charge for each Retail Water

Meter served by a MWDOC Member Agency which is "in service" as of January 1 of
each year (hereinafter referred to as "MWDOC's Retail Meter Charge").

MWDOC's Retail Meter Charge shall be set to generate revenue that, in combination with revenues derived from MWDOC's <u>Groundwater Customer</u>

<u>Charge</u>, shall cover MWDOC's operating expenses and financial requirements, including reserves.

- (c) Groundwater Customer Charge An annual charge to OCWD for core services provided by MWDOC.
- (d) AMP Surcharge. A per acre-foot surcharge on water delivered through the Allen-McColloch Pipeline ("AMP Surcharge") to cover repair, maintenance and operation costs for the Allen-McColloch Pipeline to the extent such costs are not fully assumed and paid by Metropolitan, pursuant to the Agreement for Sale and Purchase of the Allen-McColloch Pipeline.

The Board shall establish said the forgoing rates and charges by resolution and shall adjust the rates and charges by resolution periodically as determined appropriate by the Board in its discretion. Written notice of the proposed establishment or amendment of rates and charges and the amounts and details thereof shall be given to all member agencies not less than 10 days prior to the meeting at which such resolution will be considered.

SECTION 4. OTHER CHARGES:

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In addition to the water rates and charges provided in Section 3, each MWDOC Member Agency shall be assessed charges as follows:

- 4.1 MWDOC Readiness-to-Serve Charge an annual charge which shall be assessed to each MWDOC Member Agency and calculated as described in the rate resolution adopted pursuant to this Ordinance.
- 4.2 MWDOC Capacity Charge The MWDOC Capacity Charge is assessed to each MWDOC Member Agency on the basis of recent historic peak day capacity usage (including capacity usage for Full Service and wheeling as a fixed charge on each Member Agency calculated on such past peak day usage, as described in the rate resolution adopted pursuant to this Ordinance).
 - 4.3 Blank.
- 4.4 The MWDOC Readiness-to-Serve Charge and the MWDOC Capacity

 Charge shall be set by the Board by resolution and shall be established at a level which, in
 the judgment of the Board, will yield revenues sufficient to cover the charges imposed by

 Metropolitan upon MWDOC under Metropolitan's rates and charges for water service,
 provided that MWDOC's charges may provide for collection in advance of expected invoice
 by Metropolitan and provide for a reasonable excess to cover variations in the amount of
 Metropolitan's charges that cannot be calculated in advance.
 - 4.5 AMP Connection Charge
 - (a) As a condition to the approval for any request for a New AMP Connection, the agency requesting the New AMP Connection shall pay, in addition to the cost of constructing the service connection and all costs and fees imposed by

Deleted: Beginning in Calendar Year 2003 the MWDOC Capacity Charge was recovered by a water rate applied to purchases of Full Service water and water wheeling service sufficient to recover MWDOC's cost of Capacity Charges incurred from Metropolitan. Beginning in Calendar Year 2007

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Metropolitan, a connection charge ("AMP Connection Charge"). The AMP Connection Charge shall be calculated upon the maximum potential flow through the requested service connection, multiplied by the average unreimbursed 1993 replacement cost, less depreciation of a cubic foot per second (cfs) of capacity at all points along the Allen-McColloch Pipeline, calculated to be \$109,700 per cfs, and that price shall be escalated from 1993 to the year in which the readjustment is made at the annual interest rate of 4.0% and payment shall be made in cash at the time of the readjustment.

- (b) The proceeds of AMP Connection Charges collected by MWDOC shall be used to reimburse those MWDOC Member Agencies and those agencies outside MWDOC's service area which acquired leasehold interests in the Allen-McColloch Pipeline, prior to the sale of the Allen-McColloch Pipeline, to Metropolitan, for a portion of their acquisition costs, which were not recovered through the sale of the Allen-McColloch Pipeline, to Metropolitan, in proportion to their cfs, ownership in the Allen-McColloch Pipeline, system.
- (c) The AMP Connection Charge shall terminate and shall not be applied to any New AMP Connections requested after Metropolitan completes a project which augments the capacity of the <u>Allen-McColloch Pipeline</u>, in any amount.

 Notwithstanding the foregoing, an agency that has requested and obtained a new connection to the <u>Allen-McColloch Pipeline</u> shall not be entitled to reimbursement of all or any portion of the AMP Connection Charges already paid, by reason of Metropolitan's subsequent augmentation of the <u>Allen-McColloch Pipeline</u>.

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- (d) The payment of the AMP Connection Charge shall not entitle the agency requesting the New AMP Connection to any rights or benefits under the Agreement for Allocation of Proceeds of Sale of the Allen-McColloch Pipeline, nor to any portion of the payments to be made by Metropolitan in consideration of the sale of the Allen-McColloch Pipeline, nor to any interest in the Allen-McColloch Pipeline, facilities.
- 4.6 Charges for CHOICE services. The categories, budget levels and methodology for allocating the costs to MWDOC's Customers for CHOICE services shall be set each year by the Board in its adoption of the Water Rate Resolution.

SECTION 5. CLASSES OF SERVICE:

The rates per acre-foot for water sold and delivered for each class of service on order of any MWDOC Member Agency for use therein shall be as established from time to time by resolution of the Board. The classes of service for water are as follows:

- 5.1 <u>Full Service</u> (for <u>Domestic and Municipal Purposes</u>, agricultural service, and for Groundwater Replenishment).
 - 5.2 <u>Emergency Service</u>,
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- 5.4 Recycled Water (for selected non-potable uses). Such water shall be sold at MWDOC's cost of acquisition for Recycled Water.
 - 5.5 Not Used
 - 5.6 Wheeled, Exchanged or Transfer Water

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Unless otherwise specified by written agreement with MWDOC, MWDOC shall charge the MWDOC Member Agencies for water wheeled or transferred into the MWDOC service area in accordance with the Water Rate Resolution

5.7 <u>Deliveries to Which Rates Not Applicable.</u>

The rates for the various classes of service of water established by this Section 5 shall not apply to water sold and delivered by MWDOC to any purchaser other than a MWDOC Member Agency; and said rates shall not apply to water sold and delivered by MWDOC for any use outside MWDOC, or to water sold and delivered by MWDOC for any use within MWDOC in substitution for water used outside MWDOC, regardless of whether or not such water will be purchased by, or delivered pursuant to the order of, any MWDOC Member Agency; but such water shall be sold and delivered pursuant to such contract and upon such terms and conditions as the Board shall authorize and determine for each such transaction.

5.8 Rates Subject to Applicable Law.

All sales and deliveries of water in classes established by Section 5 shall be subject to all applicable statutes and administrative regulations, including the Metropolitan Water District of Southern California Administrative Code, as they may be amended from time to time, and to any current MWDOC policies.

SECTION 6. ESTIMATES OF WATER REQUIREMENTS, SCHEDULES OF DELIVERIES AND CERTIFICATION:

6.1 General. Each year, or at such time as the General Manager may specify, each MWDOC Member Agency shall furnish MWDOC, in a form provided by MWDOC, a five-year estimate of the amounts of water to be furnished to such MWDOC Member Agency by MWDOC, and an estimate of the quantity of water anticipated to be obtained from local sources to meet the MWDOC Member Agency needs. The estimate shall constitute the MWDOC Member Agency's request for deliveries for the first of the five years covered therein.

6.2 Contents of Estimates and Certification.

- 6.2.1 Each estimate furnished by a Member Agency pursuant to Section 6.1 shall contain, at a minimum, for each service connection and for each month of the Fiscal Year beginning with the succeeding July 1, and for the entire MWDOC Member Agency for each month of the succeeding four Fiscal Years, the following information:
 - (a) The quantity of treated and Untreated Water to be delivered by MWDOC to the MWDOC Member Agency in Full Service.

6.3 Obligations in Event of Shortage.

The Board may provide for a method of allocation of available supplies as the Board may determine necessary, through adoption of a Water Supply Allocation Plan for all classes of service. MWDOC shall provide any notice required by law for implementation of a reduction or interruption of any class or classes of service; however, no additional or special notice shall be required for any particular class of service as a condition of implementing a reduction or interruption of service.

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SECTION 7. BILLING AND PAYMENT, CERTIFICATIONS AND REPORTING OF WATER SALES AND TRANSFERS

- 7.1 <u>Billing Schedule</u>. The MWDOC Member Agencies shall be billed for water delivered and for other charges as provided by resolution of the Board.
- 7.2 <u>Delinquent Payment</u>. In the event any MWDOC Member Agency which receives deliveries of water from MWDOC is delinquent in payment of bills for water rates and charges, an additional charge equal to two percent (2%) of such delinquent amount shall be assessed to the MWDOC Member Agency for each month or fraction thereof in which the delinquent amount is not paid. Notwithstanding the above, if the total period of delinquency does not exceed five (5) business days, the additional charge shall be equal to one percent (1%) of such delinquent payment. Invoices for delinquencies, including additional charges, shall be mailed within 5 days of delinquency.

Additional charges provided herein for delinquent payments may be waived by the Board upon written request by the MWDOC Member Agency upon a finding that the delinquency was caused by excusable neglect or circumstances beyond the control of the MWDOC Member Agency, provided that the delinquent Member Agency reimburses MWDOC for all costs and penalties actually incurred by MWDOC as a result of the delinquent payment. In the event that any MWDOC Member Agency which receives deliveries of water from MWDOC shall be delinquent for more than thirty (30) days in the payment of billings for MWDOC's charges, the Board, in its discretion and upon other conditions as it may prescribe, after giving the MWDOC Member Agency a twenty-day (20-day) notice in writing of such delinquency and of the right to request a hearing on the matter, and after such

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hearing, if requested, may order the termination of water service to such agency until all delinquent payments, including additional charges, are made to MWDOC, and may authorize such other action as may be appropriate.

- 7.3 <u>Certification of Retail Meters</u>. On or before the first day of <u>February</u>, of each year, each of MWDOC's Member Agencies shall certify the number of retail water service meters that were "in service" (see 2.4.1) within the territory of each agency which is within MWDOC as of January 1st of that year on a form provided by MWDOC. The number of meters specified thereon shall be subject to MWDOC confirmation and shall be used to calculate billings for MWDOC's Retail Meter Charge.
- 7.4 <u>Disputed Bills</u>. If a MWDOC Member Agency disputes the amount of any billing, the MWDOC Member Agency shall pay the disputed bill. Corrections to the billing, if deemed necessary, shall be made on the succeeding month's water bill without interest.
- 7.5 <u>Year-End Reconciliation</u>. Billing for all water delivered by MWDOC to a MWDOC Member Agency that requires annual reconciliation (unless otherwise specified by agreement) shall be subject to a reconciliation after the close of each <code>Fjscal</code> <code>Year</code> to determine what quantity of water qualifies for the incentive or penalty. Adjustment will be made to previous billings based upon the reconciliation and the MWDOC Member Agency will be billed or given a credit for the difference.
- 7.6 <u>Certifications</u>. In the event water is delivered to a MWDOC Member Agency under a classification of delivery of water that requires certification, the MWDOC Member Agency must submit the required certifications, in a format provided by MWDOC, documenting the quantity of water used for such purposes.

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7.8 Reporting of Water Transfers or Exchanges. Transfers or exchanges of Imported Water between MWDOC Member Agencies affecting the calculation of the Metropolitan RTS Charge or other charges imposed by Metropolitan or MWDOC must be reported by the MWDOC Member Agency to MWDOC within sixty (60) days following the month of delivery, in order to qualify for an adjustment of the Metropolitan RTS Charge or other charges.

SECTION 8. WATER WHEELING, EXCHANGES AND TRANSFERS:

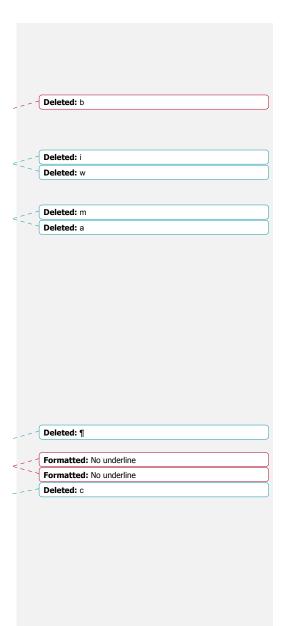
8.1 Water Wheeling, Exchanges and Transfers that will result in water being delivered into MWDOC's service area and that are entered into between two or more MWDOC Member Agencies or entities within the District, or between a MWDOC Member Agency and an entity outside the District, will be subject to MWDOC's consent.

SECTION 9. SUPERCEDES PRIOR RESOLUTIONS.

9.1 All ordinances, resolutions or administrative actions by the Board, or parts thereof that are inconsistent with any provision of this Ordinance are hereby superseded only to the extent of such inconsistency.

SECTION 10. SEVERABILITY:

If any provision of this Ordinance is for any reason held to be unlawful, such decision shall not affect the remaining portions of the Ordinance. The Board of Directors hereby declares that it would have passed each and every section and each and every phrase thereof irrespective of the fact that one or more provisions be declared invalid.



SECTION 11.EFFECTIV	<u>E DATE</u> :	
This Ordinance sh	all be effective July 1, 2016, Said Ordinance was adopted, on Deleted: 4	
roll call, by the following v	ote:	
AYES:	Directors	
NOES:	None	
ABSENT:	Directors	
ABSTAIN:	None	
I certify the forego	ing is a true and correct copy of Ordinance No, adopted by the Deleted: 51	
Board of Directors at its n	neeting held on May 2016, Deleted: 21 Deleted: 4	_
	Maribeth Goldsby,	

"Eight-Year Average" shall mean the adjusted average quantity of gGroundwater rReplenishment water deliveries used to calculate the total amount of MWDOC's Incremental Rate to be charged to OCWD for gGroundwater rReplenishment and iln-lieu Groundwater rReplenishment which shall be a fixed charge in addition to the acquisition cost of replenishment deliveries. The Eight-Year Average is calculated for each fFiscal yYear as the average of all Ggroundwater Rreplenishment deliveries to the OCWD basin, including lin-lieu Groundwater rReplenishment to OCWD, Coastal (prior to January 17, 2001) and the cities of Anaheim, Fullerton and Santa Ana for the preceding eight years, adjusted to exclude the percentage of such deliveries attributable to the cities of Anaheim, Fullerton and Santa Ana calculated on the basis of proportionate production of groundwater from the OCWD basin. The purpose of the calculation is to exclude the 3 Cities' share of replenishment deliveries from MWDOC's Incremental Rate, whether acquired by the Cities directly or by OCWD, because as members of Metropolitan, the three Cities should not be subject to MWDOC's incremental rate.

The Eight-year Average is calculated as follows:

1. The "Unadjusted Eight-Year Average" is the average annual total of all seawater barrier, direct and iln-lieu Groundwater rReplenishment deliveries, for the benefit of the OCWD basin, from Metropolitan to MWDOC, Coastal (prior to January 17, 2001), and the cities of Anaheim, Fullerton and Santa Ana (the "3 Cities") for the preceding eight years. (Note: This amount includes replenishment water ultimately purchased or stored by OCWD through MWDOC).

- 2. The "3 Cities Groundwater Production Average" is the average annual combined groundwater production, and lin-lieu Groundwater rReplenishment deliveries taken by the 3 Cities within the OCWD Groundwater bBasin for the preceding eight years.
- The "Total Basin Production Average" is the average annual total
 groundwater production, and lin-lieu Groundwater rReplenishment deliveries
 within OCWD's jurisdiction for the preceding eight years.
- The "3 Cities Production Percentage" is the "3 Cities Groundwater Production Average divided by the Total Basin Production Average.
- The Eight-Year Average is calculated by reducing the Unadjusted Eight-Year

 Average by the 3 Cities Production Percentage of the total OCWD

 Groundwater bBasin production attributable to groundwater production by the 3 Cities.
- 6. The Eight-Year Average will be calculated prior to July 1 of each year using the final delivery and production data for the preceding eight full fFiscal Yyears, i.e., data for the year in which the calculation is made will not be used because such data would not be available until after the close of the fFiscal yYear.

ORDINANCE NO. 53

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY ESTABLISHING CLASSES OF WATER SERVICE AND TERMS AND CONDITIONS OF WATER SERVICE WITHIN THE DISTRICT

WHEREAS, the Municipal Water District of Orange County (hereinafter "MWDOC") is a member agency of the Metropolitan Water District of Southern California (hereinafter "Metropolitan") and the sole purveyor of imported water purchased from Metropolitan to retail water agencies and municipalities within MWDOC's service area; and

WHEREAS, MWDOC is authorized and directed by section 71616 of the Water Code of the State of California to establish water rates and charges for the sale of such water which will result in revenues sufficient to meet the operating expenses of the District, provide for repairs and depreciation of works, provide a reasonable surplus for improvements, extensions and enlargements, and cover principal and interest payments and costs associated with the bonded debt; and

WHEREAS, Metropolitan has established classes of service for water service available to MWDOC consisting of Treated and Untreated Full Service, and rates, charges and conditions of service applicable to each class of water service as set forth in the Metropolitan Water District Administrative Code; and

WHEREAS, MWDOC's 2001 Strategic Plan and the 2010 Update emphasizes MWDOC's role in pursuing a regional approach to providing a reliable water supply to the residents of MWDOC and Orange County; and

WHEREAS, the MWDOC Board views MWDOC's service area (and Orange County) as a single economic unit in which water supply reliability in one area of the County has an economic impact to the entire County; and

WHEREAS, beginning with the budget year commencing July 1, 2011, the MWDOC Board approved changing the format of the budget and how certain "CHOICE" services are to be funded by those MWDOC member agencies and others (such as the cities of Anaheim, Fullerton and Santa Ana) electing to receive such services; and

WHEREAS, pursuant to section 71614 of the California Water Code MWDOC may establish different rates for different classes of customers, and such rates shall be uniform throughout MWDOC for like classes and conditions of service; and

WHEREAS, the Board of Directors of MWDOC desires to establish classes of water service that will enable MWDOC to fix water rates and charges that will cover MWDOC's cost of water and other operating expenses including financial requirements; and

WHEREAS, the Board of Directors of MWDOC desires to adopt terms and conditions for the provision of the various classes of water service and to establish water rates and charges for such classes of service to be imposed by resolution periodically; and

WHEREAS, the MWDOC Rate Study was completed in 2016, which added a new Groundwater Customer Charge effective with the FY2016-17 rates and charges.

NOW, THEREFORE, BE IT ORDAINED by the Board of Directors subject to the provisions set forth herein that Ordinance No. 52 is hereby repealed and superseded and this Ordinance No.53 is adopted and enacted as follows:

SECTION 1. SCOPE:

- 1.1 This Ordinance establishes classes of water service, the terms and conditions for water delivery by MWDOC to Customers of the district, and "CHOICE" services as defined herein. This Ordinance shall apply to Customers of MWDOC after the effective date of the Ordinance.
- 1.2 General definitions are set forth in Section 2. Definitions concerning Rates are set forth in Section 3. Definitions for Charges are set forth in Section 4.

SECTION 2. DEFINITIONS:

- 2.1 Whenever used in this Ordinance, the following terms shall have the meaning indicated herein:
 - 2.2 "Board" shall mean the Board of Directors of MWDOC.
 - 2.3 "MWDOC" shall mean the Municipal Water District of Orange County.
- 2.4 "MWDOC Member Agency" shall mean any city, county, water district, county water board, mutual water company, investor owned utility or other entity, including a joint powers agency, which receives water from MWDOC, directly or indirectly (excepting the cities of Anaheim, Fullerton and Santa Ana), the corporate area of which, in whole or in part, is included in MWDOC.
 - 2.4.1 "Retail Water Meter" shall mean a water meter, or water measuring device, through which water, other than replenishment, construction and recycled water, directly or indirectly supplied by MWDOC, is delivered to any consumer within the boundaries of each MWDOC Member Agency or customer. Retail Water Meters are considered to be "in service" if they were used at any time within the preceding calendar year. Meters on dedicated fire lines shall not be considered as

being "in service"; retail meters not being utilized due to temporary interruption as a result of a change in service or a past due account shall be considered as being "in service."

- 2.5 "Customer" shall mean any MWDOC Member Agency or other purchaser of water or services from MWDOC and shall include the cities of Anaheim, Fullerton and Santa Ana.
 - 2.6 "General Manager" shall mean the General Manager of MWDOC.
- 2.7 "Groundwater Basin" shall mean any managed Groundwater Basin located entirely or partially within the boundaries of MWDOC.
 - 2.8 "State" shall mean the State of California.
- 2.9 "Metropolitan" shall mean the Metropolitan Water District of Southern California.
- 2.10 "Treated Water" shall mean water that is treated at any Metropolitan water treatment facility.
 - 2.11 "Untreated Water" shall mean water that is not Treated Water.
- 2.12 "Imported Water" shall mean water which is acquired by MWDOC from Metropolitan, except for Recycled Water.
- 2.13 "Surface Water" shall mean water which is not groundwater or Recycled Water.
- 2.14 "Domestic and Municipal Purposes" shall mean the use of water for all domestic, municipal, commercial, industrial, and recreational purposes commonly, but not exclusively, serviced by the water supply of a city, town, or other similar population group.
 - 2.15 Blank

- 2.16 "Groundwater Replenishment" shall mean the act of spreading or injecting water or causing water to be spread or injected, and utilizing Imported Water in-lieu of producing groundwater for the purpose of replenishing natural Groundwater Basins, without regard to the subsequent use of such water.
 - 2.16.1 "Groundwater Replenishment by Spreading or Injecting" shall mean Groundwater Replenishment that results from the act of spreading or injecting water, and shall not include water used for Seawater Barrier Groundwater Replenishment.
 - 2.16.2 "Seawater Barrier Groundwater Replenishment" shall mean groundwater replenishment by injection of water for the principal purpose of maintaining groundwater barriers designed and intended to avoid the contamination of groundwater storage basins by the intrusion of seawater.
- 2.16.3 "In-lieu Groundwater Replenishment" shall mean maintenance or replenishment of water supplies in Groundwater Basins by reduction or elimination of extraction therefrom through the substitution of deliveries of water to customers and their consumers from imported water distribution facilities in-lieu of such extraction.
 - 2.17 Blank
 - 2.18 Blank
 - 2.19 Blank
- 2.20 "Full Service" shall mean service of water for domestic or municipal purposes, agricultural purposes and Groundwater Replenishment purposes that is not subject to reduction or interruption except by application of the preferential rights referred to in Section 135 of the Metropolitan Water District Act or by application of the then effective

MWDOC Water Supply Allocation Plan ("WSAP") or other shortage allocation plan as adopted by the Board.

- 2.21 "Emergency Service" shall mean service of water when a determination has been made by the General Manager that serious hardship would result to a MWDOC Member Agency in the event of the MWDOC Member Agency's inability to sustain all or any part of a reduction or interruption in the delivery of water to the extent and for the time mandated by the Board pursuant to Section 6.3 and such inability results from a cause other than an unforeseeable catastrophic event or loss of water supplies from sources other than MWDOC, or due to circumstances determined by the General Manager to be exceptional. If the inability to sustain an interruption is determined by the General Manager to be due to a catastrophic event, loss of water source or exceptional circumstances, then the water service provided to avoid hardship shall be treated as Full Service.
- 2.22 "Recycled Water," which is sometimes referred to as non-potable water, is water that does not meet criteria established by the State Department of Health Services for domestic use, and shall mean wastewater which has been collected in a sanitary sewer system and treated within a water reclamation plant or is untreated low quality water extracted from Groundwater Basins, both types of water being suitable for selected non-potable uses.
 - 2.23 Blank
 - 2.24 Blank
- 2.25 "Summer Period" shall mean May 1 through September 30 of a calendar year.

- 2.26 "Fiscal Year" shall mean the period which commences July 1 of each calendar year and ends June 30 of the following calendar year.
 - 2.27 Blank
- 2.28 "New AMP Connection" shall mean a service connection to the Allen-McColloch Pipeline requested by a MWDOC Member Agency which is not a party to the Agreement for Allocation of Proceeds of Sale of the Allen-McColloch Pipeline.
- 2.29 "Metropolitan Readiness-to-Serve Charge" or "Metropolitan RTS Charge" shall mean the total monetary charge imposed by Metropolitan on MWDOC and collected either (1) by Metropolitan as a standby charge on property within MWDOC's boundaries or (2) directly from MWDOC.
- 2.30 "Net Metropolitan Readiness-to-Serve Charge" or "Net Metropolitan RTS Charge" shall mean that portion of the Metropolitan Readiness-to-Serve Charge which is not collected as a standby charge on property within MWDOC's boundaries, which is billed by Metropolitan directly to MWDOC, and which, if no standby charge is levied, shall constitute the entire Metropolitan RTS Charge.
- 2.31 "MWDOC Member Agency Readiness-to-Serve Charge" or "MWDOC Member Agency RTS Charge" shall mean the apportionment of the Net Metropolitan RTS Charge to the MWDOC Member Agencies based upon the rolling average water sales, as may be established from time to time by the MWDOC Board.
 - 2.32 blank
 - 2.33 blank
 - 2.34 blank
 - 2.35 blank

- 2.36 blank
- 2.37 "MWDOC Water Supply Allocation Plan" or "WSAP" shall mean a plan established by the Board to allocate water among the MWDOC Member Agencies during times of water shortage.
- 2.38 "CHOICE" services (as distinguished from "Core" services imposed on all Member Agencies) shall mean those services made available by MWDOC to its Customers on an elective basis. Each Customer will make a decision whether and to what extent it will engage the services and participate in the activities (depending on the nature of the services and the manner in which they are charged).
- 2.39 "Water Rate Resolution" shall mean a Resolution adopted by MWDOC periodically at the discretion of the Board that establishes MWDOC's water rates and other charges.
- 2.40 blank
- 2.41 "MWDOC's Retail Meter Charge" shall have the meaning set forth in Section 3(b) of this Ordinance No. 53.
- 2.42 "AMP Surcharge" shall have the meaning set forth in Section 3(d) of this Ordinance No. 53.
- 2.43 "AMP Connection Charge" shall have the meaning set forth in Section 4.5(a) of this Ordinance No. 53.
- 2.44 "Groundwater Customer Charge" shall have the meaning set forth in Section 3(c) of this Ordinance No. 53.

<u>SECTION 3.</u> <u>MWDOC's WATER RATE</u>:

The water rate shall be established in an amount that, in combination with revenues from other charges collected by MWDOC, will result in revenues sufficient for the purposes set forth in section 71616 of the California Water Code. The water rate shall include components for:

- (a) The cost of acquiring water or wheeling service (i.e., for water acquired from Metropolitan, the cost of acquisition would include, a per acre foot rate based on a melding of Metropolitan's Tier 1 and Tier 2 supply rates, plus Metropolitan's System Access Charge, Water Stewardship Rate, System Power Rate, and, for Treated Water deliveries, Metropolitan's Treatment Surcharge); including other Metropolitan rates, charges, fees, penalties and other applicable charges to MWDOC; and
- (b) Retail Meter Charge An annual basic charge for each Retail Water Meter served by a MWDOC Member Agency which is "in service" as of January 1 of each year (hereinafter referred to as "MWDOC's Retail Meter Charge").

MWDOC's Retail Meter Charge shall be set to generate revenue that, in combination with revenues derived from MWDOC's Groundwater Customer Charge, shall cover MWDOC's operating expenses and financial requirements, including reserves.

- (c) Groundwater Customer Charge An annual charge to OCWD for core services provided by MWDOC.
- (d) AMP Surcharge. A per acre-foot surcharge on water delivered through the Allen-McColloch Pipeline ("AMP Surcharge") to cover repair, maintenance and operation costs for the Allen-McColloch Pipeline to the extent

such costs are not fully assumed and paid by Metropolitan, pursuant to the Agreement for Sale and Purchase of the Allen-McColloch Pipeline.

The Board shall establish said the forgoing rates and charges by resolution and shall adjust the rates and charges by resolution periodically as determined appropriate by the Board in its discretion. Written notice of the proposed establishment or amendment of rates and charges and the amounts and details thereof shall be given to all member agencies not less than 10 days prior to the meeting at which such resolution will be considered.

SECTION 4. OTHER CHARGES:

In addition to the water rates and charges provided in Section 3, each MWDOC Member Agency shall be assessed charges as follows:

- 4.1 MWDOC Readiness-to-Serve Charge an annual charge which shall be assessed to each MWDOC Member Agency and calculated as described in the rate resolution adopted pursuant to this Ordinance.
- 4.2 MWDOC Capacity Charge –The MWDOC Capacity Charge is assessed to each MWDOC Member Agency on the basis of recent historic peak day capacity usage (including capacity usage for Full Service and wheeling as a fixed charge on each Member Agency calculated on such past peak day usage, as described in the rate resolution adopted pursuant to this Ordinance).
 - 4.3 Blank.
- 4.4 The MWDOC Readiness-to-Serve Charge and the MWDOC Capacity

 Charge shall be set by the Board by resolution and shall be established at a level which, in
 the judgment of the Board, will yield revenues sufficient to cover the charges imposed by

Metropolitan upon MWDOC under Metropolitan's rates and charges for water service, provided that MWDOC's charges may provide for collection in advance of expected invoice by Metropolitan and provide for a reasonable excess to cover variations in the amount of Metropolitan's charges that cannot be calculated in advance.

4.5 AMP Connection Charge

- (a) As a condition to the approval for any request for a New AMP Connection, the agency requesting the New AMP Connection shall pay, in addition to the cost of constructing the service connection and all costs and fees imposed by Metropolitan, a connection charge ("AMP Connection Charge"). The AMP Connection Charge shall be calculated upon the maximum potential flow through the requested service connection, multiplied by the average unreimbursed 1993 replacement cost, less depreciation of a cubic foot per second (cfs) of capacity at all points along the Allen-McColloch Pipeline, calculated to be \$109,700 per cfs, and that price shall be escalated from 1993 to the year in which the readjustment is made at the annual interest rate of 4.0% and payment shall be made in cash at the time of the readjustment.
- (b) The proceeds of AMP Connection Charges collected by MWDOC shall be used to reimburse those MWDOC Member Agencies and those agencies outside MWDOC's service area which acquired leasehold interests in the Allen-McColloch Pipeline, prior to the sale of the Allen-McColloch Pipeline to Metropolitan, for a portion of their acquisition costs, which were not recovered through the sale of the Allen-McColloch Pipeline to Metropolitan, in proportion to their cfs ownership in the Allen-McColloch Pipeline system.

- (c) The AMP Connection Charge shall terminate and shall not be applied to any New AMP Connections requested after Metropolitan completes a project which augments the capacity of the Allen-McColloch Pipeline in any amount.

 Notwithstanding the foregoing, an agency that has requested and obtained a new connection to the Allen-McColloch Pipeline shall not be entitled to reimbursement of all or any portion of the AMP Connection Charges already paid, by reason of Metropolitan's subsequent augmentation of the Allen-McColloch Pipeline.
- (d) The payment of the AMP Connection Charge shall not entitle the agency requesting the New AMP Connection to any rights or benefits under the Agreement for Allocation of Proceeds of Sale of the Allen-McColloch Pipeline, nor to any portion of the payments to be made by Metropolitan in consideration of the sale of the Allen-McColloch Pipeline, nor to any interest in the Allen-McColloch Pipeline facilities.
- 4.6 Charges for CHOICE services. The categories, budget levels and methodology for allocating the costs to MWDOC's Customers for CHOICE services shall be set each year by the Board in its adoption of the Water Rate Resolution.

SECTION 5. CLASSES OF SERVICE:

The rates per acre-foot for water sold and delivered for each class of service on order of any MWDOC Member Agency for use therein shall be as established from time to time by resolution of the Board. The classes of service for water are as follows:

5.1 <u>Full Service</u> (for Domestic and Municipal Purposes, agricultural service, and for Groundwater Replenishment).

- 5.2 <u>Emergency Service</u>
- 5.3 Blank
- 5.4 <u>Recycled Water</u> (for selected non-potable uses). Such water shall be sold at MWDOC's cost of acquisition for Recycled Water.
 - 5.5 Not Used

5.6 Wheeled, Exchanged or Transfer Water

Unless otherwise specified by written agreement with MWDOC, MWDOC shall charge the MWDOC Member Agencies for water wheeled or transferred into the MWDOC service area in accordance with the Water Rate Resolution

5.7 Deliveries to Which Rates Not Applicable.

The rates for the various classes of service of water established by this Section 5 shall not apply to water sold and delivered by MWDOC to any purchaser other than a MWDOC Member Agency; and said rates shall not apply to water sold and delivered by MWDOC for any use outside MWDOC, or to water sold and delivered by MWDOC for any use within MWDOC in substitution for water used outside MWDOC, regardless of whether or not such water will be purchased by, or delivered pursuant to the order of, any MWDOC Member Agency; but such water shall be sold and delivered pursuant to such contract and upon such terms and conditions as the Board shall authorize and determine for each such transaction.

5.8 Rates Subject to Applicable Law.

All sales and deliveries of water in classes established by Section 5 shall be subject to all applicable statutes and administrative regulations, including the Metropolitan Water

District of Southern California Administrative Code, as they may be amended from time to time, and to any current MWDOC policies.

SECTION 6. ESTIMATES OF WATER REQUIREMENTS, SCHEDULES OF DELIVERIES AND CERTIFICATION:

6.1 <u>General</u>. Each year, or at such time as the General Manager may specify, each MWDOC Member Agency shall furnish MWDOC, in a form provided by MWDOC, a five-year estimate of the amounts of water to be furnished to such MWDOC Member Agency by MWDOC, and an estimate of the quantity of water anticipated to be obtained from local sources to meet the MWDOC Member Agency needs. The estimate shall constitute the MWDOC Member Agency's request for deliveries for the first of the five years covered therein.

6.2 <u>Contents of Estimates and Certification</u>.

- 6.2.1 Each estimate furnished by a Member Agency pursuant to Section 6.1 shall contain, at a minimum, for each service connection and for each month of the Fiscal Year beginning with the succeeding July 1, and for the entire MWDOC Member Agency for each month of the succeeding four Fiscal Years, the following information:
 - (a) The quantity of treated and Untreated Water to be delivered byMWDOC to the MWDOC Member Agency in Full Service.

6.3 Obligations in Event of Shortage.

The Board may provide for a method of allocation of available supplies as the Board may determine necessary, through adoption of a Water Supply Allocation

Plan for all classes of service. MWDOC shall provide any notice required by law for implementation of a reduction or interruption of any class or classes of service; however, no additional or special notice shall be required for any particular class of service as a condition of implementing a reduction or interruption of service.

SECTION 7. BILLING AND PAYMENT, CERTIFICATIONS AND REPORTING OF WATER SALES AND TRANSFERS

- 7.1 <u>Billing Schedule</u>. The MWDOC Member Agencies shall be billed for water delivered and for other charges as provided by resolution of the Board.
- 7.2 <u>Delinquent Payment</u>. In the event any MWDOC Member Agency which receives deliveries of water from MWDOC is delinquent in payment of bills for water rates and charges, an additional charge equal to two percent (2%) of such delinquent amount shall be assessed to the MWDOC Member Agency for each month or fraction thereof in which the delinquent amount is not paid. Notwithstanding the above, if the total period of delinquency does not exceed five (5) business days, the additional charge shall be equal to one percent (1%) of such delinquent payment. Invoices for delinquencies, including additional charges, shall be mailed within 5 days of delinquency.

Additional charges provided herein for delinquent payments may be waived by the Board upon written request by the MWDOC Member Agency upon a finding that the delinquency was caused by excusable neglect or circumstances beyond the control of the MWDOC Member Agency, provided that the delinquent Member Agency reimburses MWDOC for all costs and penalties actually incurred by MWDOC as a result of the delinquent payment. In the event that any MWDOC Member Agency which receives deliveries of water from MWDOC shall be delinquent for more than thirty (30) days in the payment of billings for

MWDOC's charges, the Board, in its discretion and upon other conditions as it may prescribe, after giving the MWDOC Member Agency a twenty-day (20-day) notice in writing of such delinquency and of the right to request a hearing on the matter, and after such hearing, if requested, may order the termination of water service to such agency until all delinquent payments, including additional charges, are made to MWDOC, and may authorize such other action as may be appropriate.

- 7.3 Certification of Retail Meters. On or before the first day of February of each year, each of MWDOC's Member Agencies shall certify the number of retail water service meters that were "in service" (see 2.4.1) within the territory of each agency which is within MWDOC as of January 1st of that year on a form provided by MWDOC. The number of meters specified thereon shall be subject to MWDOC confirmation and shall be used to calculate billings for MWDOC's Retail Meter Charge.
- 7.4 <u>Disputed Bills</u>. If a MWDOC Member Agency disputes the amount of any billing, the MWDOC Member Agency shall pay the disputed bill. Corrections to the billing, if deemed necessary, shall be made on the succeeding month's water bill without interest.
- 7.5 <u>Year-End Reconciliation</u>. Billing for all water delivered by MWDOC to a MWDOC Member Agency that requires annual reconciliation (unless otherwise specified by agreement) shall be subject to a reconciliation after the close of each Fiscal Year to determine what quantity of water qualifies for the incentive or penalty. Adjustment will be made to previous billings based upon the reconciliation and the MWDOC Member Agency will be billed or given a credit for the difference.
- 7.6 <u>Certifications</u>. In the event water is delivered to a MWDOC Member Agency under a classification of delivery of water that requires certification, the MWDOC Member

Agency must submit the required certifications, in a format provided by MWDOC, documenting the quantity of water used for such purposes.

7.7 Blank

7.8 Reporting of Water Transfers or Exchanges. Transfers or exchanges of Imported Water between MWDOC Member Agencies affecting the calculation of the Metropolitan RTS Charge or other charges imposed by Metropolitan or MWDOC must be reported by the MWDOC Member Agency to MWDOC within sixty (60) days following the month of delivery, in order to qualify for an adjustment of the Metropolitan RTS Charge or other charges.

SECTION 8. WATER WHEELING, EXCHANGES AND TRANSFERS:

8.1 Water Wheeling, Exchanges and Transfers that will result in water being delivered into MWDOC's service area and that are entered into between two or more MWDOC Member Agencies or entities within the District, or between a MWDOC Member Agency and an entity outside the District, will be subject to MWDOC's consent.

SECTION 9. SUPERCEDES PRIOR RESOLUTIONS.

9.1 All ordinances, resolutions or administrative actions by the Board, or parts thereof that are inconsistent with any provision of this Ordinance are hereby superseded only to the extent of such inconsistency.

SECTION 10. SEVERABILITY:

If any provision of this Ordinance is for any reason held to be unlawful, such decision shall not affect the remaining portions of the Ordinance. The Board of Directors hereby declares that it would have passed each and every section and each and every phrase thereof irrespective of the fact that one or more provisions be declared invalid.

SECTION 11.EFFECTIVE DATE:

This Ordinance shall be effective July 1, 2016. Said Ordinance No. 53 was adopted, on roll call, by the following vote:

AYES: Directors

NOES: None

ABSENT: Directors

ABSTAIN: None

I certify the foregoing is a true and correct copy of Ordinance No. 53, adopted by the Board of Directors at its meeting held on May 18, 2016.

Mariboth Coldeby

Maribeth Goldsby, District Secretary



ACTION ITEM May 18, 2016

TO: Board of Directors

FROM: Administration & Finance Committee

(Directors Thomas, Barbre, Finnegan)

Robert J. Hunter, General Manager

Staff Contact: Hilary Chumpitazi

SUBJECT: Annual Review of District Investment Policy and Guidelines

STAFF RECOMMENDATION

It is recommended that the Board of Directors: Adopt Resolution incorporating the changes made to the Administrative Code (in June 2015).

COMMITTEE RECOMMENDATION

Committee concurred with staff recommendation.

DETAILED REPORT

MWDOC's Administrative Code requires an annual review of this policy. In October 2012, the Board adopted Resolution No. 1942, establishing the District's Investment Policy and Guidelines, and then in June 2015, the Board made some minor revisions to the Policy when the Administrative Code was revised.

The attached red-lined version represents the changes made to the Administrative Code and staff recommends no further changes at this time.

Budgeted (Y/N): Y	Budgeted amount: \$75,000		Core _X_	Choice		
Action item amount: NA		Line item: 7040-2000-41				
Fiscal Impact (explain if unbudgeted):						

RESOLUTION NO. MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

INVESTMENT POLICY AND GUIDELINES

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RESOLUTION NO. MUNICIPAL WATER DISTRICT OF ORANGE COUNTY INVESTMENT POLICY AND GUIDELINES 2016

BE IT RESOLVED by the Board of Director of the Municipal Water District of Orange County that the following is the policy and guidelines of the District for investment of funds and rescinds prior Resolution No. 1942, dated October 17, 2012.

SECTION 2100 - PURPOSE

The purpose of this policy is to set forth the investment and operational policies for the management of the public funds of Municipal Water District of Orange County. These policies have been adopted by, and can be changed only by a majority vote of the Board of Directors.

These policies are designed to ensure the prudent management of public funds, the safety of principal, the availability of operating funds when needed, and an investment return competitive with those of comparable funds and financial market indexes.

A copy of this policy will be provided to all investment dealers and investment managers doing business with the Municipal Water District of Orange County. Receipt of this policy, including confirmation that it has been reviewed by persons dealing directly with the Municipal Water District of Orange County's account will be received prior to any organization providing investment services to the Municipal Water District of Orange County.

SECTION 2101 - STATUTORY AND DELEGATED AUTHORITY

Authority to manage the investment of surplus funds is derived from California Government Code Sections 53601, et seq. In accordance with Section 53607 of the Government Code of the State of California, the authority of the Board of Directors to invest public funds may be delegated to the Treasurer for a one-year period, which may be renewed annually.

The Municipal Water District of Orange County (MWDOC) Board of Directors has expressly delegated the investment authority of the Board of Directors to the Treasurer pursuant to Resolution No. 1166. By Resolution No. 1277, the Board of Directors created the office of Deputy Treasurer and delegated to the Deputy Treasurer the authority to direct investment of MWDOC funds under the circumstances set forth in said Resolution, and to make a monthly report of those transactions to the Board. The Board of Directors created the office of Alternate Deputy Treasurer by Resolution No. 1434 and specified circumstances under which the Alternate Deputy Treasurer would have authority to direct the investment of MWDOC funds.

No person may engage in an investment transaction on behalf of MWDOC unless he or she has been duly appointed by the Board of Directors to the office of Treasurer, Deputy Treasurer, or Alternate Deputy Treasurer, and subject to the limitations and conditions set forth in the Resolutions establishing those offices and the terms of this policy. Notwithstanding the foregoing, upon the occurrence of a vacancy in the office of Treasurer, the Board of Directors may appoint an Acting Treasurer, who shall have and exercise the authority delegated to the Treasurer until appointment of a successor Treasurer by the Board of Directors.

The delegations in Resolution Nos. 1277 and 1434 are renewed on the adoption of this Policy.

The Treasurer shall be responsible for all transactions undertaken and shall establish procedures and a system of internal controls to regulate the activities of subordinate officials.

SECTION 2102 - ORGANIZATION

The organizational structure of the investment functions of MWDOC shall consist of the Board of Directors, the Administration & Finance Committee, the Treasurer and Deputy Treasurers. The responsibilities of these groups are as follows:

Board of Directors - the elected body responsible for the administration and investment of the assets of MWDOC. The Board may acquire, hold, manage, purchase, sell, assign, trade, transfer and/or dispose of any security, evidence of debt, or other investment in which MWDOC's assets may be invested by law. To assist them in discharging their responsibilities, the Board shall appoint a Treasurer, Deputy Treasurers and custodians of assets.

Administration & Finance Committee - appointed by the Board to review transactions, performance and asset mix, monitor, recommend policy, and propose adjustments for Board approval.

Treasurer - responsible for the administration and the investment of the funds, subject to the policies and restrictions set by the Board. The Treasurer as investment officer of MWDOC is granted full authority and responsibility by the Board in the purchase, sale, assignment, exchange and transfer of securities and for the safe custody of security holdings, subject to Board policies, rules, regulations and directives consistent with regulatory and statutory limitations. The Treasurer is responsible for interpreting, administering and advising on legal requirements, investment policies and strategies; collecting income, preparation of reports. Also responsible for Deputy Treasurer, and investment staff compliance with this Investment Policy and guidelines.

Deputy Treasurers - act in the absence of the Treasurer as specified within the Resolution of appointment to fulfill the duties and responsibilities as assigned by the Treasurer.

SECTION 2103- INVESTMENT PHILOSOPHY

Except where specifically directed by the State Constitution, statutes or regulations, the general investment policies of MWDOC will be guided by the prudent investor standard ("Standard") set forth in California Government Code Section 53600.3. Under this Standard, those with investment responsibility for public funds are trustees and, as trustees, shall act with care, skill, prudence and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of MWDOC, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims to safeguard the principal and maintain the liquidity needs of the agency.

This Standard shall be applied in the context of managing the overall investment portfolio. The investment officer, acting in accordance with written procedures and this investment policy and exercising due diligence shall be relieved of personal responsibility for an individual security's

credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and appropriate action is taken to control adverse developments.

SECTION 2104 - SCOPE

It is intended that this Investment Policy cover all funds and investment activities of MWDOC. Any reference to the portfolio shall mean the collection of MWDOC securities held by the Treasurer. Those securities held in Trust or escrow by a third-party Trustee or escrow agent on behalf of MWDOCWFC are invested under the Treasurer's direction in accordance with this Investment Policy and the terms of the specific escrow or trust agreements related to the funds.

MWDOC funds are divided into two categories, and the investment objectives and policies vary with the nature of the fund.

- Operating and Fiduciary Funds These funds are to provide for the ordinary annual operating expenses of MWDOC (General Fund, Water Fund) and Funds to provide for trustee functions and expenditures (WFC, with the exception of the Debt Service Reserve) and other specified reoccurring and non-reoccurring purposes where MWDOC serves in a fiduciary role. These funds are considered "short-term" for investment purposes and will be invested to provide the safety and liquidity to meet all anticipated expenditures.
- Reserve Funds These funds are designated for contingencies or emergencies and may be used to supplement the other funds as necessary. These funds may be invested "longerterm" as defined in this Investment Policy.

SECTION 2105- INVESTMENT OBJECTIVES

When investing, reinvesting, purchasing, acquiring, exchanging, selling or managing MWDOC's funds, the primary objective is to safeguard the principal of the funds. The secondary objective is to meet the liquidity needs of MWDOC. The third objective is to achieve a maximum return on invested funds (California Government Code Section 53600.5.). It is the policy of MWDOC to invest funds in a manner to obtain the highest yield possible while meeting the daily cash flow demands of MWDOC as long as investments meet the criteria established by this investment policy for safety and liquidity and conform to all laws governing the investment of MWDOC's funds.

Safety of Principal.

Safety of principal is the foremost objective of MWDOC. Each investment transaction shall seek to first ensure that capital losses are avoided, whether they arise from securities defaults, institution default, broker-dealer default, or erosion of market value of securities. MWDOC shall mitigate the risk to the principal of invested funds by limiting credit and interest rate risks. Credit risk is the risk of loss due to the failure of a security's issuer or backer. Interest rate risk is the risk that the market value of the MWDOC's portfolio will change due to an increase/decrease in general interest rates.

- 1) Credit risk will be mitigated by:
 - (a) Limiting investments to only the most creditworthy types of permissible investments as described in Section 2106;
 - (b) By pre-qualifying the financial institutions with which the Agency will do business; and
 - (c) By diversifying the investment portfolio so that the potential failure of any one issue or issuer will not place an undue financial burden on the District.
- 2) Interest rate risk will be mitigated by:
 - (a) Structuring the portfolio so that securities mature to meet the District's cash requirements for ongoing obligations, thereby reducing the possible need to sell securities on the open market at a loss prior to their maturity to meet those requirements; and
 - (b) Investing primarily in shorter term securities.

Liquidity

Availability of sufficient cash to pay for current expenditures shall be maintained. An adequate percentage of the portfolio shall be maintained in liquid short-term securities which can be converted to cash as necessary to meet disbursement requirements. Since cash requirements cannot always be anticipated, sufficient investments in securities with active secondary or resale markets shall be utilized.

Rates of Return

Yield on investments shall be considered only after the basic requirements of safety and liquidity have been met. The investment portfolio shall be designed to attain a market average rate of return throughout budgetary and economic cycles, taking into account the MWDOC's risk constraints, the composition and cash flow characteristics of the portfolio, and applicable laws.

SECTION 2106- INVESTMENT POLICY GUIDELINES

MWDOC authorized investments types, amounts, maturities, and other characteristics are stated in the Government Code Section 53601 (as periodically amended), and with the following exceptions as noted below.

° Collective Investment (Pools) - Assets of any of the funds may be invested in collective investment pools run and managed by other public bodies and banks that are approved by the Board of Directors. However, no such investment shall be made in a pool where the investment objectives differ from the investment objectives listed in Section 2105 of this investment policy, nor should any investment be made in a fund that engages in market timing or anticipating interest rate changes or that uses derivatives or other securities other than as a hedge against interest rate risk.

- Money Market Mutual Funds Investment in shares of money market mutual funds may be made if the investments meet the same restrictions as those of collective investment pools described in Section 2105. In addition, purchase of these funds must not result in payment of a purchase premium or commission. These mutual funds must attain the highest ranking of two nationally recognized ratings services and the investment adviser must be registered with the Securities and Exchange Commission (SEC) as an investment adviser with not less than five years experience managing market mutual funds with investment portfolios of greater than \$500 million or greater.
- ° Cash Holdings The portfolio will hold sufficient cash equivalent investments to ensure availability of sufficient funds to meet known obligations for the next three months. Idle cash will be invested to the fullest extent practicable in interest-bearing investments.
- Other permissible investments for the Operating and Fiduciary funds are:
 - Bank checking accounts, time deposits or certificates of deposit not to exceed the current Federal Deposit Insurance Corporation (FDIC) limit without being collateralized. Negotiated certificates of deposit shall not exceed 20% of portfolio in effect immediately after such investment.
 - U.S. Treasury obligations.
 - U.S. Government Agency obligations and, U.S. Government Instrumentality obligations.
 - Prime Commercial Paper rated A-1/P-1/F-1 by Moody's, Standard and Poor's or Fitch (shall not exceed 20% of portfolio in effect immediately after such investment).
 - Prime Banker's Acceptances rated A-1/P-1/F-1 by Moody's, Standard and Poor's or Fitch (shall not exceed 20% of portfolio in effect immediately after such investment).
 - Corporate Securities (Medium-Term Notes) with a rating of "A" or better by at least two nationally recognized rating services (shall not exceed 30% of portfolio in effect immediately after such investment)
 - Loans with an agreement for the collateral to be repurchased by the borrower (Repurchase Agreements); the amount of such instruments will not exceed 10% of the market value of the portfolio. U.S. Treasury and Agency securities are acceptable collateral with a market value of at least 102% of the value of the Repurchase Agreement. Prior to investment, a Master Repurchase Agreement will be signed with the qualified counterparty.
- Permissible investments for Reserve Funds are:
 - All investments permitted for the Operating and Fiduciary funds, except maturities may not exceed five years without Board approval prior to investment.
 - Corporate Securities with a rating of "A" or better by at least two nationally recognized rating service (shall not exceed 20% of portfolio in effect immediately after such investment).
- Prohibited Investments and Investment Practices The following are prohibited:
 - Purchases on margin or short sales.
 - ° "Derivative" securities of any type.
 - Lending securities with an agreement to buy them back after a stated period of time (Reverse Repurchase Agreements).

- Futures, Options and Margin Trading
- o In no instance shall a swap be used in speculation. Losses are only acceptable if the proposed swap or trade can clearly enhance quality or yield (value) over the life of the new security on a Total Return basis.
- Investments are limited to maturities of five years or less without express authorization of the Board prior to the investment.
- Diversification The investment portfolio will be diversified to avoid undue concentration in securities of one type or securities of one financial institution, so that no single investment or class of investments can have a disproportionate impact on the total portfolio. This restriction does not apply to U.S. Treasury securities.
- Exemptions Any investment currently held that does not meet the guidelines of this policy shall be exempted from the requirements of this policy. At maturity or liquidation, such monies shall be reinvested only as provided by the current policy.

SECTION 2107 - EXECUTION

The responsibility for the execution of security transactions shall rest with such qualified members of the investment staff as designated by the Board. The selection of the broker-dealer for a specific transaction shall be based on price and yield quotations. Every effort shall be made to obtain appropriate discounts on individual orders.

Security orders shall be placed on the basis of accepted investment practices. All security transactions, including for repurchase agreements, entered into by MWDOC shall be on a Delivery-vs.-Payment (DVP) basis, i.e. payment will be made upon receipt of the securities to the safekeeping or trust account or custodial facility. All securities shall be held in MWDOC's name pursuant to an agreement and all financial institutions are instructed to mail confirmation and safekeeping receipts directly to MWDOC within three business days after the trade.

Receipts for the confirmation of trades of authorized securities will include information on trade date, par value, maturity, interest rate, price, yield, settlement date, description of securities purchased, agency's name, amount due, and third party custodial information.

SECTION 2108 - PERSONAL CONDUCT

The Board of Directors of Municipal Water District of Orange County is acutely aware of the responsibilities the staff has in administering the investment assets of MWDOC. Therefore, the integrity of the staff and all others involved in making investment decisions must be unquestioned.

Members of the Board of Directors, the Treasurer, Deputy Treasurers and members of the investment staff may not have a direct or indirect interest in the gains or profits of any investment made by MWDOC and may not receive any pay or emolument (profit arising from office or employment usually in the form of compensation or perquisites) for services other than as designated by MWDOC for compensation and authorized expenses.

All persons responsible for investment decisions or who are involved in the management of MWDOC assets shall be governed in their personal investment activities by the codes of

conduct established by the applicable state statutes, the Financial Industry Regulatory Authority (FINRA), the Securities and Exchange Commission, and the Code of Ethics and Standards of Professional Conduct of the Association for Investment Management and Research.

All persons responsible for investment decisions or who are involved in the management of MWDOC assets shall refrain from any personal business activity that could conflict with the proper execution and management of the MWDOC investment program, or that could impair their ability to make impartial investment decisions.

SECTION 2109 - REPORTING

The Treasurer shall prepare an investment report monthly, including a management summary that provides the status of the current investment portfolio and transactions made over the last month. The Report shall be submitted within thirty (30) days following the quarter ended. The report should be provided to and reviewed by the General Manager, the Administration & Finance Committee and provided to the Board of Directors. The report will include the following:

- A listing of individual securities held at the end of the reporting period;
- Average weighted yield to maturity of portfolio on MWDOC investments;
- Listing of investments by maturity date;
- Market values of current investments;
- Percentage of the total portfolio which each type of investment represents.

This investment policy shall be reviewed by the Administration and Finance Committee annually and as frequently as necessary, to enable the Treasurer to respond to changing economic and market conditions.

SECTION 2110 - GLOSSARY

AGENCIES: Federal agency securities and/or Government-sponsored enterprises.

ASKED: The price at which securities are offered.

BANKERS' ACCEPTANCE (BA): A draft or bill or exchange accepted by a bank or trust company. The accepting institution guarantees payment of the bill, as well as the issuer.

BENCHMARK: A comparative base for measuring the performance or risk tolerance of the investment portfolio. A benchmark should represent a close correlation to the level of risk and the average duration of the portfolio's investments.

BID: The price offered by a buyer of securities. (When you are selling securities, you ask for a bid.) See Offer.

BROKER: A broker brings buyers and sellers together for a commission.

BROKER-DEALER: A person or firm acting as a principal in securities transaction as either a broker or a dealer depending on the transaction. Technically, a broker is only an agent who executes orders on behalf of clients, whereas a dealer acts as a principal and trades from the firm's own account. Transaction confirmations must disclose this information. Because most

brokerage firms act as both brokers and principals, the term broker-dealer is commonly used to describe them.

CASH EQUIVALENTS (CE): Highly liquid and safe instruments or investments that can be converted into cash immediately. Examples include bank accounts, money market funds, and Treasury bills.

CERTIFICATE OF DEPOSIT (CD): A time deposit with a specific maturity evidenced by a Certificate. Large-denomination CD's are typically negotiable.

COLLATERAL: Securities, evidence of deposit or other property, which a borrower pledges to secure repayment of a loan. Also refers to securities pledged by a bank to secure deposits of public monies.

COMPREHENSIVE ANNUAL FINANCIAL REPORT (CAFR): The official annual report of MWDOC the (entity). It includes five combined statements for each individual fund and account group prepared in conformity with GAAP. It also includes supporting schedules necessary to demonstrate compliance with finance-related legal and contractual provisions, extensive introductory material, and a detailed Statistical Section.

COUPON: (a) The annual rate of interest that a bond's issuer promises to pay the bondholder on the bond's face value. (b) A certificate attached to a bond evidencing interest due on a payment date.

DEALER: A dealer, as opposed to a broker, acts as a principal in all transactions, buying and selling for his own account.

DEBENTURE: A bond secured only by the general credit of the issuer.

DELIVERY VERSUS PAYMENT: There are two methods of delivery of securities: delivery versus payment and delivery versus receipt. Delivery versus payment is delivery of securities with an exchange of money for the securities. Delivery versus receipt is delivery of securities with an exchange of a signed receipt for the securities.

DERIVATIVES: (1) Financial instruments whose return profile is linked to, or derived from, the movement of one or more underlying index or security, and may include a leveraging factor, or (2) financial contracts based upon notional amounts whose value is derived from an underlying index or security (interest rates, foreign exchange rates, equities or commodities).

DISCOUNT: The difference between the cost price of a security and its maturity when quoted at lower than face value. A security selling below original offering price shortly after sale also is considered to be at a discount.

DISCOUNT SECURITIES: Non-interest bearing money market instruments that are issued a discount and redeemed at maturity for full face value (e.g., U.S. Treasury Bills.)

DIVERSIFICATION: Dividing investment funds among a variety of securities offering independent returns.

DURATION: A measure of the sensitivity of the price (the value of principal) of a fixed-income investment to a change in interest rates. Duration is expressed as a number of years. Rising interest rates mean falling bond prices, while declining interest rates mean rising bond prices.

FEDERAL CREDIT AGENCIES: Agencies of the Federal government set up to supply credit to various classes of institutions and individuals, *e.g.*, S&L's, small business firms, students, farmers, farm cooperatives, and exporters.

FEDERAL DEPOSIT INSURANCE CORPORATION (FDIC): A federal agency that insures bank deposits, currently up to \$250,000 per entity.

FEDERAL FUNDS RATE: The rate of interest at which Fed funds are traded. This rate is currently pegged by the Federal Reserve through open-market operations.

FEDERAL HOME LOAN BANKS (FHLB): Government sponsored wholesale banks (currently 12 regional banks), which lend funds and provide correspondent banking services to member commercial banks, thrift institutions, credit unions and insurance companies. The mission of the FHLBs is to liquefy the housing related assets of its members who must purchase stock in their district Bank.

FEDERAL NATIONAL MORTGAGE ASSOCIATION (FNMA): FNMA, like GNMA was chartered under the Federal National Mortgage Association Act in 1938. FNMA is a federal corporation working under the auspices of the Department of Housing and Urban Development (HUD). It is the largest single provider of residential mortgage funds in the United States. Fannie Mae, as the corporation is called, is a private stockholder-owned corporation. The corporation's purchases include a variety of adjustable mortgages and second loans, in addition to fixed-rate mortgages. FNMA's securities are also highly liquid and are widely accepted. FNMA assumes and guarantees that all security holders will receive timely payment of principal and interest.

FEDERAL OPEN MARKET COMMITTEE (FOMC): Consists of seven members of the Federal Reserve Board and five of the twelve Federal Reserve Bank Presidents. The President of the New York Federal Reserve Bank is a permanent member, while the other Presidents serve on a rotating basis. The Committee periodically meets to set Federal Reserve guidelines regarding purchases and sales of Government Securities in the open market as a means of influencing the volume of bank credit and money.

FEDERAL RESERVE SYSTEM: The central bank of the United States created by Congress and consisting of a seven member Board of Governors in Washington, D.C., 12 regional banks and about 5,700 commercial banks that are members of the system.

GOVERNMENT NATIONAL MORTGAGE ASSOCIATION (GNMA or Ginnie Mae): Securities influencing the volume of bank credit guaranteed by GNMA and issued by mortgage bankers, commercial banks, savings and loan associations, and other institutions. Security holder is protected by full faith and credit of the U.S. Government. Ginnie Mae securities are backed by the FHA, VA or FHA mortgages. The term "pass-throughs" is often used to describe Ginnie Maes.

LIQUIDITY: A liquid asset is one that can be converted easily and rapidly into cash without a substantial loss of value. In the money market, a security is said to be liquid if the spread between bid and asked prices is narrow and reasonable size can be done at those quotes.

LOCAL GOVERNMENT INVESTMENT POOL (LGIP): The aggregate of all funds from political subdivisions that are placed in the custody of the State Treasurer for investment and reinvestment.

MARKET VALUE: The price at which a security is trading and could presumably be purchased or sold.

MASTER REPURCHASE AGREEMENT: A written contract covering all future transactions between the parties to repurchase—reverse repurchase agreements that establishes each party's rights in the transactions. A master agreement will often specify, among other things, the right of the buyer-lender to liquidate the underlying securities in the event of default by the seller borrower.

MATURITY: The date upon which the principal or stated value of an investment becomes due and payable.

MONEY MARKET: The market in which short-term debt instruments (bills, commercial paper, bankers' acceptances, etc.) are issued and traded.

OFFER: The price asked by a seller of securities. (When you are buying securities, you ask for an offer.) See Asked and Bid.

OPEN MARKET OPERATIONS: Purchases and sales of government and certain other securities in the open market by the New York Federal Reserve Bank as directed by the FOMC in order to influence the volume of money and credit in the economy. Purchases inject reserves into the bank system and stimulate growth of money and credit; sales have the opposite effect. Open market operations are the Federal Reserve's most important and most flexible monetary policy tool.

PORTFOLIO: Collection of securities held by an investor.

PRIMARY DEALER: A group of government securities dealers who submit daily reports of market activity and positions and monthly financial statements to the Federal Reserve Bank of New York and are subject to its informal oversight. Primary dealers include Securities and Exchange Commission (SEC)-registered securities broker-dealers, banks, and a few unregulated firms.

PRUDENT PERSON RULE: An investment standard. In some states the law requires that a fiduciary, such as a trustee, may invest money only in a list of securities selected by the custody state—the so-called legal list. In other states the trustee may invest in a security if it is one which would be bought by a prudent person of discretion and intelligence who is seeking a reasonable income and preservation of capital.

QUALIFIED PUBLIC DEPOSITORIES: A financial institution which does not claim exemption from the payment of any sales or compensating use or ad valorem taxes under the laws of this state, which has segregated for the benefit of the commission eligible collateral having a value of not less than its maximum liability and which has been approved by the Public Deposit Protection Commission to hold public deposits.

RATE OF RETURN: The yield obtainable on a security based on its purchase price or its current market price. This may be the amortized yield to maturity on a bond the current income return.

REPURCHASE AGREEMENT (REPO): A holder of securities sells these securities to an investor with an agreement to repurchase them at a fixed price on a fixed date. The security "buyer" in effect lends the "seller" money for the period of the agreement, and the terms of the agreement are structured to compensate him for this.

REVERSE REPURCHASE AGREEMENT (REVERSE REPO): A reverse-repurchase agreement (reverse repo) involves an investor borrowing cash from a financial institution in exchange for securities. The investor agrees to repurchase the securities at a specified date for the same cash value plus an agreed upon interest rate. Although the transaction is similar to a repo, the purpose of entering into a reverse repo is quite different. While a repo is a straightforward investment of public funds, the reverse repo is a borrowing.

SAFEKEEPING: A service to customers rendered by banks for a fee whereby securities and valuables of all types and descriptions are held in the bank's vaults for protection.

SECONDARY MARKET: A market made for the purchase and sale of outstanding issues following the initial distribution.

SECURITIES & EXCHANGE COMMISSION: Agency created by Congress to protect investors in securities transactions by administering securities legislation.

SEC RULE 15(C)3-1: See Uniform Net Capital Rule.

STRUCTURED NOTES: Notes issued by Government Sponsored Enterprises (FHLB, FNMA, SLMA, etc.) and Corporations, which have imbedded options (e.g., call features, step-up coupons, floating rate coupons, derivative-based returns) into their debt structure. Their market performance is impacted by the fluctuation of interest rates, the volatility of the imbedded options and shifts in the shape of the yield curve.

TOTAL RETURN: A measure of performance, Total Return is the actual rate of return of an investment or a pool of investments, over a given evaluation period. Total Return accounts for two categories of return: income and capital appreciation. Income includes interest paid by fixed-income investments, distributions or dividends. Capital appreciation represents the change in the market price of an asset.

TREASURY BILLS: A non-interest bearing discount security issued by the U.S. Treasury to finance the national debt. Most bills are issued to mature in three months, six months, or one year.

TREASURY BONDS: Long-term coupon-bearing U.S. Treasury securities issued as direct obligations of the U.S. Government and having initial maturities of more than 10 years.

TREASURY NOTES: Medium-term coupon-bearing U.S. Treasury securities issued as direct obligations of the U.S. Government and having initial maturities from two to 10 years.

UNIFORM NET CAPITAL RULE: Securities and Exchange Commission requirement that member firms as well as nonmember broker-dealers in securities maintain a maximum ratio of indebtedness to liquid capital of 15 to 1; also called net capital rule and net capital ratio. Indebtedness covers all money owed to a firm, including margin loans and commitments to purchase securities, one reason new public issues are spread among members of underwriting syndicates. Liquid capital includes cash and assets easily converted into cash.

YIELD: The rate of annual income return on an investment, expressed as a percentage. (a) INCOME YIELD is obtained by dividing the current dollar income by the current market price for the security. (b) NET YIELD or YIELD TO MATURITY is the current income yield minus any premium above par or plus any discount from par in purchase price, with the adjustment spread over the period from the date of purchase to the date of maturity of the bond.

BE IT FURTHER RESOLVED the investment policy shall be reviewed by the Administration and Finance Committee annually, and as frequently as necessary, to enable the Treasurer to respond to changing market conditions;

Said Resolution was adopted, upon roll call, by the following vote:

AYES: Directors Clark, Dick, Hinman, Osborne & Thomas

NOES: None ABSTAIN: None

ABSENT: Directors Barbre and Finnegan

I certify the foregoing is a true, full and correct copy of Resolution No.1942 adopted by the Board of Director of Municipal Water District of Orange County at its Regular meeting held on October May 18171, 20126.

Maribeth Goldsby, District Secretary
Municipal Water District of Orange County



ACTION ITEM May 18, 2016

TO: Board of Directors

FROM: Public Affairs & Legislation Committee

(Directors Barbre, Hinman, Tamaribuchi)

Robert Hunter Staff Contact: Heather Baez

General Manager

SUBJECT: SB 163 (Hertzberg) – Wastewater Treatment, Recycled Water

STAFF RECOMMENDATION

Staff recommends the Board of Directors vote to adopt an oppose position on SB 163 and send a letter to the author and Orange County delegation expressing our position.

COMMITTEE RECOMMENDATION

The Public Affairs & Legislation Committee will review this item on May 16, 2016 and make a recommendation to the Board.

SUMMARY

SB 163 was brought to the Public Affairs & Legislation Committee on February 17, 2016 where the committee voted to take no action, but asked staff to monitor the legislation and bring the measure back if it was amended. In the following months, a number of water and wastewater agencies and organizations have engaged on this bill to no avail. No suggested amendments have been taken and the bill remains in current form.

As amended in the last week of session in 2015, SB 163 would declare that the discharge of treated water through ocean outfalls constitutes a waste and unreasonable use of water, and would require wastewater facilities to phase out this practice over the next two decades before achieving 100% reuse by 2036 and eliminating discharge through ocean outfalls.

In declaring the discharge of treated wastewater through ocean outfalls a waste and unreasonable use of water, this bill would require a NPDES permit holder (permit holder)

Budgeted (Y/N): n/a	Budgeted amount:		Core x	Choice				
Fiscal Impact (explain if unbudgeted):								

authorized for the discharge of wastewater through an ocean outfall as of January 1, 2016, to submit a compliance plan to meet the following provisions to the executive director of the Water Board by 1/1/2020:

- 1) Achieve 50% reuse of the facility's actual annual flow for beneficial purposes by January 1, 2026. (For all purposes of this measure, "actual annual flow" is defined the annual average flow of treated wastewater discharging through a facility's ocean outfall as determined by the Water Board using monitoring data available for calendar years 2009 to 2014.)
- 2) Eliminate all discharge of treated wastewater through ocean outfalls, except as backup discharge (i.e. during storms or wet periods when there is little demand for reclaimed water), by 1/1/2036.
- 3) Achieve 100% reuse of the facility's actual annual flow for beneficial purposes by 1/1/2036.

ARGUMENTS IN SUPPORT

Given the cyclical droughts faced by California, and the increasing cost of developing new water supplies, preventing treated water from being lost to the ocean is an obvious benefit. In theory, reusing water that is already in the system is more efficient that generating new water.

While the underlying policy of this bill is laudable, issues such as cost, feasibility, or barriers to direct potable reuse need to be resolved before a state-imposed mandate may even be considered.

ARGUMENTS IN OPPOSITION

Since the original gut and amend in September 2015, Senator Hertzberg went out of his way to signal that he wants to work cooperatively with stakeholders. However, when interested parties suggested workable amendments, negotiations stalled quickly.

In February 2016, a coalition of water and wastewater treatment providers sent a letter to Senator Hertzberg asking him to reintroduce the measure as a new bill and not move SB 163 to allow for the full legislative process to develop including adequate committee analyses (to date there have been no analyses as this was a last minute gut & amend at the end of the prior legislative year) and full hearings on the bill in both houses. When this did not occur, many agencies, including MWDOC, met with Senator Hertzberg regarding their concerns.

SB 1318 is based on a good theory, but the practical obstacles to complying with the bill's provisions are insurmountable. The bill simply imposes a top-down, one-size-fits-all, mandate to reuse very large amounts of treated waste water with neither an identified source of funding to pay for infrastructure improvements, nor even a rough estimate of the cost, which very likely would be billions of dollars. Reusing treated water is a great strategy, except where other types of conservation and supply projects can produce more water for less money.

COMMENTS

Back in February staff recommended adopting a Support if Amended position in light of the author's willingness to meet and confer with interested parties. The proposed amendment, which was drafted by the California Association of Sanitation Agencies and the California Municipal Utilities Association, would have used the bill to do a feasibility study of meeting the goals of the legislation. MWDOC's lobbyist met on more than one occasion with the author's staff and was asked to delay adopting a position for the time being, which the Board ultimately did. Three months having elapsed with no discernable progress, staff believes it is time to reconsider that position.

ACWA had adopted a "Not Favor" position while other interested parties initially adopted an "Oppose Unless Amended" approach. Water Reuse California identified a number of practical issues with the bill. Recently, a variety of utility districts, water districts, and associations changed their position from "Oppose Unless Amended" to "Oppose." The reason of the change is the lack of progress despite ongoing discussions with the author. Although the bill can wait until the end of June before being heard, most parties feel that the time has come to respond to the language of the bill as opposed to the intentions of its author. As currently written, the bill would make all other water policies subservient to this one objective by taking all known, and all as yet unknown, funds from other types of water conservation and/or supply projects. In sum, the bill eliminates discretion in meeting water supply needs through the most appropriate method(s) based on local circumstances in favor of a single state-imposed solution.

DETAILED REPORT

The full text of SB 163 is attached along with a coalition letter opposing the measure.

















April 18, 2016

The Honorable Bob Hertzberg California State Senate State Capitol, Room 4038 Sacramento, CA 95814

Subject: Coalition OPPOSE - SB 163 (Hertzberg): Recycled Water Mandate for Ocean

Dischargers - As Introduced / As Proposed to be Amended

Dear Senator Hertzberg,

The coalition of undersigned associations and individual water and wastewater agencies respectfully oppose SB 163 (Hertzberg), which would impose an unworkable mandate on each wastewater treatment facility that discharges through an ocean outfall in order to achieve at least 50 percent reuse of the facility's actual annual flow for beneficial purposes by 2026 and 100 percent by 2036.

Our coalition represents nearly all of the ocean dischargers who would be directly impacted by the mandate approach currently outlined in the bill, and many more agencies that are interested in issues pertaining to recycled water production throughout the state. As discussed in detail below, these dischargers have very different circumstances with respect to the quantities of water they are able to recycle and discharge. The water and wastewater community is highly supportive of developing recycled water projects and increasing recycled water production and use in the future. We are also committed to the aspirational goals set forth by the State Water Resources Control Board for increases in recycled water production and use. Unfortunately, the statewide ocean discharge prohibition in SB 163 is simply unworkable for a variety of reasons, including the following:

- A statewide mandate will cost local public agencies tens of billions of dollars, most if not all of which will be borne by local ratepayers, some in disadvantaged communities.
- A statewide mandate is not a feasible, practical, or efficient method to promote water recycling.
 Regional and watershed differences are crucial, and barriers are multiple.
- Significant efforts are already underway to expand production and use of recycled water. SB 163 would undermine these efforts, hindering recycled water goals rather than promoting them.
- Several regulatory efforts must be completed before agencies can examine the full suite of reuse options, including development of direct potable reuse regulations.
- Exemptions or extensions to the proposed deadline place the burden on local agencies, will not avoid disruption in long-term agency planning, and are unhelpful.
- A task force to examine substantive barriers to recycled water production and beneficial use is a necessary first step that would improve recycled water outcomes.

Each one of these issues is discussed in greater detail below.

The Cost to Implement SB 163 Would be Astronomical

The cost to implement a 100 percent reuse mandate on all ocean dischargers in the state would be staggering. Initial estimates are in the tens of billions of dollars, and would include massive treatment facility upgrades, significant infrastructure costs, and a fundamental shift in how wastewater operations with ocean outfalls are managed today. These costs would be borne, in part or in whole, by local ratepayers. This could result in wastewater bills that are three, four, or even five times current wastewater rates. In some cases, this would have a significant impact on disadvantaged communities within the jurisdiction of the local wastewater agency.

In order to comply with this arbitrary mandate, ocean dischargers would be required to add advanced treatment infrastructure such as filtration, microfiltration, reverse osmosis, and/or ultraviolet disinfection with advanced oxidation. Nearly all agencies would be required to develop expansive additional distribution infrastructure to deliver this new water. In combination, these actions would cost billions of dollars. Despite recent increases in grant and low interest loan funds for recycled water through Proposition 1 and the State Revolving Fund (SRF) Loan program, the current level of assistance is nowhere near enough to make the 100 percent mandate feasible or affordable for local ratepayers. SB 163 offers no practical solutions to address this funding shortfall.

A Statewide Ocean Discharge Prohibition is Not Feasible, Practical, or Efficient

California has more than fifty ocean dischargers across the state, ranging in size from agencies that discharge a few hundred thousand gallons per day up to 330 million gallons per day. Every watershed, region, treatment facility and outfall is different, and the capability to beneficially reuse water varies widely. A reliable and feasible end use for recycled water is not always available, and is dependent on factors other than simply the ocean discharger's technical ability to supply recycled water. The blanket mandate approach contemplated by SB 163 simply does not work because of this variability and the need to account for local conditions. For example:

- In many cases the regional demand simply does not exist to reuse 100 percent of an agency's ocean discharge. Some agencies are also long distances from groundwater basins or reservoirs suitable for recharge or storage, making such alternatives impractical.
- Many wastewater agencies are not water purveyors and have complex relationships with local water supply agencies, leaving limited options for distribution of recycled water.
- Some communities are built out and densely populated, making the development of purple pipes and distribution infrastructure for non-potable water exceedingly difficult and prohibitively expensive.
- Advanced treatment produces brine, which must be managed and ultimately discharged, meaning a true ocean discharge prohibition is unattainable.
- Public acceptance of beneficial reuse of wastewater, both for direct potable and indirect potable reuses, still remains an obstacle. While water and wastewater agencies and others are actively seeking to educate the public and dispel misconceptions regarding the safety of recycled water, this remains an issue that needs to be addressed.

SB 163 Is Counterproductive and Hinders Existing Water Recycling Efforts

Not only is the approach contemplated by SB 163 infeasible, the specter of a 50 or 100 percent statewide mandate could interfere with existing water recycling efforts currently underway. Water and wastewater agencies are already actively planning for the future and looking for opportunities to maximize recycled

Senator Bob Hertzberg April 18, 2016 Page 3 of 4

water production and beneficial reuse. Coalition member agencies are producing hundreds of thousands of acre-feet of recycled water each year, and with recent funding initiatives and the potential for additional financial incentives down the road, California is well on its way to meeting the recycled water goals set forth by the State Water Resources Control Board. The ocean discharge prohibition in SB 163 undermines these efforts. Many agencies already have capital projects planned for long-term time horizons, are pursing joint projects with other agencies, and are otherwise managing and balancing their water supply goals. If the mandate in SB 163 goes into effect, agencies would be forced to significantly modify their long term planning and budgeting priorities and spend billions of ratepayer dollars to focus solely on achieving this arbitrary ocean discharge prohibition.

SB 163 is Premature in Light of Pending Regulatory Efforts

Aside from the enormous practical and cost implications of moving to a 100 percent reuse mandate for ocean dischargers, the proposal is premature in light of pending regulatory efforts intended to lay the foundation for additional recycled water production and beneficial uses moving forward. Specifically, an existing "regulatory gap" needs to be filled before wastewater agencies can determine what methods, processes and types of reuse make the most sense for the required increase in use of recycled water in their service areas.

The State Water Board is currently receiving input from an expert panel and an advisory group on the feasibility of developing criteria for direct potable reuse (DPR). Depending on the results of that process and any regulations or actions that arise therefrom, the suite of options for wastewater agencies to beneficially reuse their water could change and expand dramatically. The availability of DPR is absolutely essential for maximizing recycled water production and beneficial use in the state, yet SB 163 attempts to impose a mandate before that process has been completed. The State Water Board is also currently developing regulations regarding surface water augmentation with recycled water. That process will inform available options for those agencies not in close proximity to groundwater basins conducive to replenishment with recycled water, and could change the dynamics of decision making at certain agencies. Finally, several bills in this legislative session (and in recent years) are laying the groundwork for expanded use of on-site treatment and recycling. This could have a significant impact on flows to wastewater facilities and change the dynamics of discharge in the future. These regulatory processes need to be finalized before agencies can fully evaluate their options as it relates to appropriate levels of treatment, available outlets for recycled water, and the best "fit" for a particular region and situation. Adopting a mandate in advance of the completion of these regulations and processes would require agencies to pursue paths that might not be the most beneficial to the agency, the ratepayers, or water supply in the region or state.

Burdening Local Agencies with "Proving an Exemption" is Not Good Policy

It is our understanding that amendments to the bill are currently under development that would provide some possible extensions for compliance deadlines based on a number of the feasibility issues outlined above. If the underlying mandate remains in place, these are simply unhelpful.

Under the anticipated approach, the burden would be on the local wastewater agency to demonstrate to the State Water Board that they meet eligibility criteria for an exemption or extension. It is not clear what would be required to make such a showing, what the State Water Board would be required to consider, how such requests would be analyzed, and how long this process might take. Establishing a mandate that clearly cannot be met by all ocean dischargers, and then asking those same local agencies to prove they are unable to comply and hope that the State Water Resources Control Board might grant them an extension or exception is simply bad public policy.

A Task Force is Needed to Examine Key Barriers to Meeting Recycling Goals

Our coalition of water and wastewater agencies has been actively working on possible alternative approaches that would help advance recycled water production, not impede it. There are several unanswered questions related to how to increase recycled water production in the state, both among ocean dischargers and other dischargers alike. Thus, our proposed alternative to the mandate is to convene a task force that would develop a roadmap for new water. The task force would be statewide in its scope, focusing on both ocean dischargers and inland dischargers, examining both potable and non-potable reuse, and identifying water-recycling issues relevant to inland and coastal areas as well as agricultural and urban interests. The task force would ultimately produce an action plan designed to increase recycled water production in California, meet the statewide water recycling goals and overcome any barriers preventing increases in recycled water production and beneficial use from being realized.

The water and wastewater community is fully supportive of recycled water projects where it makes sense, where there are opportunities for beneficial use and watershed conditions are present to maximize supplies of this water. However, the drivers for this progress will be a vision for local water supply reliability and cooperative, beneficial partnerships between water and wastewater agencies on projects that make sense.

We thank you for your consideration and urge you to oppose SB 163 (Hertzberg).

Sincerely,







California Association of Sanitation Agencies

Inland Empire Utilities Agency

Association of California Water Agencies







City of San Diego, Public Utilities Department

California Municipal Utilities Association

Irvine Ranch Water District





San Francisco Public Utilities Commission

East Bay Municipal Utility District

AMENDED IN ASSEMBLY SEPTEMBER 3, 2015 AMENDED IN SENATE JUNE 2, 2015

SENATE BILL

No. 163

Introduced by Senator Hertzberg

February 4, 2015

An act to add Section 3000.5 to the Elections Code, relating to elections. An act to add Section 13557.5 to the Water Code, relating to water.

LEGISLATIVE COUNSEL'S DIGEST

SB 163, as amended, Hertzberg. Elections: vote by mail ballot. Wastewater treatment: recycled water.

The California Constitution requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable and that the waste or unreasonable use or unreasonable method of use of water be prevented. Existing law declares that the use of potable domestic water for certain nonpotable uses is a waste or an unreasonable use of water if recycled water is available, as determined by the State Water Resources Control Board, and other requirements are met.

Under existing law, the state board and the 9 California regional water quality control boards prescribe waste discharge requirements in accordance with the federal national pollutant discharge elimination system (NPDES) permit program established by the federal Clean Water Act and the Porter-Cologne Water Quality Control Act.

This bill would declare that the discharge of treated wastewater from ocean outfalls, except in compliance with the bill's provisions, is a waste and unreasonable use of water in light of the cost-effective opportunities to recycle this water for further beneficial use. This bill,

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on or before January 1, 2026, would require a wastewater treatment facility discharging through an ocean outfall to achieve at least 50% reuse of the facility's actual annual flow, as defined, for beneficial purposes. This bill, on and after January 1, 2036, would prohibit the discharge of treated wastewater through ocean outfalls, except as backup discharge, as defined, and would require a wastewater treatment facility to achieve 100% reuse of the facility's actual annual flow for beneficial purposes. This bill, on and after January 1, 2022, would authorize a NPDES permitholder subject to these requirements to petition the state board for a partial exemption to the above-described requirements. This bill would require the state board to determine, after notice and opportunity for comment, whether the petition demonstrates that the NPDES permitholder cannot comply with these reuse requirements and would provide that an exemption from these reuse requirements is valid for a period of no more than 5 years, at which point the NPDES permitholder is required to reapply for an exemption or comply with these reuse requirements. This bill would prohibit a NPDES permitholder subject to these provisions from being eligible for state grants or loans if they receive a partial exemption to these reuse requirements, unless the state grant or loan is solely for the purpose of achieving compliance with these reuse requirements.

This bill would require a holder of a NPDES permit authorizing the discharge of wastewater through an ocean outfall as of January 1, 2016, to submit, on or before July 1, 2020, a prescribed plan to meet these provisions, directly or by contract, to the executive director of the state board and would require the plan to be updated on or before January 1, 2024. This bill, on or before January 1, 2017, and by January 1 every 5 years thereafter, would require the holder of a NPDES permit authorizing the discharge of wastewater through an ocean outfall to submit a report to the executive director of the state board summarizing the actions accomplished to date and the actions remaining and proposed to meet the requirements of these provisions. This bill would require the state board to submit a report to the Governor and the Legislature on the implementation of these provisions on or before July 1, 2021, and by July 1 every 5 years thereafter.

Existing law requires the vote by mail ballot to be available to any registered voter and requires an application for a vote by mail voter's ballot to be made in writing to the elections official having jurisdiction over the election between certain days before the election.

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This bill would establish, until January 1, 2019, a vote by mail pilot program in the County of Los Angeles for statewide elections. The bill would require, as part of the pilot program, that the county elections official issue a vote by mail ballot to each registered voter for a qualifying election. The bill would also require the elections official, among other things, to engage in voter education efforts to increase voter awareness of the pilot program and to report on the voter turnout for qualifying elections to the Secretary of State and the Legislature on or before December 31, 2018.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes no.

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The people of the State of California do enact as follows:

- 1 SECTION 1. The Legislature finds and declares all of the 2 following:
 - (a) Severe drought conditions have persisted for the last three years in California, and 2013 was the state's driest calendar year on record.
 - (b) California's water supplies have dipped to alarmingly low levels indicated by the very limited snowpack in the Sierra Nevada Mountains, declining water levels in the state's largest water reservoirs, reduced surface water flows in major river systems, and historically low groundwater levels. These water supplies continue to be severely depleted despite a limited amount of winter precipitation in 2014.
 - (c) The duration of the drought is unknown, but based on the projected impact of climate change on California's snowpack, extremely dry conditions will likely continue beyond this year and occur more regularly in the future.
- 17 (d) Continuous severe drought conditions present urgent 18 challenges across the state, including, but not limited to, water 19 shortages in communities and for agricultural production,

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increased risk of wildfires, degraded habitat for fish and wildlife, and threat of saltwater contamination in large fresh water supplies.

- (e) Water reuse is one of the most efficient and cost-effective ways to improve the drought resilience of California communities.
- (f) The State Water Resources Control Board has established goals of recycling 1,500,000 acre-feet of wastewater by 2020 and 2,500,000 acre-feet of wastewater by 2030. However, California is not on track to meet the board's goals.
- (g) The discharge of treated wastewater from ocean outfalls constitutes waste and unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution, in light of the opportunities to recycle this water for further beneficial use.
- (h) By prohibiting ocean discharges from wastewater treatment plants, California could dramatically accelerate the adoption of water recycling and thus increase water supply available for beneficial use.
- (i) Water recycling can reduce California's dependence on diversions from surface rivers and streams that are subject to variable climate and regulatory conditions.
- (j) In addition to water supply benefits, requiring water recycling for further beneficial use eliminates ocean wastewater discharges, decreasing pollutant loadings to ocean waters and improving coastal water quality, thereby benefitting the aquatic environment and local economies that depend on those coastal resources.
- SEC. 2. Section 13557.5 is added to the Water Code, to read: 13557.5. (a) The Legislature hereby finds and declares that the discharge of treated wastewater from ocean outfalls, except in compliance with the provisions of this section, is a waste and unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution in light of the cost-effective opportunities to recycle this water for further beneficial use, including both potable and nonpotable uses.
- (b) On or before January 1, 2026, each wastewater treatment facility that discharges through an ocean outfall shall achieve at least 50 percent reuse of the facility's actual annual flow for beneficial purposes.
 - (c) On and after January 1, 2036:
- 39 (1) A wastewater treatment facility shall not discharge treated 40 wastewater through ocean outfalls, except as a backup discharge.

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A backup discharge may occur only during periods of reduced demand for reclaimed water in the reuse system, such as a period of wet weather.

- (2) Each wastewater treatment facility shall achieve 100 percent reuse of the facility's actual annual flow for further beneficial use.
- (d) (1) A holder of a NPDES permit authorizing the discharge of wastewater through an ocean outfall as of January 1, 2016, shall submit, on or before July 1, 2020, a plan to meet the requirements of this section, directly or by contract, to the executive director of the state board that contains all of the following:
- (A) An identification of all land acquisition and facilities necessary to provide for treatment, transport, and reuse of treated wastewater.
- (B) An analysis of the costs to meet the requirements of this section.
- (C) A financing plan for meeting the requirements of this section, including identifying any actions necessary to implement the financing plan, such as bond issuance or other borrowing, assessments, rate increases, fees, charges, or other financing mechanisms.
- (D) A detailed schedule for the completion of all necessary actions.
- (E) Supporting data and other documentation accompanying the plan.
- (2) On or before January 1, 2024, the plan described in paragraph (1) shall be updated and submitted to the executive director of the state board by the permit holder to include any refinements or changes in the costs, actions, or financing necessary to achieve full recycling of all wastewater and thereby eliminate the ocean outfall discharge in accordance with this section or a written statement that the plan is current and accurate.
- (e) On or before January 1, 2017, and by January 1 every five years thereafter, the holder of a NPDES permit authorizing the discharge of wastewater through an ocean outfall shall submit to the executive director of the state board a report summarizing the actions accomplished to date and the actions remaining and proposed to meet the requirements of this section. The report shall include progress toward meeting the deadlines set forth in subdivisions (b) to (d), inclusive, and specifically include the detailed schedule for, and status of, the following:

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- 1 (1) Evaluation of reuse and disposal options.
- 2 (2) Preparation of preliminary design reports.
- 3 (3) Preparation and submission of permit applications.
- 4 (4) Construction initiation.
- 5 (5) Construction progress milestones.
 - (6) Construction completion.
- 7 (7) Initiation of operation.

- 8 (8) Continuing operation and maintenance.
 - (f) (1) On or before July 1, 2021, and by July 1 every five years thereafter, the state board shall submit a report to the Governor and the Legislature on the implementation of this section. The report shall summarize the progress up to date, including the increased amount of reclaimed water provided and potable water offsets achieved, and shall identify any obstacles to continued progress, including all instances of substantial noncompliance.
 - (2) A report to be submitted pursuant to paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.
 - (g) (1) On and after January 1, 2022, a NPDES permitholder subject to the requirements of this section, may petition the state board for a partial exemption to the requirements of this section. The petition shall include the information required in subdivisions (d) and (e), and shall demonstrate that the NPDES permitholder cannot comply with the requirements of this section for one of the following reasons:
 - (A) The state board has failed to adopt regulations that approve the indirect potable reuse of wastewater.
 - (B) Upgrading the wastewater treatment plant to achieve recycled water standards produces recycled water that costs more than twice the cost per-acre foot as compared with other new surface and groundwater supplies.
 - (C) The wastewater treatment plant has achieved water quality standards for recycled water, but there is not sufficient demand for this water within the region.
 - (2) The state board shall determine, after notice and opportunity for comment, whether the petition demonstrates that the NPDES permitholder cannot comply with the requirements of this section pursuant to paragraph (1). If the state board approves the partial exemption to the requirements of this section, that exemption shall be valid for a period of no more than five years, at which point

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the NPDES permitholder shall reapply for an exemption or comply with the requirements of this section.

- (3) A NPDES permitholder subject to the requirements of this section shall not be eligible for state grants or loans if they receive a partial exemption to the requirements of this section pursuant to this subdivision, unless the state grant or loan is solely for the purpose of achieving compliance with the requirements of this section.
- (h) As used in this section:

- (1) "Actual annual flow" means the annual average flow of treated wastewater discharging through a facility's ocean outfall as determined by the state board using monitoring data available for calendar years 2009 to 2014, inclusive.
- (2) "Backup discharge" means a surface water discharge that occurs as part of a functioning reuse system that has been permitted in accordance with the rules of the state board and that provides reclaimed water for irrigation or public access areas, residential properties, edible food crops, sea water barrier injection to protect groundwater resources, groundwater replenishment, industrial cooling, or other acceptable reuse purposes. "Backup discharge" may also include releases to the ocean on an emergency basis, as approved by a regional board, for a duration not to exceed 90 days and only in the quantities as are necessary in the event of a storm or other cause that impedes groundwater replenishment.

SECTION 1. Section 3000.5 is added to the Elections Code, to read:

- 3000.5. (a) A vote by mail pilot program shall be established in the County of Los Angeles for any statewide election held between January 1, 2017, and December 31, 2018, inclusive.
- (b) Notwithstanding Section 3001, the elections official for the County of Los Angeles, in conjunction with the Secretary of State, shall issue a vote by mail ballot to each registered voter in that county for any statewide election held during the period specified in subdivision (a).
- (c) Notwithstanding any other law, each of the following shall apply to the vote by mail pilot program with respect to a statewide election held during the period specified in subdivision (a):

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 (1) The elections official is authorized to mail the vote by mail ballots together with other election materials issued by the county to reduce overall mailing expenses.

- (2) The elections official shall consider reducing or consolidating precincts in anticipation of a reduction in the number of voters who vote at precinct polling places, subject to the requirements of Sections 12223 and 12241.
- (3) The elections official is deemed to comply with the requirements of Section 14102 if the number of official ballots provided to each precinct is not less than 50 percent of registered voters in the precinct.
- (4) The elections official shall engage in voter education efforts to increase voter awareness of the vote by mail pilot program. As part of the voter education efforts, voters shall be encouraged, if they intend to vote at a polling place, to bring their vote by mail ballot to the polling place to streamline their voting process.
- (5) In addition to any other reporting requirements required by law, the elections official shall report on the voter turnout for the County of Los Angeles for any qualifying statewide election described in subdivision (a) to the Secretary of State and to the Legislature, in the manner provided by Section 9795 of the Government Code, on or before December 31, 2018.
- (d) This section shall remain in effect only until January 1, 2019, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2019, deletes or extends that date.
- SEC. 2. If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

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ACTION ITEM May 18, 2016

TO: Board of Directors

FROM: Public Affairs & Legislation Committee

(Directors Barbre, Hinman, Tamaribuchi)

Robert Hunter Staff Contact: Heather Baez

General Manager

SUBJECT: SB 1318 (Wolk) – Local Government: Drinking Water Infrastructure or

Services: Wastewater Infrastructure or Services

STAFF RECOMMENDATION

Staff recommends the Board of Directors vote to adopt an oppose position on SB 1318 and send a letter to the author and Orange County delegation expressing our position.

COMMITTEE RECOMMENDATION

The Public Affairs & Legislation Committee will review this item on May 16, 2016 and make a recommendation to the Board.

SUMMARY

SB 1318 prevents a Local Agency Formation Commissions (LAFCO) from approving an expansion of a municipality's sphere of influence, an extension of services to a new area, if there is a disadvantaged unincorporated communities (DUC) nearby. If there is an adjacent DUC, the LAFCO must either ensure the city *or special district* has an enforceable agreement to extend service to the DUC, or has written evidence that a majority of the residents of the DUC oppose annexation.

As amended on April 12, 2016, this bill would no longer bar a city or special district from extending drinking water infrastructure or services or wastewater infrastructure or services until it has entered into a contract to extend those services to all disadvantaged

Budgeted (Y/N): n/a	Budgeted amount:		Core x	Choice
Fiscal Impact (explain if unbudgeted):				

communities within or adjacent to its sphere of influence. Instead, it would require LAFCOs to conduct service reviews sufficient to have reviewed the entire territory of the county by January 1, 2022, and every 5 years thereafter. In addition, it would require LAFCOs to file a map of the county that identifies disadvantaged unincorporated communities that lack safe drinking water or adequate wastewater with the Office of Planning and Research, and would require the Office of Planning and Research to post the map on its Internet Web site. The bill would additionally require LAFCOs, within 2 years of identifying a disadvantaged unincorporated community that lacks safe drinking water or adequate wastewater services, to recommend a plan based on the alternatives analyzed and adopt any actions necessary to implement the plan, as specified.

ARGUMENTS IN SUPPORT

According to the author, "Many communities in California continue to suffer from third-world level drinking water and wastewater services. In many cases, these communities' border cities or special districts with more than enough capacity to serve them, but their boundaries have been drawn to specifically exclude them. Despite recent legislative efforts, some cities continue to look to serve new development outside of their current boundaries before helping neighboring communities."

ARGUMENTS IN OPPOSITION

Opponents argue that SB 1318 imposes a "one size fits all" approach to a problem that has diverse causes. While there may be cities or special district that behave as the author suggests, there are others that are doing the best they can to fulfill their public obligations. SB 1318 erroneously assumes that all public agencies could afford to serve adjacent DUC's but avoid the obligation to do so for discriminatory reasons. Based on this simplistic perspective, the bill seeks to hold all new development hostage and annexation of all nearby DUC's as the ransom.

SB 1318, if signed into law, will likely end up being challenged in court. It is believed by many that it would be unconstitutional to require a city or special district to pay for any fees or costs associated with an annexation or an extension of services to a disadvantaged community (paying for existing deficiencies is prohibited). SB 1318 does not provide any funding source for the LAFCO or the water or wastewater provider to accomplish its intended goal. This is an unfunded and potentially very costly measure.

For many, if not most, cities and special districts, the provisions of this bill are damaging and unworkable. For example, the bill allows the new development to proceed without annexing the DUC if there is written evidence that the majority of the residents of the DUC oppose the annexation. What the bill ignores, however, is that neither the city nor the LAFCO may have the resources to make such a determination in the face of vocal opposition by some residents. DUC's are certainly one important public policy concern, but there are many other critical problems cities need to address such as a critical shortage of housing or revenue shortfalls.

In addition, this bill would, for the first time, require LAFCOs to study territory outside of an agency's sphere of influence and identify the level of water and wastewater services provided by public or private utilities and mutual water companies that serve disadvantaged communities. LAFCOs have no authority over these entities. The Legislature has not

granted LAFCOs the authority to regulate or approve service extensions of the non-public service providers included in this bill. This could have the potential to lead to confusion and likely litigation. Moreover, the development of an infrastructure plan is outside the traditional role of a LAFCO and this bill would provide no funding to support this expansion of responsibilities. In removing LAFCO discretion, this bill could force unreasonable extensions of services and pass significant costs to local public water agencies.

Last, where there is no obvious nexus between the proposed expansion and the DUC, forced annexation of the DUC may even amount to the unconstitutional taking according to the committee analysis in Senate Government and Finance Committee.

COMMENTS

SB 1318 was approved by the Senate Governance & Finance Committee on April 6, 2016 by a vote of 5-1 with Senator Moorlach opposing and Senator Nguyen abstaining. It was then approved by the Senate Environmental Quality Committee on April 20, 2016 by a vote of 5-2 with Senators Gaines and Bates opposing. It is next scheduled for hearing in the Senate Appropriations Committee on May 16, 2016.

Support on file: Leadership Counsel for Justice and Accountability (co-sponsor); California Food Policy Advocates; California League of Conservation Voters; California Rural Legal Assistance Foundation; Central California Asthma Collaborative; Clean Water Action; Community Water Center; Environmental Justice Coalition; Environmental Working Group; Natural Resources Defense Council; Policy Link; Pueblo Unido Community Development Coalition; Rural Communities Assistance Foundation; San Joaquin Valley Sustainable Agriculture Collaborative; Sequoia Riverlands Trust; Sierra Club California.

Opposition on file: California Apartment Association; California Association of Local Agency Formation Commissions; California Association of Realtors; California Building Industries Association; California Business Properties Association; California Chamber of Commerce; California Manufacturers and Technology Association; California Municipal Utilities Association; California Special Districts Association; Contra Costa LAFCO; El Dorado LAFCO; League of California Cities; Nevada County LAFCO; Riverside LAFCO; San Bernardino County LAFCO; San Diego LAFCO; San Luis Obispo LAFCO; San Mateo LAFCO; Sonoma LAFCO.

At the April 29, 2016 State Legislative Committee, ACWA took an oppose position.

DETAILED REPORT

The full text of SB 1318 is attached.

AMENDED IN SENATE APRIL 12, 2016 AMENDED IN SENATE MARCH 28, 2016

SENATE BILL

No. 1318

Introduced by Senator Wolk

February 19, 2016

An act to amend Sections 56133, 56133.5, 56375, 56425, and 56430 of the Government Code, relating to local government.

LEGISLATIVE COUNSEL'S DIGEST

SB 1318, as amended, Wolk. Local government: drinking water infrastructure or services: wastewater infrastructure or services.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 governs the procedures for the formation and change of organization of cities and special districts.

Existing law authorizes a city or district to provide new or extended services by contract or agreement outside its jurisdictional boundaries only if the city or district requests and receives permission to do so from the local agency formation commission in the affected county. Under existing law, the commission may authorize a city or district to provide new or extended services outside both its jurisdictional boundaries and its sphere of influence under specified circumstances.

This bill would prohibit the commission from authorizing a city or a district to extend drinking water infrastructure or services or wastewater infrastructure or services until it has entered into an enforceable agreement to extend the same services to all disadvantaged communities within its sphere of influence or adjacent to its jurisdictional boundaries, unless specified conditions are met. The bill would prohibit the commission from approving a sphere of influence update where there exists a disadvantaged unincorporated community within the city's or

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special district's sphere of influence or contiguous with a city's or qualifying special district's jurisdictional boundaries that lacks safe drinking water infrastructure or services or adequate wastewater infrastructure or services unless specified conditions are met.

Existing law establishes a pilot program for the Napa and San Bernardino local agency formation commissions that permits those commissions to authorize a city or district to provide new or extended services outside both its jurisdictional boundaries and its sphere of influence under specified circumstances.

This bill would prohibit those commissions from authorizing a city or a district to extend drinking water infrastructure or services or wastewater infrastructure or services until it has entered into an enforceable agreement to extend those services to all disadvantaged communities within its sphere of influence or contiguous with a city's or district's jurisdictional boundaries that lack safe drinking water or adequate wastewater infrastructure or services unless specified conditions are met.

Existing law, except as otherwise provided, prohibits a local agency formation commission from approving an annexation to a city of any territory greater than 10 acres, or as determined by commission policy, where there exists a disadvantaged unincorporated community, as specified, unless an application to annex the disadvantaged unincorporated community to the subject city has been filed with the executive officer.

This bill would extend that prohibition to an annexation to a qualified special district. The bill would additionally prohibit a commission from approving an annexation to a city or qualified special district of any territory greater than 10 acres, or as determined by commission policy, where there exists a disadvantaged unincorporated community within the sphere of influence of a city or qualified special district or contiguous to the city's or qualified special district's jurisdictional boundaries that lacks safe drinking water infrastructure or services or adequate wastewater infrastructure or services, unless, among other things, the city or qualified special district has entered into an enforceable agreement to extend those services into the disadvantaged community or communities. The bill would define "qualified special district" to mean a special district with more than 500 service connections that provides drinking water or wastewater services.

Existing law requires a local agency formation commission to develop and determine the sphere of influence of each city and each special -3- SB 1318

district within the county and to enact policies designed to promote the logical and orderly development of areas within the sphere. Existing law authorizes the commission, in determining a sphere of influence, to assess the feasibility of governmental reorganization of particular agencies and recommend reorganization of those agencies, as provided.

This bill would instead require the commission to assess the feasibility of governmental reorganization of particular agencies and recommend reorganization of those agencies. The bill would prohibit a commission from approving a sphere of influence update that removes a disadvantaged community from a city's or special district's sphere of influence unless the commission makes a finding that removal of the community will result in improved service delivery to the community.

Existing law requires a commission, in preparing and updating spheres of influence, to conduct a service review of the municipal services provided in the county or other area designated by the commission. Existing law authorizes the commission, in conducting the review, to assess various alternatives for improving efficiency and affordability of infrastructure and service delivery, as specified, and to include a review of whether the agencies under review are in compliance with the California Safe Drinking Water Act.

Where there exists a disadvantaged unincorporated community that lacks adequate drinking water and wastewater services and infrastructure within or contiguous with the subject sphere, this bill would instead require the commission to make the assessment of alternatives and to include the safe drinking water review described above if the information is readily available from the State Water Resources Control Board or other sources. This bill would, on or before January 1, 2022, and every 5 years thereafter, require the commission to conduct service reviews sufficient to have reviewed the entire territory of the county. The bill would require the commission to file a map of the county that identifies disadvantaged unincorporated communities that lack safe drinking water or adequate wastewater with the Office of Planning and Research, and would require the Office of Planning and Research to post the map on its Internet Web site. The bill would additionally require the commission, within 2 years of identifying a disadvantaged unincorporated community that lacks safe drinking water or adequate wastewater services, to recommend a plan based on the alternatives analyzed and adopt any actions necessary to implement the plan, as specified.

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By imposing new duties on local government officials, this bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.

The people of the State of California do enact as follows:

- 1 SECTION 1. Section 56133 of the Government Code is 2 amended to read:
 - 56133. (a) A city or district may provide new or extended services by contract or agreement outside its jurisdictional boundary only if it first requests and receives written approval from the commission.
 - (b) The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundary but within its sphere of influence in anticipation of a later change of organization.
 - (e) If consistent with adopted policy, the commission may authorize a city or district to provide new or extended services outside its jurisdictional boundary and outside its sphere of influence to respond to an existing or impending threat to the health or safety of the public or the residents of the affected territory, if both of the following requirements are met:
 - (1) The entity applying for approval has provided the commission with documentation of a threat to the health and safety of the public or the affected residents.
 - (2) The commission has notified any alternate service provider, including any water corporation as defined in Section 241 of the Public Utilities Code, that has filed a map and a statement of its service capabilities with the commission.
 - (d) The commission shall not authorize a city or a district to extend drinking water infrastructure or services or wastewater infrastructure or services pursuant to this section until it has entered

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into an enforceable agreement to extend the same services to all disadvantaged communities within its sphere of influence or adjacent to its jurisdictional boundaries that lack safe drinking water or adequate wastewater services or infrastructure as soon as feasible to do so but within a period no longer than five years, unless either of the following conditions are met:

- (1) The commission finds, based upon written evidence, that a majority of the residents of the affected disadvantaged community or communities are opposed to receiving the identified service or services. These findings shall not interfere with or inform other programs or policies designed to expand basic services to disadvantaged unincorporated communities, including, but not limited to, Sections 116680 to 116684, inclusive, of the Health and Safety Code.
- (2) The extension of services is authorized pursuant to subdivision (c) or the extension of services is to a disadvantaged community.

(e)

The executive officer, within 30 days of receipt of a request for approval by a city or district to extend services outside its jurisdictional boundary, shall determine whether the request is complete and acceptable for filing or whether the request is incomplete. If a request is determined not to be complete, the executive officer shall immediately transmit that determination to the requester, specifying those parts of the request that are incomplete and the manner in which they can be made complete. When the request is deemed complete, the executive officer shall place the request on the agenda of the next commission meeting for which adequate notice can be given but not more than 90 days from the date that the request is deemed complete, unless the commission has delegated approval of requests made pursuant to this section to the executive officer. The commission or executive officer shall approve, disapprove, or approve with conditions the extended services. If the new or extended services are disapproved or approved with conditions, the applicant may request reconsideration, citing the reasons for reconsideration.

(f)

This section does not apply to any of the following:

(1) Two or more public agencies where the public service to be provided is an alternative to, or substitute for, public services

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already being provided by an existing public service provider and where the level of service to be provided is consistent with the level of service contemplated by the existing service provider.

- (2) The transfer of nonpotable or nontreated water.
- (3) The provision of surplus water to agricultural lands and facilities, including, but not limited to, incidental residential structures, for projects that serve conservation purposes or that directly support agricultural industries. However, prior to extending surplus water service to any project that will support or induce development, the city or district shall first request and receive written approval from the commission in the affected county.
- (4) An extended service that a city or district was providing on or before January 1, 2001.
- (5) A local publicly owned electric utility, as defined by Section 9604 of the Public Utilities Code, providing electric services that do not involve the acquisition, construction, or installation of electric distribution facilities by the local publicly owned electric utility, outside of the utility's jurisdictional boundary.
- (6) A fire protection contract, as defined in subdivision (a) of Section 56134.
- (g) This section applies only to the commission of the county in which the extension of service is proposed.
- (h) The commission shall not approve a sphere of influence update where there exists a disadvantaged unincorporated community within the city's or special district's sphere of influence or contiguous with a city's or qualifying special district's jurisdictional boundaries that lacks safe drinking water infrastructure or services or adequate wastewater infrastructure or services unless the city or special district or qualified special district has entered into an enforceable agreement to extend those services into the disadvantaged community or communities as soon as feasible to do so but within a period no longer than five years of the approval of the sphere of influence change or the commission finds, based upon written evidence, that a majority of the residents of the affected disadvantaged community or communities are opposed to receiving the identified service or services.
- (1) These findings shall not interfere with or inform other programs or policies designed to expand basic services to disadvantaged unincorporated communities, including, but not

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limited to, Sections 116680 to 116684, inclusive, of the Health and Safety Code.

- (2) A qualifying special district is a special district with more than 500 service connections that provides drinking water or wastewater services.
- SEC. 2. Section 56133.5 of the Government Code is amended to read:
- 56133.5. (a) A pilot program is hereby established for the Napa and San Bernardino commissions. If consistent with adopted policy, the Napa and San Bernardino commissions may authorize a city or district to provide new or extended services outside its jurisdictional boundary and outside its sphere of influence to support existing or planned uses involving public or private properties, subject to approval at a noticed public hearing in which the commission makes all of the following determinations:
- (1) The extension of service or services deficiency was identified and evaluated in a review of municipal services prepared pursuant to Section 56430.
- (2) The extension of service will not result in either (1) adverse impacts on open space or agricultural lands or (2) growth inducing impacts.
- (3) A sphere of influence change involving the subject territory and its affected agency is not feasible under this division or desirable based on the adopted policies of the commission.
- (b) Subdivision (d) of Section 56133 shall apply to any request for new or extended services pursuant to this section.
- (e) The commissions shall not authorize a city or a district to extend drinking water infrastructure or services or wastewater infrastructure or services pursuant to this section until it has entered into an enforceable agreement to extend those services to all disadvantaged communities within its sphere of influence or contiguous with a city's or district's jurisdictional boundaries that lack safe drinking water or adequate wastewater infrastructure or services as soon as feasible to do so but within a period no longer than five years of the approval of the underlying extension, unless either of the following conditions are met:
- (1) The commission finds, based upon written evidence, that a majority of the residents of the affected disadvantaged community or communities are opposed to receiving the identified service or services. These findings shall not interfere with or inform other

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programs or policies designed to expand basic services to disadvantaged unincorporated communities, including, but not limited to, Sections 116680 to 116684, inclusive, of the Health and Safety Code.

- (2) The extension of services is to a disadvantaged community.
- (d) For purposes of this section, "planned use" means any project that is included in an approved specific plan as of July 1, 2015.
- (e) The Napa and San Bernardino commissions shall submit a report before January 1, 2020, to the Legislature on their participation in the pilot program, including how many requests for extension of services were received pursuant to this section and the action by the commission to approve, disapprove, or approve with conditions. The report required to be submitted pursuant to this subdivision shall be submitted in compliance with Section 9795 of the Government Code.
- (f) The pilot program established pursuant to this section shall be consistent with Chapter 8.5 (commencing with Section 1501) of the Public Utilities Code.
- (g) This section shall remain in effect only until January 1, 2021, and as of that date is repealed.
- SEC. 3. Section 56375 of the Government Code is amended to read:
- 56375. The commission shall have all of the following powers and duties subject to any limitations upon its jurisdiction set forth in this part:
- (a) (1) To review and approve with or without amendment, wholly, partially, or conditionally, or disapprove proposals for changes of organization or reorganization, consistent with written policies, procedures, and guidelines adopted by the commission.
- (2) The commission may initiate proposals by resolution of application for any of the following:
- 32 (A) The consolidation of a district, as defined in Section 56036.
- 33 (B) The dissolution of a district.
- 34 (C) A merger.
- 35 (D) The establishment of a subsidiary district.
- 36 (E) The formation of a new district or districts.
- 37 (F) A reorganization that includes any of the changes specified in subparagraph (A), (B), (C), (D), or (E).
- 39 (3) A commission may initiate a proposal described in paragraph 40 (2) only if that change of organization or reorganization is

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consistent with a recommendation or conclusion of a study prepared pursuant to Section 56378, 56425, or 56430, and the commission makes the determinations specified in subdivision (b) of Section 56881.

- (4) A commission shall not disapprove an annexation to a city, initiated by resolution, of contiguous territory that the commission finds is any of the following:
- (A) Surrounded or substantially surrounded by the city to which the annexation is proposed or by that city and a county boundary or the Pacific Ocean if the territory to be annexed is substantially developed or developing, is not prime agricultural land as defined in Section 56064, is designated for urban growth by the general plan of the annexing city, and is not within the sphere of influence of another city.
- (B) Located within an urban service area that has been delineated and adopted by a commission, which is not prime agricultural land, as defined by Section 56064, and is designated for urban growth by the general plan of the annexing city.
- (C) An annexation or reorganization of unincorporated islands meeting the requirements of Section 56375.3.
- (5) As a condition to the annexation of an area that is surrounded, or substantially surrounded, by the city to which the annexation is proposed, the commission may require, where consistent with the purposes of this division, that the annexation include the entire island of surrounded, or substantially surrounded, territory.
- (6) A commission shall not impose any conditions that would directly regulate land use density or intensity, property development, or subdivision requirements.
- (7) The decision of the commission with regard to a proposal to annex territory to a city shall be based upon the general plan and prezoning of the city. When the development purposes are not made known to the annexing city, the annexation shall be reviewed on the basis of the adopted plans and policies of the annexing city or county. A commission shall require, as a condition to annexation, that a city prezone the territory to be annexed or present evidence satisfactory to the commission that the existing development entitlements on the territory are vested or are already at build-out, and are consistent with the city's general plan.

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However, the commission shall not specify how, or in what manner, the territory shall be prezoned.

- (8) (A) Except for those changes of organization or reorganization authorized under Section 56375.3, and except as provided by subparagraph (B), a commission shall not approve an annexation to a city or to a qualified special district of any territory greater than 10 acres, or as determined by commission policy, where either of the following exists:
- (i) (I) A disadvantaged unincorporated community that is contiguous to the area of proposed annexation, unless an application to annex the disadvantaged unincorporated community to the subject city has been filed with the executive officer.
- (II) An application to annex a contiguous disadvantaged community shall not be required if either of the following apply:
- (ia) A prior application for annexation of the same disadvantaged community has been made in the preceding five years.
- (ib) The commission finds, based upon written evidence, that a majority of the registered voters within the affected disadvantaged community are opposed to annexation.
- (ii) A disadvantaged unincorporated community within the sphere of influence of a city or qualified special district or contiguous to the city's or qualified special district's jurisdictional boundaries that lacks safe drinking water infrastructure or services or adequate wastewater infrastructure or services unless any of the following conditions are met:
- (I) The city or qualified special district has entered into an enforceable agreement to extend those services into the disadvantaged community or communities as soon as feasible to do so but within a period no longer than five years of the approval of the annexation.
- (II) The commission finds, based upon written evidence, that a majority of the residents of the affected disadvantaged community or communities are opposed to receiving the identified service or services. These findings shall not interfere with or inform other programs or policies designed to expand basic services to disadvantaged unincorporated communities, including, but not limited to, Sections 116680 to 116684, inclusive, of the Health and Safety Code.
- (III) The annexation is an annexation of a disadvantaged community.

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(B) For purposes of this paragraph, "a qualified special district" means a special district with more than 500 service connections that provides drinking water or wastewater services.

- (b) With regard to a proposal for annexation or detachment of territory to, or from, a city or district or with regard to a proposal for reorganization that includes annexation or detachment, to determine whether territory proposed for annexation or detachment, as described in its resolution approving the annexation, detachment, or reorganization, is inhabited or uninhabited.
- (c) With regard to a proposal for consolidation of two or more cities or districts, to determine which city or district shall be the consolidated successor city or district.
- (d) To approve the annexation of unincorporated, noncontiguous territory, subject to the limitations of Section 56742, located in the same county as that in which the city is located, and that is owned by a city and used for municipal purposes and to authorize the annexation of the territory without notice and hearing.
- (e) To approve the annexation of unincorporated territory consistent with the planned and probable use of the property based upon the review of general plan and prezoning designations. No subsequent change may be made to the general plan for the annexed territory or zoning that is not in conformance to the prezoning designations for a period of two years after the completion of the annexation, unless the legislative body for the city makes a finding at a public hearing that a substantial change has occurred in circumstances that necessitate a departure from the prezoning in the application to the commission.
- (f) With respect to the incorporation of a new city or the formation of a new special district, to determine the number of registered voters residing within the proposed city or special district or, for a landowner-voter special district, the number of owners of land and the assessed value of their land within the territory proposed to be included in the new special district. The number of registered voters shall be calculated as of the time of the last report of voter registration by the county elections official to the Secretary of State prior to the date the first signature was affixed to the petition. The executive officer shall notify the petitioners of the number of registered voters resulting from this calculation. The assessed value of the land within the territory proposed to be

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1 included in a new landowner-voter special district shall be calculated as shown on the last equalized assessment roll.

- (g) To adopt written procedures for the evaluation of proposals, including written definitions consistent with existing state law. The commission may adopt standards for any of the factors enumerated in Section 56668. Any standards adopted by the commission shall be written.
- (h) To adopt standards and procedures for the evaluation of service plans submitted pursuant to Section 56653 and the initiation of a change of organization or reorganization pursuant to subdivision (a).
- (i) To make and enforce regulations for the orderly and fair conduct of hearings by the commission.
- (j) To incur usual and necessary expenses for the accomplishment of its functions.
- (k) To appoint and assign staff personnel and to employ or contract for professional or consulting services to carry out and effect the functions of the commission.
- (1) To review the boundaries of the territory involved in any proposal with respect to the definiteness and certainty of those boundaries, the nonconformance of proposed boundaries with lines of assessment or ownership, and other similar matters affecting the proposed boundaries.
- (m) To waive the restrictions of Section 56744 if it finds that the application of the restrictions would be detrimental to the orderly development of the community and that the area that would be enclosed by the annexation or incorporation is so located that it cannot reasonably be annexed to another city or incorporated as a new city.
- (n) To waive the application of Section 22613 of the Streets and Highways Code if it finds the application would deprive an area of a service needed to ensure the health, safety, or welfare of the residents of the area and if it finds that the waiver would not affect the ability of a city to provide any service. However, within 60 days of the inclusion of the territory within the city, the legislative body may adopt a resolution nullifying the waiver.
- (o) If the proposal includes the incorporation of a city, as defined in Section 56043, or the formation of a district, as defined in Section 2215 of the Revenue and Taxation Code, the commission

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shall determine the property tax revenue to be exchanged by the affected local agencies pursuant to Section 56810.

- (p) To authorize a city or district to provide new or extended services outside its jurisdictional boundaries pursuant to Section 56133.
- (q) To enter into an agreement with the commission for an adjoining county for the purpose of determining procedures for the consideration of proposals that may affect the adjoining county or where the jurisdiction of an affected agency crosses the boundary of the adjoining county.
- (r) To approve with or without amendment, wholly, partially, or conditionally, or disapprove pursuant to this section the annexation of territory served by a mutual water company formed pursuant to Part 7 (commencing with Section 14300) of Division 3 of Title 1 of the Corporations Code that operates a public water system to a city or special district. Any annexation approved in accordance with this subdivision shall be subject to the state and federal constitutional prohibitions against the taking of private property without the payment of just compensation. This subdivision shall not impair the authority of a public agency or public utility to exercise eminent domain authority.

SECTION 1. Section 56375 of the Government Code is amended to read:

- 56375. The commission shall have all of the following powers and duties subject to any limitations upon its jurisdiction set forth in this part:
- (a) (1) To review and approve with or without amendment, wholly, partially, or conditionally, or disapprove proposals for changes of organization or reorganization, consistent with written policies, procedures, and guidelines adopted by the commission.
- (2) The commission may initiate proposals by resolution of application for any of the following:
 - (A) The consolidation of a district, as defined in Section 56036.
- 34 (B) The dissolution of a district.
- 35 (C) A merger.

- 36 (D) The establishment of a subsidiary district.
- 37 (E) The formation of a new district or districts.
- 38 (F) A reorganization that includes any of the changes specified in subparagraph (A), (B), (C), (D), or (E).

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(3) A commission may initiate a proposal described in paragraph (2) only if that change of organization or reorganization is consistent with a recommendation or conclusion of a study prepared pursuant to Section 56378, 56425, or 56430, and the commission makes the determinations specified in subdivision (b) of Section 56881.

- (4) A commission shall not disapprove an annexation to a city, initiated by resolution, of contiguous territory that the commission finds is any of the following:
- (A) Surrounded or substantially surrounded by the city to which the annexation is proposed or by that city and a county boundary or the Pacific Ocean if the territory to be annexed is substantially developed or developing, is not prime agricultural land as defined in Section 56064, is designated for urban growth by the general plan of the annexing city, and is not within the sphere of influence of another city.
- (B) Located within an urban service area that has been delineated and adopted by a commission, which is not prime agricultural land, as defined by Section 56064, and is designated for urban growth by the general plan of the annexing city.
- (C) An annexation or reorganization of unincorporated islands meeting the requirements of Section 56375.3.
- (5) As a condition to the annexation of an area that is surrounded, or substantially surrounded, by the city to which the annexation is proposed, the commission may require, where consistent with the purposes of this division, that the annexation include the entire island of surrounded, or substantially surrounded, territory.
- (6) A commission shall not impose any conditions that would directly regulate land use density or intensity, property development, or subdivision requirements.
- (7) The decision of the commission with regard to a proposal to annex territory to a city shall be based upon the general plan and prezoning of the city. When the development purposes are not made known to the annexing city, the annexation shall be reviewed on the basis of the adopted plans and policies of the annexing city or county. A commission shall require, as a condition to annexation, that a city prezone the territory to be annexed or present evidence satisfactory to the commission that the existing development entitlements on the territory are vested or are already

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at build-out, and are consistent with the city's general plan. However, the commission shall not specify how, or in what manner, the territory shall be prezoned.

- (8) (A) Except for those changes of organization or reorganization authorized under Section 56375.3, and except as provided by subparagraph (B), a commission shall not approve an annexation to a city *or to a qualified special district* of any territory greater than 10 acres, or as determined by commission policy, where there exists a disadvantaged unincorporated community that is contiguous to the area of proposed annexation, unless an application to annex the disadvantaged unincorporated community to the subject city has been filed with the executive officer.
- (B) An application to annex a contiguous disadvantaged community shall not be required if either of the following apply:
- (i) A prior application for annexation of the same disadvantaged community has been made in the preceding five years.
- (ii) The commission finds, based upon written evidence, that a majority of the registered voters within the affected—territory disadvantaged unincorporated community are opposed to annexation.
- (C) For purposes of this paragraph, "a qualified special district" means a special district with more than 500 service connections that provides drinking water or wastewater services.
- (b) With regard to a proposal for annexation or detachment of territory to, or from, a city or district or with regard to a proposal for reorganization that includes annexation or detachment, to determine whether territory proposed for annexation or detachment, as described in its resolution approving the annexation, detachment, or reorganization, is inhabited or uninhabited.
- (c) With regard to a proposal for consolidation of two or more cities or districts, to determine which city or district shall be the consolidated successor city or district.
- (d) To approve the annexation of unincorporated, noncontiguous territory, subject to the limitations of Section 56742, located in the same county as that in which the city is located, and that is owned by a city and used for municipal purposes and to authorize the annexation of the territory without notice and hearing.
- (e) To approve the annexation of unincorporated territory consistent with the planned and probable use of the property based upon the review of general plan and prezoning designations. No

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subsequent change may be made to the general plan for the annexed territory or zoning that is not in conformance to the prezoning designations for a period of two years after the completion of the annexation, unless the legislative body for the city makes a finding at a public hearing that a substantial change has occurred in circumstances that necessitate a departure from the prezoning in the application to the commission.

- (f) With respect to the incorporation of a new city or the formation of a new special district, to determine the number of registered voters residing within the proposed city or special district or, for a landowner-voter special district, the number of owners of land and the assessed value of their land within the territory proposed to be included in the new special district. The number of registered voters shall be calculated as of the time of the last report of voter registration by the county elections official to the Secretary of State prior to the date the first signature was affixed to the petition. The executive officer shall notify the petitioners of the number of registered voters resulting from this calculation. The assessed value of the land within the territory proposed to be included in a new landowner-voter special district shall be calculated as shown on the last equalized assessment roll.
- (g) To adopt written procedures for the evaluation of proposals, including written definitions consistent with existing state law. The commission may adopt standards for any of the factors enumerated in Section 56668. Any standards adopted by the commission shall be written.
- (h) To adopt standards and procedures for the evaluation of service plans submitted pursuant to Section 56653 and the initiation of a change of organization or reorganization pursuant to subdivision (a).
- (i) To make and enforce regulations for the orderly and fair conduct of hearings by the commission.
- (j) To incur usual and necessary expenses for the accomplishment of its functions.
- (k) To appoint and assign staff personnel and to employ or contract for professional or consulting services to carry out and effect the functions of the commission.
- (*l*) To review the boundaries of the territory involved in any proposal with respect to the definiteness and certainty of those boundaries, the nonconformance of proposed boundaries with lines

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of assessment or ownership, and other similar matters affecting the proposed boundaries.

- (m) To waive the restrictions of Section 56744 if it finds that the application of the restrictions would be detrimental to the orderly development of the community and that the area that would be enclosed by the annexation or incorporation is so located that it cannot reasonably be annexed to another city or incorporated as a new city.
- (n) To waive the application of Section 22613 of the Streets and Highways Code if it finds the application would deprive an area of a service needed to ensure the health, safety, or welfare of the residents of the area and if it finds that the waiver would not affect the ability of a city to provide any service. However, within 60 days of the inclusion of the territory within the city, the legislative body may adopt a resolution nullifying the waiver.
- (o) If the proposal includes the incorporation of a city, as defined in Section 56043, or the formation of a district, as defined in Section 2215 of the Revenue and Taxation Code, the commission shall determine the property tax revenue to be exchanged by the affected local agencies pursuant to Section 56810.
- (p) To authorize a city or district to provide new or extended services outside its jurisdictional boundaries pursuant to Section 56133.
- (q) To enter into an agreement with the commission for an adjoining county for the purpose of determining procedures for the consideration of proposals that may affect the adjoining county or where the jurisdiction of an affected agency crosses the boundary of the adjoining county.
- (r) To approve with or without amendment, wholly, partially, or conditionally, or disapprove pursuant to this section the annexation of territory served by a mutual water company formed pursuant to Part 7 (commencing with Section 14300) of Division 3 of Title 1 of the Corporations Code that operates a public water system to a city or special district. Any annexation approved in accordance with this subdivision shall be subject to the state and federal constitutional prohibitions against the taking of private property without the payment of just compensation. This subdivision shall not impair the authority of a public agency or public utility to exercise eminent domain authority.

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SEC. 4.

SEC. 2. Section 56425 of the Government Code is amended to read:

56425. (a) In order to carry out its purposes and responsibilities for planning and shaping the logical and orderly development and coordination of local governmental agencies subject to the jurisdiction of the commission to advantageously provide for the present and future needs of the county and its communities, the commission shall develop and determine the sphere of influence of each city and each special district, as defined by Section 56036, within the county and enact policies designed to promote the logical and orderly development of areas within or adjacent to the sphere.

- (b) Prior to a city submitting an application to the commission to update its sphere of influence, representatives from the city and representatives from the county shall meet to discuss the proposed new boundaries of the sphere and explore methods to reach agreement on development standards and planning and zoning requirements within the sphere to ensure that development within the sphere occurs in a manner that reflects the concerns of the affected city and is accomplished in a manner that promotes the logical and orderly development of areas within the sphere. If an agreement is reached between the city and county, the city shall forward the agreement in writing to the commission, along with the application to update the sphere of influence. The commission shall consider and adopt a sphere of influence for the city consistent with the policies adopted by the commission pursuant to this section, and the commission shall give great weight to the agreement to the extent that it is consistent with commission policies in its final determination of the city sphere.
- (c) If the commission's final determination is consistent with the agreement reached between the city and county pursuant to subdivision (b), the agreement shall be adopted by both the city and county after a noticed public hearing. Once the agreement has been adopted by the affected local agencies and their respective general plans reflect that agreement, then any development approved by the county within the sphere shall be consistent with the terms of that agreement.
- (d) If no agreement is reached pursuant to subdivision (b), the application may be submitted to the commission and the commission shall consider a sphere of influence for the city

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consistent with the policies adopted by the commission pursuant to this section.

- (e) In determining the sphere of influence of each local agency, the commission shall consider and prepare a written statement of its determinations with respect to each of the following:
- (1) The present and planned land uses in the area, including agricultural and open-space lands.
- (2) The present and probable need for public facilities and services in the area.
- (3) The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.
- (4) The existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency.
- (5) For an update of a sphere of influence of a city or special district that provides public facilities or services related to sewers, municipal and industrial water, or structural fire protection, that occurs pursuant to subdivision (g) on or after July 1, 2012, the present and probable need for those public facilities and services of any disadvantaged unincorporated communities within or adjacent to the existing sphere of influence.
- (f) Upon determination of a sphere of influence, the commission shall adopt that sphere.
- (g) On or before January 1, 2008, and every five years thereafter, the commission shall, as necessary, review and update each sphere of influence.
- (h) In determining a sphere of influence, the commission-shall may assess the feasibility of governmental reorganization of particular agencies and recommend reorganization of those agencies when reorganization is found to be feasible and if reorganization will further the goals of orderly development and efficient and affordable service delivery. The commission shall make all reasonable efforts to ensure wide public dissemination of the recommendations.
- (i) When adopting, amending, or updating a sphere of influence for a special district, the commission shall establish the nature, location, and extent of any functions or classes of services provided by existing districts.
- (j) When adopting, amending, or updating a sphere of influence for a special district, the commission may require existing districts

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to file written statements with the commission specifying the functions or classes of services provided by those districts.

(k) The commission shall not approve a sphere of influence update that removes a disadvantaged community from a city or a special district unless the commission makes a finding, based on written evidence, that the removal of the disadvantaged community will result in improved service delivery to the community.

SEC. 5.

 SEC. 3. Section 56430 of the Government Code is amended to read:

56430. (a) In order to prepare and to update spheres of influence in accordance with Section 56425, the commission shall conduct a service review of the municipal services provided in the county or other appropriate area designated by the commission. The commission shall include in the area designated for service review the county, the region, the subregion, or any other geographic area as is appropriate for an analysis of the service or services to be reviewed, and shall prepare a written statement of its determinations with respect to each of the following:

- (1) Growth and population projections for the affected area.
- (2) The location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.
- (3) Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence.
 - (4) Financial ability of agencies to provide services.
 - (5) Status of, and opportunities for, shared facilities.
- (6) Accountability for community service needs, including governmental structure and operational efficiencies.
- (7) Any other matter related to effective or efficient service delivery, as required by commission policy.
- (b) In conducting a service review, the commission shall comprehensively review all of the agencies that provide the identified service or services within the designated geographic area. Where there exists a disadvantaged unincorporated community that lacks adequate drinking water and wastewater

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services and infrastructure within or contiguous with the subject sphere, the commission shall assess various alternatives for improving efficiency and affordability of *drinking water or wastewater* infrastructure and service delivery within and contiguous to the sphere of influence, including, but not limited to, the consolidation of governmental agencies or the extension of services, or both.

- (c) In conducting a service review, the commission shall include a review of whether the agencies under review, including any public water system as defined in Section 116275 of the Health and Safety Code, are in compliance with the California Safe Drinking Water Act (Chapter 4 (commencing with Section 116270) of Part 12 of Division 104 of the Health and Safety Code) if the information is—readily available *from the State Water Resources Control Board or other sources*. A public water system may satisfy any request for information as to compliance with that act by submission of the consumer confidence or water quality report prepared by the public water system as provided by Section 116470 of the Health and Safety Code.
- (d) The commission may request information, as part of a service review under this section, from identified public or private entities that provide wholesale or retail supply of drinking water, including mutual water companies formed pursuant to Part 7 (commencing with Section 14300) of Division 3 of Title 1 of the Corporations Code, and private utilities, as defined in Section 1502 of the Public Utilities Code.
- (e) (1) The commission shall conduct a service review before, or in conjunction with, but no later than the time it is considering an action to establish a sphere of influence in accordance with Section 56425 or 56426.5 or to update a sphere of influence pursuant to Section 56425.
- (2) On or before January 1, 2022, and every five years thereafter, the commission shall conduct service reviews sufficient to have reviewed the entire territory of the county.
- (f) The commission shall file a map of the county that identifies disadvantaged unincorporated communities that lack safe drinking water or adequate wastewater in electronic format with the Office of Planning and Research. The Office of Planning and Research shall make the map available on its Internet Web site.

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(g) (1) Within two years of identification of a disadvantaged unincorporated community that lacks safe drinking water or adequate wastewater services pursuant to this section, the commission shall recommend a plan based on the alternatives analyzed and shall adopt any actions necessary to implement the plan, including sphere of influence updates, extensions of service, or changes of organization.

- (2) Actions taken to adopt a plan under this subdivision shall not be subject to an election or any protest proceedings, as defined in Section 56069.5, except that the commission shall conduct protest proceedings for residents of the disadvantaged community.
- (3) The commission shall not be required to adopt or implement a plan if the commission finds, based on substantial evidence, that there is no technical or economically feasible way of connecting the disadvantaged unincorporated community to an existing system, considering any financial assistance available from the State Water Resources Control Board or any other applicable source of financial assistance. These findings shall not interfere with or inform other programs or policies designed to expand basic services to disadvantaged unincorporated communities, including, but not limited to, Sections 116680 to 116684, inclusive, of the Health and Safety Code.
- (h) (1) Notwithstanding Section 56133, 56133.5, or 56375, on and after January 1, 2022, a commission shall not change the sphere of influence of, or authorize extension of services by, a qualifying city or special district if the commission has not done one of the following:
 - (A) Conducted the analysis required by this section.
- (B) Adopted a plan or taken the actions required by subdivision (g).
- (2) Notwithstanding Section 56133, 56133.5, or 56375, a commission shall not change the sphere of influence of, or authorize an extension of services by, a qualifying city or special district if the city or special district has been designated in a plan developed pursuant to subdivision (g) to provide water or wastewater services and the city or special district has not begun providing water or wastewater service, as identified by the commission's plan, within three years of being designated in the plan.

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- (3) The prohibition against a change to a sphere of influence or extension of service pursuant to paragraphs (1) and (2) shall not apply to either of the following:
- (A) An application to extend services to, or include in their sphere of influence, a disadvantaged unincorporated community.
- (B) An extension of service authorized pursuant to subdivision (c) of Section 56133.
- (i) As used in this section, "a qualifying city or special district" means a city or special district that provides water service or wastewater services and serves 500 or more connections.

SEC. 6.

SEC. 4. If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.



ACTION ITEM May18, 2016

TO: Board of Directors

FROM: Public Affairs & Legislation Committee

(Directors Tamaribuchi, Hinman, Barbre)

Robert Hunter General Manager

SUBJECT: Election Information (Candidate's Statements)

STAFF RECOMMENDATION

Staff recommends the Board of Directors review the information presented and decide whether to limit candidate statements to either 200 or 400 words and submit information to the Registrar of Voters, along with a statement that the District will either pay or not pay for the statements.

COMMITTEE RECOMMENDATION

The Public Affairs & Legislation Committee will review this item on May 16, 2016 and make a recommendation to the Board.

SUMMARY

Each election, the Registrar of Voters requests information relative to the Candidate's Statements. This information includes whether or not the District will pay the Candidate's Statement cost, and whether the District will limit statements to either 200 or 400 words.

Historically, the Board limits candidate statements to 200 words, and does not authorize payment by the District.

Attached is the paperwork received from the OC Registrar; they are due back by May 31, 2016.

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



REGISTRAR OF VOTERS

1300 South Grand Avenue, Bldg. C Santa Ana, California 92705 (714) 567-7600 FAX (714) 567-7627 ocvote.com

NEAL KELLEY Registrar of Voters

Mailing Address: P.O. Box 11298 Santa Ana, California 92711

May 10, 2016

TO: Manager/Director

FM: Marcia Nielsen, Acting Candidate & Voter Services Manager

RE: **Election Information for the November 8, 2016 General Election**

Enclosed is a Transmittal of Election Information form to be completed and returned to the Registrar of Voters' office by May 31, 2016.

On the Transmittal of Election Information form, please list the name(s) of Director(s) whose term(s) expire and whose seat(s) will be scheduled for election on November 8, 2016. This would include any Director(s) appointed since your last election. Appointed Directors must file for the two-year unexpired term if they were appointed to fill a vacancy which would not have been scheduled for election until 2018.

We also need to know if your District will or will not pay for a Candidate's Statement of Qualifications and if the District is authorizing 200 or 400 words to be used in that statement.

Please send the completed Transmittal of Election Information form to me at 1300 South Grand Avenue, Building C, Santa Ana, CA 92705 or email to marcia.nielsen@rov.ocgov.com.

Pursuant to Elections Code § 10522, the District is required to submit a map showing the current district boundary lines, with divisions (if any), regardless if changes have occurred. We would prefer to receive the map in shape file format by email to Johnson Tem at iohnson.tem@rov.ocgov.com.

Candidate Filing for the November 8, 2016 General Election will be July 18, 2016 through August 12, 2016, 5:00 p.m. The Candidate's Handbook will be on our website at the middle of June. We ask that you post this information to advise your members of these important dates.

If you have any questions, please contact me at marcia.nielsen@rov.ocgov.com or (714) 567-7568. Thanks for your assistance.

Enclosure

TRANSMITTAL OF ELECTION INFORMATION SPECIAL DISTRICT (EC §10509, §10522)

<u>MUNICIPAL WATER DISTRICT OF ORANGE COUNTY</u> -- DISTRICT **DISTRICT BOUNDARIES**:

Choose O	ne:	
	the boundaries of the Divisions elected at the November 8, 20	Voters an electronic shape file of District boundaries and s of the District, if any, in which a Director is to be 116 General Election. of Voters' preferred method of transmittal.)
		e boundaries of this District and the boundaries of any, in which a Director is to be elected at the ection.
Choose O	ne:	
Voters in t	he District will be voting:	☐ At-large ☐ By Division
	CTIVE OFFICES FOR WHICH ON NOVEMBER 8, 2016 ARE	H AN ELECTION WILL BE HELD WITHIN THE SPECIAL E:
Choose O		Director(s) to be elected at-large OR
	Director(s) to b	be elected in the following Divisions:
	1 (# of directo	in Division3 ors)
	1 (# of directo	in Division4 ors) (# of division)
	1(# of directo	in Division6_ ors)
	1 (# of directo	in Division7 ors)
Please list	below the names of the Incumb	bents/Appointed Incumbents for the above-mentioned positions:
(Name) V	Vayne S. Osborne	☐ Elected ☐ Appointed (If appointed, the term ends in 20)
(Name)_J	oan C. Finnegan	⊠ Elected
(Name) J	effery M. Thomas	\boxtimes Elected $\ \square$ Appointed (If appointed, the term ends in 20)
(Name)_S	Susan Hinman	\boxtimes Elected $\ \square$ Appointed (If appointed, the term ends in 20)
The Distric		tatement of Qualifications to contain no more than: one) (200) or (400) words.
The Distric	•	ndidate's Statement of Qualifications.
		(Signature)
(D	vistrict Seal)	Maribeth Goldsby, District Secretary (Print Name)

Phone #: 714-593-5006 Email: mgoldsby@mwdoc.com

NOTE: Please return the above information no later than **May 31, 2016** to the Registrar of Voters' office, 1300 South Grand Avenue, Building C, Santa Ana, CA 92705, Attn: Marcia Nielsen or email to marcia.nielsen@rov.ocgov.com. Send the boundary map to Johnson Tem at 1300 South Grand Avenue, Building C, Santa Ana, CA 92705 or at johnson.tem@rov.ocgov.com.



ACTION ITEM

May 18, 2016

TO: Board of Directors

FROM: Public Affairs & Legislation Committee

(Directors Barbre, Hinman & Tamaribuchi)

Robert Hunter, General Manager Staff Contact: Heather Baez

SUBJECT: CALIFORNIA SPECIAL DISTRICTS (CSDA) PROPOSED BYLAWS

UPDATES

STAFF RECOMMENDATION

Staff recommends that the Board of Directors authorize President Osborne or his designee to cast the vote on behalf of MWDOC approving the amended and restated CSDA bylaws.

COMMITTEE RECOMMENDATION

The Public Affairs & Legislation Committee will review this item on May 16, 2016 and make a recommendation to the Board.

SUMMARY

CSDA last updated their bylaws in 2014. The suggested updates for 2016 make a few technical changes and add clarifying language to allow for electronic voting and electronic communication in certain situations.

Attached is a line item copy of the suggested bylaw amendments. The deletions are in strikethrough in red, the additions are underlined in blue.

The highlights are listed below.

Regions (the six geographic areas) are now referred to as networks.

Associate members and business members were previously non-voting members but now can become voting members if they are approved members on a CSDA committee.

Electronic ballots will now be accepted for voting at an annual or special meeting.

Written notices can now be sent electronically as well as via mail.

Added section for member participation via electronic means at meetings.

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



BYLAWS California Special Districts Association

Approved Bylaw Revision Dates:

Revised 1996

Revised 1999

Revised 2004

Revised October 1, 2009

Revised August 2, 2010

Revised August 1, 2011

Revised July 1, 2014

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ARTICLE I – GENERAL

Section 1. Purpose:

In addition to the general and specific purposes set forth in the Articles of Incorporation of the California Special Districts Association (CSDA), CSDA will provide outreach, education, and member services, and shall generate legislative advocacy for member interests. CSDA will interact with the government associations and groups that support or oppose its membership's interests.

Section 2. CSDA Regions/Networks:

The state of California shall be divided along county boundaries into six voting regions/networks. The areas of the regions/networks have been determined by the Board of Directors of CSDA.

Exhibit A......Map of the six (6) regions/networks of CSDA.

Section 3. Principal Office:

The principal business office of CSDA shall be located in Sacramento, California.

ARTICLE II – MEMBERSHIP

Section 1. Qualification of Membership:

There may be several classes of membership in CSDA, as determined by the Board of Directors. The following classes have been adopted:

A. Regular Voting Members:

Regular voting members shall be any public agency formed pursuant to either general law or special act for the local performance of governmental and/or proprietary functions within limited boundaries, and which meets any one of the following criteria:

- 1. Meets the definition of "independent special district" set forth in Government Code Section 56044 by having a legislative body all of whose members are elected, or which members are appointed to fixed terms; or
- 2. A public agency whose legislative body is composed of representatives of two or more other public agencies. Such representatives may be either members of the legislative body or designated employees of such other public agencies. Public agencies which qualify as regular members pursuant to these criteria include, but are not limited to the following public agencies:

 (a) air quality management districts;
 (b) air pollution control districts;
 (c) county water agencies or authorities;
 (d) transit or rapid transit districts, or transportation authorities;
 (e) metropolitan water districts;
 (f) flood control and/or water conservation districts;
 (g) sanitation agencies.

Regular voting members do not include the state, cities, counties, school districts, community college districts, dependent districts, or joint powers authorities. Dependent districts are defined as those special districts whose legislative body is composed exclusively of members of a Board of Supervisors of a single county or city council of a single city, LAFCOs, joint powers authorities or the appointees of such legislative bodies with no fixed terms.

Regular voting members have voting privileges and may hold seats on the Board of Directors.

B. Associate Non-Voting Members:

Associate members Sshall be those organizations such as dependent districts, cities, mutual water companies, and those public agencies that do not satisfy the criteria for regular voting membership specified in Section A above.

Associate members have no voting privileges, except as approved members on a CSDA committee, and may not hold a seat on the Board of Directors.

C. Business Affiliate Members:

Business Affiliate members Schall be those persons or organizations that provide services to special districts and/or have evidenced interest in the purposes and goals of

CSDA. Business Affiliates have no voting privileges, except as approved members on a CSDA committee, and may not hold a seat on the Board of Directors.

Section 2. Membership Application:

Application for membership to CSDA will be directed to staff, who will determine if the applicant's interest and purpose is in common with CSDA. If the applicant meets the requirements of membership, the Board of Directors shall approve the new member by a majority vote of the Board. Acceptance to membership shall authorize participation in CSDA activities as specified in these Bylaws.

Section 3. Membership Dues:

The membership dues of CSDA shall be established annually by a majority vote of the Board of Directors at a scheduled Board meeting. Authority to adjust the dues shall remain with the Board of Directors.

Section 4. Membership Voting:

Matters to be voted upon by the membership shall be determined by the Board of Directors in accordance with these Bylaws. Only those matters of which proper notice was given by CSDA may be voted upon.

A. <u>Voting Designee:</u>

In accordance with these Bylaws, regular voting members in good standing shall have voting privileges. The governing body of each regular voting member shall designate by resolution, one representative from their respective district who shall have the authority to exercise the right of the regular voting member to vote. Such voting designee shall be a Board member or managerial employee of the member regular voting member.

B. Voting Authorization:

Those regular voting members who have paid the required dues as set by the Board of Directors are members in good standing. Each regular voting member in good standing shall be entitled to one vote on all matters brought before the membership for vote at any meeting or mail by ballot.

Section 5. Membership Quorum:

A. Meeting Quorum:

Twenty-five voting designees, as defined in Article II, Section 4, officially designated by each regular voting member present at any annual or special meeting of the CSDA shall constitute a quorum. Absentee ballots shall not be accepted. No regular voting member shall have the right to vote by means of an absentee or proxy ballot.

B. Mailed or Electronic Ballot Quorum:

Mail ballots <u>or electronic ballots</u> received from 25 voting designees <u>officially designated by each regular voting member shall</u> constitute a quorum. <u>Each regular voting member shall</u>

be entitled to one vote. No regular voting member shall have the right to vote by means of a proxy.

Section 6. Membership Meetings:

A. Annual Business Meeting:

The annual business meeting of the members shall be held at the Annual CSDA Conference at such time and place as determined by the Board of Directors. Written notice of the annual business meeting <u>distributed by mail or electronically</u> shall include all matters that the Board intends to present for action and vote by the members.

Written notice of any annual meeting of the members of CSDA, via mail and/or electronic delivery, and/or facsimile shall be sent to each regular voting member in good standing, at least 45 days in advance of the designated date of such meeting. The notice shall include the time and place, and all matters the Board of Directors intends to present for action and vote by the members.

B. **Special Meetings:**

Special meetings of the members may be called at any time by the President, by a majority of the Board of Directors, or by a majority of at least a quorum of the members (25 members). Written notice shall include all matters the Board of Directors intends to present for action and vote by the members. Such a special meeting may be called by written request, specifying the general nature of the business proposed to be transacted and addressed to the attention of and submitted to the President of the Board. The President shall direct the Chief Executive Officer to cause notice to be given promptly to the members stating that a special meeting will be held at a specific time and date fixed by the Board. No business other than the business that was set forth in the notice of the special meeting may be transacted at a special meeting.

Written notice of any special meeting of the members of CSDA, via mail and/or electronic delivery, and/or facsimile shall be sent to each regular voting member in good standing, at least ten days in advance of the designated date of such meeting. The notice shall include the time and place, and all matters intended to be presented for action and vote by the members.

C. Notice of Meetings:

Whenever members are permitted to take any action at any annual or special meeting, written notice of the meeting distributed by mail or electronically shall be given to each member entitled to vote at that meeting. The notice shall specify the place, date and hour of the meeting, and the means of electronic transmission or electronic video screen communication to be utilized by and between CSDA and its members, if any, by which members may participate in the meeting. For the Annual Membership Meeting, the notice shall state the matters that the Board intends to present for action by the members. For a special meeting the notice shall state the general nature of the business to be transacted and shall state that no other business may be transacted. The notice of any meeting at which directors are to be elected shall include the names of all persons who are nominees when notice is given.

- 1. Notice Requirements. Written notice of any annual membership meeting shall be given at least 45 days before the meeting date either personally, by first class registered or certified mail, or by electronic transmission.
- 2. Electronic Notice. Notice given by electronic transmission by CSDA shall be valid if delivered by either (a) facsimile telecommunication or electronic mail when directed to the facsimile number or electronic mail address for that main contact member on record with CSDA; (b) posting on an electronic message board or network that CSDA has designated for such communications, together with a separate electronic notice to each member of the posting; or (c) any other means of electronic communication. Such electronic transmission must be directed to a member which has provided to CSDA an unrevoked consent to the use of electronic transmission for such communications. The method of electronic communication utilized must create a record that is capable of retention, retrieval and review by CSDA.

All such electronic transmissions shall include a written statement that each member receiving such communication has the right to have the notice provided in non-electronic form. Any member may withdraw its consent to receive electronic transmissions in the place of written communications by providing written notice to CSDA of such withdrawal of consent.

Notice shall not be given by electronic transmission by CSDA if CSDA is unable to deliver two (2) consecutive notices to a member by that means, or otherwise becomes aware of the fact that the member cannot receive electronic communications.

D. Electronic Meetings:

Members not physically present in person at either an annual or special meeting of members may participate in such a meeting by electronic transmission or by electronic video screen communication by and between such members and CSDA. Any eligible member participating in a meeting electronically shall be deemed present in person and eligible to vote at such a meeting, whether that meeting is to be held at a designated place, conducted entirely by means of electronic transmission, or conducted in part by electronic communication between CSDA and those members who are not capable of being physically present at such designated meeting place.

Annual and special meetings of the members may be conducted in whole or in part by electronic transmission or by electronic video screen communication by and between CSDA and its members if all of the following criteria are satisfied: (1) CSDA implements reasonable procedures to provide members participating by means of electronic communication a reasonable opportunity to participate in the meeting and to vote on matters submitted to the members, including an opportunity to hear the proceedings of the meeting including comments of members participating in person substantially concurrent with such proceedings; and (2) any votes cast by a member by means of electronic communication by and between CSDA and a member must be recorded and maintained in the minutes by CSDA.

C. Mail Ballot:

The Board of Directors may at its discretion authorize the voting upon any issue, by written ballot mailed to each regular voting member in good standing. Such ballot shall

be mailed by first class mail, at least 45 days in advance of the date the CSDA has designated for the return of the ballot by each member to CSDA.

E. Majority Vote:

A majority of votes cast or ballots received shall be necessary to carry any matter voted upon, provided a quorum of members has voted in person or by mail ballot. Voting by proxy shall not be allowed. Any matter submitted to the membership for action or approval shall constitute the action or approval of the members only when: (1) the number of votes cast by regular voting members present at the meeting equals or exceeds the quorum requirement of 25 registered voters; and (2) the number of votes approving the action or proposal equals or exceeds a majority (50% plus one) of the regular voting members present and casting votes on the issue.

F. Solicitation of Written Ballots from Members:

All solicitations of votes by written ballot, whether by means of electronic communication or first class mail, shall: (1) state the number of returned ballots needed to meet the quorum requirement (25 returned ballots); (2) state, with respect to returned ballots other than for election of directors, that the majority of returned ballots must indicate approval of each measure in order to adopt such measure; and (3) specify the time by which the written ballot must be received by CSDA in order to be counted. Each written ballot so distributed shall: (1) set forth the proposed action; (2) give members an opportunity to specify approval or disapproval of each proposal; and (3) provide a reasonable time in which to return the ballots to CSDA either electronically or by first class mail.

Each written ballot distributed by first class mail shall be mailed to each regular voting member at least 45 days in advance of the date designated for return of the ballot by each such member to CSDA. Written ballots transmitted electronically to members shall be electronically communicated at least 45 days in advance of the date designated for return of the ballot by each member to CSDA.

G. Return of Ballots:

Written ballots shall be returned either by first class mail or by electronic communication to either the principal business address of CSDA or CSDA's designated electronic format specified on the ballot prior to the close of business (5:00 pm) on the designated election date. Written ballots received either by first class mail or electronic communication from regular voting members after the specified date shall not be counted and shall be invalid.

H. Number of Votes Required for Approval:

Approval by written ballot shall be valid only when (1) the number of votes cast by written ballot either by means of electronic communication or first class mail within the specified time equals or exceeds the quorum required to be present at a meeting authorizing the action (25 votes); and (2) the number of approvals equals or exceeds the number of votes that would be required for approval at a meeting of members, i.e. 50% plus one of those participating members casting written ballots either electronically or by first class mail.

Section 7. Termination of Membership:

Any member delinquent in the payment of dues for a period of three months after said dues are due and payable, shall be notified in writing of such arrearage, and shall be given written notice of possible termination. If such delinquent dues remain unpaid for 45 days after said notice, the delinquent member shall automatically cease to be a member of CSDA. <u>CSDA's Chief</u> Executive Officer may approve special payment arrangements if deemed necessary.

A delinquent member may be restored to membership by making written application to the Board of Directors of the CSDA. Such reinstatement shall be at the discretion of the Board.

ARTICLE III - DIRECTORS

Section 1. Number of Directors:

The authorized number of elected directors to serve on the Board of Directors shall be 18. Each regular voting member agency shall be limited to one seat on the Board.

There shall be three directors elected from each of the six CSDA regions/networks. Directors elected from each of the six regions/networks shall hold staggered three year terms. The three directors serving a term of office from a region/network shall be elected from three different regular voting member agencies located in that region/network.

Section 2 Term of Office:

Directors elected from each of the six regions/networks shall hold staggered three year terms. After the annual election of directors, a meeting of the Board shall be held to ratify the election results. The term of office of the newly elected persons shall commence on the following January 1 and shall terminate in three years.

Section 3. Nomination of Directors:

Nomination shall be by region/network. Any regular voting member in good standing is eligible to nominate one person from their district to run for director of CSDA. The director nominee shall be a board member of the district or a managerial employee as defined by that district's Board of Directors. Nomination of the director designee shall be made by a resolution or minute action of the regular voting member's Board of Directors. Only one individual from each regular voting member district may be nominated to run at each election. In the event an incumbent does not re-run for his/her seat, the nomination period for that region/network shall be extended by ten days.

The CSDA staff, in conjunction with the Elections and Bylaw Committee, will review all nominations received and accept all that meet the qualifications set by these Bylaws. A slate of each region's/network's qualified nominees will be submitted by mail or electronic ballot, to that region's/network's regular voting membership for election pursuant to Article III, Section 4

Section 4. Election of Directors:

The Election and Bylaws Committee shall have primary responsibility for establishing and conducting elections. The Committee may enforce any regulation in order to facilitate the conduct of said elections. Voting for directors shall be by the regular voting members from the region/network from which they are nominated.

The Election and Bylaws Committee shall meet each year to review, with staff, the regions/networks where election of directors will be necessary. The Committee will coordinate, with staff, the dates nomination requests shall be mailed to the regular voting members, the official date for the nomination requests to be received at the CSDA office, and set the date of the election.

A. Written Notice:

Written notice requesting nominations of candidates for election to the Board of Directors shall be sent by first class mail or electronically to each regular voting member in good standing on the date specified by the Election and Bylaws Committee, which shall be at least 120 days prior to the election. The nominations must be received either by mail or electronically by CSDA before the established deadline which shall be no later than 60 days prior to the election. Nominations received after the deadline date shall be deemed invalid.

B. Balloting and Election:

Voting for directors shall be by <u>written ballot distributed by mail or by electronic transmission by CSDA directly or via third-party to members eligible to vote in each network.</u>

After the nomination period for directors is closed, a <u>written</u>mailed ballot specifying the certified nominees in each <u>region/</u>network shall be distributed <u>by first class mail or electronically</u> to each regular voting member in that <u>region/</u>network <u>by first class mail</u>. Each such regular member <u>in good standing</u> in each <u>region/</u>network shall be entitled to cast one vote for each of that <u>region's/</u>network's open seats on the Board.

The ballot for each region/network shall contain all nominations accepted and approved by CSDA staff. In the event there is only one nomination in a region/network, the nominee shall automatically assume the Seat up for election and a ballot shall not be mailed or electronically transmitted. Staff will execute a Proof of Service certifying the date upon which all regular voting members of each region/network were mailed sent a ballot, either by first class mail or by electronic transmission. The form of written ballot and any related materials sent by electronic transmission by CSDA and completed ballots returned to CSDA by electronic transmission by participating members must comply with all of the requirements of Article II, Section 6.F-H of these Bylaws.If a member does not consent to electronic communication for balloting purposes, a form of written ballot will be mailed to such participating member no later than 45 days prior to the date scheduled for such election. All written ballots shall indicate that each participating member may return the ballot by electronic communication or first class mail.

All solicitations of votes by written ballot shall: (1) state the number of returned ballots needed to meet the quorum requirement (25); (2) state, with respect to ballots for election of directors, that those nominees receiving the highest number of votes for each Board position subject to election will be certified as elected to that Board position.

Election of a nominee to a Board position shall be valid only when: (1) the number of votes cast by written ballot, transmitted either electronically or by first class mail, within the time specified, equals or exceeds the quorum required to be present at a meeting of members authorized in such action (25); and (2) the number of written ballots approving the election of a nominee must be the highest number of votes cast for each Board position subject to election as would be required for an election of a nominee at a meeting of the members.

Written Bballots shall be returned either by first class mail or by electronic mail communication to either the principal business address of CSDA or CSDA's designated electronic format specified on the ballot prior to the close of business (5:00 pm) on the

designated election date, which shall be at least 45 days prior to the Annual Conference. Written Ballots received either by first class mail or electronic communication after the specified date shall be invalid and shall not be counted.

All <u>written</u> ballots <u>received by mail</u> shall remain sealed until opened in the presence of the Election and Bylaws Committee chairperson or his/her designee. <u>All electronic ballots will be prepared, distributed, authenticated, received, tabulated, and kept secure and confidential.</u>

Section 5. Event of Tie:

In the event of a tie vote, a supplemental <u>mail written</u> ballot containing only the names of those candidates receiving the same number of votes shall be <u>distributed either by first class mail or electronically mailed</u> to each regular voting member in the <u>region/</u>network where the tie vote occurred.

Those mail_written ballots received by mail or electronically prior to the close of business (5:00 pm) on the date designated by the Election and Bylaws Committee shall be considered valid and counted. All supplemental mail_written ballots received after the designated date whether by first class mail or electronically shall will be deemed invalid. All written ballots received either by mail or electronically shall remain sealed as provided in Article III, Section 4.B of these Bylaws_until opened in the presence of the Committee chair or his/her designee.

In the event the supplemental mail written ballot also results in a tie vote, the successful candidate will be chosen by a drawing by lot.

Section 6. Director Vacancy:

In the event of a director vacating his/her seat on the Board of Directors, an individual who meets the qualifications as specified in these Bylaws may be appointed or elected to complete the director's unexpired term.

A. <u>Two or Three Vacant Seats in the Same Region/Network:</u>

In the event more than one seat on the CSDA Board of Directors in any one region/network is vacant at the same time, such vacancies shall be filled by election. A mail_written_ballot shall be prepared; listing all nominees for that region/network accepted and approved by CSDA and distributed o each regular voting member in each such network either by first class mail or by electronic communication pursuant to the provisions of Article III, Section 4.A and B of these Bylaws

Regular members of each region/network shall be entitled to cast one vote for each open seat in that region/network by returning a completed written ballot to CSDA either by first class mail or by electronic communication. The candidate receiving the most votes will be elected to the vacant seat with the longest remaining term. The candidate receiving the second highest number of votes will be elected to fill the vacant seat with the second longest remaining term. The candidate receiving the third highest number of votes will be elected to fill the vacant position with the third longest remaining term.

B. Vacancy Before Nomination Period

In the event of a vacancy occurring "before" the nomination period, at the discretion of the CSDA Board, the vacancy may be filled by appointment or special election.

Should the CSDA Board choose to fill the vacancy by appointment, notification of the vacancy and request for nominations shall be sent by regular mail or electronic communication to all regular members in good standing in the network in which the vacancy occurred. The network's existing directors sitting on the CSDA Board shall interview all interested candidates of that network and bring a recommendation to the CSDA Board of Directors for consideration. The Board shall make the appointment to fill the unexpired term of the vacated Board position.

Should the CSDA Board choose to fill the vacancy by special election, written notification of the vacancy and request for nominations shall be sent either by first class mail or electronically to each regular member in good standing in the network in which the vacancy occurred. Nominations will be accepted for the vacant seat by first class mail or by electronic communication and shall be placed on the written ballot for election in that network. Such election shall be conducted pursuant to the provisions of Article III, Section 4.A and B hereof.

B.C. Vacancy During Nomination Period:

In the event of a vacancy occurring "during" the nomination period, the vacancy shall be filled by election. Written notification of the vacancy and request for nominations shall be sent <u>either by first class mail or electronically</u> to each regular member in the <u>region/network</u> in which the vacancy occurred. Nominations will be accepted for the vacant seat <u>by first class mail or by electronic communication</u> and shall be placed on the <u>mail-written</u> ballot for election in that <u>region/network</u>. <u>Such election shall be conducted pursuant to the provisions of Article III, Section 4.A and B hereof.</u>

C.D. Vacancy After Nomination Period:

In the event of a vacancy occurring "after" the nomination period has closed, at the discretion of the CSDA Board, the vacancy may remain unfulfilled until the next regularly scheduled election or may be filled by appointment. Should the CSDA Board choose to fill the vacancy by appointment, notification of the vacancy and request for nominations shall be sent by regular mail or electronic communication to all regular members in good standing in the region/network in which the vacancy occurred.

The region's/network's existing directors sitting on the CSDA Board shall interview all interested candidates of that region/network and bring a recommendation to the CSDA Board of Directors. The Board shall make the appointment to fill the unexpired term of the vacated Board position.

Section 7. Director Disqualification:

A. A director shall become disqualified from further service upon the occurrence of the following:

A director's district is no longer a member of CSDA; a director is no longer a board member or an employee of a member district; and/or a director shall resign.

- Any officer or director may resign at any time by giving written notice to the President or CEO. Any such resignation shall take effect at the date of the receipt of such notice or at any time specified therein.
- B. The position of a director may be declared vacant by a majority vote of the CSDA Board of Directors when a director <u>is unexcused and</u> fails to attend three consecutive meetings of the Board.

Section 8. Powers of Directors:

Subject to the limitations of these Bylaws, the Articles of Incorporation, and the California General Nonprofit Corporation Law, all corporate powers of the CSDA shall be exercised by or under the authority of the Board of Directors.

ARTICLE IV - DIRECTOR MEETINGS

Section 1. Place of Meetings:

Meetings of the Board of Directors shall be held in the state of California, at such places as the Board may determine.

Section 2. Ratification Meeting:

Following the election of Directors, the Board shall hold a meeting at such time and place as determined by the Board for the purpose of ratifying the newly elected directors and to transact other business of CSDA.

Section 3. Organization Meeting:

After the ratification meeting, an organizational meeting of the Board shall be held at such time and place as determined by the Board for the purpose of electing the officers of the Board of Directors and the transaction of other business of CSDA.

Section 4. Planning Session:

As directed by the Board of Directors, a special Strategic Planning Meeting shall be held to review and evaluate the plans, policies and activities related to the business interests of CSDA.

Section 5. Regular Meetings:

The dates of the regular meetings of the Board of Directors shall be ratified at the last Board meeting of the previous year. The meetings shall be held at such time and place as the Board may determine. The dates and places of the Board meetings shall be published in the CSDA's publications for the benefit of the members.

Section 6. Special Meetings:

A special meeting of the Board of Directors, for any purpose, may be called at any time by the President or by any group of seven-10 directors or as described in Article II, Section 6.B.

Such meetings may be held at any place designated by the Board of Directors. In the event directors are unable to personally attend the special meeting, teleconferencing means will be made available.

Notice of the time and place of special meetings shall be given personally to the directors, or sent by written or electronic communication. All written notices shall be sent at least ten days prior to the special meeting and electronic notices at least five days prior.

Section 7. Quorum:

A quorum of the Board of Directors for the purpose of transacting business of the CSDA shall consist of ten directors. A majority vote among at least ten directors present at a duly noticed meeting shall constitute action of the Board of Directors.

Section 8. Board Meetings by Telephone and Electronic Communications:

Any Board meeting may be held by conference telephone, video screen communication or other electronic communications equipment. Participation in such a meeting under this Section shall constitute presence in person at the meeting if both of the following apply: (a) each Board member participating in the meeting can communicate concurrently with all other Board members; and (b) each member of the Board is provided a means of participating in all matters before the Board, including the capacity to propose or interpose an objection to a specific action to be taken by CSDA, and the capacity to vote on any proposal requiring action of the Board.

Section 98. Official Records:

All official records of the meetings of the CSDA shall be maintained at the principal business office of the CSDA.

ARTICLE V - OFFICERS

Section 1. Number and Selection:

The officers of CSDA shall be the President, Vice President, Secretary, Treasurer and the Immediate Past President. The officers shall be elected annually from the then current members of the Board of Directors without reference to regions/networks. All officers shall be subordinate and responsible to the CSDA Board of Directors and shall serve without compensation.

Each shall hold office for the term of one year, or until resignation or disqualification.

The Board of Directors may appoint such other officers as the business of CSDA may require. Each of the appointed officers shall hold office for such period, have such authority, and perform such duties as are provided in these Bylaws or as the Board of Directors may determine.

Section 2. Duties of the President:

The President shall be the chief officer of the CSDA and shall, subject to the approval of the Board of Directors, give supervision and direction to the business and affairs of CSDA.

The President shall preside at all Board of Director and membership meetings. The President shall be an ex-officio member of all Standing Committees. The President shall appoint committee chairs and vice-chairs and members of the Standing Committees, subject to confirmation by the Board of Directors.

The President shall have the general powers, duties and management usually vested in the office of the president of a corporation. The President shall have such other powers and duties as may be prescribed by these Bylaws or by the vote of the Board of Directors.

Section 3. Duties of the Vice President:

In the absence of, or disability of the President, the Vice President shall perform all of the duties of the President. When so acting, the Vice President shall have all the powers of the President, and be subject to all the restrictions upon the President.

The Vice President shall be an ex-officio member of all of the Standing Committees.

Section 4. Duties of the Secretary:

The Secretary or a designee appointed by the Board of Directors shall give notice of meetings to the Board of Directors, and notices of meetings to the members as provided by these Bylaws.

The Secretary or designee shall record and keep all motions and resolutions of the Board. A record of all meetings of the Board and of the members shall be maintained. All written records of the Secretary shall be kept at the business office of CSDA.

A list of the membership of CSDA shall be maintained by the Secretary or such designee. Such record shall contain the name, address and type of membership, of each member. The date of membership shall be recorded, and in the event the membership ceases, the date of termination.

The Secretary or designee shall perform such other duties as may be required by law, by these Bylaws, or by the Board of Directors.

Section 5. Duties of the Treasurer:

The Treasurer or a designee appointed by the Board of Directors shall keep and maintain adequate and correct accounts of the properties and the business transactions of CSDA, including accounts of its assets, liabilities, receipts, disbursements, gains and losses. The books of account shall at all times be open to inspection by any director or member of the CSDA.

The Treasurer or designee shall be responsible to cause the deposit of all moneys of the CSDA, and other valuables in the name and to the credit of CSDA, with such depositories as may be designated by the Board of Directors.

The Treasurer or designee, shall disburse, or cause to be disbursed by persons as authorized by resolution of the Board of Directors, the funds of CSDA, as ordered by the Board of Directors.

The Treasurer or designee shall serve as chair of the CSDA Fiscal Committee. The Treasurer shall render to the President and the Board of Directors an account of all financial transactions and the financial condition of CSDA at each Board meeting and on an annual basis, or upon request of the Board.

The Treasurer or designee shall, after the close of the fiscal year of CSDA, cause an annual audit of the financial condition of CSDA to be done.

The Treasurer or such designee shall perform such other duties as may be required by law, by these Bylaws, or by the Board of Directors.

Section 6. Disbursement of Funds:

No funds shall be disbursed by CSDA unless a check, draft or other evidence of such disbursement has been executed on behalf of CSDA by persons authorized by resolution of the Board of Directors.

Section 7. Removal of Officers:

Officers of the Board may be removed with or without cause at any meeting of the Board of Directors by the affirmative vote of a majority of the Board of Directors present at such meeting.

ARTICLE VI - COMMITTEES

Section 1. Committee Structure:

Each committee shall have a chair and a vice-chair who shall be directors of the Board of Directors. Each committee shall have at least two Board members and no more than nine Board members. Directors may be appointed as alternate members of a committee, in the event of an absent committee member.

Other members of any committee may include designees of regular, associate or Business Affiliate members.

Section 2. Committee Actions:

All actions of any committee of the CSDA shall be governed by and taken in accordance with the provisions of these Bylaws. All committees shall serve at the pleasure of the Board and have such authority as provided by the Board of Directors. Minutes of each committee meeting shall be kept and each committee shall present a report to the Board of Directors at each scheduled Board meeting.

No committee may take any final action on any matter that, under these Bylaws, or under the California Nonprofit Public Benefit Corporation Law, also requires approval of the members of the CSDA.

All committees, regardless of Board resolution, are restricted from any of the following actions as imposed by the California Nonprofit Public Benefit Corporation Law

No committee may: Fill vacancies on the Board of Directors or on any committee that has authority of the Board; create any other committees of the Board or appoint the members of the committees of the Board.

No committee may fix compensation of the directors for serving on the Board or on any committee; expend corporate funds to support a nominee for director; or approve any contract or transaction to which CSDA is a party and in which one or more of its directors has a material financial interest.

No committee may amend or repeal Bylaws or adopt new Bylaws or amend or repeal any resolution of the Board that by its express terms is not subject to amendment or repeal.

Section 3. Committee Meetings:

Meetings of the committees of CSDA shall be held in accordance with the provisions of these Bylaws. The time and place for regular meetings of such committees may be determined by the Board or by such committees. Special meetings of the committees may be called by the chair of such committee, or by the Board of Directors.

Written notice of any regular or special committee meeting may be given either personally, by first class mail, or by electronic transmission as specified in Article II, Section 6.C.2 of these Bylaws. Any committee meeting may also be held by conference telephone, video screen communication or other electronic communication equipment. Participation in such a meeting under this Section shall constitute presence in person at the committee meeting if both of the

following apply: (a) each committee member participating in the meeting can communicate concurrently with all other committee members; and (b) each member of the committee is provided a means of participating in all matters before the committee, including the capacity to propose or interpose an objection to a specific action to be taken by that committee, and the capacity to vote on any proposal requiring action or recommendation by the committee.

Section 4. Standing Committees:

Standing Committees of CSDA shall be advisory in nature except for the Finance Corporation (see Section 4D). The Standing Committees are: Executive, Professional Development, Elections and Bylaw, Finance Corporation, Fiscal, Legislative, Member Services and Audit.

The President shall recommend the appointment of committee officers and members of each Standing Committee except the Executive Committee. All committee members are subject to ratification by the Board of Directors.

A. Executive Committee:

The Executive Committee shall consist of all officers of CSDA.

Members shall include the President, Vice President, Secretary, Treasurer and the Immediate Past President of CSDA. If the Immediate Past President is no longer a member of the Board of Directors, a previous past president may be appointed. If there are no directors who have served as Peresident in the past, the President shall appoint a current director to serve as a member of the Executive Committee.

Subject to these Bylaws and approval of the Board of Directors, the Executive Committee shall have full power, authority and responsibility for the operation and function of the CSDA.

B. Professional Development Committee:

The Professional Development Committee shall <u>provide advice</u>, <u>feedback and general guidance for plan, organize and direct CSDA</u> professional development programs and events.

C. Election and Bylaws Committee:

The Election and Bylaws Committee shall be responsible for conducting all elections for the CSDA Board of Directors as provided in these Bylaws. The Committee shall annually review the Bylaws and shall be responsible for membership vote on any bylaw changes and approval of election materials.

D. Finance Corporation Committee:

The Finance Corporation Committee shall serve as the Board of Directors of the CSDA Finance Corporation a California non-profit public benefit corporation organized to provide financial assistance to CSDA members in acquiring, constructing and financing various public facilities and equipment for the use and benefit of the public. The Finance Corporation Committee is not an advisory committee, but has all of the powers described in the CSDA Finance Corporation Bylaws, which are incorporated herein by

this reference. Such powers include the powers to manage and control the business affairs of the corporation, to approve policies for the corporation's operations, and to enter into all contracts necessary to provide financial assistance to CSDA members.

E. Fiscal Committee:

The Treasurer shall serve as the chair of the Fiscal Committee and shall, with the Committee, be responsible for oversight of all the financial transactions of the CSDA. An annual budget shall be reviewed by the committee and ratified by the Board of Directors.

F. Legislative Committee:

The Legislative Committee shall be responsible for the development of CSDA's legislative agenda. The Committee shall review, direct and assist the CSDA Advocacy and Public Affairs Department with legislative and public policy issues.

G. Member Services Committee:

The Member Services Committee shall be responsible for recruitment and recommendation of new members to the CSDA Board of Directors The Member Services Committee shall be responsible for recruitment and retention activities as well as recommendation of new members and benefits to the CSDA Board of Directors. All new members shall be ratified by the Board of Directors.

H. Audit Committee:

The Audit Committee is responsible for maintaining and updating internal controls. The Committee selects the Auditor for Board of Directors approval and provides guidance to the auditors on possible audit and fraud risks. The Committee reviews the audit and management letter and makes recommendation to the Board of Directors for action.

Section 5. Ad Hoc Committees:

The President may appoint other Ad Hoc Committees and their officers as may be determined necessary for the proper operation of the CSDA. The Standing Committees and the Ad Hoc Committees shall plan and authorize such programs as may be directed by the Board of Directors.

The Ad Hoc Committees shall be advisory in nature and shall be composed of at least two members of the Board of Directors. Other members of such committees may include designees of regular, associate or professional members, or members of the public, as approved by the Board of Directors.

Section 6. Special Committee of the Board:

A Special Committee may be granted authority of the Board as a Committee of the Board, as required by the California Nonprofit Public Benefit Corporation Law, provided by a specific resolution adopted by a majority of the Board of Directors then in office. In such case, the Special Committee shall be composed exclusively of two or more directors, but less than a quorum of the Board of Directors.

ARTICLE VII – INDEMNIFICATION

Section 1. Right of Indemnity:

To the fullest extent permitted by law, the CSDA shall defend, indemnify and hold harmless both its past and present directors, officers, employees and other persons described in Section 5238(a) of the California Corporations Code, against any and all actions, expenses, fines, judgments, claims, liabilities, settlements and other amounts reasonably incurred by them in connection with any "proceeding", as that term is used in the Section 5238(a) of the California Corporations Code.

"Expenses", as used in these Bylaws, shall have the same meaning as in Section 5238(a) of the California Corporations Code.

Section 2. Approval of Indemnity:

On written request to the Board by any person seeking indemnification under Section 5238(b) or Section 5238(c) of the California Corporations Code, the Board shall promptly determine under Section 5238(e) of the California Corporations code whether the applicable standard of conduct set forth in Section 5238(b) or Section 5238(c) has been met, and if so, the Board shall authorize indemnification.

If the Board cannot authorize indemnification because the number of directors who are parties to the proceeding with respect to which indemnification is sought prevents the formation of a quorum of directors who are not parties to that proceeding, the Board shall promptly call a meeting of the members.

At the request for indemnification meeting, the members shall determine under Section 5238(e) of the California Corporations Code whether the applicable standard or conduct set forth in Section 5238(b) or Section 5238(c) has been met, and, if so, the members present at the meeting in person or by proxy shall authorize indemnification.

Section 3. Insurance:

The CSDA shall have the right to purchase and maintain insurance to the full extent permitted by law, on behalf of its officers, directors, employees, and agents, against any liability asserted against or incurred by any officer, director, employee or agent in such capacity, or arising out of the officer's, director's, employee's, or agent's status as such.

Section 4. Liability:

No member, individual, director, or staff member of the CSDA shall be personally liable to the CSDA's creditors, or for any indebtedness or liability. Any and all creditors shall look only to the CSDA's assets for payment.

ARTICLE VIII - LOCAL CHAPTERS AFFILIATED CHAPTERS

Section 1. Purpose:

The purpose of <u>local_affiliated</u> chapters is to provide a local forum of members for the discussion, consideration and interchange of ideas concerning matters relating to the purposes and powers of special districts and the CSDA.

The <u>local_affiliated</u> chapters may meet to discuss issues bearing upon special districts and the CSDA. The chapters may make recommendations to the CSDA's Board of Directors.

Section 2. Organization:

The regular voting members of CSDA are encouraged to create and establish local_affiliated chapters. In order to be recognized as a CSDA Chapter, each Chapter must approve and execute a Chapter Affiliation Agreement in order to obtain the right to use the CSDA name, logo, membership mailing list, intellectual property, endorsements, and CSDA staff support and technical assistance in conducting Chapter activities. The terms and conditions of the Chapter Affiliation Agreement are incorporated herein by this reference.

Each chapter formed prior to August 1, 2011, including but not limited to the following chapters must have at least one CSDA member in their membership at all times: Alameda, Butte, Contra Costa, Kern, Marin, Monterey, Orange (ISDOC), Placer, Sacramento, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara and Ventura. Such existing chapters may include as members local organizations, districts and professionals who are not members of CSDA.

New chapters formed after August 1, 2011, are required to have 100 percent of their special district members be current members of CSDA in order to be a chapter affiliate of CSDA. Such local chapters may include members of local organizations and professionals who are not members of CSDA.

Local Affiliated chapters shall be determined to be affiliates of the CSDA upon approval and execution of the Chapter Affiliation Agreement by the local chapter and approval and ratification of the Chapter Affiliation Agreement by the CSDA Board of Directors. The chapters shall be required to provide updated membership lists to the CSDA at least annually.

CSDA and its <u>local-affiliated</u> chapters shall not become or be deemed to be partners or joint ventures with each other by reason of the provisions of these Bylaws or the Chapter Affiliation Agreement.

Section 3. Rules, Regulations and Meetings:

Each <u>local_affiliated</u> chapter shall adopt such rules and regulations, meeting place and times as the membership of such <u>local_affiliated</u> chapter may decide by majority vote. Rules and regulations of the <u>local_affiliated</u> chapter shall not be inconsistent with the Articles of Incorporation or Bylaws of CSDA.

Section 4. Financing of Local Affiliated Chapters:

No part of CSDA's funds shall be used for the operation of the <u>local_affiliate_chapters_affiliates</u>. CSDA is not responsible for the debts, obligations, acts or omissions of the <u>local_affiliate</u> chapters.

Section 5. Legislative Program Participation:

<u>Local Affiliate</u> chapters may function as a forum in regard to federal, state and local legislative issues. The chapters may assist CSDA in the distribution of information to their members.

ARTICLE IX - AMENDMENTS TO THE BYLAWS

Section 1. Amendment Proposals:

Any regular voting member in good standing may propose changes to these Bylaws. The proposed amendments shall be reviewed by the Board of Directors and submitted to the Election and Bylaws Committee for their study.

After examination by the Election and Bylaws Committee and upon resolution approval by of the Board of Directors the amendment proposals may be submitted for vote at the Annual Business meeting of the members held by CSDA, at a specially called meeting, or by a mailed or electronic ballot.

Section 2. Amendment Membership Meeting:

Prior notice in writing of the proposed amendment/s to these Bylaws shall be given <u>either by first class mail or by electronic transmission</u> by the Board of Directors to the regular voting members in good standing, not later than 45 days in advance of the amendment meeting <u>pursuant to the provisions of Article II, Section 6.C of these Bylaws. The electronic notice shall include copies of the proposed amendments.</u>

Electronic copies of the proposed amendment/s shall <u>also</u> be available on the CSDA website for <u>review by</u> the regular voting members prior to the meeting. Copies of the proposed amendments shall <u>also</u> be available for the <u>regular</u> voting members at the amendment <u>membership</u> meeting.

The amendment membership meeting may be conducted as an electronic meeting pursuant to the provisions of Article II, Section 6.D of these Bylaws.

Section 3. Mailed Written Bylaw Amendment Ballot:

The Board of Directors of CSDA may submit Bylaw amendments for approval of regular voting members by mail or electronic ballot rather than by means of an amendment membership meeting.

When a mailed written ballot is utilized used to amend these Bylaws, the ballot shall include the text of all proposed Bylaw amendments and matters the Board of Directors intends to present for action and vote by the members. Such written ballot shall contain the information specified in Article II, Section 6.F of these Bylaws and shall be mailed distributed by CSDA to all regular voting members either by first class mail or by electronic transmission at least 45 days in advance of the date designated for return of the ballot. The ballot shall be mailed by first class mail, not later than 45 days in advance of the date CSDA has designated for the receipt of the ballot.

Written ballots shall be returned either by first class mail or by electronic communication to either the principal business address of CSDA or CSDA's designated electronic format specified on the ballot prior to the close of business (5:00 pm) on the designated election date. Written ballots received either by first class mail or electronic communication after the specified date shall not be counted and will be deemed invalid. The amendment ballot must be received by CSDA, no later than the established deadline date and time. Ballots received after the specified deadline will be deemed invalid.

Section 4. Bylaw Amendment Ratification:

A. <u>Membership Meeting:</u>

The proposed Bylaw amendments shall be deemed adopted by the members when the number of votes cast by a majority vote of all regular voting members present at a such membership meeting meets or exceeds the required, at which a quorum of 25 regular voting members, and the number of votes cast approving the Bylaw amendments constitutes a majority of votes cast, i.e., 50% plus one of regular voting members casting ballots at such meeting, as defined in Article 2, Section 5 of these Bylaws, of the members is present.

B. Mailed or Electronic Ballot:

The proposed Bylaw amendment/s shall be deemed adopted by a majority of the regular voting members by mail or electronic ballot when the provisions of Article II, Section 6.H of these Bylaws have been satisfied when ballots have been returned by a quorum of the regular voting members, and have been approved by a majority vote of the mail ballots returned.

EXHIBIT A



GENERAL MANAGER'S REPORT OF STAFF ACTIVITIES MAY 2016

WIAI ZUIU		
MWDOC held its Managers' meeting on April 21 at its office in Fountain Valley. In attendance were Howard Johnson (Brady); Art Valenzuela (Tustin); Paul Shoenberger (Mesa); Andrew Brunhart (SCWD); Scott Miller (Westminster); David Spitz (Seal Beach); Lisa Ohlund (EOCWD); Dave Rebensdorf (San Clemente); Bob Hill (ETWD); Mike Dunbar (EBSD); Eric Bauman (San Juan Capistrano); Mark Sprague (Fountain Valley); Matt Collings (MNWD); Ken Vecchiarelli (GSWC); Mike Grisso (Buena Park); James Tsumura (La Palma); Hector Ruiz (TCWD); Dan Ferons (SMWD); Paul Cook and Paul Weghorst (IRWD); John Kennedy (OCWD); Karl Seckel; Harvey De La Torre; Joe Berg; Melissa Baum-Haley; Kevin Hostert; Kelly Hubbard, Keith Lyon; Jonathan Volzke and myself of staff. The agenda included the following: 1. Presentation by Kelly Hubbard/WEROC: OC Bottled Water Procurement & Distribution Planning 2. MWDOC FY 16/17 Budget 3. MWDOC's Rate Structure 4. WUE Choice Allocations Methodology 5. FY 16-17 Choice County-wide Communication Plan 6. SWRCB Drought Regulations Update 7. MET's Adopted Budget & Rates 8. MWDOC Drought Allocations and Water Usage Tracking		
The next meeting is scheduled for Thursday, May 26, 2016.		
In Monterey, Directors Susan Hinman and Sat Tamaribuchi and Karl,		
Harvey, Heather and I attended the conference.		
Heather and I attended a meeting at ACC-OC where the group		
discussed the possibility of bringing back the Orange County Leadership Symposium. The symposium has not been held in		
several years, but was a gathering hosted by the League of Cities, OC		
Business Council and Building Industry Association of Southern		
California. The meeting was informational at this point and the		
group will meet again after ACC-OC gathers more information on		
potential facilitators and cost.		

MET ITEMS CRITICAL TO ORANGE COUNTY

MET's Water Supply Conditions

<u>DWR increased the State Water Contractor's "Table A" Allocation</u> from 45% to 60%

On April 21, the California Department of Water Resource (DWR) increased its water delivery allocation for State Water Contractors (SWC) to 60% of requested State Water Project water for 2016. This will provide MET with close to 1,200,000 AF for 2016. The SWC "Table A" Allocation increased from 45% to 60% as a result of significant precipitation and snowpack levels from the March storms, boosting key State reservoir levels.

The March storms nearly filled key northern reservoirs, including Lake Shasta, Oroville, and Folsom. Unfortunately, it did not help areas in the Central Valley and Southern California where precipitation is still below normal.

Lake Oroville is holding over 3.3 million AF, 94% of its 3.5 million AF capacity and 118% of its historical average for the date. Shasta Lake is holding 4.2 million AF, 92% of its 4.5 million AF capacity and 109% of its historical average. But San Luis Reservoir, a critical south-of-Delta pool for both the SWP and CVP, was holding only 1.01 million AF, 50% of its 2.0 million AF capacity and just 55% of average storage for the date. In fact, the gains in Lake Oroville have resulted in releases of water from its spillway for flood control.

In addition, Delta pumping restrictions during the recent storm events have resulted in significant losses to the ocean. According to MET staff, losses totaled over 1.0 MAF for both SWP and CVP.

MET Rescinds Water Supply Allocation for FY 2015-2016

On May 10, the MET Board voted to rescind water supply allocations for FY 2015-2016. Based on improved conditions in Northern California, with a 60% SWP "Table A" allocation, and strong conservation responses from the public, MET will be adding water to its dry-year storage accounts this year, therefore, avoiding the need to continue with allocations this year and next year.

MET's Water Supply Conditions (Continued)	However, although MET is moving out of allocations, they still plan to promote the importance of water awareness and conservation. Therefore, as part of the Board action, MET will downgrade from a "Condition 3 – Implement Water Supply Allocations" to a "Condition 2 – Water Supply Alert", which calls for continued awareness and heightened conservation within MET's service area. MET Financial Report
Finance and Rate Issues	Last month, the MET Board approved and adopted the Biennial Budget and Rates for FY 2016/17 and FY 2017/18. Included in this decision the proposed Fixed Treatment Charge was deferred so the status quo on collecting all treatment costs via the volumetric treatment surcharge will continue, and a workgroup among the member agencies' staffs will be formed to present a Fixed Treatment Charge before the end of CY 2016. At the May MET Finance and Insurance Committee, MET staff reported that water sales through April were 108.3 TAF less than budget. Resulting in \$108.5 million less revenue.
Colorado River Issues	On April 6, staff from Imperial Irrigation District, Coachella Valley Water District, San Diego County Water Authority, the Bureau of Reclamation (Reclamation), and MET convened to review conservation data from 2015 water conservation activities. As a result of the meeting, the parties were satisfied that Imperial met all of its 2015 water transfer commitments to Coachella, SDCWA, and MET. Also, Imperial conserved additional water that is being stored with MET under the terms of the 2015 amendment to the California Intentionally Created Surplus Agreement. The exact volumes of water stored are still under review, but will be finalized by May 15, 2016 when Reclamation issues its 2015 Water Use Accounting Report. Reclamation Receives System Conservation Pilot Project Proposals During April, Reclamation received a number of system conservation pilot project proposals in response to its March 2016 request for proposals from entities holding entitlements to use of Colorado River water in Arizona,
	California, and Nevada. The proposals will be evaluated later this month, and if all proposals were selected, would conserve over 73,000 acre-feet. Also, Reclamation is preparing a grant to the Upper Colorado River Commission to contribute funds for Upper Colorado River Basin system conservation pilot projects approved by the municipal funding agencies, including MET. Agreements with a number of Upper Basin entities for conserving water in 2016 continue to be negotiated.

Colorado River Issues (Continued)

Bard Water District Farmers Fallowing Program

Following execution of fallowing agreements with a number of farmers in Bard Water District, on April 1 the gates providing water to lands enrolled in the seasonal fallowing program were locked, and will remain that way until August 1, 2016. MET staff inspected the fields in April to ensure compliance with the fallowing agreements, and confirmed that all agreed upon fields were actually fallowed. The first payment to farmers will be made on May 15, 2016.

Bay Delta/State Water Project Issues

Bay Delta Conservation Plan/California WaterFix

As part of the state and federal Endangered Species Act compliance that Reclamation and DWR are undertaking with the U.S. Fish and Wildlife Service, National Marine Fisheries Service and the California Department of Fish and Wildlife (CDFW) for the California WaterFix, the Delta Science Program convened a scientific panel to review the draft Biological Assessment (BA). The purpose of the California WaterFix Aquatic Science Peer Review is to provide an independent scientific evaluation of the methods and approaches for developing the joint Biological Opinion requirements and analyses prepared for the CDFW 2081 (b) Incidental Take Permit application. The results of the panel review are scheduled to be released in May 2016. Staff worked with the State Water Contractors to submit a letter that includes several areas of comment regarding the scope and focus of the Peer Review and relevant scientific studies that the panel should consider in its evaluation of the draft BA. MET Staff attended the two-day workshop and will monitor the forthcoming recommendations and further development of the BA and Biological Opinion/2081 permit.

State Water Resources Control Board (SWRCB)

On March 28, 2016, the SWRCB hearing officers for the California WaterFix water right change petition hearing regarding additional points of diversion received a letter from DWR and USBR (collectively Petitioners) requesting a 60-day continuance of all dates and deadlines associated with the hearing. The hearing officers also received additional requests from other interested parties to delay and stay the hearing pending resolution of several matters. In response to the various requests, on April 25, the SWRCB granted a 60-day continuance of the proceedings. The proceedings are now scheduled to begin with the first hearing date on July 26.

MET staff continues to provide input to the SWRCB enforcement actions related to SWRCB- issued curtailment notices. On March 21,

Bay Delta/State Water Project Issues (Continued)

the SWRCB commenced a consolidated hearing phase for the enforcement actions against two in-Delta water users – Byron-Bethany and Westside Irrigation Districts. On March 23, the hearing officers provided an opportunity for further redirect testimony and re-cross-examination of the witnesses of the prosecution team. After considering the testimony and evidence received, the first and subsequent phases of the hearing were suspended. A further written ruling or order of the SWRCB will follow.

Delta Flood Emergency Management Plan

DWR has updated the scope for enhancing the Emergency Management Tool to estimate time and resources to repair multiple island failures in the Delta. Model enhancements are expected to be completed by September 2016; however, simulation runs can be made as early as June 2016. Model limitations for larger island breach scenarios are being corrected and calibrated, and real time barrier installation timelines and Sacramento and San Joaquin reservoir operations and related Delta flow regimes are being integrated.

DWR has advised that the DWR/U. S. Army Corps of Engineers (USACE) Delta Emergency Operations Integration Plan is being upgraded to form a "hands on" Users Guide for use during actual emergencies, and has received executive level DWR and USACE coordination. DWR is planning a field exercise to test the readiness of enhanced Delta communications tools developed over the last several years, including use of common federal, state, and local radio communication frequencies, a new radio communication tower on Twitchell Island, and a USACE Mobile Information Collection System data collection tool.

ENGINEERING & PLANNING

Baker Treatment Plant

MWDOC has requested that IRWD be permitted to utilize the new OC-33 Mag Meter at a lower flow rate that the manufacturer of the meter indicates is acceptable, but it does not comply with MET's administrative code; this would be a temporary request until such time as the plant becomes operational. MWDOC is anticipating a positive response from MET.

The current MWDOC water billing method related to OC-33/33A and OC-88/88A (South County Pipeline connections) was reviewed when

Baker Treatment Plant (Continued) Doheny Desalination Project (Continued)	Karl, Keith Kevin and Jeff met with staff from IRWD, ETWD and SMWD. A proposed new method to account for the new Baker Treatment Plant was discussed, which appeared to be agreeable to all parties. After the meeting, Jeff developed mock MWDOC water invoices to illustrate the revised MWDOC billing method. A follow up meeting was scheduled for May 16. South Coast Water District is continuing to pursue a 5 mgd ocean desalination project.
	MWDOC is working on the decommissioning and removal of the test facilities. South Coast Water District just completed the Foundational Action Program work and has provided copies to MWDOC. Work is underway to conduct a Science Advisory Panel on the work.
San Juan Basin Authority	Director Susan Hinman and Karl attended the San Juan Basin Authority (SJBA) meeting in April where the South Coast WD Doheny Groundwater Modeling work was presented. SMWD also notified the SJBA agencies that their Board had authorized a \$1.7 M budget for them to begin working on the rubber dams to capture and percolate more local water flows into the groundwater basin. It will take several years of design and permitting work before construction will begin. The yield (accounting for treatment plant losses) with only local flows is about 1,120 AF per year, but they are planning on getting permit approval to use treated recycled water for streamflow recharge to add to the percolation when natural water is not available – they have plans to gain up to 7,000 AF per year of new water production from the groundwater basin. Work is underway to conduct a Science Advisory Panel on SJBA Foundational Action work.
EOCWD OC-70 Service Connection	Keith and Kevin continued working with EOCWD staff and MET to concur with the location for installation of a new meter to assist with an upcoming flow test process along with a visual inspection of the check valve and venturi meter at the OC-70 service connection. The work involves resolving an apparent flow discrepancy between the EOCWD system and the MET meter. EOCWD will proceed with the new meter installation and then the flow test will be scheduled.
EOCWD RTS/Capacity Charge Billing	Karl, Keith and Kevin worked with EOCWD in its water rate process to meet with the agencies they serve to discuss how the RTS and Capacity Charge billings are handled. Based on the discussions, there may be slight changes in how MWDOC and EOCWD coordinate the billing process.

YLWD Amicus Brief	MWDOC staff is working on the Amicus Brief support for YLWD in
	the pending court case regarding water rates.
Budget	MWDOC provided its updated budget and DRAFT Choice Charges
	to the Member agencies.
OCWD Producers	When Keith and Melissa attended the May Producers meeting,
Meeting	agenda discussion included: FY15/16 MET water purchases;
	SWRCB Extended Conservation Regulations; GAP future direction;
	Perfluoroctane Sulfonate (PFOS) & Perfluoroctanoic Acid (PFOA)
	potential regulations; IRWD's April 20 BPP/BEA protest letter;
	IRWM Plan alternatives; GWRS Final Expansion; Annual SAR
	Watermaster report; and the OCSD monthly flow report.
MET Untreated Full	The status of Irvine Lake was reviewed, and coordination of MET
Deliveries to Irvine	deliveries into Irvine Lake was discussed when Keith and Kevin met
Lake	with Jerry Vilander from Serrano WD and Tom Roberts and Ken
	Pfister from IRWD. Later that day, MWDOC placed an order on
	behalf of SWD & IRWD for a total of 12 cfs of MET untreated Full
	service water through connection OC-13A into Irvine Lake. Of the
	12 cfs total, SWD requested 2 cfs, and IRWD 10 cfs. The order will
	basically match inflow to outflow for the Lake, and continue through
	the summer until significant rain/runoff is received.
EN	MERGENCY PREPAREDNESS
General Activities	In Sacramento, Kelly Hubbard facilitated the California Emergency
	Services Association (CESA) State Board meeting as the
	Association's Vice President. The meeting provided an opportunity
	to meet with the Director of the California Office of Emergency
	Services. The discussion included updates on Homeland Security
	Grant funding, regional coordination efforts, drought response, a
	revision of the State's emergency training program, updated FEMA
	policies, cybersecurity and emergency legislative activities.
Coordination with	Kelly facilitated a Joint Member Agency and WEROC EOC Staff
Member Agencies	Tabletop Exercise. The purpose of the exercise was for the staff to
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	learn from each other about water system and emergency response
	learn from each other about water system and emergency response concepts, forms and terminology. Participants received a refresher
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	concepts, forms and terminology. Participants received a refresher
	concepts, forms and terminology. Participants received a refresher training on information needs during a disaster. Then participants

Coordination with Member Agencies (Continued)

the County EOC. The training was well received and will be hosted a second time on May 12. Participating Agencies on April 14: MWDOC, South Coast Water District, Moulton Niguel Water District, City of Anaheim Water Department, Irvine Ranch Water District, Midway City Sanitary District, El Toro Water District, Yorba Linda Water District, Laguna Beach County Water District, Mesa Water District, City of La Palma, City of Westminster, East Orange County Water District, and WEROC volunteers.

Orange County Water Procurement and Distribution Planning Update – Efforts to date:

- February 25 kick-off planning meeting
- Development of several tools: Water Utility Water Distribution Template, City Water Distribution Template, Point of Distribution (POD) Site Evaluation Checklist, and a POD Supplies Checklist.
- Presentation to MWDOC's A&F Committee and the MWDOC Member Agency Manager's meeting

A second planning meeting was hosted on April 20 to review the tools and planning efforts. There were very good discussions regarding notifications, mutual aid/resource request protocols, legal responsibilities for various actions, costs and reimbursement for points of distribution, pre-disaster supply contracts, state commodity distribution planning and next steps in the planning process. Kelly will be working with Shenandoah Hage to incorporate comments and suggestions into the draft tools, as well as to conduct more research based on questions raised during the meeting. April 20 Participating Agencies: South Coast Water District, Moulton Niguel Water District, MWDOC, OC Health Care Agency (Environmental Health and Emergency Response), Cal Office of Emergency Services, City of Buena Park, OC Social Services Agency, City of La Habra, City of Westminster, Trabuco Canyon Water District, Irvine Ranch Water District, OC Sheriff's Department Emergency Management Division, City of Newport Beach, City of San Juan Capistrano, City of Aliso Viejo, City of Rancho Santa Margarita, Yorba Linda Water District, City of Irvine, City of Santa Ana, Laguna Beach County Water District, and Disaster Recovery Alliance.

Coordination with the County of Orange

Brandon attended the Orange County Emergency Management Organization (OCEMO) and OCEMO Exercise Design Committee meetings. The regular meeting had a presentation on lessons learned from the Nepal Earthquake. The exercise design meeting was focused on further developing the county-wide exercise that will include WEROC and its member agencies.

Coordination with Outside Agencies	Kelly participated in the California Water/Wastewater Agency Response Network (CalWARN) conference call on April 25. The
	primary discussion focused on statewide participation in CalWARN
	and its administration, as well as response protocols and coordination
	efforts.
WEROC	Staff participated in the OC Operational Area Radio Test.
Emergency	
Operations Center	The MARS radio system received a programing update at both of
(EOC) Readiness	WEROC's EOCs. Kelly Hubbard participated in the MARS Radio
	exercise successfully from the Fountain Valley office.
	Brandon worked with Safety Center programing staff to incorporate the
	County's Emergency Forms (J Forms) into the WEROC Safety Center
	App. The forms allow for Member Agencies to submit situation status
	reports during a disaster to the Orange County Operational Area EOC
	and to the WEROC EOC through the Safety Center app should the
	utility not be able to utilize WebEOC.
	Brandon updated the WEROC Operational Area Position Binder and
	WEROC EOC Phonebook at the Orange County Operational Area
	EOC, as well as at the Fountain Valley office.
	WATER USE EFFICIENCY
Orange County	On April 12, MWDOC hosted the Orange County Water Loss Control
Water Loss	Workgroup meeting. Twenty-four representatives from 17 member
Control	agencies participated in this meeting. The meeting focused on:
Workgroup	
	 An update on Water Balance Technical Assistance
	A Case Study from the City of Westminster
	Data Validity Scoring
	Potential for Shared Services
	The next meeting is scheduled for May 31, 2016 at MWDOC.
California Urban	On April 13, Joe Berg chaired the quarterly Plenary meeting of the
Water	CUWCC hosted by Chino Basin Water Conservation District, and
Conservation	approximately 90 water agency representatives from throughout the
Council (CUWCC)	State participated. The next meeting is scheduled for June 1 and 2 in
	San Francisco. In Sacramento at CUWCC on May 4, Joe chaired the
	Finance and Governance Committee meetings. The next meetings are
	scheduled for August 2016.

On April 20, Joe participated in a State Water Board workshop on extending the Emergency Drought Regulations. The purpose of the workshop was to gather input from stakeholders on how the Emergency Regulations should be modified as a result of the winter precipitation. From this input, State Water Board Staff released a proposal on May 10 containing a self-certification option, which will be considered by the State Water Board on May 18, 2016. On April 21, Steve Hedges attended MET's Water Use Efficiency Workgroup meeting where about 30 member agencies participated. Meeting topics included:
 Los Angeles County Vector Control District MWD Updates Changes to MWD Water Resource Management Group April Board Monthly Conservation Board Report California Friendly Training Class Update New Contracts Data Automation Member Agency Administered Invoice Deadline Green Leadership Award Round Table Discussion on Modifications/Additions to MET's Program for the Next Two Fiscal Years Water: More or Less Landscape Makeover Videos The next meeting is scheduled for May 19, 2016 at Metropolitan. On May 5, Joe participated in MET's Conservation Program Advisory
Committee. The purpose of the Committee is to make recommendations to enhance existing and implement new water use efficiency programs.
On April 28, Joe gave the Colorado River Authority tour group a presentation on MWDOC's water use efficiency programs. MWDOC was just one stop on their tour of sustainable water supplies developed in southern California. Representatives from Arizona, Colorado, Nevada, and Utah participated in the tour.
On May 5 at the City of Anaheim, Melissa Baum-Haley, Andrew
Kanzler, Laura Loewen, and Beth Fahl attended the O.C. WUE
Coordinators' Workgroup meeting where about 22 agencies
participated. Highlights on the agenda included:
 MWDOC Updates Agency Roundtable/Problem Solving Roundtable Agency Drought Response Update

O.C. WUE Coordinators Workgroup (Continued)

- Public Affairs/Marketing Update
- Roundtable Discussion: Drought Response Lessons Learned
- Roundtable Discussion: Metropolitan's Program Modifications for 2016-17 and 2017-18 Fiscal Years
- Metropolitan Update
 - o 2016-17 and 2017-18 Budget
 - o New Contracts
- Water Use Efficiency Programs Update
 - o Turf Removal Program
 - o Spray to Drip Rebate Program
 - o Program Process and Impact Evaluations
- CUWCC Update

The next meeting is scheduled for June 2, 2016 at MWDOC.

PUBLIC/GOVERNMENT AFFAIRS

Member Agency Relations

Jonathan, Laura and Tiffany attended the Public Affairs Workshop meeting, where the 2016-17 CHOICE programs were presented.

Director Tamaribuchi and Jonathan attended the OC Business Council Infrastructure Committee meeting to hear a presentation from Santa Margarita Water District on the Lake Mission Viejo recycled water project.

Heather attended the monthly OCLAFCO meeting where the Commission was voting on which agency – East Orange County Water District or Irvine Ranch Water District – would take over OCSD's Sewer Service Area 7. There were 47 public speakers including Directors Barbre and Dick.

Heather provided a legislative update to the Leg/PAW working group. There were approximately 12 agencies represented.

Laura attended the Water Use Efficiency Workgroup Meeting, and presented the 2016-17 Choice Communications Proposal along with other marketing activities.

Community Relations

Jonathan and Laura made presentations to several classes at the Mission Viejo Earth Day Celebration.

In Tustin, Jonathan and Laura made an Earth Day presentation about

Community Relations (Continued)	where OC gets its water to 250 students at the Saint Jeanne De Lestonnac School. MWDOC staff checked if Tustin Water wanted to participate, then notified the area director.
Education	Jonathan and Laura met with Director Hinman and then held several meetings with representatives from Inside the Outdoors and The Ecology Center to garner feedback on the first-year program and determine how to improve the program.
	At Bryant Ranch Elementary School, Melissa and Bryce provided a presentation to the Garden Club.
	At Costa Mesa High School, Laura attended the Water Effect Expo.
	Laura worked with the respective agencies with student overage requests and adding new schools to the high school education program.
Media Relations	Jonathan was quoted in the OC Register's coverage of the Eco Expo.
	Jonathan worked with the Register to publish pages on rebate programs, the MWDOC-led leak detection program, groundwater and the OC Water Summit.
	On Social Media, Jonathan and Bryce ensured that the MWDOC Facebook and Twitter feeds remained active, posting on events, drought conservation and water-supply topics.
Special Projects	Bryce, Jonathan, Laura and Tiffany reviewed and selected the top entries in the Poster & Slogan contest and Photography & Digital Arts Contest. MWDOC received a total of 725 entries.
	Laura arranged the entries in the MWDOC entry for board members and other stakeholders to vote for finalists, and then tabulated the votes.
	Jonathan and Joe met with a representative from the Orange County Association of Realtors to discuss mutually beneficial programs. They also had a follow up conference call with a representative from a home-inspector's organization.

Special Projects (Continued)

Heather and Tiffany staffed Director Ackerman's Colorado River Aqueduct trip on April 15-16.

Tiffany staffed Director McKenney's Infrastructure inspection trip on April 22.

Heather staffed the WACO Planning meeting where the committee outlined the next few meetings. May's speaker is Karl Seckel on the O.C. Water Reliability Study. Heather arranged for June's speaker, Curt Schmutte from Metropolitan, to speak on fisheries and fish in the Delta region. Directors Dick, Finnegan and Hinman also attended.

Heather met with Mark Manfre from eCivis, who provided a demonstration of their program and services. She is currently polling the member agencies to see if this is a service that they would use.

Heather and Laura staffed the ISDOC Executive Committee meeting where they discussed potential speakers for the June Quarterly Luncheon. Director Finnegan also attended and provided the Treasurer's update and ISDOC audit status.

Bryce and Tiffany updated several pages on the MWDOC website.

Bryce worked with multiple vendors and received estimates for the entryway hallway displays.

Legislative Affairs

Laura attended an InDesign Program training course in Newport Beach.

Heather participated in the Southern California Water Committee's Legislative Task Force conference call.

Heather participated in the MET Member Agency Legislative Coordinators Conference calls on April 14 and April 28.

Heather participated in the ACWA Region 10 conference call to go over the bill packet in advance of the ACWA State Legislative Committee.

Heather attended the ACWA State Legislative Committee meeting in Sacramento.

Heather & Syrus met with Scott Seekatz, Legislative Director for Senator Andy Vidak, a member of the Senate Natural Resources and Water Committee. They shared MWDOC's opposition to AB 1713 (Eggman) where it will go next should it pass the Assembly.

Water Summit Jonathan and Tiffany met twice-monthly with the Summit Committee and with OCWD staff outside of that. Tiffany produced the program, posters and other graphics. Jonathan secured the speakers, bios and wrote the script for the event. Bryce and Laura also played key roles in the production of the printed materials and registration of sponsors and attendees. As of May 10, more than 300 were registered to attend and more than \$54,000 had been raised in sponsorships – the highest since at least 2010.

pat meszaros 5/12/16

INFORMATION CALENDAR

MWDOC GENERAL INFORMATION ITEMS

MWDOC BOARD OF DIRECTORS

- Brett R. Barbre
- Larry D. Dick
- Wayne Osborne
- Joan Finnegan
- Sat Tamaribuchi
- Jeffery M. Thomas
- Susan Hinman

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