

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

Jointly with the

PLANNING & OPERATIONS COMMITTEE

June 5, 2017, 8:30 a.m.

MWDOC Conference Room 101

P&O Committee:

Director Dick, Chair

Director Tamaribuchi

Director Yoo Schneider

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

H. De La Torre, K. Davanaugh

Ex Officio Member: W. Osborne

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

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

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

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

PRESENTATION ITEM

1. PRESENTATION BY JOONE LOPEZ REGARDING CALIFORNIA DATA COLLABORATIVE (Approximate Presentation Time: 15 minutes)

ACTION ITEMS

2. REQUEST APPROVAL OF CONSULTANT TO UPDATE THE ORANGE COUNTY REGIONAL WATER AND WASTEWATER MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

3. REQUEST FOR APPROVAL TO JOIN THE ORANGE COUNTY 800 MHZ RADIO SYSTEM
4. AUTHORIZATION TO HIRE WATER USE EFFICIENCY PROGRAMS INSTALLATION VERIFICATION INSPECTION CONTRACTOR

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

5. SOUTH COAST WATER DISTRICT RELIABILITY STUDY UPDATE
6. 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
7. REVIEW OF ISSUES RELATED TO CONSTRUCTION PROGRAMS, WATER USE EFFICIENCY, FACILITY AND EQUIPMENT MAINTENANCE, WATER STORAGE, WATER QUALITY, CONJUNCTIVE USE PROGRAMS, EDUCATION, DISTRICT FACILITIES, and MEMBER-AGENCY RELATIONS

ADJOURNMENT

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

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



ACTION ITEM

June 21, 2017

TO: Board of Directors

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

Robert Hunter
General Manager

Staff Contact: Kelly Hubbard

SUBJECT: Request Approval of Consultant to Update the Orange County Regional Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan

STAFF RECOMMENDATION

Staff recommends the Board of Directors approve staff to negotiate a final contract with Michael Baker International as the consultant to update the Orange County Regional Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan Update at a cost not to exceed \$106,986.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

WEROC lead a planning effort in 2007 to write the original Orange County Regional Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan with the 20 water and wastewater utilities who choose to participate in the process. The agencies who did not participate largely already had their own agency wide plan or did not feel they would benefit from the grant eligibility. In accordance with the Federal Emergency Management Agency (FEMA) requirement to update Hazard Mitigation Plans (HMP) every 5 years, WEROC staff completed an update of the original plan in 2012 and is now starting its next required update. Hazard Mitigation Plans (HMP) are not a required

Budgeted (Y/N): Y	Budgeted amount: \$5,000 (FY 2017-2018)
Action item amount: \$106,986 Total Contract/ \$5,630.84 MWDOC Share	Line item: 7040
Fiscal Impact (explain if unbudgeted): The project is a cost share between 20 agencies. MWDOC's share will not exceed \$5,630.84 pending final negotiations with the consultant; this does not include staff time.	

planning document, however by having an approved plan agencies are eligible for grant opportunities to mitigate potential damages to their infrastructure from natural disasters.

For this update, 19 of the 20 original water utilities have signed a letter of commitment to participate in the process of updating the 2012 plan. The City of Tustin has decided not to participate in this update, because they are in the process of completing a city-wide comprehensive hazard mitigation plan that includes their water and wastewater systems.

WEROC released a Request for Proposal (RFP) in April of 2017 and received 5 proposals from eligible consultants.

DETAILED REPORT

Municipal Water District of Orange County and the 18 other participating water and wastewater utilities (see full list below) are updating the Orange County Regional Water and Wastewater Multi-jurisdictional Hazard Mitigation Plan, which was last approved in 2012. Hazard mitigation plans form the foundation for a community's long-term strategy to identify vulnerability to natural and man-made hazards. The plans also aim to reduce disaster losses by breaking the cycle of disaster damage, reconstruction, and repetitive damage. According to the federal Disaster Mitigation Act of 2000, State and local governments are required to develop hazard mitigation plans and update them every five years as a condition for receiving certain types of non-emergency disaster assistance.

In March 2017, WEROC informed member agencies that the current HMP required revision. Member agencies were asked to sign a letter of commitment in order to participate in the collective process with WEROC and other member agencies to update the current plan and to share in the cost of the plan update.

Once member agencies confirmed their involvement, WEROC distributed a RFP for consulting services to assist WEROC and member agencies to update the current plan. WEROC received five (5) proposals, each were evaluated by the WEROC Manager, MWDOC Assistant General Manager, and the WEROC Emergency Coordinator independently to determine whether the proposed scope of work met the requested scope of work. The proposals ranged from \$100,000 – \$146,375. Evaluation of the five proposals showed that four met the requested scope of work. Each reviewer was then tasked with evaluating each proposal on five criteria: Price, Company Experience, Team Make Up, Approach/Methodology, and the Quality of the Proposal.

After evaluating each proposal, staff recommends that Michael Baker International be selected to assist WEROC in completing the 2017 update to the HMP. The consultant demonstrated a strong proposal which detailed a methodology to accomplish the deliverables in the scope of work. Additionally, the consultant demonstrated an extensive history in successfully providing similar services to various other organizations.

WEROC & Member Agencies Cost

Prior to seeking consulting services to update the current HMP, WEROC requested the previous participating agencies who were interested in updating their HMP to sign a Letter of Commitment. By signing the letter, each agency committed to participating in the HMP planning process and to share the cost of the consulting services equally between all participating agencies. The consultant proposal is \$106,986 and so each agency's cost share will be \$5,630.84.

Additional costs to participating in this process are staffing costs. Each agency's staff time is estimated at 50-60 hours with an additional estimated 40 hours for WEROC staff to administer the project.

Next Steps

The WEROC Coordinator will work with the selected consultant to lead a one year process to update the plan. The process includes five planning meetings, individual agency meetings for assistance, public outreach and plan approval. The main components of the plan that must be updated are descriptions of agency assets, potential disaster impacts and the mitigation goals and actions for each participating agency. Public outreach will include inviting the public, via the MWDOC website and each participating jurisdiction's website to provide input into the revision of the plan and hosting two public workshops on the plan. The 2012 plan is currently available on the MWDOC website at <http://www.mwdoc.com/weroc/Hazard-Mitigation>. The last component is plan approval. The plan must be approved by the governing board of each participating agency, the California Office of Emergency Services, and the Federal Emergency Management Agency. Staff plans on bringing the revised plan to the board for approval in August 2018.

Participating Water and Wastewater Utilities:

1. City of Buena Park
2. City of Garden Grove
3. City of La Habra
4. City of Newport Beach
5. City of Orange
6. City of Westminster
7. El Toro Water District
8. Laguna Beach County Water District
9. Mesa Water District
10. Moulton Niguel Water District
11. Municipal Water District of Orange County
12. Orange County Sanitation District
13. Orange County Water District
14. Santa Margarita Water District
15. Serrano Water District
16. South Coast Water District
17. South Orange County Water Authority
18. Trabuco Canyon Water District
19. Yorba Linda Water District



ACTION ITEM

June 21, 2017

TO: Board of Directors

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

Robert Hunter
General Manager

Staff Contact: Kelly Hubbard

SUBJECT: Request for Approval to join the Orange County 800 MHz Radio System

STAFF RECOMMENDATION

Staff recommends the Board of Directors approve MWDOC staff to transition the current WEROC low-band radio system over to the Orange County 800 MHz Countywide Coordinated Communications System (800 MHz CCCS), including approving staff to take the following actions:

- 1) Sign the Joint Agreement for the Operation, Maintenance, and Financial Management of the Orange County 800 Megahertz Countywide Coordinated Communications System and associated agreements.
- 2) Enter into a purchase agreement for the costs associated with initial set-up of the WEROC channel, purchase and/or programming, and installation of radios for Member Agencies and the WEROC facilities with the OC Sheriff's Communications Division and Motorola Solutions (sole source, based on County's approved price book.)
- 3) Take appropriate steps to decommission the current WEROC low-band radio system.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

Budgeted (Y/N): Y	Budgeted amount: \$230,000 (FY 2017-2018)
Action item amount: \$230,000	Line item: 8810
Fiscal Impact (explain if unbudgeted):	

SUMMARY

At the March Board meeting, staff identified several potential options as solutions to ongoing issues with WEROC's current low-band radio system and recommended that the County's 800 MHz program as the probable best option for WEROC. After receiving approval from the Board to investigate the cost and reliability of this system, WEROC met with member agencies and the Sheriff's Division of Communications and has determined that joining the 800 MHz CCCS program will be the most reliable and cost effective option for MWDOC and its member agencies. In order to bring each agency onto the new system, WEROC is proposing to purchase and install, or program, one radio for each member agency. When approval to proceed is given by the Board, WEROC will begin the process of distributing the Joint Agreements to each new participating agency who will be joining the program, and begin the process of purchasing and installing the radios.

DETAILED REPORT

As discussed in the March Board meeting, the current WEROC Radio System has struggled with clarity of communications for many years. WEROC staff has spent significant time and money in researching, troubleshooting and replacing individual aspects of the system over the last ten plus years. WEROC presented the Board with five possible solutions to solve the radio issues. The Board of Directors directed staff to explore each of the solutions and propose the best radio replacement solution for WEROC, including, holding discussions with WEROC funding agencies and the MWDOC member agencies.

After much discussion with the County and MWDOC member agencies, staff recommends that WEROC join the Orange County 800 MHz Countywide Coordinated Communications System (800 MHz CCCS) as a participating agency. In order to do so, WEROC submitted a formal request for permission from the OC 800Mhz CCCS Governance Committee to join and was approved on April 13, 2017. Concurrently, WEROC has been working with the Orange County Sheriff's Department and member agencies to test the 800 MHz system to guarantee its effectiveness prior to any decision. WEROC has tested radio reliability at various agencies who historically have had poor radio quality, and confirmed that the new system would meet the needs for all member agencies. After various site visits, WEROC has determined that joining the Sheriff's 800 MHz system will be the most effective solution.

Below you will find detailed descriptions of the proposed system, WEROC's initial and annual cost, member agencies annual maintenance fees, the Sheriff's Joint Agreement, sole source justification, and next steps.

800 MHz CCCS WEROC Channel

This option will create a "WEROC Channel" within the current 800 MHz system to be utilized by WEROC and its Member Agencies. There are many benefits to this system:

1. It provides a WEROC specific channel, with the ability to be "patched in" with other operations, such as fire, law, public works, etc. at the time of a disaster.

2. Clear communications are expected throughout the County for WEROC Member Agencies and when issues arise, the County Communications Staff facilitate solutions.
3. There are annual operational cost savings in switching to this system. Annual maintenance is provided through the County Communications staff, saving WEROC and its agencies money and time for repairs. Additionally, WEROC will no longer need to maintain its repeater on Catalina Island and so can cancel its \$20,000+ annual lease for Catalina.
4. Annual maintenance of the system and individual agency radios would be provided through the OC Sheriff's Communications and Technology Division ensuring a consistent and reliable system.

Orange County Sheriff's Participating Agency Joint Agreement

To utilize the County's system, the Orange County Sheriff's Division of Communications requires each agency utilizing the radio system to sign the Joint Agreement for the Operation, Maintenance, and Financial Management of the Orange County 800 Megahertz Countywide Coordinated Communications System with the Sheriff's Department. This is a standard agreement from the County that is signed by all 800 MHz CCCS participating agencies. The agreement cannot be modified individually and must be signed as presented. The agreement outlines appropriate use of the system and requires each agency to maintain their own radio system to include, an Annual Access Rate Fee, and Flat Annual Maintenance Fee. Additionally, each agency acquiring a new radio will be responsible for future cost of parts and/or repairs not included in annual maintenance. The Agreement consist of the following three (3) documents:

- **Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System November 2004** – Details the operation, maintenance, and financial responsibilities of the County and Participating Agencies.
- **Amendment to the Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System (June 2015)** – Details the changes made to the 2004 Joint Agreement to incorporate the 2014-2019 system infrastructure update and cost sharing concepts.
- **New Participating Agency Rider to Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System** – Details each New Participating Agency's (defined as any agency who joined after the systems initial creation in 2004) responsibilities to the previous two aforementioned documents and current cost principals.
 - Please note staff is awaiting final approval from the 800 MHz CCCS Governance Board Legal Counsel on the placement of the reference to "Attachment A: Water Emergency Response Orange County (WEROC) Communications System White Paper within this document." No significant change is expected.

WEROC Costs**Start Up Cost**

WEROC proposes that we provide each Member Agency who does not currently subscribe to the 800 MHz system or does not have a radio where the water division can have access, with one radio, as well as provide programming to all agencies who are already in the 800 MHz system. Additionally, WEROC would purchase one control station and one handheld for at the South EOC and at the Fountain Valley EOC, one control station for the Diemer Filtration Plant and one control station for the Division of Drinking Water offices in Santa Ana. Any new radios purchased would become the member agency's property and each agency would be responsible for all associated costs of maintaining and subscribing to the program. After working with Motorola and the Sheriff's Communications staff the initial cost proposal is as follows:

Contractor	Service	Cost
Sheriff's Communications	Initial Template Fee	\$ 2,840.00
Sheriff's Communications	Programming (20 radios)	\$ 1,200.00
Sheriff's Communications	System Entry Fee & Programming New Radios (28)	\$ 60,720.00
Motorola Solutions	New Radios and Installation (28)	\$157,751.48
TOTAL INITIAL COSTS		\$222,511.48

Annual Cost

It is estimated that WEROC would pay \$956 a year to maintain and subscribe to the 800 MHz program. This is a fee that is adjusted annually based on the number of radios operating within the entire 800 MHz CCCS. Currently, WEROC is paying an estimated \$20,000 a year to lease space for the Catalina repeater with additional annual costs for maintaining their current radio system.

Member Agencies Annual Fees

Initially, WEROC proposed that it would be responsible for all annual fees associated with each member agency's radio. Upon further discussion with the County, it has been decided that each radio purchased would belong to each member agency, therefore each agency would be responsible for maintaining their own system and associated annual fees. This change will streamline long-term management of the system and allow the Sheriff's Department and member agencies to work directly on future maintenance and annual billing cycles. In order to accomplish this, each agency will need to sign a Joint Agreement for the Operation, Maintenance, and Financial Management of the Orange County 800 Megahertz Countywide Coordinated Communications System. Cities who currently use an 800 MHz radio have already signed this agreement, pay these fees, and maintain their own radios.

The annual cost to member agencies is estimated at \$400 per year per radio for the annual maintenance and subscription fee. Below is a breakdown of the estimated annual cost:

800 MHz Member Agencies Annual Cost (Per Radio)

- Annual Access Rate – \$250 (estimate)
- Flat Annual Maintenance Fee – \$96 (Handheld) or \$132 (Control or Mobile)

Sole Source Justification

In addition to requesting approval for the identified costs, staff is requesting the Board's approval to Sole Source with Motorola. The current system was built and tailored for Orange County. Therefore no comparable quotes are available as this system was designed and built by Motorola and operates on proprietary software and equipment. Contracting a new vendor will require additional research and cost, and compatibility issues may arise when we communicate with OA departments who subscribe to the current Motorola system. Rather than incur the cost and risk of contracting a new vendor, WEROC is proposing to sole source the project to Motorola.

Although the current radio system is a proprietary system and Motorola is the only vendor that can provide the exact system equipment, software and technical expertise needed to replace the end-of-life proprietary equipment, OCSD/Communications has worked diligently with the vendor to obtain special Orange County pricing that is 19% below retail on a regular basis and is 40% below retail for this current calendar year.

Decommissioning the WEROC Low Band System

Once the new 800 MHz CCCS is in place for WEROC and its member agencies, staff will start to work on decommissioning the current low-band system. This includes selling, recycling or disposing of current equipment at the WEROC North and South EOC, the Fountain Valley office, and two repeater sites. Staff believes that WEROC is responsible to remove equipment from both repeater sites and will have costs associated with this activity. Staff have already notified the Catalina Conservancy that we will be cancelling our lease once the new system is implemented. Additionally, staff will be reviewing our options to sell our current low-band FCC licensing. Approximately, \$7,500 have been budgeted for these actions.

Next Steps

Upon approval, WEROC will begin the process of having member agencies sign the Orange County Joint Agreement for the Operation, Maintenance, and Financial Management of the Orange County 800 Megahertz Countywide Coordinated Communications System, and begin working with Motorola and the Sheriff's Department to start the purchase and installation process.

Attachments to the Report

Attached as part of the Board submittal are the following:

1. Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System
November 2004

2. Amendment to the Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System (June 2015)
3. New Participating Agency Rider to Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System

JOINT AGREEMENT

FOR THE

OPERATION, MAINTENANCE, AND FINANCIAL
MANAGEMENT

OF THE

ORANGE COUNTY

800 MEGAHERTZ

COUNTYWIDE COORDINATED COMMUNICATIONS

SYSTEM

NOVEMBER 2004

TABLE OF CONTENTS

1. SYSTEM	1
2. DEFINITION OF TERMS	2
3. OPERATIONAL POLICIES – LAW ENFORCEMENT SUBSYSTEM	3
4. OPERATIONAL POLICIES – FIRE SUBSYSTEM	3
5. OPERATIONAL POLICIES – LIFEGUARD SUBSYSTEM	4
6. OPERATIONAL POLICIES – PUBLIC WORKS SUBSYSTEM	4
7. OPERATIONAL POLICY	4
8. OPERATIONAL POLICY REVIEW	6
9. MUTUAL AID	6
10. RELINQUISHING EXISTING OPERATING CHANNELS	7
11. SYSTEM TECHNICAL MANAGEMENT	8
12. SYSTEM MODIFICATION COST APPROVALS	9
13. CONTRACTS	10
14. EQUIPMENT FACILITIES AND STRUCTURES	11
15. SYSTEM MODIFICATIONS AND COST SHARING	11
16. ADDITIONAL PARTICIPATING AGENCIES/USERS OR CONSOLIDATION OF PARTICIPATING AGENCIES	16
17. LIABILITY	18
18. GOVERNANCE COMMITTEE	18
19. AGREEMENT AMENDMENT PROCESS	19
20. WITHDRAWAL FROM SYSTEM	19

**JOINT AGREEMENT FOR THE
OPERATION, MAINTENANCE AND FINANCIAL MANAGEMENT OF THE
ORANGE COUNTY**

800 MEGAHERTZ COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM

This Agreement is entered into on _____, 2005 by and between the Parties listed on Exhibit "A" which is attached hereto and incorporated herein. This Agreement replaces the 1996 Agreement as amended, and to the extent there is a conflict, this Agreement controls. Exhibit "A" identifies the Parties to the Agreement. Exhibit "B" identifies the Partner Agencies currently operating on the system. Exhibit "C" identifies the current Mutual Aid operations on the system as approved by the appropriate body (Orange County Chiefs of Police and Sheriff's Association [OCCOPSA], Orange County Fire Chiefs' Association [OCFCA], Orange County Public Works Committee [OCPWC], or Orange County Lifeguard Committee [OCLC]). Exhibit "D" identifies those Participating Agencies that have joined the system as everyday users but were not original Partners on the system. Partners and Participating Agencies on the 800 MHz CCCS are limited to public entities.

RECITALS:

Whereas, the initial installation and implementation of the 800 MHz Countywide Coordinated Communications System (800 MHz CCCS) has been completed; and,

Whereas, the Parties to the Agreement want to define operational, technical and financial requirements and guidelines going forward; and,

Now, Therefore, in consideration of the mutual covenants, conditions, agreements and stipulations hereinafter expressed, the Parties hereby agree as follows:

1. SYSTEM

The 800 MHz CCCS, hereinafter referred to as System, has been implemented in the County of Orange. Said System is described in Contract No. S0000015.95 for an 800 MHz CCCS, dated September 19, 1995, and related Amendments No. 1, 2, 3, 4, 5 and appropriate change orders.

The Parties hereby designate Orange County Sheriff-Coroner Department (OCSD)/Communications Division as the "Lead Agency" in maintaining and enhancing the System.

2.

DEFINITION OF TERMS

“Contract City” is defined as a city receiving law enforcement, lifeguard, public works or fire services from the County or any Partner Agency under the terms of a contract.

“Fire Agency” is defined as, and shall include, all governmental Fire Agencies operating primarily within the limits of Orange County.

“Governing Authority” is a City Council, County Board of Supervisors or Orange County Fire Authority Board of the Partner Agencies, responsible for approving cost modifications. Exhibit “A” provides a list of City, County, and Orange County Fire Authority administrators representing these bodies.

“Law Enforcement Agency” is defined as all governmental Law Enforcement Agencies operating primarily within the limits of Orange County, as follows: Orange County Sheriff’s Department, Orange County City Police Departments, Orange County District Attorney’s Office, and Orange County Probation Department.

“Lifeguard Agency” is defined as, and shall include, all governmental lifeguard agencies operating primarily within the limits of Orange County.

“Mutual Aid Provider” is defined as any governmental or private organization, not otherwise defined in this Agreement, that has a legitimate Mutual Aid operational requirement with another Partner or Participating Agency. Guidelines for the approval of a mutual aid provider have been developed and are available to OCCOPSA, OCFCA, OCPWC and OCLC as needed.

“Net” is defined as a group of Partner Agencies who operate a joint dispatch center, or a combination of radio dispatch talkgroups used by a fixed group of Partner Agencies.

“New City” is defined as a city incorporated after the effective date of this Agreement.

“Non-City/Non-County User” is defined as a special district, water district, sanitation district, or similar governmental or quasi-governmental agency. These are Participating Agencies.

“Participating Agency” is any agency identified in Exhibit D that would not have a role in defining the operation of the 800 MHz CCCS, but would pay to join the system based on a predefined allocation.

“Partner Agencies” are those agencies identified in Exhibit “B” that have joined the 800 MHz CCCS for everyday use since its original inception and are operating on the 800 MHz System.

“Parties” are those public entities which are listed in Exhibit “A.”

“Public Works Agency” is defined as, and shall include, all County or City departments that perform public works functions, other than those defined as a Law Enforcement, Lifeguard or Fire Agency. Public Works Agencies include, but are not limited to, Public Works Departments, Municipal Utility Departments, and County agencies including Resources and Development Management Department, John Wayne Airport, Health Care Agency, and Integrated Waste Management Department, and public works functions within County operations such as the Transportation and Facilities Operations functions with the Sheriff’s Department and Probation.

“Subsystem” is defined as one of four operational subsystems that use common equipment, each in a similar way, but use different operational procedures. These are referred to as the Law Subsystem, the Fire Subsystem, the Lifeguard Subsystem and the Public Works Subsystem.

“System Backbone” is defined as those portions of the System Backbone that provide the means by which dispatch centers and mobile radios communicate with each other, and is composed of radio infrastructure equipment, microwave equipment, and associated control equipment.

“System Field Equipment” is defined as that portion of the System that uses the System Backbone for communications and consists of dispatch center equipment, mobile radios, and portable radios.

3. OPERATIONAL POLICIES – LAW ENFORCEMENT SUBSYSTEM

The Orange County Chiefs of Police and Sheriff’s Association (OCCOPSA) is an established organization composed of representatives from the Sheriff’s Department, City Police Departments, District Attorney’s Office and Probation Department. The OCCOPSA Communications Committee has been delegated by OCCOPSA the responsibility for operational policy development for the Law Enforcement Subsystem. Partner and Participating agencies agree that operational policy for the Law Enforcement Subsystem shall be developed by the OCCOPSA Communications Committee and ratified where appropriate by the OCCOPSA, in accordance with the terms and conditions of this Agreement.

4. OPERATIONAL POLICIES – FIRE SUBSYSTEM

The Orange County Fire Chiefs’ Association (OCFCA) is an established organization composed of representatives from the Orange County Fire Authority and City Fire Departments. The OCFCA Communications Committee has been delegated by OCFCA the responsibility for operational policy development for the Fire Subsystem. Partner and Participating agencies agree that operational policy for the Fire Subsystem shall be developed by the OCFCA Communications

Committee and ratified where appropriate by the OCFCA, in accordance with the terms and conditions of this Agreement.

5. OPERATIONAL POLICIES – LIFEGUARD SUBSYSTEM

The Orange County Lifeguard Committee (OCLC) is an established organization composed of representatives from the City and County Lifeguard Departments. The OCLC Communications Committee has been delegated by OCLC the responsibility for operational policy development for the Lifeguard System. Partner and Participating agencies agree that operational policy for the Lifeguard System shall be developed by the OCLC Communications Committee and ratified where appropriate by the OCLC, in accordance with the terms and conditions of this Agreement.

6. OPERATIONAL POLICIES – PUBLIC WORKS SUBSYSTEM

The Orange County Public Works Committee (OCPWC) is an established organization composed of representatives from the City and County Public Works Departments. The OCPWC has been delegated the responsibility for operational policy development for the Public Works Subsystem. Partner and Participating agencies agree that operational policy for the Public Works Subsystem shall be developed by OCPWC and ratified where appropriate, in accordance with the terms and conditions of this Agreement.

7.0 OPERATIONAL POLICY

7.1 Law Enforcement Subsystem

The administration and ongoing development of the Law Enforcement Subsystem operational policy has been delegated to the OCCOPSA Communications Committee. That Committee reports to the OCCOPSA. Policies developed by OCCOPSA for the operations of the Law Enforcement Subsystem shall ensure that each participant is treated equitably and has sufficient communications capability to meet its legitimate needs. Any dispute between Partner and Participating Agencies over operational policies shall be reviewed by the OCCOPSA Communications Committee, and if not resolved, then reviewed by the OCCOPSA. Any unresolved dispute may be appealed to the Governance Committee for final decision.

7.2 Fire Subsystem

The administration and ongoing development of the Fire Subsystem operational policy has been delegated to the OCFCA Communications Committee. That Committee reports to the OCFCA. Policies developed by OCFCA for the operations of the Fire Subsystem shall ensure that each participant is treated equitably and has sufficient communications capability to meet its legitimate needs. Any dispute between Partner and Participating Agencies over operational

policies shall be reviewed by the OCFCFA Communications Committee, and if not resolved, then reviewed by the OCFCFA. Any unresolved dispute may be appealed to the Governance Committee for final decision.

7.3 Lifeguard Subsystem

The administration and ongoing development of the Lifeguard Subsystem operational policy has been delegated to the OCLC Communications Committee. That Committee reports to the OCLC. Policies developed by OCLC for the operations of the Lifeguard Subsystem shall ensure that each participant is treated equitably and has sufficient communications capability to meet its legitimate needs. Any dispute between Partner and Participating Agencies over operational policies shall be reviewed by the OCLC Communications Committee, and if not resolved, then reviewed by the OCLC. Any unresolved dispute may be appealed to the Governance Committee for final decision.

7.4 Public Works Subsystem

The administration and ongoing development of the Public Works Subsystem operational policy has been delegated to the OCPWC. Policies developed by OCPWC for the operations of the Public Works Subsystem shall ensure that each participant is treated equitably and has sufficient communications capability to meet its legitimate needs. Any dispute between Partner and Participating Agencies over operational policies shall be reviewed by the OCPWC. Any unresolved dispute may be appealed to the Governance Committee for final decision.

7.5 Standard Operating Procedures

Except as provided in Section 11.3 ("Security"), individual subsystem operational policy, as well as policy affecting all users, shall be published in the 800 MHz CCCS Standard Operating Procedures (SOP). The SOP will be the source of all radio system operational policies and procedures established by the various subsystems. The SOP is maintained by OCSD/Communications and will be updated any time an approved change is made to this document.

7.6 System Priorities

Public Safety, consisting of City and County Law Enforcement and Fire Agencies dispatch functions and individual radio emergency buttons, shall have System operational priority over all law/fire/public works non-life threatening operations when and if it is necessary to establish System priorities.

8. OPERATIONAL POLICY REVIEW

To ensure that operational policy developed by the various individual Subsystems is compatible with all of the other Subsystems, such policy shall be subject to review by all other Subsystems and OCSD/Communications when appropriate. Review would be required when policy is developed that crosses over into another Subsystem. Review is not required when policy is developed that is specific to one Subsystem only. A thirty (30)-day review period prior to policy implementation shall be observed in order to ensure appropriate time for review. Exceptions can be made when the policy is of an emergency nature and immediate implementation is necessary for safety purposes. All emergency exceptions shall be reviewed by the appropriate Subsystems as described above within the thirty (30)-day period.

The intent of this review is to assure that decisions made by any one subsystem do not adversely affect the operation of any other group and to promote and ensure interoperability and compatibility.

9. MUTUAL AID

9.1 Mutual Aid Policies and Procedures

Mutual Aid communications is an important capability of the System. Utilizing this capability in an efficient manner is essential. Mutual Aid operational policies and procedures must be coordinated between Partner and Participating Agencies within Orange County and Partner and Participating Agencies outside of Orange County. All Partner and Participating Agencies shall comply with the operational policies of the Mutual Aid Plans described in Section 9.2.

9.2 Mutual Aid Plans

The following Mutual Aid Plans shall establish Mutual Aid operational procedures for all Participating Agencies.

Orange County Mutual Aid Implementation Plan for the Use of the 800 MHz National and State Mutual Aid Channels

This plan is required by the Southern California 800 MHz Regional Communications Plan and, together with any plan modifications, must be approved by the State of California Office of Emergency Services, Telecommunications Advisory Committee. The plan in effect on the date of this Agreement is on file with the OCSD/Communications Division. Any proposed modifications to the plan must be reviewed and approved by the Governance Committee, if needed, prior to submission to the State.

Orange County Mutual Aid Plan for the Use of the 800 MHz Local Mutual Aid Channels

The plan was prepared by OCSD/Communications Division and approved by the Partner and Participating Agencies, based upon approval by OCCOPSA, OCFCA, OCPWC and OCLC, as appropriate.

9.3 Mutual Aid Priorities

Partner and Participating Agencies who from time to time have need to communicate with Law Enforcement or Fire Agencies during emergencies or in their daily support of Law Enforcement or Fire Agencies will be allowed to access the Law Enforcement or Fire Subsystems as approved by those respective agencies. Such use may include the day-to-day operations of said non-Law Enforcement and non-Fire Partner and Participating Agencies on a non-interfering, prioritized basis. This use shall be subject to approval of OCCOPSA and the OCFCA as it affects their respective communications.

10.0 RELINQUISHING EXISTING OPERATING CHANNELS

Existing Partner and Appropriate Participating Agencies operate existing systems on a variety of radio channels licensed by the FCC. Both the FCC and the Southern California Regional Plan, approved by the FCC on November 21, 1989 for the implementation of new systems using the 800 MHz spectrum, require that Partner and Participating Agencies that transfer operation to the new 800 MHz channels must give back licenses on existing system frequencies. These "give-up" channels will then be redistributed to meet the needs of other agencies in Southern California which have not been met with the limited 800 MHz channels available.

Partner and Participating Agencies entering into this Agreement agree to "give up" channels licensed on existing systems that are replaced by the new System. FCC licenses on these "give-up" channels shall be returned to the FCC for cancellation not more than thirty (30) days after transfer and acceptance of law enforcement and/or public works operations to the System.

An exception to the paragraph above is when Partner and Participating Agencies who, as a result of transferring law enforcement operations to the System, subsequently move other public works operations to their current 460 MHz channels. In this case, Partner and Participating Agencies agree to relinquish the previously used 460 MHz channels to public works operations within thirty (30) days of completion of the transfer to the 800 MHz System and such a transfer to public works must occur within one hundred eighty (180) days of transfer of law enforcement operations to the System (FCC requirement), at which time the previously-used public works FCC licenses on these "give-up" channels must be returned to the FCC for cancellation not more than thirty (30) days after transfer of public works operations to the 460 MHz channels.

Any city that does not have a 460 MHz law enforcement "give-up" GREEN channel to use for public works may be able to use another city's "give-up" 460 MHz GREEN channel in a cellular re-use pattern.

11.0 SYSTEM TECHNICAL MANAGEMENT

Proper operation of a modern, trunked, multi-channel communications System requires centralized technical coordination. OCSD/Communications Division has established a 24-hour System Watch at Loma Ridge to assure seamless operation of this complex system. The infrastructure for this System is currently housed in 24 separate radio sites, with Loma Ridge serving as the master site.

11.1 Technical Liaison Committee

The 800 MHz Technical Liaison Committee is utilized to develop the technical operation policies and procedures of the System. This committee is composed of sworn, technical and operational personnel of County and City Law Enforcement, Fire, Lifeguard and Public Works operations involved in the 800 MHz CCCS.

11.2 Technical Standards

Technical standards are an essential part of the operation of a multi-user system. To ensure the long-range effective operation of System, technical standards shall continue to be reviewed and evaluated. Said standards shall be approved by the Technical Liaison Committee and all Partner and Participating Agencies will be required to adhere to them. Failure to adhere to the technical standards may result in mobile or portable field equipment being restricted from access to the associated Backbone System.

11.3 Security

Any authorized user of the 800 MHz CCCS shall be required to protect the security of the system and its users by complying with the policies set forth in the "Security Plan for the Orange County 800 MHz Countywide Coordinated Communications System" document. Responsibilities include, but are not limited to, adhering to the Lost/Stolen/Missing Radio Procedure, providing physical security for equipment and documentation, not using Radio Service Software (RSS) to modify the configuration of any radio programming, and not providing technical information or radio equipment to unauthorized persons. As Participating Agencies or Mutual Aid organizations join the system, a copy of the Security Plan will be provided to the director of said organizations and will be advised to share it with appropriate personnel.

11.4 Approved Equipment

The initial System implementation consisted of equipment supplied by the original system equipment vendor and met the technical requirements of the

System. OCSD/Communications shall compile a list of this approved equipment and make it available to all Partner and Participating Agencies. In the future, as newer equipment from the original vendor or other vendors become available, OCSD/Communications shall evaluate it for compatibility with the System and make recommendations to the Technical Liaison Committee. Any equipment that meets the technical criteria for operation on the System shall be added to the approved list. OCSD/Communications will be responsible for negotiating pricing on new equipment with recommendations forwarded to the Governance Committee for final approval.

11.5 Technical Standards and Equipment Evaluation

The OCSD/Communications Division maintains engineering and technical staff whose task is to maintain, manage and operate the 800 MHz CCCS. Technical management of the System shall continue to be the responsibility of OCSD/Communications Division. County technical staff shall evaluate new radio subscriber equipment for adherence to technical standards prior to the Technical Liaison Committee for approval and to the vendor requesting equipment evaluation. Any disputes regarding the technical evaluation of equipment will be referred to the OCCOPSA Communications Committee, OCFCA Communications Committee, OCLC Communications Committee, and OCPWC, with final approval by the Governance Committee.

12.0 SYSTEM MODIFICATION COST APPROVALS

Any Law Enforcement Subsystem modification or other action proposed by OCCOPSA which requires Partner or Participating Agencies to obligate funds for cost sharing shall require prior approval by the Governing Body of each Partner or Participating Agency, following approval by the Governance Committee.

Any Fire Subsystem modification or other action proposed by the OCFCA which requires Partner or Participating Agencies to obligate funds for cost sharing shall require prior approval by the Governing Body of each Partner or Participating Agency, following approval by the Governance Committee.

Any Lifeguard Subsystem modification or other action proposed by the OCLC which requires Partner or Participating Agencies to obligate funds for cost sharing shall require prior approval by the Governing Body of each Partner or Participating Agency, following approval by the Governance Committee.

Any Public Works Subsystem modification or other action proposed by the PWPC which requires Partner or Participating Agencies to obligate funds for cost sharing shall require prior approval by the Governing Body of each Partner or Participating Agency, following approval by the Governance Committee.

13.0

CONTRACTS

The County may from time to time enter into such agreements or contracts with various vendors to purchase or lease equipment, and for installation, service and maintenance of equipment as may be necessary and required in order to effectuate this Agreement. All such agreements or contracts shall comply with applicable State Law for counties. Appropriate shared costs will be included in backbone cost-sharing allocations.

13.1

County Responsibilities

OCSD/Communications shall negotiate and enter into agreements or contracts with the various vendors as contemplated in this Agreement.

OCSD/Communications shall make payments due and payable under such agreements on behalf of Partner and Participating Agencies.

OCSD/Communications shall negotiate and enter into agreements with new Participating Agencies which may hereafter receive approval to access the System for day-to-day operations pursuant to this Agreement, provided that:

- The Participating Agency agrees to the terms, conditions and costs for entry as defined by the Governance Committee on behalf of the Partners. Current policy by the Governance Committee directs a system entry fee of \$3,295 per radio for Federal or State agency participation and \$2,480 per radio for agencies operating strictly within the confines of the County. Participating Agencies are required to have their radios templated and programmed by OCSD/Communications Division staff, participate in the flat fee radio equipment maintenance program, and meet their annual backbone cost sharing obligation.
- Requests by Participating Agencies will be evaluated in terms of potential channel loading on the 800 MHz CCCS. This evaluation will include an identification of the number of radios to be added, the type of communication being conducted, and the specific radio cell that will be impacted by the addition of this Participating Agency. If the addition of the Participating Agency may cause an extensive impact on channel loading, an outside channel loading analysis may be pursued at the expense of the requesting Agency.
- Additional terms, conditions, and costs for entry shall be included in a separate agreement as established by the Governance Committee. The Governance Committee is given said authority under this Agreement with the understanding that adequate fees will be charged as appropriate. Said separate agreement shall include any direct or indirect compensation to Partner Agencies for System Backbone usage by new Participating Agency(s).

- OCSD/Communications shall obtain the approval of the Governance Committee to determine the appropriate additional terms, conditions, and costs to be included in said separate agreement.
- Any such new Participating Agency hereafter who shall desire to become a party to this Agreement may do so by executing a copy of this Agreement, as well as the separate agreement if applicable.
- Compensation may take the form of improvement or modification of System or other contribution for the benefit of all Partner or Participating Agencies.

14. EQUIPMENT FACILITIES AND STRUCTURES

Additional facilities, structures, and modifications may be needed to implement the System, including System Backbone facilities and System Field Equipment facilities (e.g., dispatch centers).

14.1 System Backbone Facilities

In the event of a decision by the Governing Authorities to financially support expanding or modifying existing facilities, or adding new County radio structures or facilities as necessary, to support the implementation of the System Backbone, the County shall be responsible as lead agency to implement these expansions, modifications, or additions.

14.2 Field Equipment Facilities

Individual Partner or Participating Agency shall, at its sole Partner or Participating Agency expense, expand or modify its existing structures, facilities, or dispatch centers as required to support the installation or enhancement of Partner or Participating Agency System Field Equipment.

15. SYSTEM MODIFICATIONS AND COST SHARING

15.1 System Modifications

System modifications may be needed from time to time to meet the changing needs of Partner and Participating Agencies. System modifications, expansions or enhancements will not be allowed without technical review by the County and approval by the Governance Committee. System modifications recommended by County and agreed to by the Governance Committee will then be forwarded to Governing Authorities for approval, as appropriate, and implemented by County.

Cost sharing of future System Backbone modifications shall be determined based on the benefit to be derived by individual Partner or Participating Agencies.

The cost for any modification intended for the sole use and support of a single Partner or Participating Agency shall be borne by that Partner or Participating Agency.

The cost for any modification intended to improve service for an identifiable group of Partner or Participating Agencies in a local area or Net shall be shared by those Agencies in a manner agreeable to those Agencies.

15.2 Cost Sharing Beginning July 1, 2002

A. Effective Date/Percentage Share

The Cities and Orange County Fire Authority (OCFA) will commence System Backbone cost sharing payments as of July 1, 2002. The following represents the respective aggregate obligations for the ongoing maintenance costs of the System Backbone expressed as a percentage of the total cost:

1. FY 02-03

- | | | |
|----|------------------------------|-----|
| a. | County's share of cost | 51% |
| b. | Cities'/OCFA's share of cost | 49% |

2. FY 03-04

- | | | |
|----|------------------------------|-------|
| a. | County's share of cost | 45.6% |
| b. | Cities'/OCFA's share of cost | 54.4% |

3. FY 04-05 and thereafter

- | | | |
|----|------------------------------|--------|
| a. | County's share of cost | 40.18% |
| b. | Cities'/OCFA's share of cost | 59.82% |

The individual obligations for the ongoing maintenance cost of the System Backbone, as approved by the Governance Committee, for each of the Cities and OCFA shall be determined by dividing the number of radios that each of the Cities and the OCFA, respectively, are operating on the System by the total number of radios that the Cities and OCFA are collectively operating on the System. The resulting ratios shall each be multiplied by the aggregate percentage obligations of the Cities and the OCFA for each fiscal year as set forth above. The resulting products shall be the Cities' and OCFA's individual percentage obligations for the ongoing maintenance cost of the System Backbone in each applicable fiscal year.

The contribution made by Participating Agencies will be calculated based on a per radio cost, which will be calculated on an annual basis by dividing the total operating and infrastructure backbone cost, by the total number of radios. The calculated contributions for the Participating Agencies will then be deducted from the total backbone cost-sharing expense. The remaining amount will be used to calculate the City, OCFA and County obligations consistent with 15.2.A.3. above.

Emergency radios held in a separate pool will not be included in the radio counts for backbone cost-sharing purposes. Radios, as identified by the Partner or Participating Agencies, that are set aside strictly for the purpose of an emergency activation or some other emergency situation, and are not used for any other purpose, will be excluded from backbone cost-sharing counts. Serial numbers for these radios are to be provided by the Partner or Participating Agency. The OCSD/Communications Division will run random radio traffic checks on those radios identified as emergency radios and will advise department heads if any ongoing traffic is occurring.

15.3 Cities/OCFA Payment of FY 02-03 Backbone Costs

- A. County is authorized to transfer from the County's Site Development and Infrastructure Fund to the County General Fund, an amount equal to the Cities' and OCFA's FY 02-03 share of cost for System Backbone operations. The purpose of this transfer is to finance Cities' and OCFA's FY 02-03 share of the System Backbone costs and to allow cities and OCFA to pay said costs over a period of time. Furthermore, it allows the County to receive said amount in its General Fund as was budgeted for FY 02-03.
- B. Each city and OCFA will amortize its share of the FY 02-03 System Backbone costs, interest free, over a period of 5 years, commencing July 1, 2003, by paying back to County 20% of its share of the FY 02-03 System Backbone cost each year thereafter for five years. Each city and OCFA shall make this payment to County along with its regular System Backbone cost-sharing expense payment for that particular fiscal year.

15.4 Annual Payment

Commencing July 1, 2003, and continuing each year thereafter, each city and OCFA will contribute 100% of its allocated share of the System Backbone costs based on the formula set forth in 15.2.A above. Said payments shall be made on a quarterly basis in advance within thirty days of billing.

15.5

New Site Development and Infrastructure Fund

The County will place the approximately \$4.1 million currently in the County's Site Development and Infrastructure Fund, less the amount County is allowed to deduct from that fund pursuant to 15.3.A above, into a separate Site Development and Infrastructure Fund. This fund will be controlled by the 800 MHz Governance Committee. Each project financed from this fund will require prior Governance Committee approval. Each expenditure from the Site Development and Infrastructure Fund must be utilized for County's share of site development and/or infrastructure costs. On June 30, 2008, any remaining balance in the Site Development and Infrastructure Fund shall be administratively transferred to the County General Fund without further approval by the 800 MHz Governance Committee, cities or the OCFA.

The Partner and Participating Agencies will share in the cost of 800 MHz CCCS system and infrastructure upgrades. The funding sequence for payment of these costs will be as follows:

- Use of grant funds if available.
- Use of system entry fees contributed to the system from new Participating Agencies as they join the system.
- Use of combined City/County contract reserve fund consistent with percentage contributions made by cities versus County.
- Use of infrastructure contributions collected annually as part of the backbone cost-sharing allocations. Contributions to infrastructure payments will be made on a 70% Cities/OCFA and 30% County of Orange basis, consistent with the Motorola contract allocation split during 800 MHz CCCS implementation. OCSD/Communications will prepare a document and timeline that identifies the remaining infrastructure requirements and estimated costs by fiscal year, thereby bringing closure on the balance of the infrastructure necessary to complete the original 800 MHz CCCS. Infrastructure payments beginning in FY 2005/2006 will reflect contributions needed to meet these outstanding obligations.
- County will pay for design and construction costs for radio sites required to address outstanding coverage issues that remain from initial 800 MHz CCCS implementation, which are Newport Beach, Dana Point and Brea/Carbon Canyon sites.
- County will evaluate the inclusion of radio site construction and infrastructure for new housing developments as part of Mello-Roos costs.

15.6

Exclusive Backbone System Costs

Unless otherwise authorized by separate agreement or an amendment to the 800 MHz CCCS Joint Agreement, none of the cost elements covered under the 800 MHz Communications System Agreement for Cost Sharing shall be included in other service agreements between the County of Orange and the Cities or OCFA.

15.7 New Participating Agencies

New users of the System shall be charged pursuant to the policy established by the Governance Committee under Sections 13.1 and 16 of the 800 MHz CCCS Joint Agreement.

15.8 Budget/Year-End Settlement

- A. The 800 MHz budget and allocation of expenses will be submitted for approval to the Governance Committee ninety (90) to one hundred and twenty (120) days in advance of each fiscal year and communicated to the Partner and Participating Agencies for purposes of including same in their budgets for the next fiscal year.
- B. As soon as practicable following the end of each fiscal year, a final independent audit or a financial review as stipulated by the Governance Committee, shall be performed to determine the actual cost of backbone system operations, infrastructure and maintenance costs for that fiscal year. The findings of this audit or financial review shall be made known to the Partners and Participating Agencies on the 800 MHz CCCS. Thereafter, to the extent there have been contributions made by the Partners and Participating Agencies which exceed the actual cost of operations and maintenance, the amount of said excess contributions shall be credited to each party in the same proportion as was used to create the excess. Any excess for operational expenses shall be deducted from each entity's fiscal year obligation for the following fiscal year. In the event of a shortfall, each party shall be billed its pro-rata share of the shortfall, which shall be paid in the first quarter payment for the next fiscal year following the fiscal year of the shortfall.
- C. Contributions made to infrastructure by each Partner Agency and Participating Agency will be held in either the specific County Account (15L) designated for 800 MHz CCCS infrastructure or system upgrades or in the third-party escrow account as determined by the Governance Committee. In either case, interest earnings will be allocated to these specific funds. Whether the Governance Committee determines that these funds will be held in a third-party escrow account or a County fund, the fees for this account will be included as a backbone cost-sharing expense. As designated under the 800 MHz Escrow Agreement, unless otherwise modified, escrow account funds can only be spent for Motorola expenditures in support of system enhancements or infrastructure costs.
- D. Should any Partner Agency or Participating Agency fail to make its appropriate payments when due, the County shall take action as is appropriate to obtain such payment. Nothing in this Agreement shall be construed as the County's exclusive remedy for the remediation of

defaults by Governing Authorities, and the County reserves the right to pursue any and all available rights and remedies at law or in equity.

15.9 800 MHz Site Revenues

In the event County decides to generate revenues from the commercial, non-governmental sector by leasing space at the County's radio sites, the following shall apply:

- A. The use of said radio sites shall not interfere with or degrade the efficiency of the System.
- B. The net revenues generated from such use shall be shared among the Parties to this 800 MHz CCCS Joint Agreement in the same proportion as each party contributed to the maintenance and repair of the radio site(s) for the fiscal year the revenue is generated, up to the amount of each party's contribution for maintenance and repair of the base radio site(s) from which the revenue is generated. All additional net revenues shall go to the County.

15.10 Future System Enhancements/Upgrades/Replacements

It is anticipated that a significant upgrade of the 800 MHz CCCS will be required as early as 2010. The Governance Committee, with staffing provided by the County, will be responsible for defining the required upgrades and anticipated funding requirements. The Governance Committee will develop a long-range plan and establish a multi-year Equipment Replacement Fund for the purpose of accumulating funds from the Partner and Participating Agencies. The Equipment Replacement Fund will be designed to allow for the tracking of interest by individual contributor.

16. ADDITIONAL PARTICIPATING AGENCIES OR CONSOLIDATION OF PARTICIPATING AGENCIES

Law Enforcement/Public Works/Fire/Lifeguard Agencies may be added to the system with approval by that Agency's Governing Authority, support by appropriate operational committees, and approval of Governance Committee.

The System is designed to support multiple Participating Agencies. New Participating Agencies may only be added to the System within channel loading limits without degrading the level of service. (Refer to Section 13.1.)

The System must adhere to FCC minimum loading standards. In order to meet the minimum loading standards established by the FCC and to ensure efficient utilization of the System spectrum resource, County will continually monitor the level of use of the System.

The County shall be responsible for coordinating access to the System, training new users in operational and security procedures, and assuring compliance with technical standards. The new Agency may be responsible for the cost of these services.

16.1 Adding Participating Agencies: Newly Incorporated or Contract Cities

Cities presently contracting for law enforcement, fire or public works services from the County or other Participating Agencies may in the future desire to form their own departments. In such cases, the County shall work with these agencies to develop an appropriate system design and implementation plan to transition to an independent city system similar to other cities.

Any System Field Equipment or other costs associated with the transition of a New City or Contract City to the System shall be the responsibility of the city unless addressed in a separate agreement with County.

16.2 Consolidation of Law Enforcement Agencies, Public Works Agencies or Fire Agencies

Cities presently contracting for law enforcement, fire or public works services from the County or other Partner or Participating Agencies may in the future desire to consolidate with other departments to form regionalized systems. In such cases, the County shall work with these agencies to develop an appropriate system design and implementation plan to transition to a consolidated system.

Any System Field Equipment or other costs associated with the transition of a Contract City or Independent City to form with others in a consolidated unit shall be the responsibility of the consolidated entity, unless addressed in a separate agreement with the County.

16.3 Adding Non-City/Non-County Participating Agencies

Newly formed Non-City/Non-County Participating Agencies that do not participate in the System in its initial implementation may desire to use the System. County shall work with any such Participating Agency to develop an appropriate system design and implementation plan to transition to the System after approval is recommended by OCCOPSA, OCFCA, OCLC, and OCPWC, as appropriate, and approved by the Governance Committee.

An agency that does not participate in the original purchase and cost sharing of the System Backbone shall contribute a share of the System cost consistent with Section 13.1. Funds from this account may be used for Backbone System enhancements for the benefit of all Partners and Participating Agencies. Enhancements shall be recommended by the Technical Liaison Committee and OCCOPSA, OCFCA, OCLC, and OCPWC as appropriate, with final approval by

the Governance Committee. Approved enhancements involving cost sharing shall be submitted to the Governing Authorities for approval as appropriate.

Any Backbone System modification costs required to transition a New Non-City/Non-County Participating Agency to System shall be the responsibility of the new Non-City/Non-County Participating Agency.

Any System Field Equipment costs associated with the transition of a New Non-City/Non-County Participating Agency to System shall be the responsibility of the new Non-City/Non-County Participating Agency.

16.4 Adding Mutual Aid Providers

Certain governmental and non-governmental Mutual Aid Providers may be granted access to the subsystems, for the expressed purpose of providing Mutual Aid to a Participating Agency. Access may only be granted by the bodies described in Sections 3, 4, 5, 6 of this Agreement.

Any Backbone System modification costs associated with adding a Mutual Aid Provider to the System shall be the responsibility of the Mutual Aid Providers and/or the sponsoring Partner or Participating Agency(s).

Any System Field Equipment costs associated with adding a Mutual Aid Provider to the System shall be the responsibility of the Mutual Aid Provider and/or the sponsoring Partner or Participating Agency(s).

17. LIABILITY

Each Party listed in Exhibit "A" (the "Indemnitor") shall indemnify, defend, and hold all other parties, and their agents and employees (the "Indemnitees") harmless from all claims, liabilities, damages, and losses to the Indemnitees arising out of any acts or omissions of itself and its agents and employees in connection with the performance of this Agreement which acts or omissions constitute gross negligence.

18. GOVERNANCE COMMITTEE

The 800 MHz Governance Committee will oversee implementation and operations of the 800 MHz System including Partner and Participating Agency compliance with payment schedules, addressing operational issues affecting System operation and backbone site development, reviewing and approving conversion, modification and enhancement plans, approving contract pricing changes, resolving disputes between Partners or Participating Agencies, approving the policy recommendations of the Committees, approving policy, operational and fiscal matters necessary for the operation and maintenance of the System, and performing any other responsibilities required to implement this Agreement.

The Governance Committee shall be responsible for recommending 800 MHz Project operating and capital improvement budgets that are jointly funded by the Parties to the Agreement. The appropriate Governing Authorities will be responsible for approving these budgets through the backbone cost-sharing approval process.

Committee members, as identified below, will also be responsible for coordinating with their appropriate associations/agencies on issues involving Governing Body approvals:

- Four City Managers appointed by the Orange County City Managers' Association
- County Executive Officer, County of Orange, or Designee
- Sheriff-Coroner, or Designee
- Resources and Development Management Department Director, or Designee

Each must designate and name an alternate as a voting member if member cannot attend.

19. AGREEMENT AMENDMENT PROCESS

This Agreement may be amended or modified by consent of all of the Governing Authorities representing the Parties.

20. WITHDRAWAL FROM SYSTEM

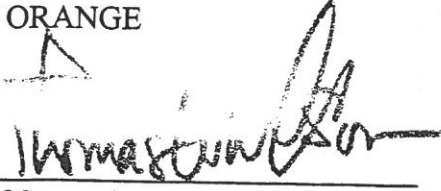
This Agreement shall take effect as above dated. This Agreement may be terminated by any Parties or Participating Agencies to the Agreement as listed on Exhibit "A" or Exhibit "C" as to that Party or Participating Agency by serving written notice of termination on the County and after meeting its financial obligations under this Agreement. After the expiration of sixty (60) days from the giving of such notice, the Party or Participating Agency so electing to withdraw shall cease to be a Party or Participating Agency to this Agreement. Such termination shall not relieve said Party or Participating Agency or other Party of any financial obligation assumed as part of this Agreement. (Said Party and Participating Agency shall still be obligated to pay its backbone cost-sharing expense for that fiscal year and its annual flat fee expense for that fiscal year if the Party or Participating Agency is participating in the flat fee program.) The Party or Participating Agency terminating shall not be responsible for any financial obligations assumed by the other Parties or Participating Agencies hereto subsequent to said termination. Similarly, it is understood that County has ownership of the System Backbone and certain backbone sites, as well as FCC licenses presently owned by the County, and upon any termination by any Parties

to the Agreement, any and all right, title and interest in the System Backbone, those backbone sites and FCC licenses shall remain with the County. Should the County wish to withdraw, an orderly transition to remaining Parties and Participating Agencies must be affected.

IN WITNESS WHEREOF, the Parties and Participating Agencies hereto have set their hands and seals on the date set forth opposite their respective signatures on identical counterparts of this instrument, each which shall for all purposes be deemed an original thereof.

COUNTY OF ORANGE

ORANGE COUNTY FIRE AUTHORITY

By: 
Board of Supervisors

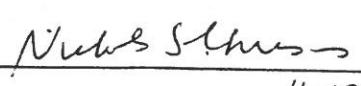
Dated: 11.23.04

By: _____
Chairman

Dated: _____

Approved As to Form:
County Counsel

ATTEST:


11-10-04

Clerk of the Authority

CITY OF: _____

APPROVED AS TO FORM:

ATTEST:

By: _____
Authority Counsel

By: _____

Dated: _____

By: _____

City Clerk

Dated: _____

Approved As to Form:
City Attorney



SIGNED AND CERTIFIED THAT A COPY OF
THIS DOCUMENT HAS BEEN DELIVERED TO
THE CHAIRMAN OF THE BOARD


ATTEST: 
DARLENE J. BLOOM
CLERK OF THE BOARD OF SUPERVISORS
ORANGE COUNTY, CALIFORNIA

EXHIBIT A
800 MHz COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM
PARTIES TO AGREEMENT

CITY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Aliso Viejo	City Manager	12 Journey, Suite 100 Aliso Viejo, CA 92656-5335	949/425-2512
Anaheim	City Manager	200 S. Anaheim Blvd. Anaheim, CA 92805	714/765-5162
Brea	City Manager	1 Civic Center Circle Brea, CA 92821-5732	714/990-7770
Buena Park	City Manager	6650 Beach Blvd. Buena Park, CA 90620	714/562-3550
Costa Mesa	City Manager	77 Fair Drive Costa Mesa, CA 92626	714/754-5328
Cypress	City Manager	5275 Orange Avenue Cypress, CA 90630	714/229-6688
Dana Point	City Manager	33282 Golden Lantern, Suite 203 Dana Point, CA 92629	949/248-3513
Fountain Valley	City Manager	10200 Slater Avenue Fountain Valley, CA 92708	714/593-4410
Fullerton	City Manager	303 W. Commonwealth Ave Fullerton, CA 92832	714/738-6310
Garden Grove	City Manager	11222 Acacia Parkway Garden Grove, CA 92840	714/741-5100
Huntington Beach	City Administrator	2000 Main Street Huntington Beach, CA 92648	714/536-5575
Irvine	City Manager	1 Civic Center Plaza P.O. Box 19575 Irvine, CA 92623-9575	949/724-6246
La Habra	City Manager	201 E. La Habra Blvd. La Habra, CA 90633	562/905-9701
La Palma	City Manager	7822 Walker Street La Palma, CA 90623	714/690-3333
Laguna Beach	City Manager	505 Forest Avenue Laguna Beach, CA 92651	949/497-0704
Laguna Hills	City Manager	24035 El Toro Road Laguna Hills, CA 92653	949/707-2610
Laguna Niguel	City Manager	27801 La Paz Road Laguna Niguel, CA 92677	949/362-4300
Laguna Woods	City Manager	24264 El Toro Road Laguna Woods, CA 92653	949/639-0525
Lake Forest	City Manager	25550 Commercentre Drive Lake Forest, CA 92630	949/461-3410
Los Alamitos	City Manager	3191 Katella Avenue Los Alamitos, CA 90720	562/431-3538 ext. 201
Mission Viejo	City Manager	200 Civic Center Mission Viejo, CA 92691	949/470-3051

EXHIBIT A
800 MHz COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM
PARTIES TO AGREEMENT

CITY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Newport Beach	City Manager	3300 Newport Blvd. Newport Beach, CA 92663-3884	949/644-3000
Orange	City Manager	300 East Chapman Ave. Orange, CA 92866	714/744-2222
Placentia	City Administrator	401 East Chapman Ave Placentia, CA 92870	714/993-8117
Rancho Santa Margarita	City Manager	22112 El Paseo Rancho Santa Margarita, CA 92688	949/635-1800 ext. 210
San Clemente	City Manager	100 Avenida Presidio San Clemente, CA 92672	949/361-8322
San Juan Capistrano	City Administrator	32400 Paseo Adelanto San Juan Capistrano, CA 92675	949/443-6317
Santa Ana	City Manager	20 Civic Center Plaza Santa Ana, CA 92701	714/647-5200
Seal Beach	City Manager	211 8th Street Seal Beach, CA 90740	562/431-2527 ext. 300
Stanton	City Manager	7800 Katella Avenue Stanton, CA 90680-3162	714/379-9222 ext. 240
Tustin	City Manager	300 Centennial Way Tustin, CA 92780	714/573-3010
Villa Park	City Manager	17855 Santiago Blvd. Villa Park, CA 92861	714/998-1500
Westminster	City Manager	8200 Westminster Blvd. Westminster, CA 92683	714/898-3311 ext. 402
Yorba Linda	City Manager	4845 Casa Loma Avenue P. O. Box 87014 Yorba Linda, CA 92886	714/961-7110
West Cities Communications Center (West-Comm)	West-Comm Administrator	911 Seal Beach Blvd. Seal Beach, CA 90740	562/594-7243

EXHIBIT A
800 MHz COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM
PARTIES TO AGREEMENT

COUNTY AGENCY/ DEPARTMENT	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
District Attorney	District Attorney	401 Civic Center Drive West P. O. Box 808 Santa Ana, CA 92702	714/834-3636
Health Care Agency	Director	405 W. 5 th Street Santa Ana, CA 92701	714/834-6254
Integrated Waste Management Department	Director	320 N. Flower St., Suite 400 Santa Ana, CA 92703	714/834-4122
John Wayne Airport	Airport Director	3160 Airway Avenue Costa Mesa, CA 92626-4608	949/252-5183
Probation Department	Chief Probation Officer	1535 E. Orangewood Avenue Anaheim, CA 92705	714/937-4701
Resources & Development Management Department	Director	300 N. Flower Street Santa Ana, CA 92703-5000	714/834-4643
Sheriff-Coroner Department	Sheriff-Coroner	550 N. Flower St. P. O. Box 449 Santa Ana, CA 92703	714/647-1800

FIRE SERVICES	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Orange County Fire Authority	Fire Chief	1 Fire Authority Road Irvine, CA 92602	714/573-6010
Metro Net Fire Dispatch Center	Communications Manager	201 So. Anaheim Blvd., Suite 302 Anaheim, CA 92805	714/765-4077

EXHIBIT B

CITY USERS	LAW	PUBLIC WORKS	LIFEGUARD	FIRE
ALISO VIEJO	SHERIFF			OCFA
ANAHEIM	X	X		X
BREA	X	X		X
BUENA PARK	X	X		OCFA
COSTA MESA	X	X		X
CYPRESS	X	X		OCFA
DANA POINT	SHERIFF	X		OCFA
FOUNTAIN VALLEY	X	X		X
FULLERTON	X	X		X
GARDEN GROVE	X	X		X
HUNTINGTON BEACH	X	X	X	X
IRVINE	X	X		OCFA
LA HABRA	X	X		X
LA PALMA	X	X		OCFA
LAGUNA BEACH	X	X	X	X
LAGUNA HILLS	SHERIFF	X		OCFA
LAGUNA NIGUEL	SHERIFF	X		OCFA
LAGUNA WOODS	SHERIFF			OCFA
LAKE FOREST	SHERIFF			OCFA
LOS ALAMITOS	X	X		OCFA
MISSION VIEJO	SHERIFF	X		OCFA
NEWPORT BEACH	X	X	X	X
ORANGE	X	X		X
PLACENTIA	X	X		OCFA
RANCHO SANTA MARGARITA	SHERIFF			OCFA
SAN CLEMENTE	SHERIFF	X	X	OCFA
SAN JUAN CAPISTRANO	SHERIFF	X		OCFA
SANTA ANA	X	X		X
SEAL BEACH	X	X	X	OCFA
STANTON	SHERIFF	X		OCFA
TUSTIN	X	X		OCFA
VILLA PARK	SHERIFF	X		OCFA
WESTMINSTER	X	X		OCFA
YORBA LINDA	BREA	X		OCFA
WEST-COMM	X			
METRONET				X
COUNTY USERS	LAW	PUBLIC WORKS	LIFEGUARD	FIRE
DISTRICT ATTORNEY	X			
HCA		X		
IWMD		X		
JOHN WAYNE AIRPORT	X	X		
PROBATION	X			
RDMD		X	X	
SHERIFF-CORONER	X			
OCFA				X

EXHIBIT B

MUTUAL AID USERS	LAW	PUBLIC WORKS	LIFEGUARD	FIRE
AFRC FIRE DEPARTMENT				X
AMR AMBULANCE				X
BOEING FIRE DEPARTMENT				X
CALIFORNIA HIGHWAY PATROL	X			
CALIFORNIA STATE PARKS	X			
CALIFORNIA STATE UNIVERSITY FULLERTON POLICE	X			
CAMP PENDLETON FIRE DEPARTMENT				X
CARE AMBULANCE				X
CDF RIVERSIDE FIRE DEPARTMENT				X
CORONA FIRE DEPARTMENT				X
DISNEYLAND FIRE DEPARTMENT				X
DOCTOR'S AMBULANCE				X
EMERGENCY AMBULANCE				X
FBI	X			
HUNTINGTON BEACH UNION HIGH SCHOOL DISTRICT PD	X			
LA HABRA HEIGHTS FIRE DEPARTMENT				X
LAGUNA BEACH COUNTY WATER DISTRICT		X		
LOS ANGELES COUNTY SHERIFF AERO BUREAU	X			
MEDIX AMBULANCE				X
MERCY AIR				X
NAVAL WEAPONS STATION FIRE DEPARTMENT				X
NORTHROP GRUMMAN FIRE DEPARTMENT				X
SADDLEBACK COLLEGE POLICE DEPARTMENT	X			
SANITATION DISTRICT OF ORANGE COUNTY		X		
SCHAEFER AMBULANCE				X
UNITED STATES FOREST SERVICE				X
UNIVERSITY OF CALIFORNIA IRVINE POLICE	X			

EXHIBIT C
800 MHz COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM
MUTUAL AID USERS

MUTUAL AID USERS	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
AFRC Fire Department	Tom McKinnon	4250 Constitution Los Alamitos, CA 90720	562/795-2144
AMR Ambulance	Ernie Chavez	10662 Stanford Ave. Garden Grove, CA 92840	714/638-6200
Boeing Fire Department	Scott Bolton	2600 Westminster Blvd. Seal Beach, CA 90740	562/797-3188
California Highway Patrol Helicopters	Bob Fablee	3865-A W. Commonwealth Ave. Fullerton, CA 92833	714/449-7091
California State Parks	Ken Kramer	8471 North Coast Highway Laguna Beach, CA 92651	949/497-1582
California State University Fullerton Police and Fire Departments	Sgt. Bob Baker	P.O. Box 6806 Fullerton, CA 92834-6806	714/278-2904
Camp Pendleton Fire Department	Chief Timothy Hoover	PO Box 555211 Camp Pendleton, CA 92055	760/725-4321
Care Ambulance	Rick Richardson	8932 Katella Ave., Suite 201 Anaheim, CA 92804	714/828-7750
CDF Riverside Fire Department	Chief Mike Burton	210 W. San Jacinto Ave Perris, CA 92570	951/940-6900
Corona Fire Department	Deputy Chief Marcus Billington	815 W. 6 th Street Corona, CA 92882	909/736-2220
Disneyland Fire Department	Lon Cahill	1313 S. Harbor Blvd. Anaheim, CA 92803-3232	714/781-4666
Doctor's Ambulance	Jim Ignacio	23091 Terra Drive Laguna Hills, CA 92653	949/951-8535 ext. 206
Emergency Ambulance	Jim Karras	3200 East Birch #A Brea, CA 92821	714/990-1742
FBI	Dan Koch	11000 Wilshire Blvd., Ste. 1700 Los Angeles, CA 90024	310/996-3720
Huntington Beach Union High School District Police	Scott Atkinson	10251 Yorktown Ave. Huntington Beach, CA 92646-2999	714/536-7521
La Habra Heights Fire Department	John Nielsen	1245 N. Hacienda Road La Habra Heights, CA 90631	562/694-8283
Laguna Beach County Water District	Dennis Hoffer	306 Third Street Laguna Beach, CA 92651	949/497-2585
Los Angeles County Sheriff Aero Bureau Areo Bureau	Capt. James DiGiovanna	3235 Lakewood Blvd. Long Beach, CA 90808	562/421-2701

EXHIBIT C
800 MHz COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM
MUTUAL AID USERS

MUTUAL AID USERS	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Medix Ambulance	Michael Dimas	26021 Pala Drive Mission Viejo, CA 92691	949/470-8921
Mercy Air	Aaron Oshima	P.O. Box 2532 Fontana, CA 92334	909/841-2882
Naval Weapons Station Fire Department	Larry Bach	Fire Division Code N23 800 Seal Beach Blvd. Seal Beach, CA 90740-5000	562/626-7005
Northrop Grumman Fire Department	Sam Luque	33000 Avenida Pico San Clemente, CA 92673	949/361-7011
Saddleback College Police Department	Chief Harry Parmer	28000 Marguerite Parkway Mission Viejo, CA 92692	949/582-4585
Sanitation District of Orange County	Howard Lembke	10844 Ellis Ave. Fountain Valley, CA 92728	714/593-7270
Schaefer Ambulance	Jimmy McNeal	2215 South Bristol Ave. Santa Ana, CA 92704	714/545-8486
United States Forest Service	James Nordenger	P. O. Box 897 Poway, CA 92074	858/695-0258
University of California, Irvine Police Department	Lt. Jeff Hutchinson	150 Public Services Building Irvine, CA 92697-4900	949/824-1140

EXHIBIT D
800 MHz COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM
PARTICIPATING AGENCIES

AGENCY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #

IN WITNESS WHEREOF, the Parties have executed this Joint Agreement on the day and year set forth below their respective signatures.

GOVERNANCE COMMITTEE

Print Name: John Pietig _____
800 MHz CCCS Governance Committee Chair

Signature: _____

Date: _____

NEW PARTICIPATING AGENCY

Print Name: _____

Signature: _____

Date: _____

**AMENDMENT TO JOINT AGREEMENT
FOR THE OPERATION, MAINTENANCE AND FINANCIAL MANAGEMENT
OF THE ORANGE COUNTY 800 MEGAHERTZ
COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM**

THIS AMENDMENT ("**Amendment**") is entered into on JUNE 2, 2015 by and between the Parties listed on Exhibit A, attached hereto, which are sometimes individually referred to as "**Party**" or collectively referred to as the "**Parties**."

RECITALS

A. On November 23, 2004, the Parties executed that certain document entitled *Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 Megahertz Countywide Coordinated Communications System* ("**Agreement**"), which provides for the management and governance of the 800 MHz Countywide Coordinated Communications System ("800 MHz CCCS").

B. The 800 MHz CCCS requires significant enhancement in order to extend the life of the system.

C. Pursuant to Section 15.10 of the Agreement, the Governance Committee and the County have developed a long-range implementation plan to extend the CCCS, and have developed a scope of work, which includes all the activities, infrastructure and project schedule information for fiscal years 2014-19 described on Exhibit B, attached hereto ("**System Extension**").

D. The Governance Committee and County have also developed the overall estimated cost of the System Extension, including each Party's estimated funding share by fiscal year described on Exhibit C, attached hereto.

E. A Party's funding plan for the System Extension may consist of one or more of the following: 1) a Party's cash contribution, 2) a Party or a group of Parties financing all or a portion of the System Extension through the issuance of tax exempt bonds or other public financing mechanisms, and/or 3) a Party or group of Parties financing all or a portion of the System Extension through the County approved System Extension vendor.

F. The Parties desire to amend the Agreement to provide their commitment to the System Extension and describe their implementation and funding obligations.

G. This Amendment has been approved by the Governance Committee.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Implementation Obligations. The Parties hereby commit to fund and implement the System Extension as described on Exhibit B and Exhibit C.

a. California Environmental Quality Act ("CEQA"). The County shall be the lead agency for purposes of CEQA and shall obtain all necessary approvals for the System Extension.

b. Party Cost Share. The Parties intend to implement and fund the System Extension over several years beginning in fiscal year 2014-15 through fiscal year 2018-19. Each Party is responsible for its fair share contribution to the System Extension. The total estimated budget for the System Extension and each Party's fair share contribution is depicted on Exhibit C ("**Cost Share**"). A Party's Cost Share is determined by the number of subscriber radios used by the Party on the CCCS, as well as the Party's proportionate share of the System Extension dedicated to System Backbone. Each Party shall pay its total Cost Share in five fiscal year payments beginning in fiscal year 2014-15 through fiscal year 2018-19 in accordance with the procedures in Subsection (c) below. Each Party acknowledges that its Cost Share for the System Extension is an estimate and is expressed as a not to exceed amount. Each Party's Cost Share will be based on an actual quote by a third party vendor who will perform the System Extension under a contract or series of contracts approved and managed by the County ("**Contractor**"). A Party's actual Cost Share amount will be determined prior to the beginning of each fiscal year in which it is due and will be based on the Contractor's scope of work for the respective fiscal year. Therefore, the Cost Share depicted on Exhibit C may change, and may be periodically updated by the Parties to reflect any changed equipment or authorized System Extension modification expenses.

c. Invoicing & Payment. The County will calculate the actual Cost Share amount due the following fiscal year, and will invoice each Party by July 1. Each Party shall pay its respective Cost Share to the County within thirty (30) days of the start of the fiscal year. A Party is exempt from the payment procedures of this Subsection 1.c for the relevant fiscal year if it has:

- i. Executed a binding agreement with the County approved Contractor, agreeing to pay or finance its Cost Share through the Contractor directly, or
- ii. Executed a binding agreement with the County agreeing to jointly finance its Cost Share.

d. Cost Share Responsibility. Upon execution of this Amendment, each Party is responsible for its actual Cost Share regardless of the form and manner of payment described herein, such that the Party cannot terminate its Cost Share obligation for any reason. In the event of a withdrawal from the system in accordance with Section 20 of the Agreement or in the case of a default for failure to pay its Cost Share in accordance with this Amendment, each Party remains obligated to pay to County the Party's outstanding Cost Share as that obligation becomes due. Should any Party fail to pay its respective Cost Share when due, the County shall take action as is appropriate to obtain such payment. Nothing herein shall be construed as the County's exclusive remedy for the remediation of defaults by a Party or Parties,

and the County reserves the right to pursue any and all available rights and remedies at law or in equity.

e. County Trust Account. The County shall deposit all Cost Share contributions into a trust account that is managed solely for the purpose of the System Extension.

2. System Extension Administration. The Orange County Sheriff-Coroner Department/Communications & Technology Division shall administer all agreements for the System Extension, and regularly report such progress to the Governance Committee.

3. Participating Agencies. The Parties hereby update the list of Participating Agencies described on Exhibit D, attached hereto, which shall replace in its entirety Exhibit C of the Agreement. Participating Agencies will continue to contribute to overall backbone costs through the payment of a separate and established entry fee for every radio added to the system.

4. Capitalized Terms. Any capitalized terms not defined herein shall have the meanings set forth in the Agreement.

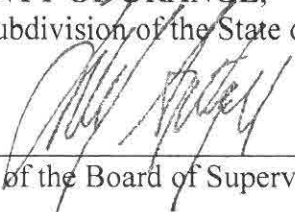
5. Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute but one and the same instrument.

6. Full Force. Except as expressly set forth herein, the Agreement shall remain unmodified and in full force and effect.

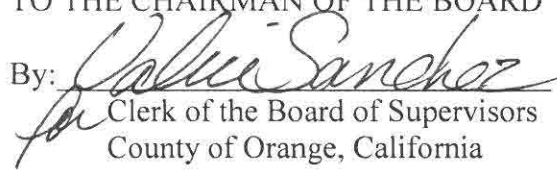
IN WITNESS WHEREOF, the Parties have executed this Amendment as of the date first written above.

THE COUNTY OF ORANGE,

a political subdivision of the State of California

By: 
Chairman of the Board of Supervisors

SIGNED AND CERTIFIED THAT A COPY
OF THIS DOCUMENT HAS BEEN DELIVERED
TO THE CHAIRMAN OF THE BOARD

By: 
for Clerk of the Board of Supervisors
County of Orange, California

APPROVED AS TO FORM:
COUNTY COUNSEL

By: 

[CITY SIGNATURE BLOCKS TO BE INSERTED]

EXHIBIT A

PARTIES TO THE AMENDMENT

ENTITY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Aliso Viejo	City Manager	12 Journey, Suite 100 Aliso Viejo, CA 92656-5335	949/425-2512
Anaheim	City Manager	200 S. Anaheim Blvd. Anaheim, CA 92805	714/765-5162
Brea	City Manager	1 Civic Center Circle Brea, CA 92821-5732	714/990-7770
Buena Park	City Manager	6650 Beach Blvd. Buena Park, CA 90620	714/562-3550
Costa Mesa	City Manager	77 Fair Drive Costa Mesa, CA 92626	714/754-5328
Cypress	City Manager	5275 Orange Avenue Cypress, CA 90630	714/229-6688
Dana Point	City Manager	33282 Golden Lantern, Suite 203 Dana Point, CA 92629	949/248-3513
Fountain Valley	City Manager	10200 Slater Avenue Fountain Valley, CA 92708	714/593-4410
Fullerton	City Manager	303 W. Commonwealth Ave Fullerton, CA 92832	714/738-6310
Garden Grove	City Manager	11222 Acacia Parkway Garden Grove, CA 92840	714/741-5100
Huntington Beach	City Administrator	2000 Main Street Huntington Beach, CA 92648	714/536-5575
Irvine	City Manager	1 Civic Center Plaza Irvine, CA 92623-9575	949/724-6246
La Habra	City Manager	201 E. La Habra Blvd. La Habra, CA 90633	562/905-9701

ENTITY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
La Palma	City Manager	7822 Walker Street La Palma, CA 90623	714/690-3333
Laguna Beach	City Manager	505 Forest Avenue Laguna Beach, CA 92651	949/497-0704
Laguna Hills	City Manager	24035 El Toro Road Laguna Hills, CA 92653	949/707-2610
Laguna Niguel	City Manager	27801 La Paz Road Laguna Niguel, CA 92677	949/362-4300
Laguna Woods	City Manager	24264 El Toro Road Laguna Woods, CA 92653	949/639-0525
Lake Forest	City Manager	25550 Commercentre Drive Lake Forest, CA 92630	949/461-3410
Los Alamitos	City Manager	3191 Katella Avenue Los Alamitos, CA 90720	562/431-3538 ext. 201
Metro Cities Fire Authority	Manager	201 S. Anaheim Blvd., Suite 302 Anaheim, CA 92805	714/765-4077
Mission Viejo	City Manager	200 Civic Center Mission Viejo, CA 92691	949/470-3051
Newport Beach	City Manager	100 Civic Center Drive Newport Beach, CA 92660	949/644-3000
Orange	City Manager	300 East Chapman Ave. Orange, CA 92866	714/744-2222
Orange County Fire Authority	Fire Chief	1 Fire Authority Road Irvine, CA 92602	714/573-6010
Orange, County of	CEO	333 W. Santa Ana Blvd. Santa Ana, CA 92701	714/834-6200

ENTITY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Placentia	City Administrator	401 East Chapman Ave Placentia, CA 92870	714/993-8117
Rancho Santa Margarita	City Manager	22112 El Paseo Rancho Santa Margarita, CA 92688	949/635-1800 ext. 210
San Clemente	City Manager	100 Avenida Presidio San Clemente, CA 92672	949/361-8322
San Juan Capistrano	City Administrator	32400 Paseo Adelanto San Juan Capistrano, CA 92675	949/443-6317
Santa Ana	City Manager	20 Civic Center Plaza Santa Ana, CA 92701	714/647-5200
Seal Beach	City Manager	211 8th Street Seal Beach, CA 90740	562/431-2527 ext. 300
Stanton	City Manager	7800 Katella Avenue Stanton, CA 90680-3162	714/379-9222 ext. 240
Tustin	City Manager	300 Centennial Way Tustin, CA 92780	714/573-3010
Villa Park	City Manager	17855 Santiago Blvd. Villa Park, CA 92861	714/998-1500
West Cities Police Communications	West-Comm Administrator	911 Seal Beach Blvd. Seal Beach, CA 90740	562/594-7243
Westminster	City Manager	8200 Westminster Blvd. Westminster, CA 92683	714/898-3311 ext. 402
Yorba Linda	City Manager	4845 Casa Loma Avenue Yorba Linda, CA 92886	714/961-7110

EXHIBIT B

GENERAL DESCRIPTION OF SYSTEM EXTENSION AND PROJECT SCHEDULE

1.0 Overview

The System Extension plan will focus on extending the life of the existing CCCS radio system by systematically replacing end-of-life equipment in strategic phases culminating in an upgrade to P25 compliance with the goal of continuing to provide quality radio communications to the law, fire, lifeguard and public works agencies in Orange County.

2.0 Description of System Extension

- 2.1 *System Backbone* – Radio infrastructure equipment that is at or near the end of its expected life will be directly replaced with the current version of the same equipment that will maintain all existing features and functionalities and is able to work with the existing backhaul network. Specifically, this will involve the replacement of 565+ existing Quantar radio base stations and ancillary equipment at 25 radio sites with 800 MHz 3600 baud GTR8000 base stations and ancillary equipment. This will be accomplished in accordance with the following schedule:

System Backbone schedule:

Northwest Cell = 24 Quantars replaced in 2015
Southwest Cell = 40 Quantars replaced in 2015
Laguna Cell = 33 Quantars replaced in 2016
Moorhead IR Site = 8 Quantars replaced in 2016
North Cell = 105 Quantars replaced in 2016
South Cell = 135 Quantars replaced in 2017
Crystal Cove IR Site = 4 Quantars replaced in 2017
Countywide Cell = 210 Quantars replaced in 2017
Carbon Canyon IR Site = 3 Quantars replaced in 2017
Silverado IR Site = 3 Quantars replaced in 2017

- 2.2 *Law Enforcement Dispatch Consoles* – Police Dispatch Gold Elite consoles will be out-of-service by the vendor in 2018 and will need to be replaced prior to 2018 to maintain the existing console priority feature once the system is upgraded to P25. Console priority is a feature unique to law enforcement dispatch and allows dispatch to have the ability to transmit and receive audio simultaneously and is an officer safety necessity. Existing Gold Elite Console equipment will be replaced with its successor console, the MCC7500. Due to the complexity of the replacement at each law dispatch center, only 6 dispatch centers can be upgraded each year. A schedule has been developed to address the 20 law dispatch centers on the system, as shown below.

Console schedule:

FY14/15 - Loma Ridge, Irvine, Laguna Beach, Huntington Beach

FY15/16 - Anaheim, Brea, West Comm, Santa Ana, Tustin

FY16/17 - Orange, Fullerton, Costa Mesa, Garden Grove, Westminster

FY17/18 - Placentia, La Palma, Newport Beach, Fountain Valley,
Buena Park, La Habra

- 2.3 *System Field Equipment* – When the System Backbone is upgraded to the P25 standard in FY 2018/2019, all subscriber radio equipment will also need to be P25 capable. Subscriber radios that are capable of being upgraded will need to receive the software/firmware upgrade prior to the backbone upgrade. Older subscriber radio equipment that is not capable of being upgraded to the P25 standard will need to be replaced prior to the P25 upgrade. Each agency will be responsible for the purchase of either replacement radios, or the necessary subscriber upgrade package for upgradable radios.
- 2.4 *P25 Upgrade* – When all backbone sites and law dispatch consoles have completed their equipment replacement, the vendor will initiate the necessary equipment and software update to bring the system up to the 7.18 software platform for P25 compliance. This final phase of the System Extension plan is scheduled for FY 2018/2019.

EXHIBIT C

TOTAL ESTIMATED SYSTEM EXTENSION COST & ESTIMATED PARTY COST SHARE BY FISCAL YEAR

				ESTIMATED COST					
FY 15-16 Radio Counts				City/Agency Cost		Partnership Cost			TOTAL
CITY/AGENCY	Upgrade (P25 Capable With Software Upgrade)	Replace (Upgrade To P25 Not Possible)	Total	Console Equipment	Radio Equipment*	FY 15-16 North & Laguna Cells	FY 16-17 South & Countywide Cells	FY 17-18 Remaining Backbone	
1. ALISO VIEJO	11	21	32	\$ -	\$ 138,650	\$ 7,028	\$ 18,930	\$ 43,599	\$ 208,206
2. ANAHEIM	432	1,351	1,783	1,928,869	8,602,800	391,545	1,054,758	2,429,268	14,407,241
3. BREA	62	302	364	648,137	1,883,300	79,891	215,329	495,936	3,322,593
4. BUENA PARK	76	258	334	569,804	1,635,400	73,276	197,582	455,062	2,931,124
5. COSTA MESA	105	523	628	680,354	3,258,750	137,966	371,502	855,626	5,304,197
6. CYPRESS	24	170	194	0	1,047,800	42,604	114,763	264,317	1,469,285
7. DANA POINT	15	49	64	0	311,250	14,054	37,860	87,198	450,362
8. FOUNTAIN VALLEY	45	204	249	443,290	1,275,750	54,702	147,299	339,253	2,260,294
9. FULLERTON	125	513	638	501,417	3,221,750	140,141	377,418	869,250	5,109,976
10. GARDEN GROVE	115	475	590	369,240	2,982,250	129,608	349,023	803,852	4,633,972
11. HUNTINGTON BEACH	452	820	1,272	1,097,718	5,439,800	279,398	752,469	1,733,051	9,302,436
12. IRVINE	111	503	614	432,209	3,145,650	134,878	363,220	836,551	4,912,509
13. LA HABRA	73	190	263	573,584	1,223,950	57,809	155,581	358,327	2,369,252
14. LA PALMA	31	51	82	166,901	341,650	18,008	48,506	111,722	686,789
15. LAGUNA BEACH	65	247	332	526,652	1,579,750	72,883	196,399	452,337	2,626,021
16. LAGUNA HILLS	4	41	45	0	250,600	9,875	26,620	61,311	348,407
17. LAGUNA NIGUEL	9	55	64	0	340,350	14,081	37,860	87,198	479,489
18. LAGUNA WOODS	2	4	6	0	26,300	1,330	3,549	8,175	39,354
19. LAKE FOREST	21	67	88	0	426,150	19,325	52,058	119,897	617,429
20. LOS ALAMITOS	15	45	60	0	287,250	13,176	35,494	81,748	417,668
21. METRONET	37	10	47	1,966,250	102,550	10,321	27,803	64,036	2,170,960
22. MISSION VIEJO	30	90	120	0	574,500	26,368	70,968	163,495	835,349
23. NEWPORT BEACH	436	401	839	532,934	2,909,700	164,290	496,322	1,143,105	5,266,351
24. ORANGE	115	514	629	598,012	3,216,250	137,889	372,094	856,988	5,181,233
25. PLACENTIA	30	107	137	413,090	676,500	30,119	81,044	186,657	1,387,410
26. RANCHO SANTA MARG.	7	29	36	0	182,050	7,908	21,296	49,049	260,301
27. SAN CLEMENTE	12	97	109	0	595,800	23,931	64,480	148,508	832,719
28. SAN JUAN CAPISTRANO	6	33	39	0	204,900	8,525	23,071	53,136	289,632
29. SANTA ANA	219	818	1,037	591,620	5,159,650	227,713	613,451	1,412,872	8,005,506
30. SEAL BEACH	25	97	122	0	610,750	26,844	72,171	166,220	875,985
31. STANTON	10	63	73	0	389,500	16,051	43,184	99,460	546,195
32. TUSTIN	81	243	324	483,266	1,551,150	71,126	191,667	441,437	2,736,646
33. VILLA PARK	0	6	6	0	36,000	1,318	3,549	8,175	49,042
34. WEST-COMM	4	13	17	631,052	82,600	3,733	10,057	23,162	750,604
35. WESTMINSTER	73	274	347	549,621	1,727,950	76,137	205,273	472,774	3,031,755
36. YORBA LINDA	35	62	97	0	412,250	21,302	57,382	132,159	623,092
37. OCFA	950	863	1,813	3,217,500	6,270,500	397,622	1,072,505	2,470,142	13,428,269
38. OCTA	70	43	113	0	338,500	24,875	66,847	153,958	584,179
39. OC LIFE GUARD	7	47	54	438,900	290,050	11,865	31,944	73,573	846,333
40. IRVINE VLLY. CLLG. PD	16	0	16	0	18,400	3,527	9,465	21,799	53,192
41. SANTA ANA UNIF. SD. PD	51	2	53	0	70,650	11,639	31,353	72,210	185,852
42. SADDLEBACK CLLG. PD	16	0	16	0	20,700	3,953	10,648	24,524	59,825
43. CEO	1	1	2	0	7,150	439	1,183	2,725	11,497
44. DA	0	225	225	0	1,350,000	49,411	133,102	306,554	1,839,067
45. HCA	184	98	282	0	799,600	61,804	166,821	384,214	1,412,439
46. JWA	39	184	223	536,250	1,208,850	51,175	137,634	317,453	2,251,563
47. OC ANIMAL CONTROL	10	110	120	350,000	671,500	26,386	70,968	163,495	1,282,369
48. OC DANA POINT HARBOR	0	13	13	0	78,000	2,822	7,690	17,712	106,225
49. OC PARKS	131	248	379	0	1,638,650	83,218	224,203	516,373	2,462,443
50. OCCPW	10	489	479	0	2,825,500	105,270	283,359	652,619	3,866,748
51. OCWR	59	3	62	0	85,850	13,602	36,677	84,473	220,602
52. PROBATION	177	435	612	0	2,813,550	134,695	362,037	833,826	4,144,108
53. SHERIFF	857	1,922	2,779	4,428,829	12,517,550	610,825	1,643,955	3,786,280	22,987,439
54. SSA	19	0	19	0	21,850	4,173	11,240	25,887	63,149
TOTAL						\$ 4,162,452	\$ 11,211,905	\$ 25,822,727	
The costs stated herein are estimated costs expressed as not to exceed amounts subject to the final system design.						\$41,197,084			
* It is recommended that the Partnership co-ordinate a bulk equipment purchase in FY 16-17.						PARTNERSHIP TOTAL			

January 2015

EXHIBIT D

PARTICIPATING AGENCIES

AGENCY	RESPONSIBLE ADMINISTRATOR	ADDRESS	PHONE #
Irvine Valley College Police Department	Police Chief	5500 Irvine Center Drive, Irvine CA 92618	949/451-5201
Orange County Transportation Authority	Administrator	600 S. Main Street, Orange CA 92868	714/560-6282
Saddleback College Police Department	Police Chief	28000 Marguerite Parkway, Mission Viejo CA 92692	949/582-4390
Santa Ana Unified School District Police Department	Police Chief	1601 E. Chestnut Avenue, Santa Ana CA 92701	714/558-5536
US Ocean Safety (OC Lifeguards)	President	34127 Pacific Coast Highway, Dana Point CA 92629	949/276-5050

IN WITNESS WHEREOF, the Parties have executed this Amendment on the day and year set forth below their respective signatures.

GOVERNANCE COMMITTEE

Print Name: John Pietig
800 MHz CCCS Governance Committee Chair

Signature: _____

Date: _____

NEW PARTICIPATING AGENCY

Print Name: _____

Signature: _____

Date: _____



Project No:
Project Name:
Project Location:

NEW PARTICIPATING AGENCY RIDER TO JOINT AGREEMENT FOR THE OPERATION, MAINTENANCE AND FINANCIAL MANAGEMENT OF THE ORANGE COUNTY 800 MEGAHERTZ COUNTYWIDE COORDINATED COMMUNICATIONS SYSTEM

This New Participating Agency Rider (“**NPA Rider**”) is entered into on June 21, 2017 (“**Effective Date**”), by and between **Municipal Water District of Orange County** (hereinafter referred to as “**NEW PARTICIPATING AGENCY**”) and the “Partner Agencies” and “Parties” (hereinafter referred to as “**PARTNER AGENCIES AND PARTIES**”) as defined in the Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 Megahertz Countywide Coordination Communications System (hereinafter referred to as “**JA**”) and represented by the Countywide Coordinated Communications System Governance Committee (hereinafter referred to as the “**GOVERNANCE COMMITTEE**”). **GOVERNANCE COMMITTEE** and **NEW PARTICIPATING AGENCY** may be referred to individually herein as a “**Party**” or collectively as the “**Parties**.”

RECITALS

- I. WHEREAS, NEW PARTICIPATING AGENCIES AND PARTIES entered into the JA in 2004; and,
- II. WHEREAS, NEW PARTICIPATING AGENCY, executed a copy of the JA in accordance with Section 13.1 of the JA on June 21, 2017; and,
- III. WHEREAS, PARTICIPATING AGENCIES AND PARTIES entered into an Amendment to the JA (“**Amendment**”) on June 2, 2015; and,
- IV. WHEREAS, NEW PARTICIPATING AGENCY executed a copy of the Amendment per Section 13.1 of the JA on June 21, 2017; and,
- V. WHEREAS, the JA in Section 13.1 “County Responsibilities” grants the GOVERNANCE COMMITTEE the authority to enter into a separate agreement with NEW PARTICIPATING AGENCY to establish additional terms, conditions, and costs (per Attachment A) for entry into the Countywide Coordinated Communications System (the “**CCCS**”); and,
- VI. WHEREAS, the JA in Section 17 “Liability” provides for indemnification only between those parties listed in Exhibit A of the JA (and would not include NEW PARTICIPATING AGENCY); and,
- VII. WHEREAS, the GOVERNANCE COMMITTEE and NEW PARTICIPATING AGENCY now desire to enter into a separate agreement (this NPA Rider) to establish additional terms and conditions by including NEW PARTICIPATING AGENCY in the indemnity provision of the JA;

NOW THEREFORE, in consideration of the Recitals above, the receipt of which the Parties acknowledge herein and which are incorporated herein by this reference, and the mutual covenants and agreements hereinafter contained, the GOVERNANCE COMMITTEE and NEW PARTICIPATING AGENCY do hereby agree as follows:

A. NEW PARTICIPATING AGENCY LIABILITY.

NEW PARTICIPATING AGENCY and PARTNER AGENCIES AND PARTIES (the “Indemnitor”) shall indemnify and hold all other Parties, and their agents and employees (the “Indemnitees”) harmless from all claims, liabilities, damages, and losses to the Indemnitees arising out of any acts or omissions of itself and its agents and employees in connection with the performance of the JA which acts or omissions constitute gross negligence.

Except as otherwise expressly set forth herein, all terms and conditions contained in the JA, including any amendments/modifications, are hereby incorporated herein by this reference as if fully set forth herein and shall remain in full force and effect.

THE REMAINDER OF THIS PAGE WAS INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Parties have executed this New Participating Agency Rider on the day and year first written above.

GOVERNANCE COMMITTEE

Print Name: John Pietig
800 MHz CCCS Governance Committee Chair

Signature: _____

Date: _____

NEW PARTICIPATING AGENCY

Print Name: _____

Signature: _____

Date: _____

Attachment A: Water Emergency Response Orange County (WEROC) Communications System White Paper

Overview:

WEROC is interested in joining the 800 MHz CCCS as a "Participating Agency." The Joint Agreement for the Operation, Maintenance and Financial Management of the Orange County 800 MHz Countywide Coordinated Communications System, revised November

2004, provides the guidance on adding non-City/non-County Participating Agencies. Section 16.3 of the agreement states that:

- Newly formed Non-City/Non-County Participating Agencies that do not participate in the System in its initial implementation may desire to use the System. County shall work with any such Participating Agency to develop an appropriate system design and implementation plan to transition to the System after approval is recommended by Orange County Chiefs of Police & Sheriffs Association (OCCOPSA), Orange County Fire Chiefs Association (OCFCA), and approved by the Governance Committee.
- An agency that does not participate in the original purchase and cost sharing of the System Backbone shall contribute a share of the System cost consistent with Section 13.1:
 - System Entry Fee: \$2,480 per radio (for the life of the agreement)
 - Radio Template Development Fee: \$2,840 (one time cost, per template)
 - Radio Programming Fee: \$50 per radio (for the life of the agreement)
 - Flat Rate Fee: \$96 for mobile/portables; \$132 for control stations (per radio for the life of the agreement)
 - Equipment is purchased by agency directly with Motorola using approved equipment as provided in the Orange County Equipment Price Book (-\$3500 per radio+ installation)
 - Operational, Backbone Upgrade and Sustainability Fund costs are estimated at- \$250 per radio annually paid to 800 MHz Partnership (15L)

Talkgroup and Channel

Access:

All radios will have the basic level of interoperability (Tan, SILVER, BROWN). Additional interoperability will be approved on a case-by-case basis. WEROC would have a dedicated SILVER talkgroup for their use. Flat Rate Repair consists of the following:

- Perform a full FCC specifications check and alignment on new equipment, program new equipment and activate it on the system.
- Provide materials and labor for field repairs, with field service performed at a location specified by the user. Perform functional test and reprogram the radio if needed. Hot swap spare radios are available for vehicles and motorcycles.
- Provide materials and labor for shop repairs, with functional testing and standard reprogramming provided if needed after repair.
- Track repairs for each radio so that a cost analysis of repair versus replacement is tracked on an ongoing basis.
- Maintain a periodic maintenance schedule for each agency that includes FCC checks, alignment and repair of equipment as necessary.

Exclusions under the flat rate program include the following and will be billed on a time and material basis:

- Intentional misuse, vandalism or unauthorized modifications (physical or programming) by users or contracted service providers, causing damage to radio equipment on the 800 MHz CCCS. Agencies will be charged the total cost of repairs to the equipment and system.

- Template modifications that require agency-wide reprogramming such as the addition of talkgroups or modifications to the agency specific zone.
- Physical damage such as dropped radios or water damage.
- Replacement of batteries, knobs, antennas, and accessories such as speaker microphones.
- Engraving on a large-scale basis.

Current Public Works Users operating on the 800 MHz CCCS only require programming. The independent water districts will purchase new radios to operate on the system.

WEROC Agencies are as follows:

Current 800 Participants Requiring Programming	Agencies Requiring New Radios:
Anaheim	Costa Mesa Sanitary District
Brea	East Orange County WD
Buena Park	El Toro Water District
Fountain Valley	Golden State Water Company
Fullerton	Irvine Ranch WD
Garden Grove	Laguna Beach CWO
Huntington Beach	Mesa WD
La Habra	Midway City Sanitary District
La Palma	Moulton Niguel WD
Newport Beach	MWDOC (2 sites)
Orange	Orange County Sanitation District
San Clemente	Orange County WD
San Juan Capistrano	Santa Margarita WD
Santa Ana	Serrano WD
Seal Beach	SOCWA
Tustin	South Coast WD
Westminster	Trabuco Canyon WD
	Yorba Linda WD

- WD= Water District

In addition to the above listed Public Works agencies all law enforcement, fire protection, marine safety and hospitals operate on the 800 MHz CCCS as well as OCTA and several colleges and schools.

The system provides countywide portable in-building, highly-reliable radio communications with multiple levels of redundancy in case of major catastrophic events.



ACTION ITEM

June 21, 2017

TO: Board of Directors

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

Robert Hunter
General Manager

Staff Contact: J. Berg
Director of Water Use Efficiency

**SUBJECT: Authorization to Hire Water Use Efficiency Programs Installation
Verification Inspection Contractor**

STAFF RECOMMENDATION

Staff recommends the Board of Directors authorize the General Manager to enter into a professional services agreement with Mission Resource Conservation District to perform Water Use Efficiency Programs Installation Verification Inspections over the next five years using a combination of grant awards and contributions from member agencies.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

Installation verification inspections are an important component of MWDOC's quality control of water use efficiency program implementation to ensure public funds are spent appropriately. The Mission Resource Conservation District (Mission) has been providing installation verification inspection services for MWDOC for many years. Mission Resource Conservation District is a "non-regulatory unit of local government committed to helping property owners conserve natural resources on their land. [Mission] advises and assists private landowners and public agencies in the conservation and use of soil and interrelated resources including water, plant materials and wildlife."

These services include installation verification of smart timers, sprinkler nozzles, spray-to-drip irrigation, and turf removal at both residential and commercial properties and are funded through grant awards to MWDOC from the Bureau of Reclamation and/or the Department of Water Resources, as well as contributions from member agencies. Since existing Board authorizations with Mission are nearing completion and the Administrative

Budgeted (Y/N): N/A	Budgeted amount:	Core __	Choice <u>X</u>
Action item amount:		Line item:	
Fiscal Impact (explain if unbudgeted): Installation verification inspections will be funded by grants and choice contributions from member agencies.			

Code requires competitive bidding every five years, staff conducted a Request for Proposals (RFP) process to hire a new inspection contractor.

DETAILED REPORT

Installation verification inspections are a standardized task included in every MWDOC grant application. Inspections are broken into two categories; device-based and area-based inspections. Device-based inspections target a random sampling of devices, such as irrigation timers and sprinkler nozzles. Area-based inspections target every rebate applicant in the Turf Removal and Spray-to-Drip Rebate Programs. The area measured through an area-based inspection is used to calculate the rebate. For example, if 980 square feet of turf is removed and the rebate is \$1/sqft, the rebate is \$980.

MWDOC administers the Turf Removal and Spray-to-Drip Rebate Programs on behalf of our member agencies. We require our member agencies to complete area based pre- and post-retrofit inspections on all applicants. Member agencies have the option to utilize either their own staff to complete these inspections or MWDOC's installation verification inspection contractor. If an agency elects to utilize MWDOC's contractor, they are obligated to pay the associated costs. Currently, there are nine agencies utilizing MWDOC's inspection contractor.

Staff prepared an RFP that defined the scope of work for installation verification inspections, including requirements for:

- Inspector training
- Inspection scheduling
- Device-based installation verification inspection procedures
- Area-based installation verification inspection procedures, and
- Reporting and invoicing

The Installation Verification Inspection RFP was distributed to 11 prospective contractors on April 6, 2017. A pre-proposal meeting to summarize the desired services and answer questions was held on April 13, 2017. Staff received two proposals by the April 20, 2017 submittal deadline; one from Mission Resource Conservation District and one from WaterWise Consulting, Inc. Staff convened an RFP review panel to review and score the proposals, and make a recommendation to the Board. RFP review panel members included staff from MWDOC, the City of San Clemente, Mesa Water District, and Santa Margarita Water District.

The review panel evaluated the proposals in the following areas: Completeness and Organization of the Submittal; Understanding Approach/Scope of Work/Methodology; Team/Project Manager Experience/Capabilities; References/Record of Performance; Firm Resources and Team Qualifications; and Cost. Each panel member scored each criteria from 0 to 10. Scores from each panel member were then tallied into a final score for each proposal. The panel found Mission to be better qualified to provide these inspection services.

MWDOC's experience with the Mission over the past several years has been very positive. The quality of their work has been superior to other contractors, and their staff is professional and responsive to our needs.

As a result, it is the review panel's recommendation that the Board of Directors authorize the General Manager to enter into a professional services agreement with Mission Resource Conservation District to perform Water Use Efficiency Programs Installation Verification Inspections over the next five years.

Water Supply Reliability Study

South Coast Water District



May 25, 2017

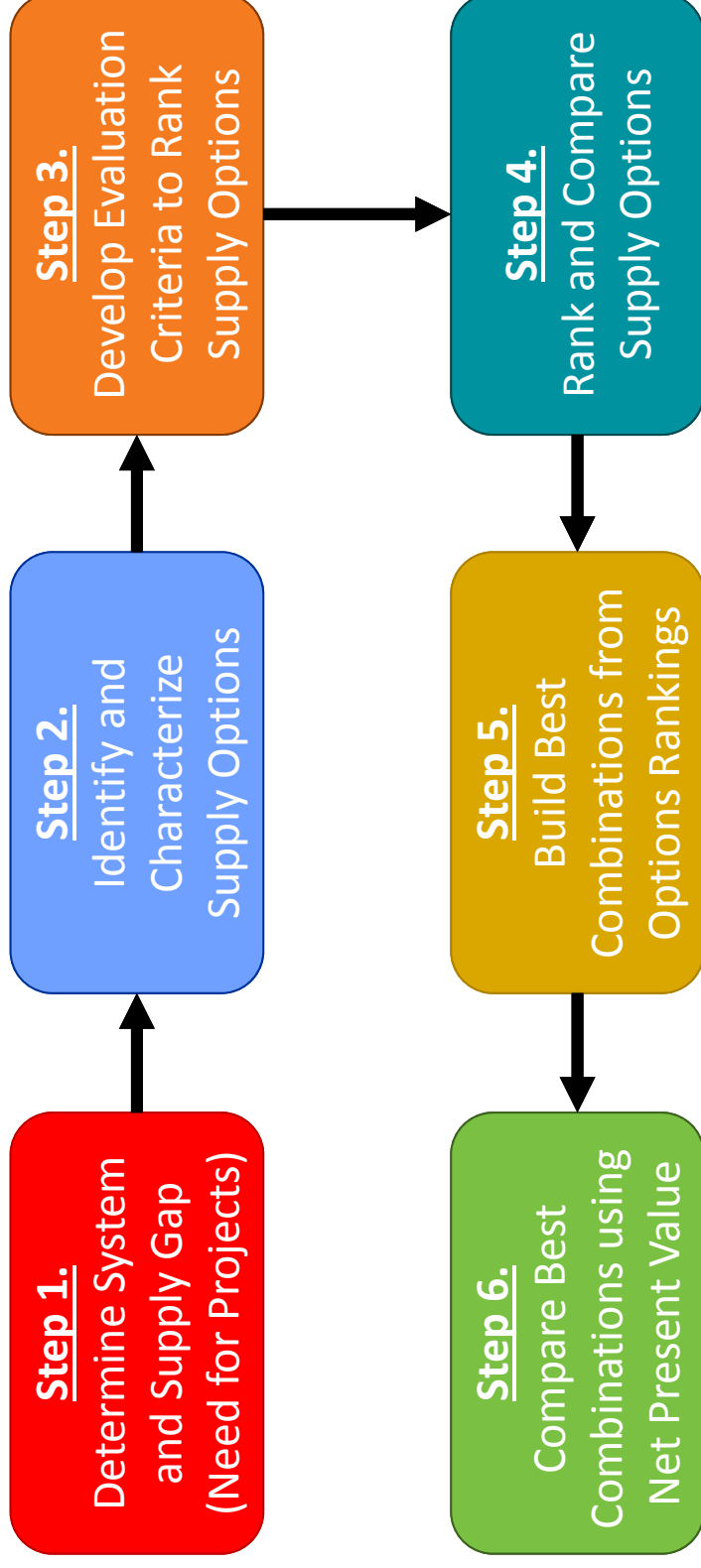
**CDM
Smith**

SCWD Board of Directors Meeting

Purpose of Study

To determine the water supply needs for SCWD in order to be reliable during MWD system outages and droughts; and to evaluate potential supply projects that best meet these needs considering multiple objectives.

Approach



Findings

- System needs = 3.9 MGD; Supply needs = 3,100 AFY
- Six supply options were evaluated including Doheny and Poseidon (HB) desal, OCWD/SOC emergency supply and Cadiz water transfer
- Doheny was the only individual option that could entirely meet both system and supply needs
- Two other combinations were compared to Doheny, both with OCWD/SOC emergency supply (one with Cadiz, one assuming a successful WaterFix)
- Doheny desal is **\$11 M** lower in total NPV cost than OCWD/SOC emergency + Cadiz (\$647,000/year less cost)
- Doheny desal is **\$2 M** greater in total NPV cost than OCWD/SOC emergency + WaterFix (\$117,000/year more cost)



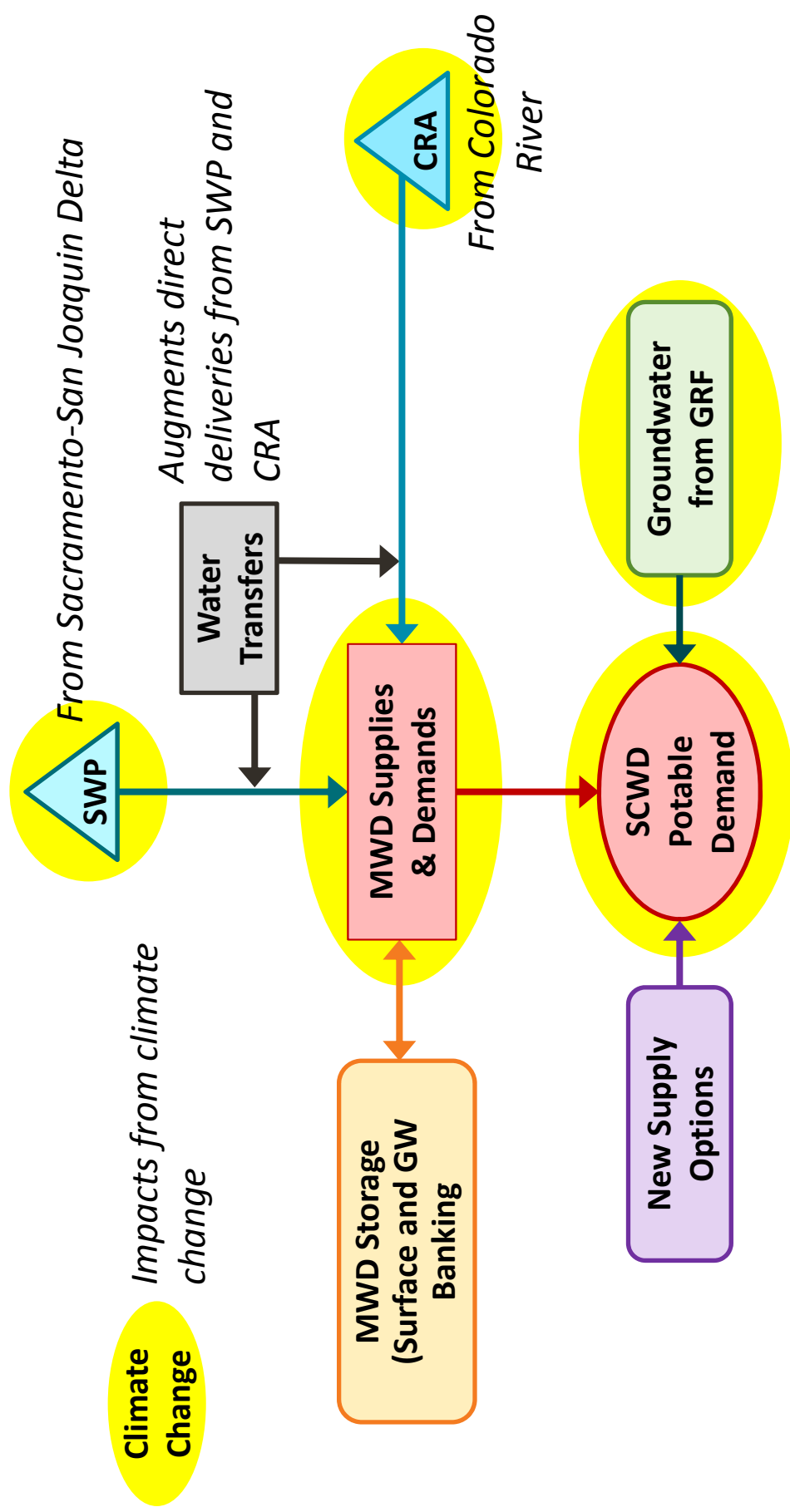
Water Supply Gap

Water Supply Gap Assumptions

- Used modified supply simulation model from OC Reliability Study (2016)
- Based on historical hydrology from 1922 to 2016
- Based on OC Reliability Study planning assumptions:
 - Moderate climate change, with 4% higher regional growth
 - No California WaterFix
 - Additional MWD member agency local supplies (not including OC agencies): 162,000 AFY
 - MWD Carson IPR project: 100,000 AFY
 - Additional MWD transfers: 180,000 AFY
 - No new South Orange County projects, other than those non-potable recycled water projects identified in 2015 UWMMPs

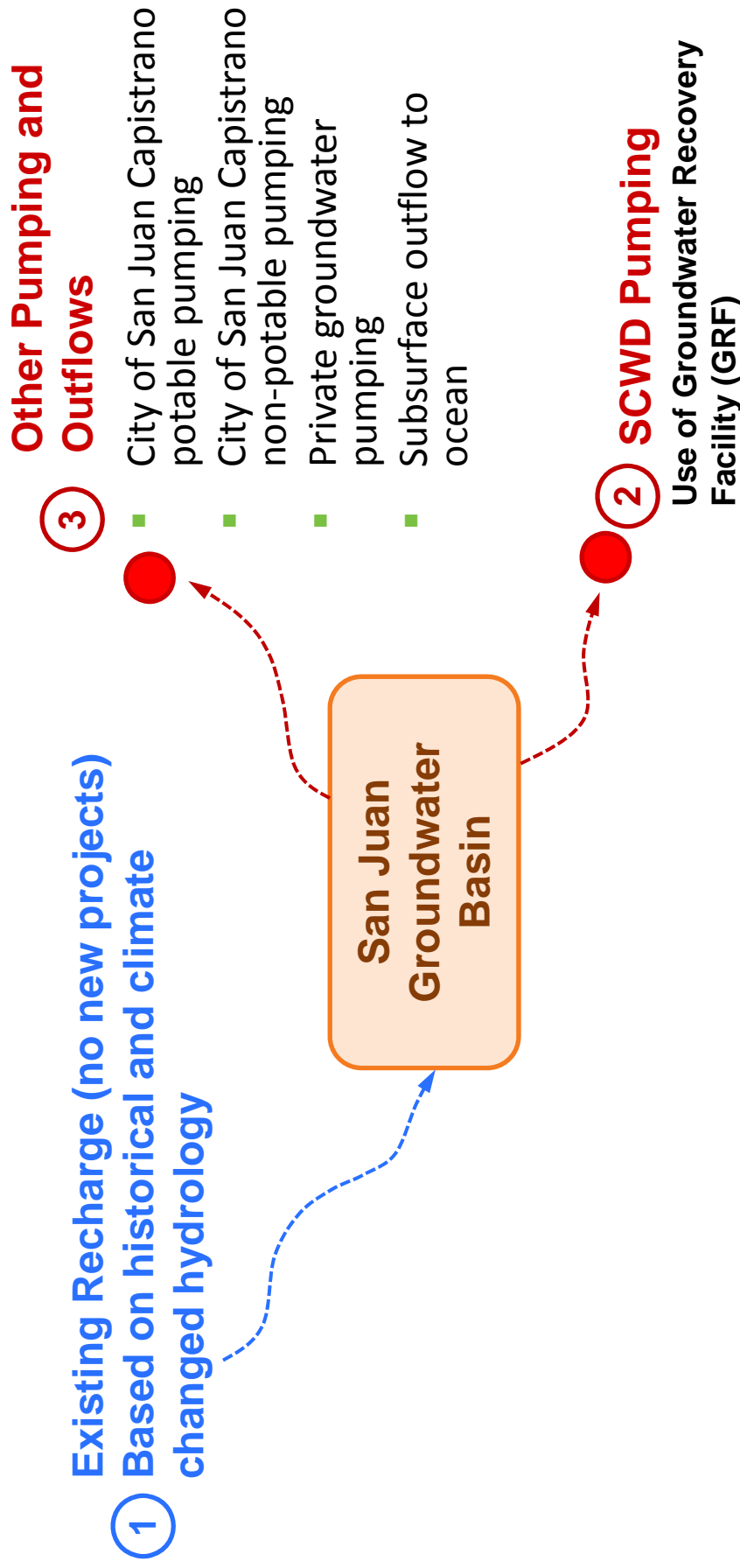
South Coast Supply Reliability Model

Simulates how water supplies from different sources meet water demands under different hydrologic conditions. Tracks filling and use of storage. Estimates how often and big water shortages occur.



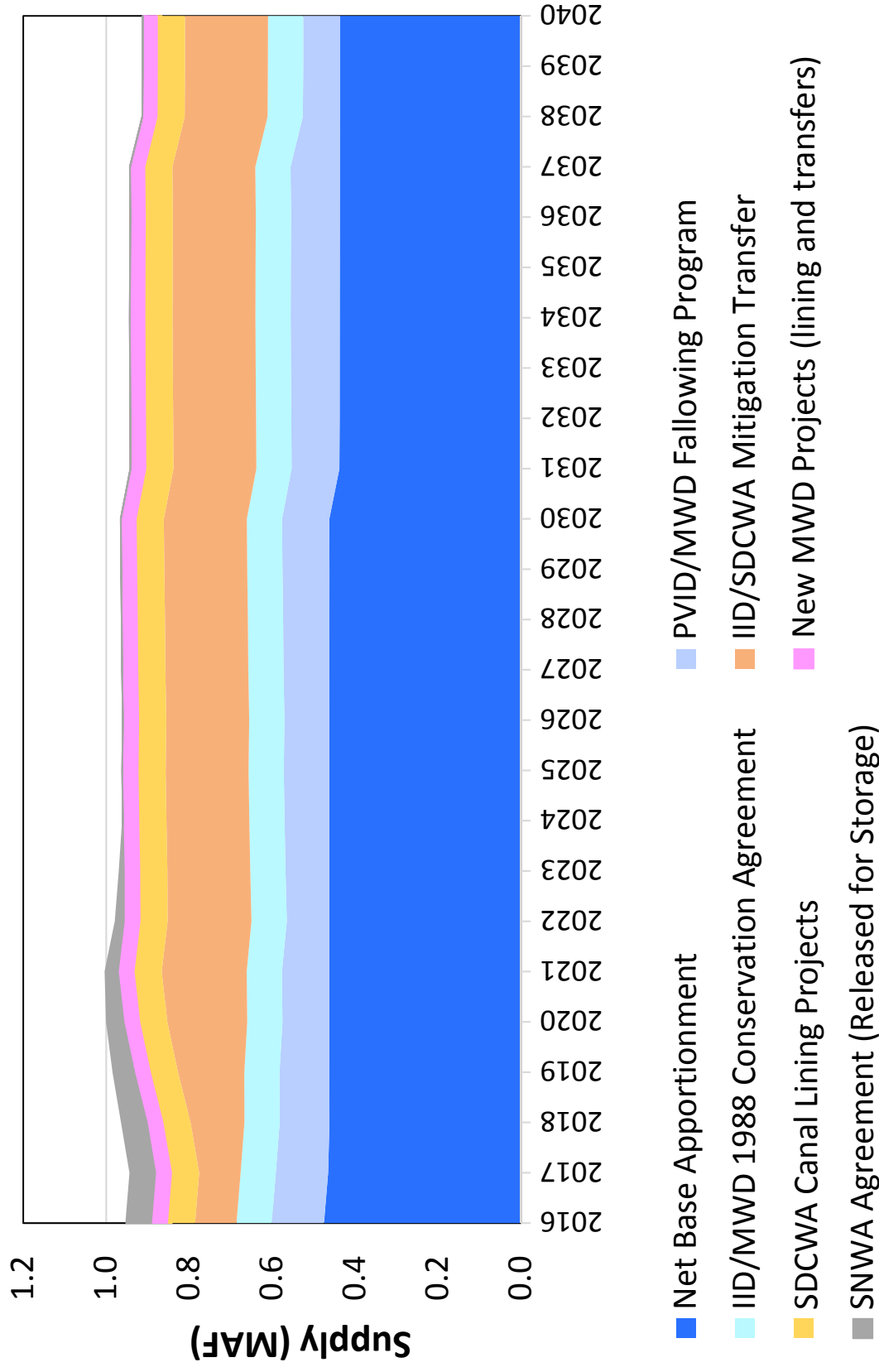
Groundwater Model Component

Groundwater in the San Juan Basin is managed by the San Juan Basin Authority (SJBA)

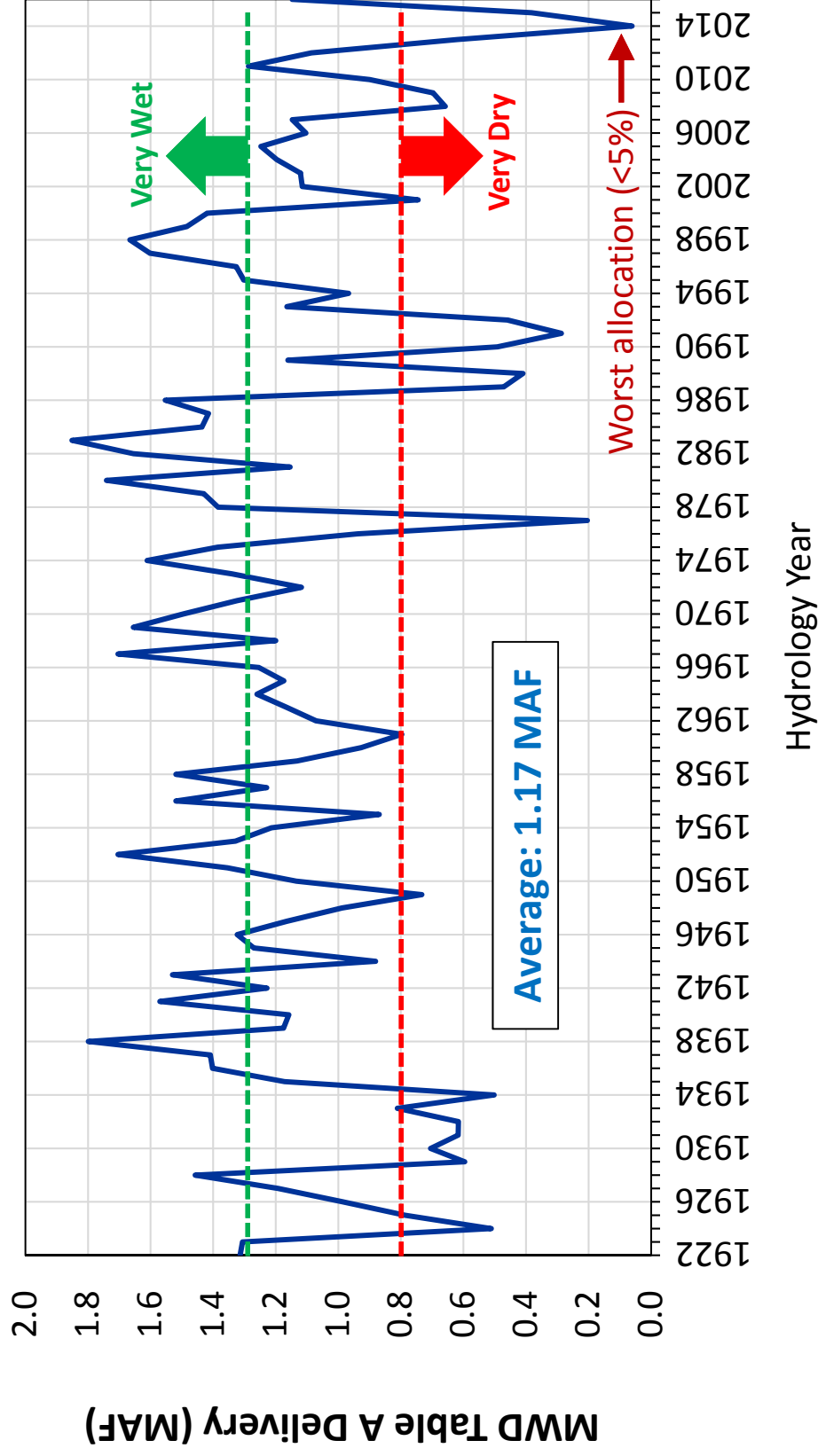


MWD Supplies: Colorado River Aqueduct

Under no shortage conditions

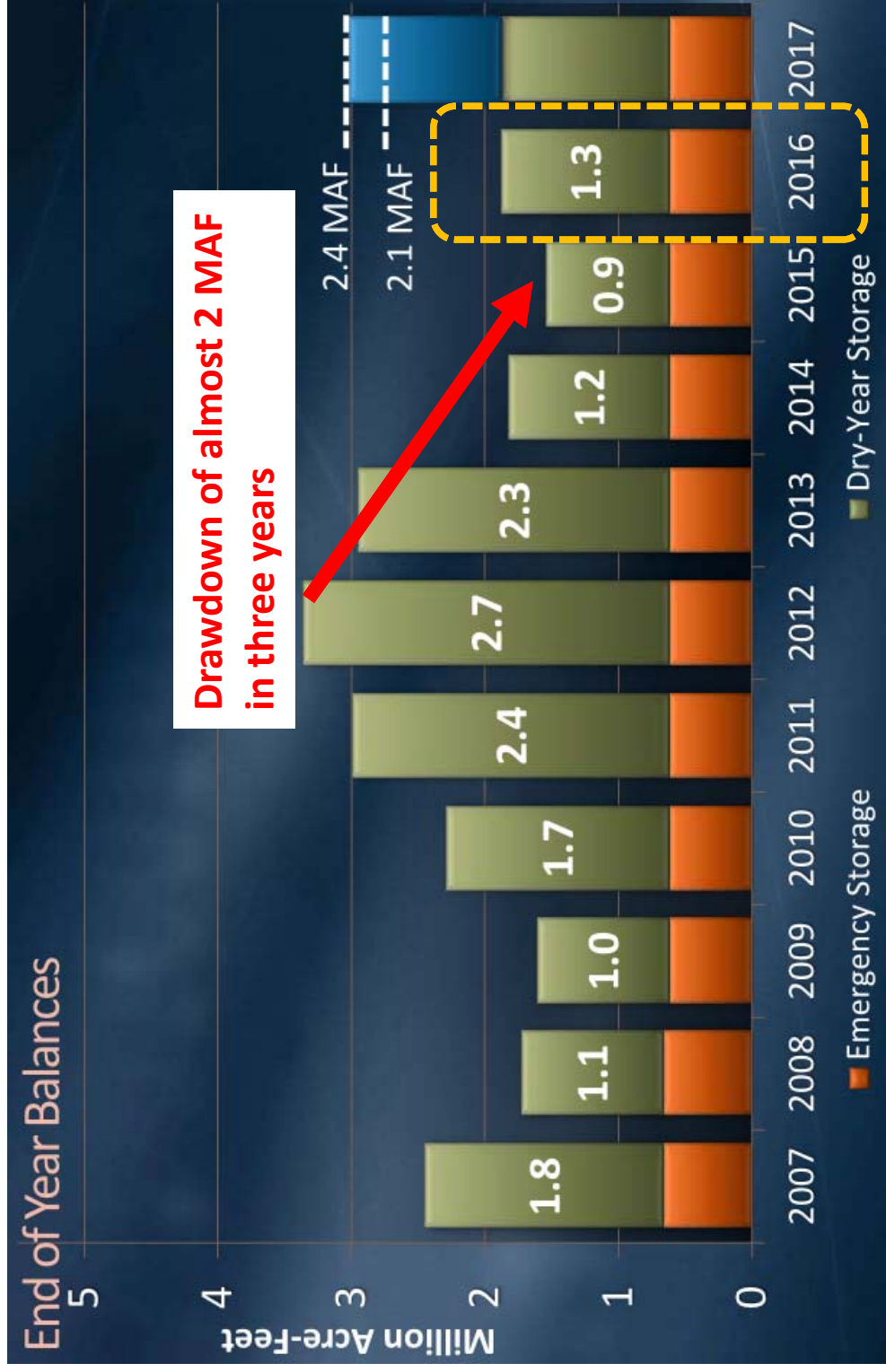


MWD Supplies: State Water Project



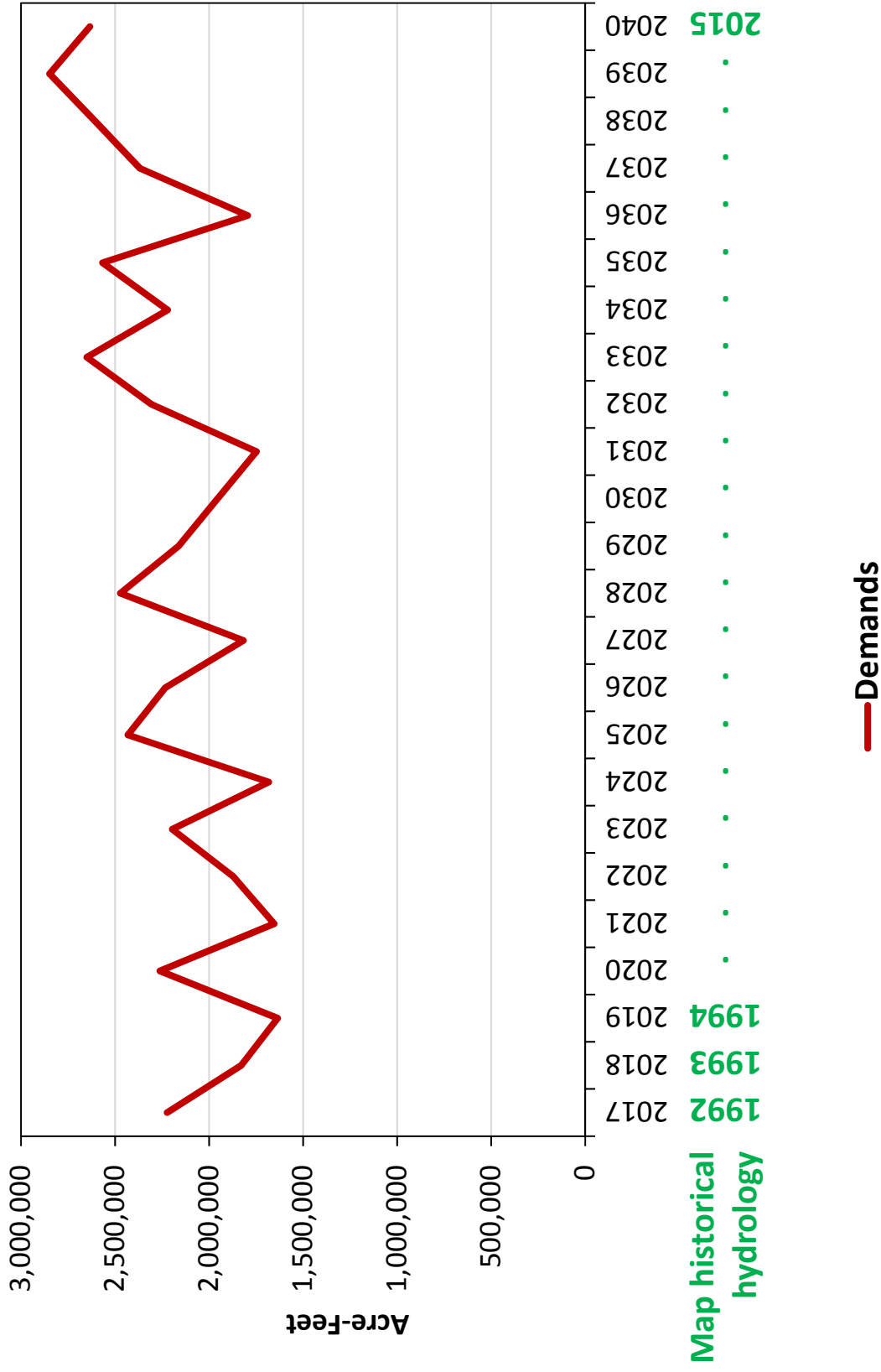
All SWP deliveries based on current biological opinions. Without a California WaterFix there could be even greater limitations in deliveries, but this is difficult to quantify.

MWD Supplies: Storage

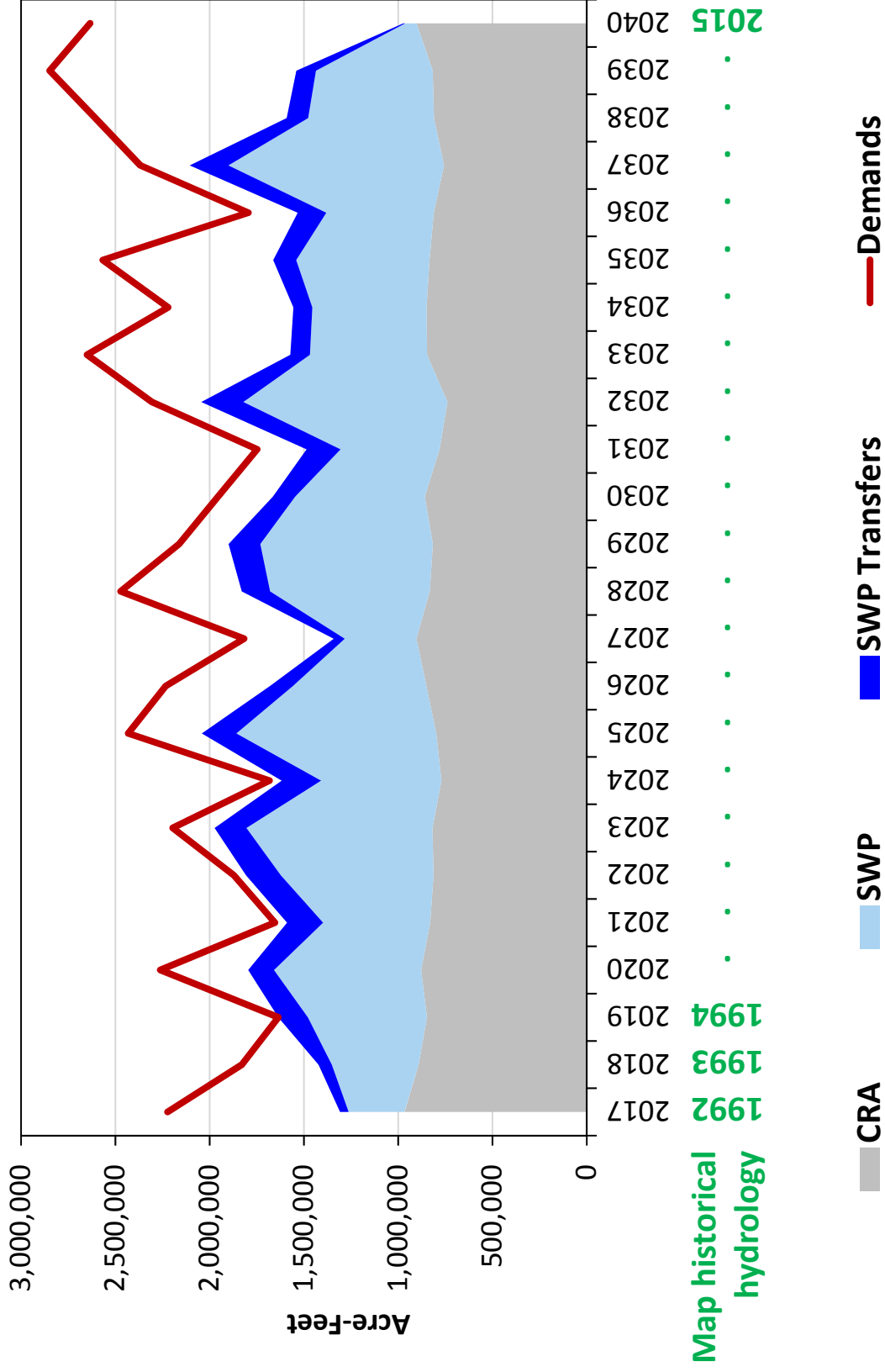


Predicted by MWD based on very wet winter 2016/17

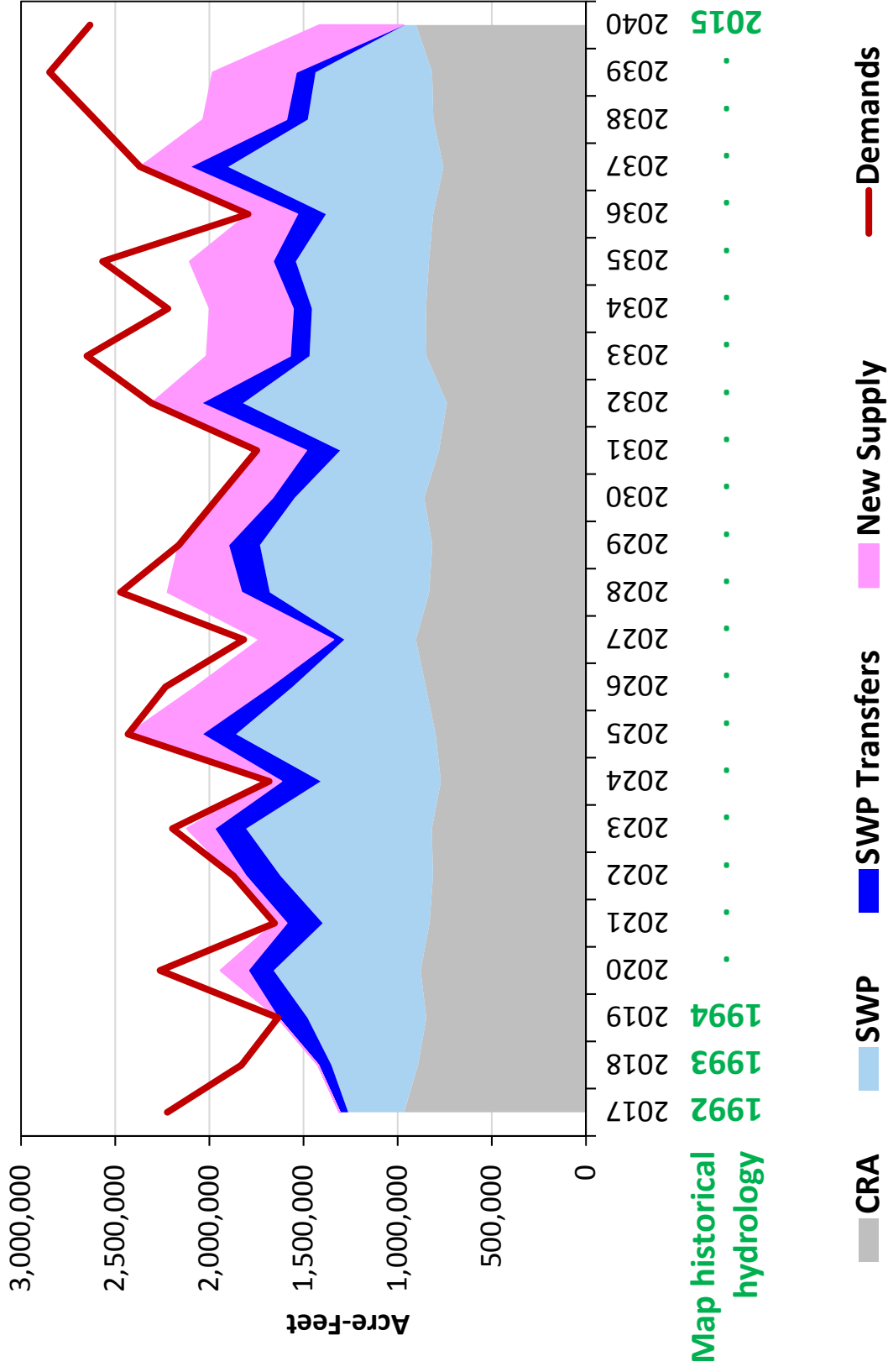
MWD Reliability: Repeat of 1992-2015 Hydrology



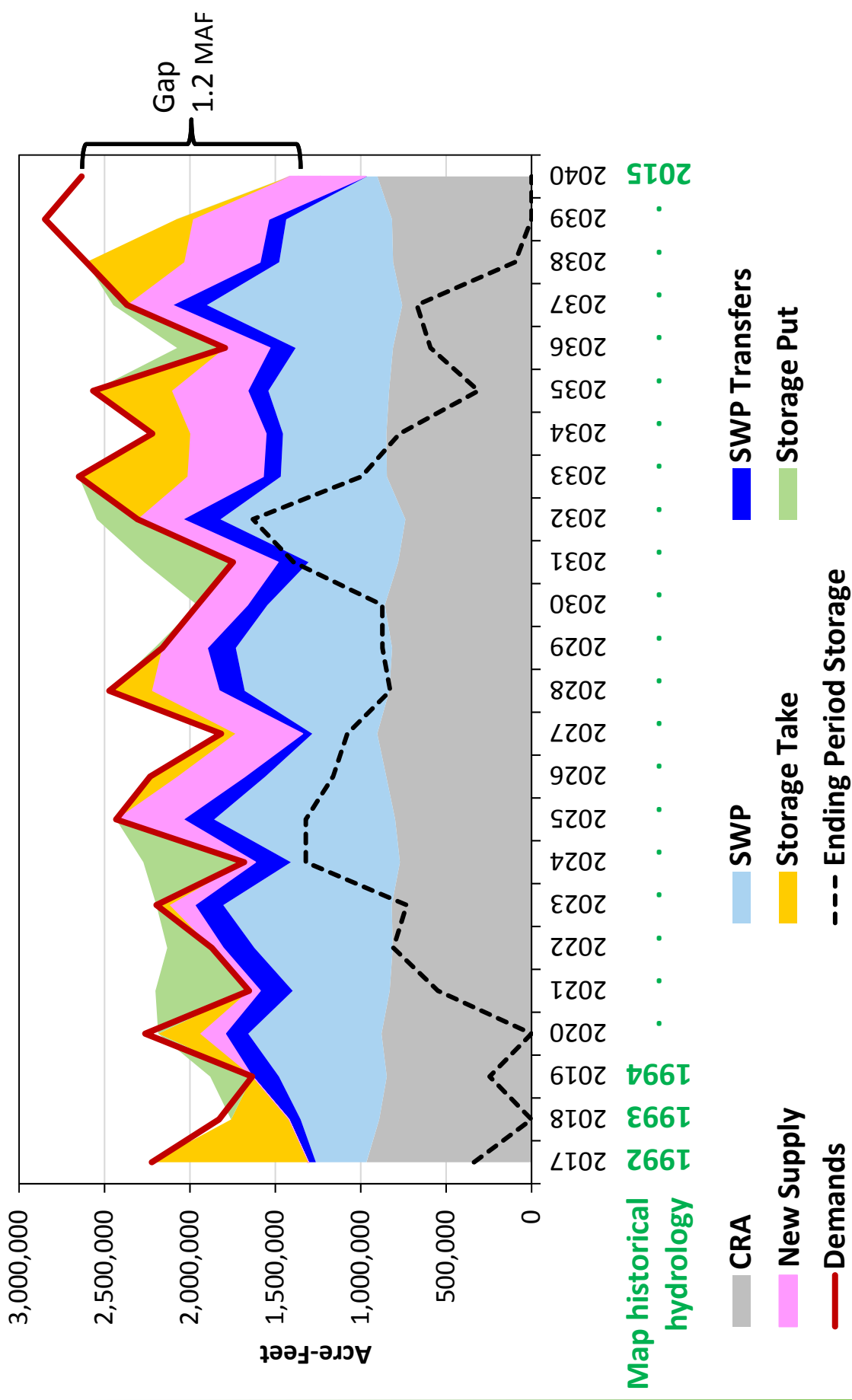
MWD Reliability: Repeat of 1992-2015 Hydrology



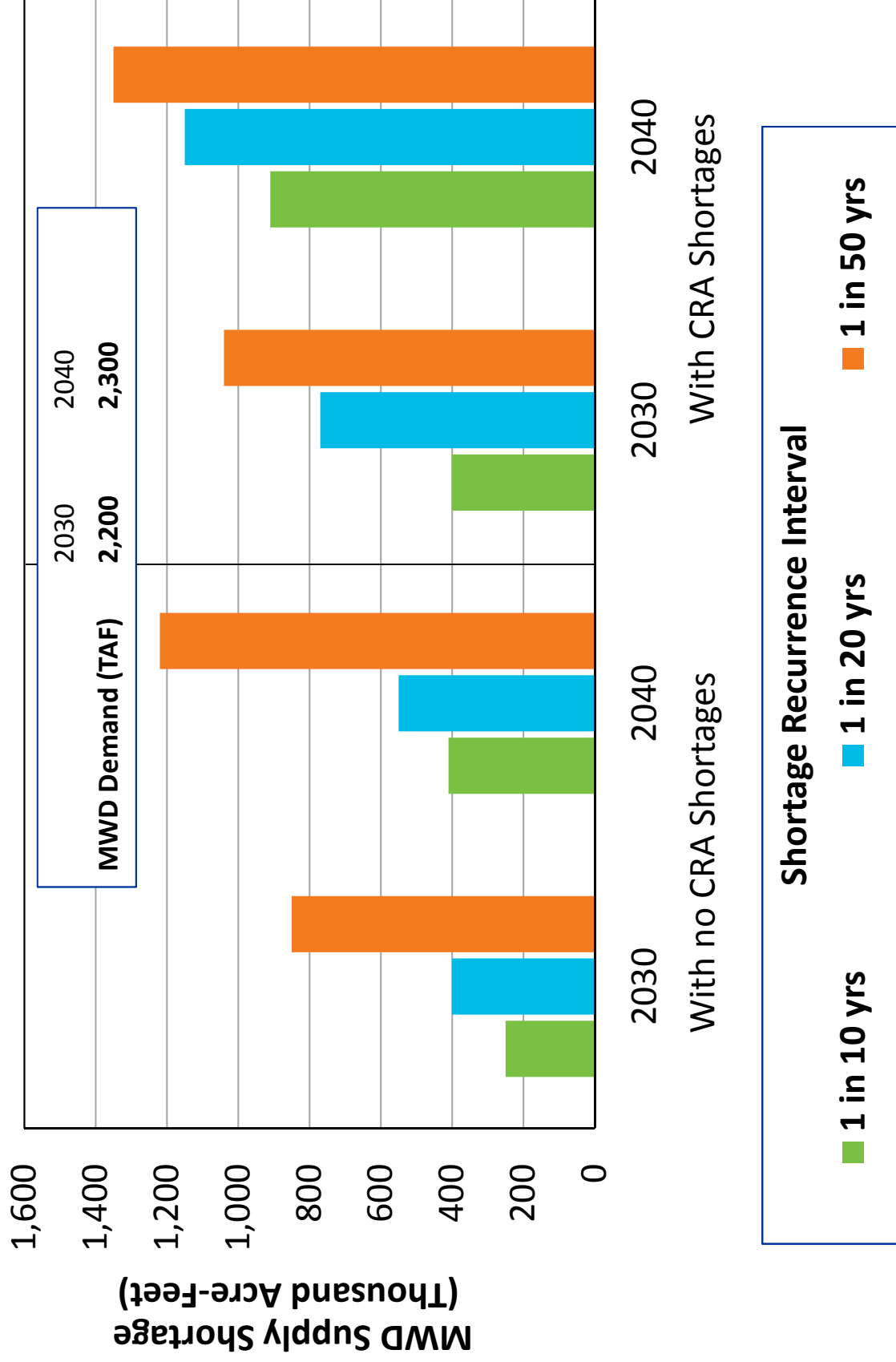
MWD Reliability: Repeat of 1992-2015 Hydrology



MWD Reliability: Repeat of 1992-2015 Hydrology



MWD Water Shortages (all hydrologies)



Factors Impacting SOC Water Demands

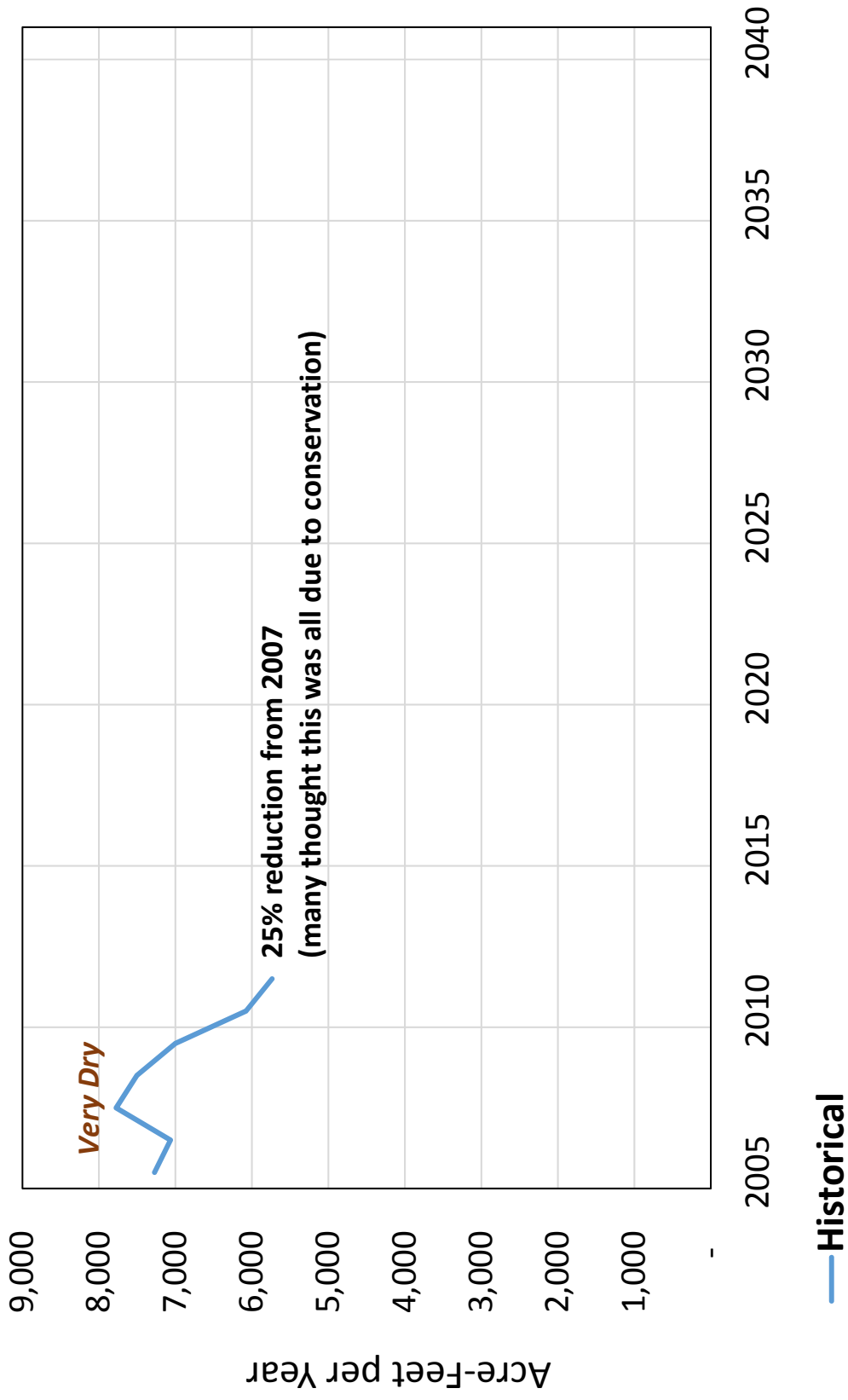
As part of OC Reliability Study, CDM Smith conducted statistical analysis of water demands. The following factors were determined for South Orange County demands:

- Economic recessions reduce demands by 12%
- Historical weather variability result in shifting demands \pm 8% from average weather
- Long-term climate change increase average weather demands by 6% by 2040
- MWD drought allocations reduce demands by 6 - 10%
- New plumbing codes and landscape ordinances reduce demands by 20% for new construction
- State mandated conservation (2014-2016) reduces demands by 20-25%

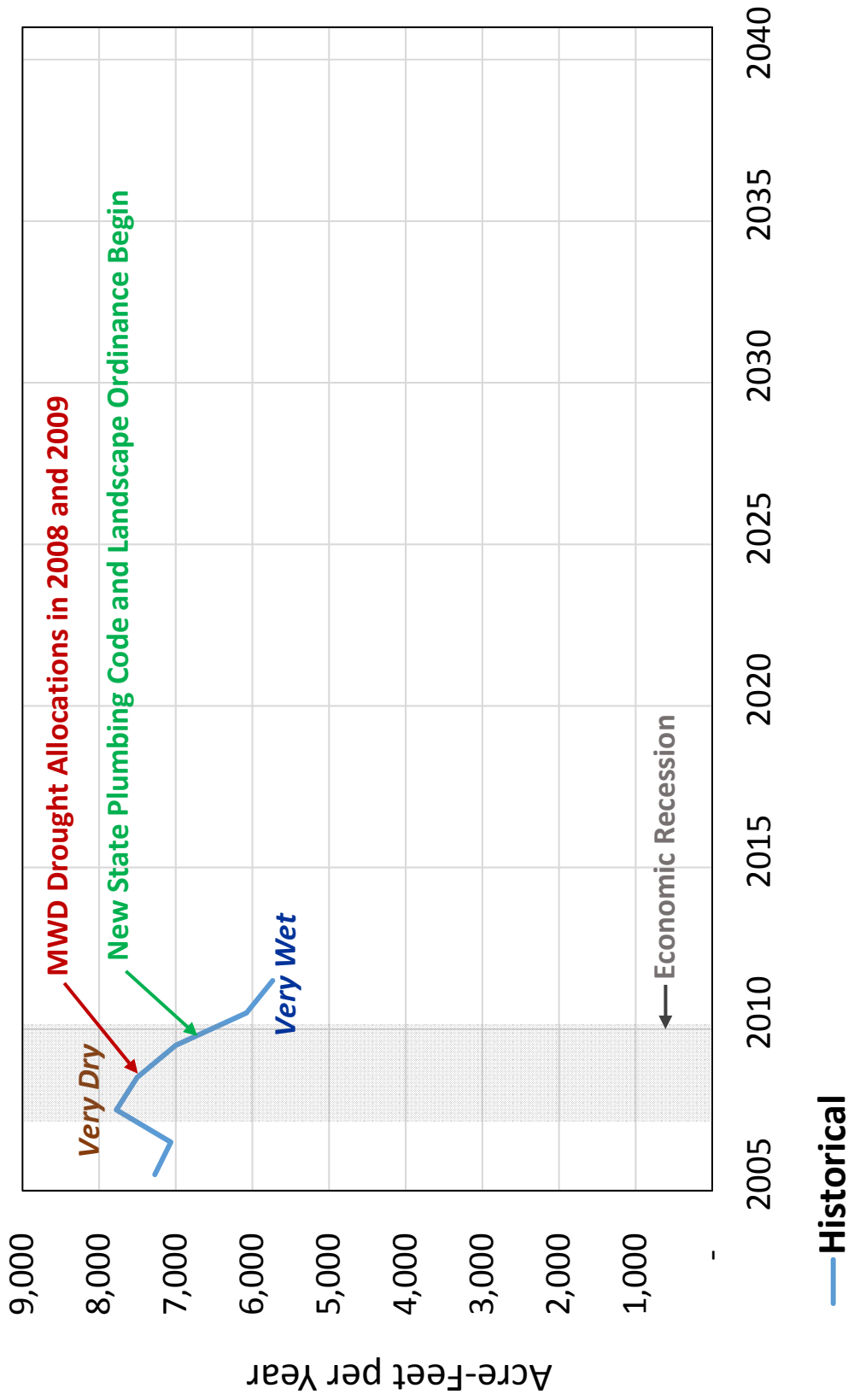
SCWD Water Demand



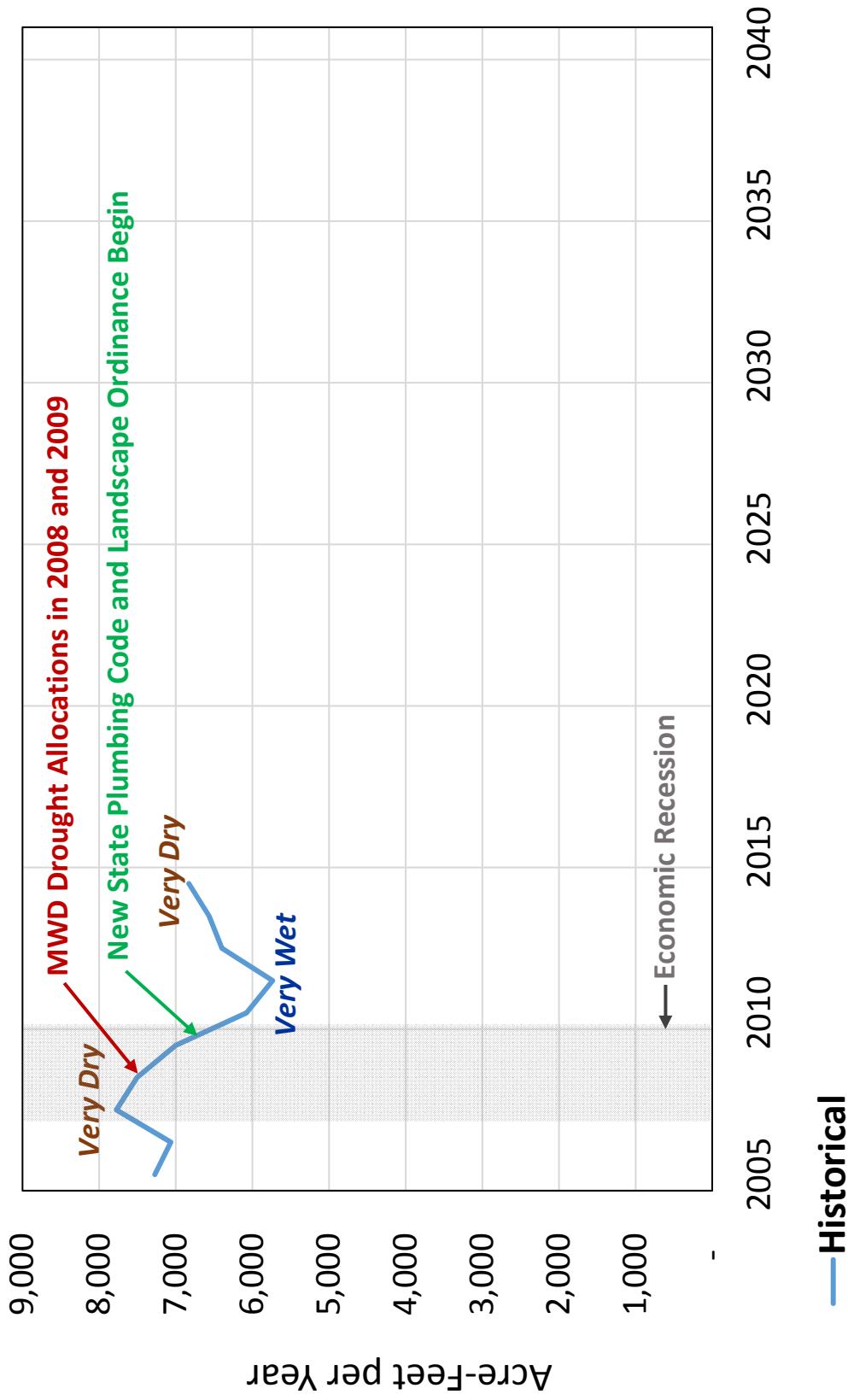
SCWD Water Demand



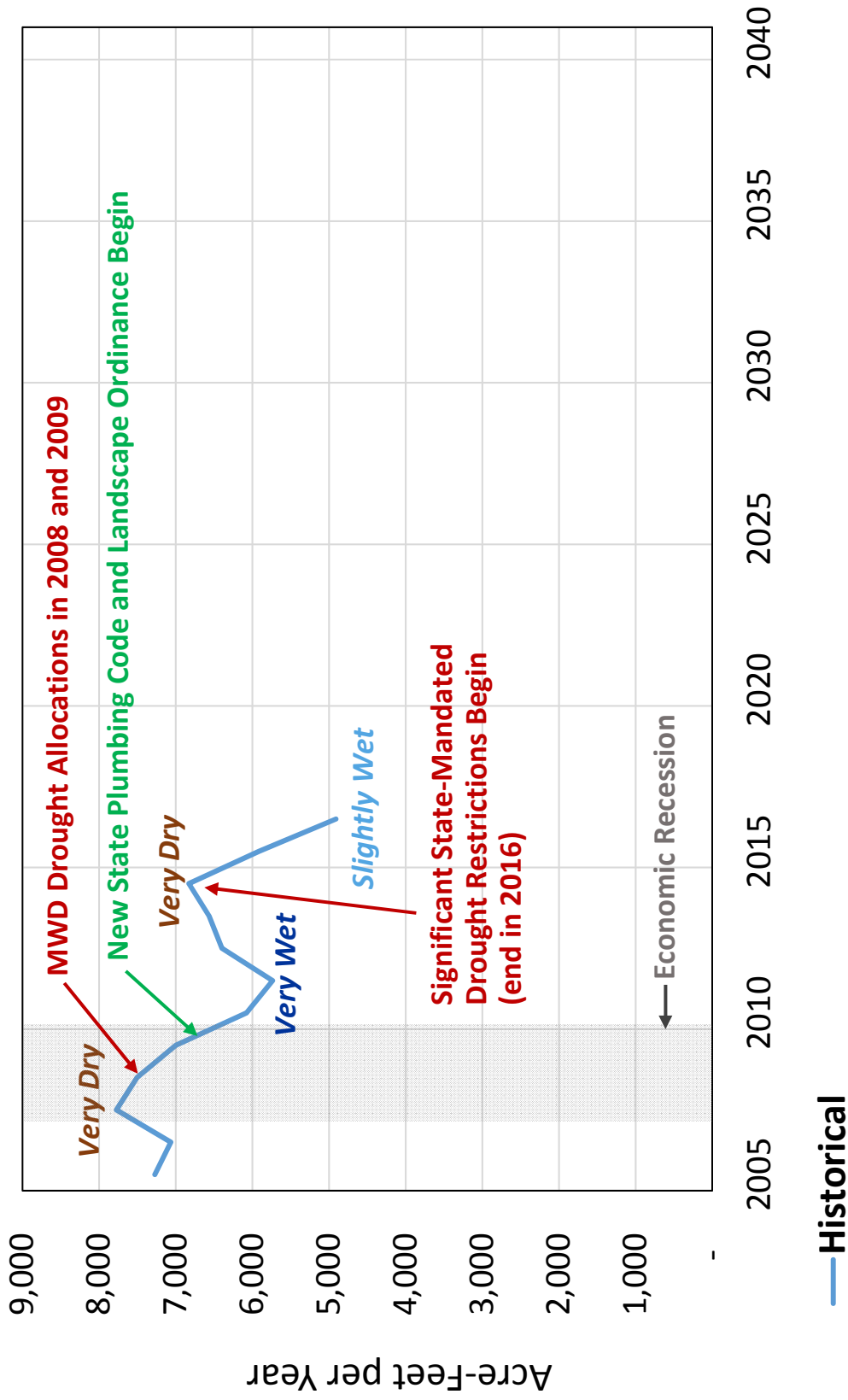
SCWD Water Demand



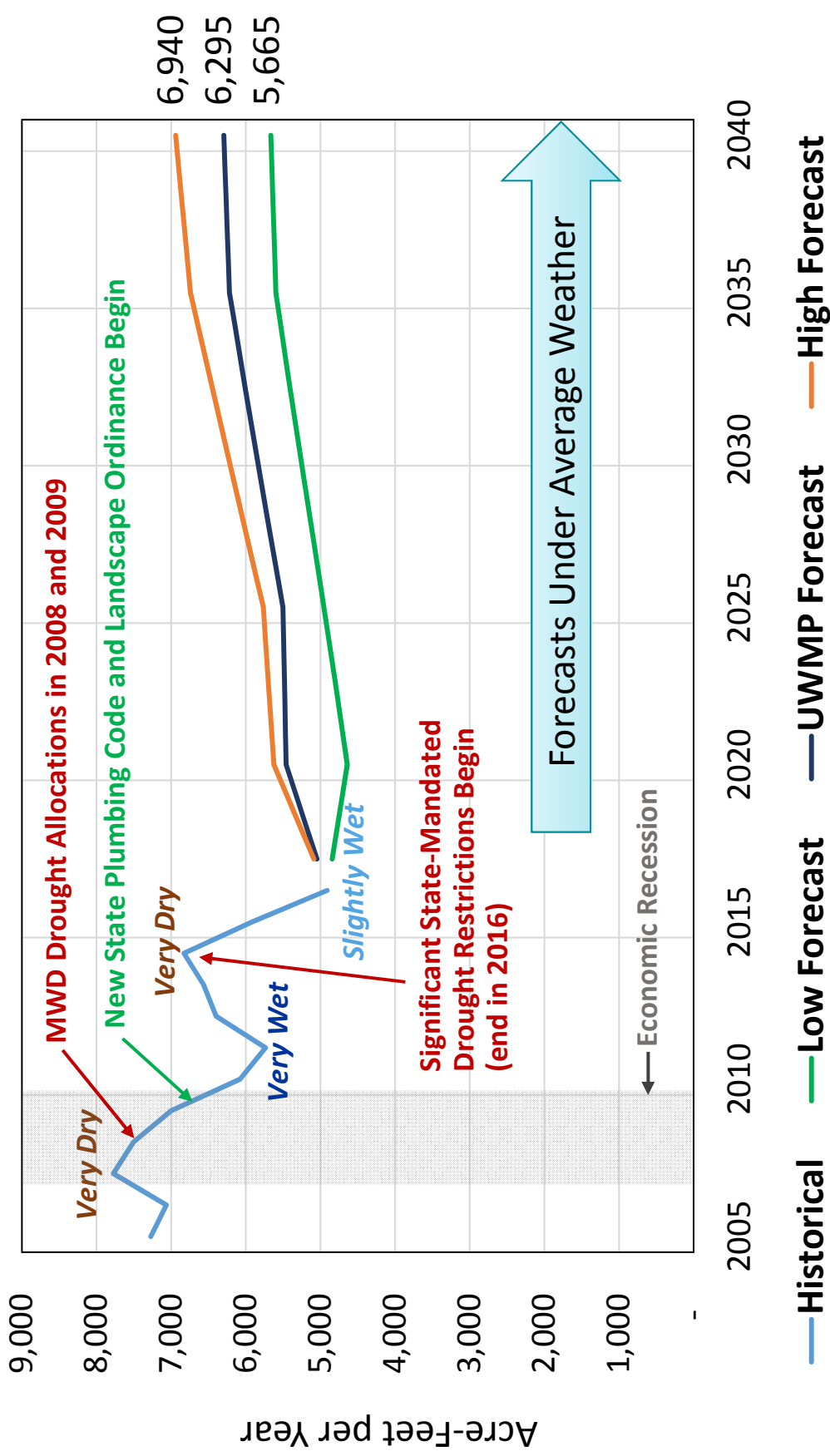
SCWD Water Demand



SCWD Water Demand



SCWD Potable Water Demand



- Low Forecast represents no bounce back in 2014 pre-drought conditions, no climate change
- High Forecast represents 90% bounce back and climate change

SCWD: Groundwater Recovery Facility

Groundwater treated at SCWD's GRF is pumped from San Juan Basin. Recharge and Pumping operations for the Basin are based on the **2016 Adaptive Pumping Management Alternative**.

- Existing Basin recharge conditions = average of 10,000 AFY supply
- Storage capacity of Basin = 41,400 AF
- 33,000 AF Basin storage minimum to permit pumping
- SCWD permit for up to 1,300 AFY
- Current SCWD GRF plant capacity is 1,040 AFY

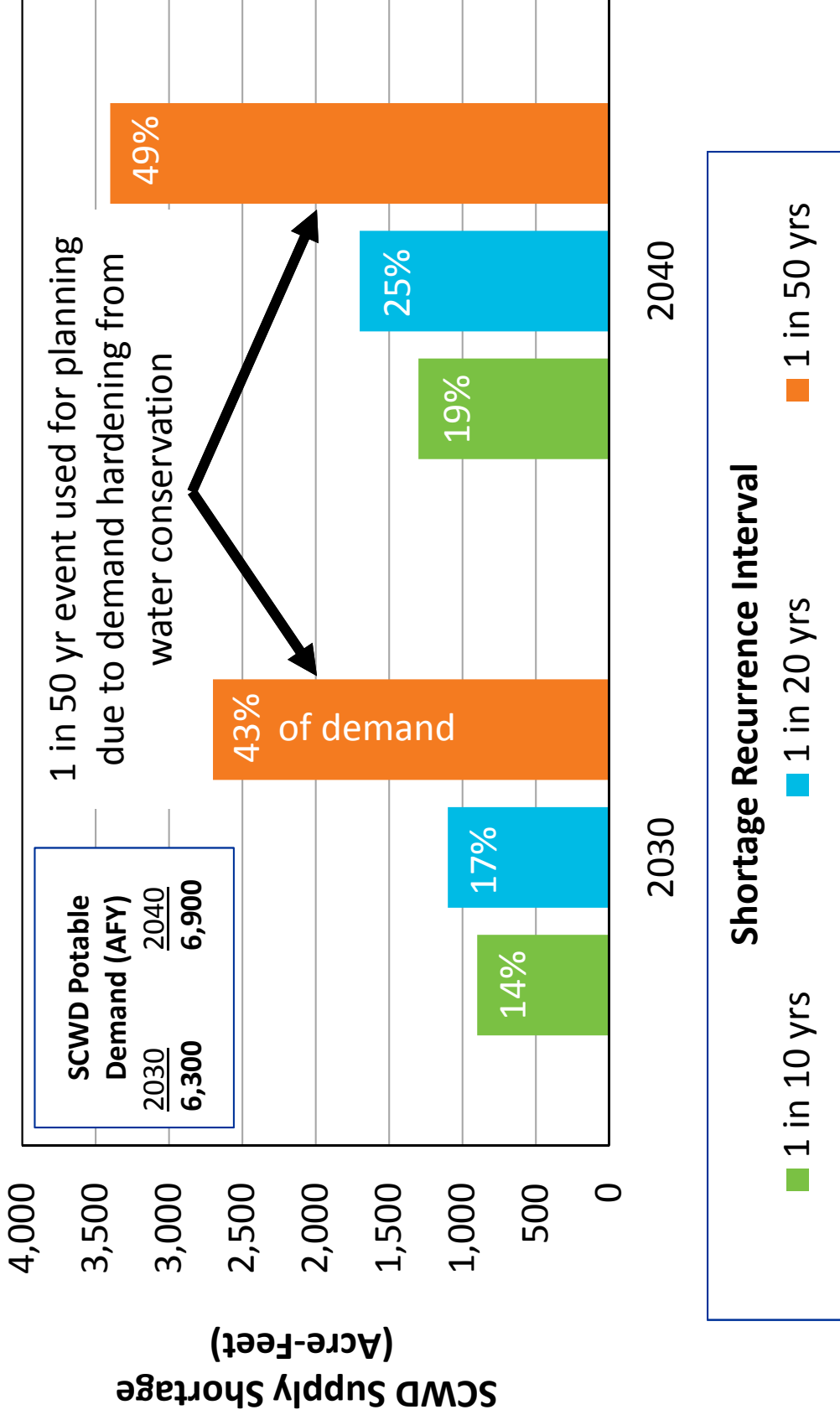
SCWD Supply Reliability Scenarios

Four scenarios were used to estimate future water supply reliability for SCWD:

1. Low potable water demands with no CRA shortages
2. Low potable water demands with CRA shortages
3. High potable water demands with no CRA shortages
4. High potable water demands with CRA shortages

SCWD Water Shortages

High potable demands with no CRA shortage



Summary of SCWD Potable Supply Gap

Max Supply Shortage (AFY)	2030	2040
Low Demands/No CRA Shortage Scenario	2,300	2,600
Low Demands/With CRA Shortage Scenario	2,500	2,800
High Demands/No CRA Shortage Scenario	2,700	3,400
High Demands/With CRA Shortage Scenario	3,000	3,600
Average of All Scenarios	2,600	3,100

Used for Ranking of Supply Options



Water System Gap

Water System Gap

Need for new system capacity during an extended outage (up to 60 days) of MWD's deliveries caused by an earthquake or emergency. For system gap, demands and supplies are presented in million gallons per day (MGD) as opposed to acre-feet per year (AFY) in order to account for shortages that are less than a year.

Two scenarios are analyzed to determine a range of new system capacity:

- 1) **Low Scenario** – lower potable water demands with available groundwater from San Juan Groundwater Basin
- 2) **High Scenario** – higher potable water demands with no available groundwater from San Juan Groundwater Basin

Potable Water System Gap – Low Scenario (60-day outage of MET supplies)

Demand and Supply (MGD)	2020	2030	2040
Daily Potable Water Demand ¹	4.1	4.7	5.1
Cutback in Outdoor Water Use ²	-0.8	-0.9	-1.0
Use Emergency Storage ³	-0.5	-0.5	-0.5
Use of SCWD GRF ⁴	-0.3	-0.3	-0.3
Net System Need	2.5	3.0	3.2

Notes:

- 1) Lower demand forecast, assuming no bounce back in pre-drought demand
- 2) Assumes 40% outdoor water use, 50% cutback
- 3) Total emergency storage of 29.1 MG used over 60 days
- 4) Assumes half of groundwater production capacity

Potable Water System Gap – High Scenario

(60-day outage of MET supplies)

Demand and Supply (MGD)	2020	2030	2040
Daily Potable Water Demand ¹	5.0	5.6	6.2
Cutback in Outdoor Water Use ²	-1.0	-1.1	-1.2
Use Emergency Storage ³	-0.5	-0.5	-0.5
Use of SCWD GRF ⁴	NA	NA	NA
Net System Need	3.5	4.0	4.5

Notes:

- 1) Assumes 90% bounce back in pre-drought demand, plus climate change
- 2) Assumes 40% outdoor water use, 50% cutback
- 3) Total emergency storage of 29.1 MG used over 60 days
- 4) Assumes groundwater production is not available

Used for Ranking of Supply Options
(average of low & high system gap scenarios)

3.9



Water Supply Options

Potable Supply Options for SCWD

Option	System Capacity ¹ (MGD)	Annual Supply ² (AFY)	Supply Benefit	System Benefit
Doheny Seawater Desalination ³	4.0	4,500	✓	✓
Poseidon Seawater Desalination (HB)	3.0	3,360	✓	✓
San Juan Basin Groundwater Expansion (w/ SCWD Well #2) ⁴	1.2	1,440	✓	✓
Water Transfer (Cadiz Water)	NA	3,100	✓	
OCWD/SOC Emergency Supply	4.5	NA		✓
Purchase of MWD Water Above Allocation	NA	As needed	✓	

- 1) System capacity used by SCWD under an outage (NA = not available for system needs).
- 2) Annual supply used by SCWD (NA = not available for supply needs).
- 3) System capacity and annual supply available to SCWD, with difference being used by another partner agency (supply set to equal SCWD's min. month demand for 12 months).
- 4) Expansion of SCWD GRF with well #2 provides 1,040 AFY + 400 AFY (20% of SJB Phase 1 Expansion Project total yield 1,980 AFY)

Doheny Desalination Project Cost Assumptions

Max Plant Capacity = 5.0 MGD Max Plant Supply = 5,321 AFY Average SCWD Supply = 4,500 AFY	Net CAPEX (\$M)	Annual CAPEX (\$M) ⁵	Annual O&M (\$M) ⁶	Total Annual (\$M) ⁶
Desalination Project Cost ¹	91	5.7	6.0	11.7
LRP Funding for Desalination Project ²			-2.5	-2.5
Avoided O&M Cost for GRF			-0.9	-0.9
Sell Excess Desalination Supply ³			-1.4	-1.4
Sell Excess Permitted GW Supply ⁴			-0.0	-0.0
Net Cost		5.7	1.2	6.9
Projected Nominal Unit Cost in 2021 (\$/AF)				\$1,540

- 1) Assumes SCWD sells off its GRF facility with a salvage value of \$4M and obtains \$10M in Prop 1 grant funding, reducing project cost from \$105M to \$91M.
- 2) Assumes \$475/AF LRP funding for 15 years, at full plant capacity.
- 3) Assumes SCWD sells excess desalination supply at MWD treated water rate.
- 4) May be a possibility to sell excess permitted GW supply, but set to zero to be conservative.
- 5) 2% financing over 20 years.
- 6) Projected to first year of operation, with inflation and operating at full plant capacity.

SJBA Groundwater Expansion Cost Assumptions

Average Supply = 1,440 AFY (1,040 AFY existing + 400 AFY SJBA Expansion)	CAPEX (\$M)	Annual CAPEX (\$M) ⁴	Annual O&M (\$M) ⁵	Total Annual (\$M) ⁵
SJB Expansion Cost ¹	31.8	2.0	0.4	2.4
SCWD GRF Expansion ²	2.7	0.2	1.3	1.5
LRP Funding for Project ³			-0.5	-0.5
Net Cost		2.2	1.2	3.4
Projected Nominal Unit Cost in 2021 (\$/AF)				\$2,360

- 1) Assumes 20% of \$159M SJBA Phase 1 Project, with additional treatment capacity.
- 2) Assumes another well and plant expansion, with project O&M and SJB membership.
- 3) Assumes existing LRP funding for 1,040 AFY of \$250/AF and \$475/AF LRP funding for additional 400 AFY for 15 years.
- 4) 2% financing over 20 years, no grant funding assumed.
- 5) Projected to first year of operation, with inflation.

Costs for Other Supply Options

Poseidon Desalination:

- MWD water rate + (premium and transmission costs to SOC)
- Premium and transmission cost in 2020 = \$900/AF (escalates at 3% per year)

Cadiz Water Transfer:

- MWD water rate + (wheeling and premium)
- Wheeling and premium in 2020 = \$260/AF (escalates at 3% per year)

OCWD/SOC Emergency Supply:

- SCWD's share of capital cost = \$10 M for 4.5 mgd of emergency supply
- O&M cost (pumping and disinfection) = \$300/AF (escalates at 3% per year)
- MWD rate for purchased water re-payment (escalates at 4% per year)

Levelized Unit Cost

Levelized unit cost reflects the unit cost that if charged today would cover all future costs (capital cost, capital debt, & real increases in O&M cost). It reflects the time value of cost and benefit (acre-feet of supply). It is a standard economic methodology used by power utilities, and by MWD and SDCWA; it was also used in MWD/DOC's OC Reliability Study to compare alternatives. The formula is:

$$\frac{\text{Levelized Unit Cost (\$/AF)}}{\text{PV Cost}} = \frac{\text{Cost}_1}{(1 + r)^n}$$
$$\text{PV Water} = \frac{\text{AF}_1}{(1 + r)^n}$$

Where:

Cost₁ = annualized future project costs (CAPEX + OPEX) in period 1

AF₁ = annual acre-foot of water produced in period 1

r = discount rate

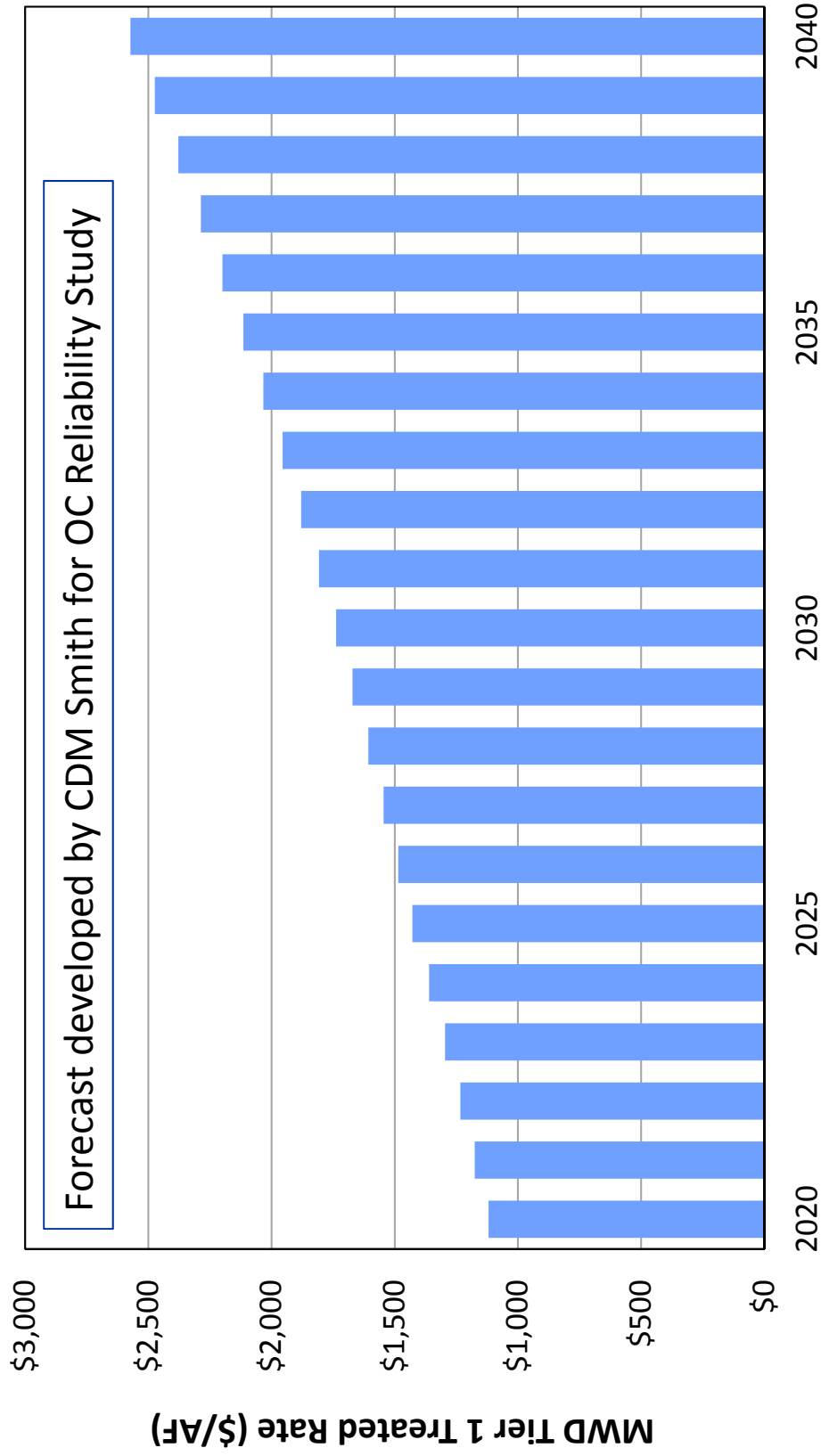
n = number of periods

Levelized Unit Cost Assumptions

- Finance rate for capital projects = 2% for 20 years, assuming SRF low-interest loan.
- O&M escalation for project costs = 3% per year, this is the long-term average from 1980-2015
- Capital cost escalation = 2% per year for construction-related costs and materials, which is based on more current data as project would be constructed within next 5-7 years
- Discount rate = 5%, which reflects the long-term average cost of money from 1980-2015

Projection of MWD Water Rates

Assumes 5%/year through 2025, then 4%/year through 2040



Note: Historical long-term average MWD rate increases = 7%/year



Evaluation Criteria and Ranking

Criteria for Evaluating Options

Criteria	Description	Base Weight
System Reliability	Reduction in system shortages caused by extended MWD outage	25%
Supply Reliability	Reduction in supply shortages caused by droughts and MWD allocations	20%
Resiliency	Level of certainty in supply under extended droughts and climate change	15%
Cost	Levelized unit cost (net present value cost divided by present value water)	15%
Level of Control	Level for SCWD to control operations and costs	15%
Implementability	Level of potential barriers, including environmental institutional, public	10%

System Reliability: reduction in system gap

Option	Criteria Value	Notes
Doheny Desalination	100%	Provides water supply directly to SCWD's service area during system outage
Poseidon Desalination	67%	Provides water supply directly to SCWD's service area during system outage
San Juan Groundwater Basin Program	28%	Provides water supply directly to SCWD's service area during system outage
Water Transfer (Cadiz)	0%	Water provided through MWD's Diemer WTP so no system benefit can occur
OCWD/SOC Emergency Water Program	90%	Reflects some uncertainty of full availability during extended droughts
Purchase of MWD Water Above Allocation	0%	Water provided through MWD's Diemer WTP so no system benefit can occur

Supply Reliability: reduction in supply gap

Option	Criteria Value	Notes
Doheny Desalination	90%	Portion of additional local water goes to regional benefit in MWD's allocations
Poseidon Desalination	90%	Portion of additional local water goes to regional benefit in MWD's allocations
San Juan Basin Groundwater Program	46%	Water supply can be used during droughts as extraordinary supply
Water Transfer (Cadiz)	100%	Water transfers are not impacted by MWD's allocations
OCWD/SOC Emergency Water Program	0%	Water can only be used during emergencies, so no drought benefit
Purchase of MWD Water Above Allocation	50%	Assumes water above allocation is only available 50% of the time

Resiliency: score from 1 to 5

Option	Criteria Value	Notes
Doheny Desalination	5	Supply yield is firm, and not impacted by hydrology and climate change
Poseidon Desalination	5	Supply yield is firm, and not impacted by hydrology and climate change
San Juan Basin Groundwater Program	3	Supply yield can vary year to year and can be limited during extended droughts
Water Transfer (Cadiz)	3	Supply yield can be impacted by long-term climate change
OCWD/SOC Emergency Water Program	3	Water can only be used during emergencies, so no drought benefit
Purchase of MWD Water Above Allocation	2	Likely not available during extended droughts

5 = best score, 1 = worst score

Cost: levelized unit cost to SCWD (\$/AF)

Option	Criteria Value	Notes
Doheny Desalination	\$1,950	Includes LRP & Prop 1 funding, salvage value for GRF, and selling excess supply
Poseidon Desalination	\$2,560	Includes LRP funding and system conveyance costs for SOC delivery
San Juan Basin Groundwater Program	\$2,630	Includes LRP funding
Water Transfer (Cadiz)	\$2,100	No LRP funding
OCWD/SOC Emergency Water Program	\$1,760	No LRP funding, cost reflects annualized capital + MWD purchase + GW pumping
Purchase of MWD Water Above Allocation	\$1,750	Assumes one multi-year drought period in 40 year period, with shortages multiplied by 3 X MWD water rate

For comparison, levelized unit cost of MWD water (subject to allocation) is **\$1,560/AF**

Level of Control: score from 1 to 5

Option	Criteria Value	Notes
Doheny Desalination	5	SCWD has high degree of control over operations and costs
Poseidon Desalination	2	SCWD has no control over operational costs
San Juan Basin Groundwater Program	3	SCWD has some degree of control over operations and costs
Water Transfer (Cadiz)	2	SCWD has no control over operational costs
OCWD/SOC Emergency Water Program	3	SCWD has some degree of control over operations and costs
Purchase of MWD Water Above Allocation	1	SCWD has no control over operations or costs

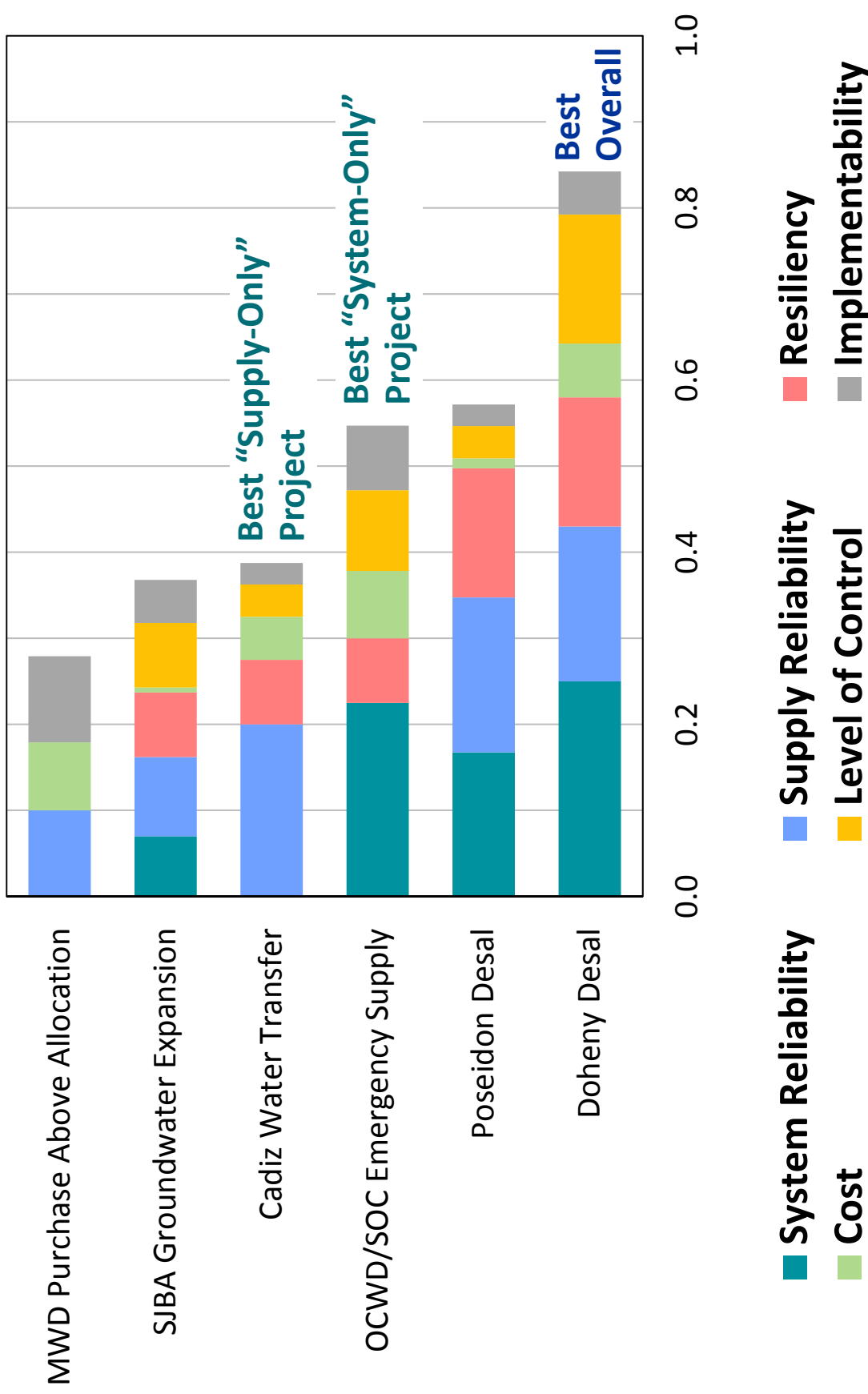
5 = best score, 1 = worst score

Implementability: score from 1 to 5

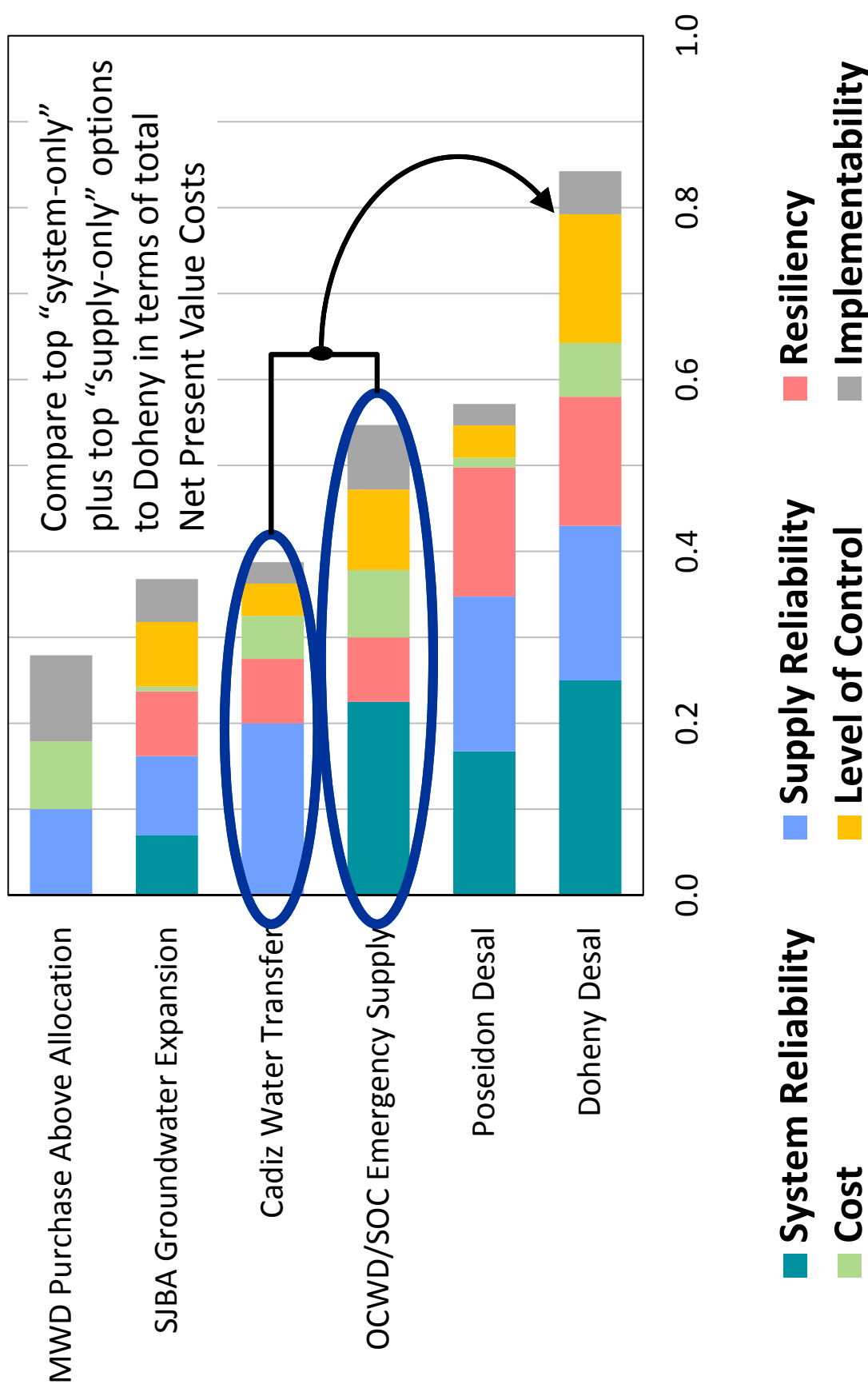
Option	Criteria Value	Notes
Doheny Desalination	3	Environmental barriers; optimal-sized project likely requires partnerships
Poseidon Desalination	2	Environmental and institutional barriers, potential lawsuits over basin impacts
San Juan Basin Groundwater Program	3	Institutional partnerships required; some technical challenges still exist
Water Transfer (Cadiz)	2	Requires partnerships; significant issues remain with MWD's acceptance
OCWD/SOC Emergency Water Program	4	Requires institutional agreements between OCWD, MWDOC, MWD and SOC
Purchase of MWD Water Above Allocation	5	Requires no partnerships and has no barriers to implementation

5 = best score, 1 = worst score

Ranking of Individual Supply Options



Ranking of Individual Supply Options



Comparing Net Present Value Cost for Portfolios

All portfolios provide full system and supply reliability

NPV Cost Components (\$ Millions)	Doheny Desal	OCWD/SOC Emergency Supply + Cadiz
Project Costs (CAPEX + OPEX)	\$88.7	\$74.3
Continued O&M Cost for GRF	\$0.0	\$16.0
Net MWD Purchases	\$41.4	\$50.8
Total	\$130.1	\$141.0

Comparing Net Present Value Cost for Portfolios

All portfolios provide similar system & supply reliability

NPV Cost Components (\$ Millions)	Doheny Desal	OCWD/SOC Emergency Supply + Cadiz	OCWD/SOC Emergency + WaterFix ¹
Project Costs (CAPEX + OPEX)	\$88.7	\$74.3	\$7.5
Continued O&M Cost for GRF	\$0.0	\$16.0	\$16.0
Net MWD Purchases	\$41.4	\$50.8	\$104.8
Total	\$130.1	\$141.0	\$128.3

1) Assumes WaterFix makes MWD fully reliable during current hydrologic period droughts, but may not be the case with extreme climate change.

Doheny Desalination Project is **\$10.9 million** less in net present value cost than combined OCWD/SOC Emergency Supply and Cadiz Projects. Assuming a successful WaterFix is combined with the OCWD/SOC Emergency Supply, then Doheny Desal is only **\$1.8 million** more in net present value cost.

Conclusions



Conclusions

- 1) As an individual project, Doheny Desal ranks 1st by high margins, due to the following benefits:
 - High system and supply reliability benefits
 - High resiliency to unknowns (climate change and imported water)
 - High level of control over operations and cost
 - Moderate implementation risks and moderate cost-effectiveness
- 2) Poseidon Desal, the only other project that provides similar system and supply reliability benefits, ranks a distant 2nd
- 3) When top ranked “system-only” project (OCWD/SOC emergency supply) and “supply-only” project (Cadiz) are combined and compared to Doheny on a net present value basis, Doheny is less expensive by **~\$11 million**.
- 4) Assuming best-case scenario in which WaterFix is successful, combined with OCWD/SOC emergency supply, then Doheny is more expensive by **~\$2 million**.

Status of Ongoing MWDOC Reliability, Engineering, and Planning Projects

June 6, 2017

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
Baker Treatment Plant or Expansion of Baker Water Treatment Plant	IRWD, MNWD, SMWD, ETWD Trabuco CWD		On line date was January 2017	<p>The Baker Water Treatment Plant is a joint regional project by five SOC water districts for a 28.1 million gallon per day (mgd) [43.5 cubic feet per second (cfs)] drinking water treatment plant at the site of the former Baker Filtration Plant in the City of Lake Forest.</p> <p>On May 22, 2017, IRWD Board approved final acceptance of the Baker Water Treatment Plant Raw Water Conveyance Facilities.</p>
Doheny Desalination Project	South Coast Water District, Laguna Beach CWD			<p>South Coast WD is continuing to move the project forward, as follows:</p> <p>STATUS INFORMATION BY TASK ORDER</p> <p><u>Task Order # 7 – Project Delivery Analysis</u></p> <p>Project Delivery Workshop 5 will potentially occur in late June.</p> <p><u>Task Order # 8B– Environmental Impact Report</u></p> <p>Major effort on the EIR is currently on hold, pending results of the Updated Slant Well Modeling Task Order.</p> <p>EIR Schedule has been updated. Significant milestones on the updated schedule are:</p> <ul style="list-style-type: none"> June 13, 2017: Workshop with District Staff to review alternatives based on slant well modeling and set direction for EIR description and alternatives

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<ul style="list-style-type: none"> • Late July, 2017: 2nd NOP Scoping Meeting, if results from updated Slantwell Modeling show greater than 15 mgd desalination plant production capacity is possible • August 28, 2017: Submit Administrative Draft to District for Review • November 13, 2017: Draft EIR Released for Public Comments • March 23, 2018: Final EIR Publication • April 30, 2018: SCWD Board of Directors Final Certification • June 4, 2018: End of NOD 30-day Period <p><u>Task Order # 13 – Value for Money Analysis</u></p> <p>The Vfm Board Workshop was held on March 22, 2017. Follow up meetings took place with Directors, by request, to review the Risk Register in more detail and understand additional concerns.</p> <p>The Final Vfm Report, including additional information to address Director’s specific concerns is due on May 31.</p> <p><u>Task Order # 14 – Updated Slant Well Modeling</u></p> <p>Task 1 – Additional Data Analysis has been completed. Data analysis resulted in modifications to preliminary paleochannel configuration that warrants slightly different approach for exploratory boreholes.</p> <p>New approach is to use one borehole and an onshore geophone array to refine nearshore geologic conditions.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>Permission/Permits are needed from OC Parks to complete this work, and securing this has been challenging.</p> <p>Next Major Deliverable Milestones are:</p> <ul style="list-style-type: none"> Task 2 - Exploratory boreholes and geophone work requires permits/permission from OC Parks, with exact requirements still being discussed with OC Parks. Permission/permits expected to be in hand by June 9, so work can begin shortly thereafter. Task 3 – Refinement of model has begun based on additional data analysis and will conclude after incorporating results of borehole and geophone array work, estimated completion date is June 30. Task 4 – Modeling work estimated completion date is July 21. Draft Report – August 4. Final Report – August 18.
Poseidon Resources Ocean Desalination Project in Huntington Beach				<p>Poseidon is still working on the permitting process and OCWD is still working on the system integration concepts.</p>
Orange County Reliability Study				<p>CDM-Smith and MWDOC staff are in the process of completing follow-up work to the 2016 study. The work includes modeling of more recently available information, updating Colorado River assumptions, assessment of additional</p>

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>scenarios for the Huntington Beach Desalination Plant, and assessment of the value of new storage. The work is expected to be completed in the next few months.</p>
MET Metering Work Group				<p>The Meter Workgroup is re-evaluating technology and criteria for measuring and accounting for low system flows to provide member agencies more flexibility. The intent is to expand the flow measurement range to better account for low flows than the current metering system provides. Charles Busslinger and Kevin Hostert participated in workgroup meetings on March 29, 2017 and April 26, 2017. The workgroup is making progress on design policy guidance to recognize newer technology (i.e. such as the additional precision provided by mag meters at lower flows) and revisiting MET Administrative Code Section 4504(b) limitation [a.k.a. 10:1 turndown] which currently requires member agencies to pay for flows that are less than 10% of maximum design capacity of the meter as if they received 10% flows. Any final recommendations would be brought to the MET Board for consideration at the end of 2017 or early 2018.</p> <p>The next meeting is scheduled for June 21, 2017.</p>
OC-28 Flow Metering Issue with MET				<p>MWDOC and OCWD are awaiting MET's analysis of the flow test to examine the metering issue from last summer.</p> <p>Preliminary results indicate that OCWD is owed about 700 AF of water.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
Service Connection CM-1 Cost Issues with MET				Laguna Beach CWD and Newport Beach are continuing to study alternative methods of delivery of the water to avoid complications with the CM-1 meter. We are awaiting the outcome of the studies.
North and Central Orange County Integrated Regional Watershed Management Area Update				Charles Busslinger attended a stakeholder workgroup meeting on May 23, 2017 on the draft objectives and strategies for an Integrated Regional Watershed Management Plan (IRWMP). Revised plan objectives are being brought back to the ad hoc committee for further refinement. The draft plan is anticipated by the end of Summer 2017.
San Juan Basin Authority				<p>Charles Busslinger attended San Juan Basin Authority Special Board Meeting on May 23, 2017 where the following items were discussed:</p> <p>1. Adaptive Pumping Management (APM) Plan 2017</p> <p>Background: The San Juan Basin Authority (SJBA) Diversion and Use of Water permit allows pumping of up to 8,026 acre-feet per year (AFY) of groundwater from the San Juan Basin. The APM plan assists SJBA in complying with the terms and conditions of the permit to ensure:</p> <ul style="list-style-type: none"> • Pumping does not decrease water stored in the basin below 50% of capacity, • Water quality does not impair beneficial uses, and control seawater intrusion to limit chloride and total dissolved solids (TDS) concentrations in the basin,

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<ul style="list-style-type: none"> Riparian vegetation along San Juan Creek is not impacted by pumping. <p>The APM plan limits pumping to maintain storage in the basin between 80-110 % of the estimated 41,400 Acre-Feet (AF) capacity, with storage above 100% meaning surface water is flowing in the creek. Pumping is allocated in the plan at 80% to SJBA and 20% to South Coast Water District, with South Coast holding its own separate Diversion and Use permit in the basin.</p> <p>Discussion: Current storage volume in the basin was calculated to be approximately 31,200 AF (74% of capacity). The basin received 17-inches of precipitation in 2016; however, even with this above average precipitation the basin did not rebound as much as was anticipated by the groundwater model.</p> <p>Wildermuth Environmental Inc. points out that the model used to develop the APM (the San Juan Basin Regional Groundwater model developed under Metropolitan Water District and MWDOC Foundational Actions Funding Program (FAF) for the Doheny Ocean Desalination Project) was not developed specifically for basin management but was developed as a watershed model to examine the overall supplies. Details of the aquifer are emerging that impact model results:</p> <ol style="list-style-type: none"> The basin is actually an underground flowing stream, so storage within the basin is not uniform. The lower portion of the basin (below the confluence of Arroyo Trabuco and San Juan Creek) fills and begins discharging water through subsurface flows to the ocean even when upper sections of the basin have unfilled storage capacity remaining. The

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>model therefore tends to overstate storage capacity in the upper areas.</p> <p>2. A geological rock formation (ancient landslide) across the basin in the vicinity of Stonehill Drive was recently discovered that may impact sub-surface flows. This geologic feature is not reflected in the model as it was unknown at the time the model was developed. This formation could potentially impact the APM as pumping upstream of the formation may be able to continue for longer durations when seawater is found to be intruding into the lowest section of the basin; however, this would require a modification to the permit.</p> <p>3. Basin pumping could have started earlier in the year as the lower section of the basin may have lost water to the ocean in 2016 while the upper sections were relatively empty.</p> <p>Norris Brandt, the new SJBA Administrator, indicated that future changes to the model are likely to incorporate new information. Several APM alternatives were analyzed, but the recommendation, which the Board approved, was to continue pumping at current levels of about 3,420 AFY (2,736 AFY to the City of San Juan Capistrano, and 684 AFY to SCWD).</p> <p>2. San Juan Watershed Project Update</p> <p>The geological rock formation (ancient landslide) near Stonehill Drive appears to be a partial barrier to sub-surface flow. This impacts the proposed location of the rubber dams and the ability for Phase I to capture and percolate water into the basin.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>Water capture for Phase I has been reduced from an estimated 1,700 AFY to 500-600 AFY. 14 additional borings are needed to better define the formation at a cost of \$330,000 to better understand how it might impact the rubber dams. The budget for Phase I has therefore increased to \$1.7 million. Additionally, the anticipated cost savings previously anticipated by reducing the number of rubber dams from three to two is now under a cost-benefit review. Santa Margarita WD is looking to pick up some of the cost of the borings.</p> <p>The Draft Environmental Impact Report (EIR) is anticipated to be published for review in August 2017 with a 45-day public comment review period.</p>
Other Meetings/Work				

				<p>MWDOC Director Sat Tamaribuchi and Karl Seckel presented on the OC Water Reliability Study and on the California WaterFix to the ETWD Board, who later in the meeting adopted a resolution in support of the WaterFix and EcoRestore.</p>
				<p>MWDOC Director Megan Schneider-Yoo, Karl Seckel and Charles Busslinger attended the South Coast Water District workshop on May 25, 2017 regarding their own Reliability Study.</p> <p>The study identified South Coast WD's potable water supply needs at 3,100 Acre-Feet per Year (AFY). Six proposed supply options were evaluated to meet both system reliability (drought supply) and emergency supply needs (i.e. a 60-day outage of MET supplies):</p> <ul style="list-style-type: none"> • 5 MGD Doheny Desalination plant, • 3 MGD from Poseidon Desalination, • 1.2 MGD San Juan Basin Groundwater expansion, • 3,100 AFY Cadiz Water Transfer, • 4.5 MGD OCWD/South OC Emergency Supply, and • Purchasing MWD water above allocation. <p>Doheny was the only individual option that entirely met both system and emergency supply reliability needs.</p> <p>The only evaluated combination of projects which resulted in a better Net Present Value than Doheny, while meeting SCWD's system and emergency reliability needs, was the WaterFix combined with an OCWD/ South OC Emergency Supply project. The presentation slides are attached.</p>
				<p>Karl Seckel and Joe Berg met with the Budget Based Tiered Rate Study workgroup to follow up on the DWR Grant</p>

				requirements to monitor water use five years following the study. Our consultant, Raffelis, along with MNWD, ETWD and EOCWD participated in the discussions. A proposal is being developed for the required follow-up work.
				Karl Seckel and Charles Busslinger met with MET Chief Engineer Gordon Johnson, David Clark and Howard Lum to discuss Seismic Issues and impacts to the MET and DWR systems. MET is a participant in the Seismic Resilient Water Supply Task Force with the City of LA and DWR to work on these issues. MWDOC has also been examining these issues and has been of the opinion that MET may not have sufficient water reserved in various reservoirs for the potential duration of SWP outages that may occur, however, there has never been a detailed analysis of the potential damage and recovery durations. MWDOC was impressed with the level of work underway, although the work is proceeding slowly and has been recently hampered on the DWR side because of the Oroville issue. As part of MET's seismic resilience strategy, MET is proceeding with deployment of newer seismic resilient pipe joint technology as part of the Second Lower Feeder PCCP retrofit.
				Karl Seckel and Charles Busslinger held a discussion with Brett Danson from Global Environmental Legacy Foundation. The Foundation has been developing advanced water treatment desalination technologies with the assistance of the Department of the Interior Bureau of Reclamation (Reclamation) and scientists from around the nation. The technologies being developed are capable of purifying water while minimizing even eliminating brine waste, a byproduct of desalination. The technologies can be used to purify water from ocean, groundwater, urban runoff, and wastewater. The Foundation is

				looking at submitting a Grant Fund application for additional work and MWDOC provided input on the Grant proposal.
				MWDOC Director Sat Tamaribuchi and Karl Seckel attended the ACWA Conference and while there participated in discussions regarding the Delta Stewardship Council and the California WaterFix. One of the more progressive presentations was held on the eight storage options being considered by the California Water Commission and the report commissioned by ACWA and others regarding the improvement in storage opportunities by way of implementing the California WaterFix. Karl Seckel participated in a panel discussion on Statewide Reliability Planning.
				Charles Busslinger completed a close-out memorandum and documentation for a final invoice for the five Doheny Desal Participants regarding the completion of the recent decommissioning work. This completes our obligations under this contract, with the exception of getting the DWR retainer released, salvage of the pump and lease and salvage of the Mobile Test Facility.

**Status of Ongoing WEROC Projects
May 2017**

Description	Comments
Coordination with WEROC Member Agencies	<p>WEROC Radio Replacement Update: Kelly Hubbard and Francisco Soto continue to work with member agencies, Motorola, and the Sheriff's Communications Staff to implement a solution for the WEROC radio system. See the full P&O staff report for more information regarding the project.</p> <p>Janine Schunk began the process of updating and loading message templates into the AlertOC reverse notification system. Our Member Agencies will be able to access these templates and use them to quickly set-up an emergency notification to the public regarding water quality incidents and protective actions.</p> <p>The WEROC Quarterly Meeting was in May. The primary discussion topics were the upcoming hazard mitigation plan update, updates on the WEROC radio replacement project, and a tabletop discussion on generators and fuel in emergencies.</p> <p>Staff are in the process of working with the Member Agencies and CDR to update the WEROC Maps. The maps were last updated in 2011. Updates largely include clean-up of the wastewater maps and small corrections throughout the maps.</p>
Training and Programs	<p>Francisco had the opportunity to tour various MET facilities and get a better understanding of water operations within Orange County.</p> <p>WEROC hosted 4 sessions of the Emergency Water Quality Sample Kit training for Member Agencies, Division of Drinking Water staff, and Hazardous Response Teams. More of these sessions will be offered directly to hazardous materials response teams throughout the next year. This is the first set of trainings related to a year-long training program leading up to a full field and EOC exercise in spring 2018 based on an unknown contaminate in the water system.</p>

	<p>Kelly provided WEROC Staff a mini-training on the next year's training and exercise goals. The purpose was to explain the process of the exercise training and planning cycle and to get all the staff on the same page.</p> <p>Francisco and Kelly attended the California Emergency Services Association – Southern Chapter spring program. The program included two speakers, of primary interest was a gentleman from Lewis Brisbois Bisgaard and Smith LLP, who spoke about the business continuity process of having their corporate headquarters impacted by a large high rise fire. The lessons learned from having to re-set up business operations with no notice, protect legal liabilities and bring the “corporate team” together to recover were very valuable.</p> <p>Kelly was asked to speak at the ACWA Conference this year as a panelist on Emergency Communications during a disaster. She provided the prospective of an emergency manager, while the other panelist represented a small district general manager, a public information officer, and a newspaper reporter. The session was received very well.</p>
Coordination with the County of Orange	<p>Francisco attended the March Orange County Emergency Management Organization (OCOMO) meeting at Irvine Regional Park. The speaker was Linda Potosky of the Federal Bureau of Investigations (FBI) who provided a brief on Counterintelligence Awareness and the importance of vetting individuals who enter your organization.</p> <p>Francisco attended the OCEMO Exercise Design Sub-Committee Meeting at the Operational Area (OA) EOC. The meeting focused on discussing the October 25 exercise that will test the OA and individual cities response to a terrorist attack. WEROC will provide staffing to the OA EOC for this exercise.</p> <p>Francisco Soto attended the Orange County OA Executive Board meeting on behalf of Kelly as a representative for water and wastewater utilities. The OA will be making revisions to the OA Emergency Management Agreement. The OA Agreement is signed by 114 government entities in Orange County and hasn't been updated since it was originally created in the late 90's.</p>

	<p>Kelly attended the OA Agreement Workgroup meeting to work on the update/revision of the OA Agreement. A primary discussion topic was regarding what constitutes a “special district”, how special districts are represented in the OA currently and how they should be represented.</p> <p>Francisco attended the OCEMO Web EOC/Alert OC meeting at the OA EOC. The Web EOC section of the meeting focused on providing a demonstration on using the JIMS (Joint Information Management System) feature and identifying gaps and answering specific questions related to the system. The second half of the meeting focused on Alert EOC, this discussion centered on the updated Memorandum of Understanding, future training opportunities, and enhancements to the system.</p> <p>Francisco attended the Urban Area Working Group meeting at the North Net Training Facility. The meeting focused on providing updates on current funded projects, approval to the UAWG charter revisions, and included two presentations for possible future projects.</p>
Coordination with Outside Agencies	<p>Francisco and Kelly attended the Mutual Aid Regional Advisory Committee (MARAC) meeting in Riverside. The primary discussion was on how the California Office of Emergency Services (Cal OES) was planning to coordinate fuel supplies and delivery in a major disaster. The County’s and local agencies voiced their questions and concerns regarding the state planning assumptions. WEROC was recognized by the group for its forward planning with generators and fuel. A working group for Southern California regional planning may be developed to continue this planning process.</p> <p>Kelly provided a training for the Emerald Bay Community Services District CERT (Community Emergency Response Team) members. The training focused on individual water and wastewater preparedness, but also provided info on how OC’s utilities are preparing to respond.</p> <p>Kelly hosted the 7th annual Orange County Water Association and WEROC SafetyFest for 100 operators at the City of Santa Ana Public Works yard. SafetyFest provides attendees with 6 hours of continuing education units for their water operator certifications. The training is always received positively and is typically booked to capacity.</p>

WEROC Emergency Operations Center (EOC) Readiness	<p>Kelly and Francisco met with OCFA to conduct a fire safety assessment of the South EOC. OCFA provided a detailed list of recommended corrective actions that should be taken to enhance safety measures within the building for staff. Francisco and Janine are currently working on implementing the list of corrective actions.</p> <p>Janine met with the cleaning company for both EOCs. Additionally, she successfully participated in the monthly radio checks for MET and the OA.</p> <p>Kelly met with staff from El Toro Water District (ETWD) to access whether the generator currently at the North EOC would work at the South EOC. The ETWD determined that the North EOC generator had the proper connections and phasing to work at the South EOC. WEROC Staff will work with ETWD staff to move the generator to the South EOC.</p>
Emergency Plans	<p>Francisco is currently working on updating the WEROC Emergency Operations Plan. The update includes a streamlined approach, current information, best practices, and hazard specific information and checklist.</p> <p>Kelly and Francisco are currently working on identifying a consultant to update the Orange County Regional Water and Wastewater Multi-jurisdictional Hazard Mitigation Plan. See the full P&O Board Staff report for more information regarding the project.</p>

Status of Water Use Efficiency Projects

June 2017

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Smart Timer Rebate Program	MWDSC	On-going	On-going	In April 2017, 159 residential and 3 commercial smart timers were installed in Orange County. For program water savings and implementation information, see MWDSC Water Use Efficiency Program Savings and Implementation Report.
Rotating Nozzles Rebate Program	MWDSC	On-going	On-going	In April 2017, 3,220 rotating nozzles were installed in Orange County. For program savings and implementation information, please see MWDSC Water Use Efficiency Program Savings and Implementation Report.
SoCal Water\$mart Residential Indoor Rebate Program	MWDSC	On-going	On-going	In April 2017, 358 high efficiency clothes washers and 54 premium high efficiency toilets were installed through this program. For program savings and implementation information, please see MWDSC Water Use Efficiency Program Savings and Implementation Report.
SoCal Water\$mart Commercial Rebate Program	MWDSC	On-going	On-going	In April 2017, 358 premium high efficiency toilets were installed through this program. For program savings and implementation information, please see MWDSC Water Use Efficiency Program Savings and Implementation Report.

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Industrial Process Water Use Reduction Program	MWD OC	96%	September 2016	A total of 41 Focused Surveys and 19 Comprehensive Surveys have been completed or are in progress. To date, 15 companies have signed Incentive Agreements. Updated discharger lists have been obtained, and outreach is continuing to sites with feasible water savings potential. As a result of this program, 412 AFY of water savings is being achieved.
Turf Removal Program	MWD OC	On-going	On-going	In April 2017, 59 rebates were paid, representing \$78,149.68 in rebates paid this month in Orange County. To date, the Turf Removal Program has removed approximately 20.7 million square feet of turf. For program savings and implementation information, please see MWD OC Water Use Efficiency Program Savings and Implementation Report.
California Sprinkler Adjustment Notification System – Base Irrigation Schedule Calculator	MWD OC	On-going	On-going	The California Sprinkler Adjustment Notification System (CSANS) sends an e-mail or “push” an irrigation index to assist property owners with making global irrigation scheduling adjustments. Participants voluntarily register to receive this e-mail at www.csans.net and can unsubscribe at any time. An annual support contract with Enterprise Information Systems, the original developer of CSANS, was recently executed. Support will include annual web hosting, technical support, functional refinements, and ongoing application health and maintenance.
Spray to Drip Conversion Program	MWD OC	75%	October 2017	This is a pilot program designed to test the efficacy of replacing conventional spray heads in shrub beds with low-volume, low-precipitation drip technology. Through a rebate program format, residential and commercial sites will be encouraged to convert their existing spray nozzles to drip.

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Spray to Drip Conversion Program (cont.)				To date, 202 residential sites and 52 commercial sites have completed spray to drip conversion projects.
Landscape Design Assistance Program (LDAP)	MWDOC	15%	December 2017	<p>This is a pilot program designed to offer free front yard landscape design assistance to customers who are participating in MWDOC's Turf Removal Rebate Program.</p> <p>To date, MWDOC has received 36 design templates and has developed all the content for the <i>How To Apply</i> section of the website. The website is now live, and MWDOC has received four completed Questionnaires. One-on-one site visits are being scheduled.</p>

Orange County

Water Use Efficiency Programs Savings and Implementation Report

Item No. 6d

Retrofits and Acre-Feet Water Savings for Program Activity

Program	Program Start Date	Retrofits Installed in	Month Indicated		Current Fiscal Year		Overall Program		Cumulative Water Savings[4]
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Annual Water Savings[4]	
High Efficiency Clothes Washer Program	2001	April-17	363	1.04	3,637	44.28	112,420	3,878	23,821
Smart Timer Program - Irrigation Timers	2004	April-17	162	0.89	2,157	536.63	19,639	7,327	38,399
Rotating Nozzles Rebate Program	2007	April-17	3,220	12.87	40,528	162.04	561,886	2,754	11,185
SoCal WaterSmart Commercial Plumbing Fixture Rebate Program	2002	April-17	358	1.10	10,029	166.29	80,311	3,518	39,263
Water Smart Landscape Program [1]	1997	November-15	12,677	904.62	12,677	3,615.21	12,677	10,621	72,668
Industrial Process Water Use Reduction Program	2006	April-17	0	2.92	2	2.92	25	412	2,148
Turf Removal Program[3]	2010	April-17	51,930	0.61	746,503	70	20,773,172	2,909	7,240
High Efficiency Toilet (HET) Program	2005	April-17	54	0.19	990	42.28	59,575	2,202	14,154
Home Water Certification Program	2013	November-15	0	0.000	53	0.251	312	7,339	15,266
Synthetic Turf Rebate Program	2007						685,438	96	469
Ultra-Low-Flush-Toilet Programs [2]	1992						363,926	13,452	162,561
Home Water Surveys [2]	1995						11,867	160	1,708
Showerhead Replacements [2]	1991						270,604	1,667	19,083
Total Water Savings All Programs			924	4,640	816,576	22,951,852	49,003	392,713	

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

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

c Turf Removal Interventions are listed as square feet.

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

47

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

Agency	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Total	Current FY Water Savings Ac/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years	15 yr. Lifecycle Savings Ac/Ft
Brea	156	42	186	144	93	115	114	76	52	1,862	0.54	398.11	963
Buena Park	146	59	230	145	105	106	91	76	49	1,513	0.52	307.55	783
East Orange CWD RZ	17	3	23	10	10	8	8	8	2	191	0.01	43.41	99
El Toro WD	130	32	162	112	134	121	111	65	38	1,512	0.46	310.50	782
Fountain Valley	243	72	289	158	115	102	110	76	56	2,391	0.78	532.60	1,237
Garden Grove	332	101	481	236	190	162	165	251	113	3,549	1.48	745.99	1,836
Golden State WC	447	168	583	485	265	283	359	260	130	5,007	1.76	1,053.43	2,591
Huntington Beach	751	211	963	582	334	295	319	225	166	8,232	1.73	1,869.08	4,259
Invine Ranch WD	1,844	1,394	2,621	2,170	1,763	1,664	1,882	1,521	1,234	24,527	15.09	4,895.50	12,691
La Habra	83	22	179	128	82	114	87	66	52	1,326	0.53	269.10	686
La Palma	51	25	76	46	34	25	34	29	7	455	0.11	92.72	235
Laguna Beach CWD	77	27	96	57	38	37	39	32	12	925	0.09	204.67	479
Mesa Water	246	73	232	176	114	86	89	113	74	2,512	1.01	568.86	1,300
Moulton Niguel WD	742	250	1,127	679	442	421	790	688	516	9,862	6.55	1,971.87	5,103
Newport Beach	259	57	197	142	116	92	95	66	51	2,614	0.68	609.60	1,353
Orange	403	111	349	262	218	163	160	124	74	3,892	0.85	887.74	2,014
Orange Park Acres	-	-	-	-	-	-	-	-	-	12	0.00	3.42	6
San Juan Capistrano	127	43	190	110	76	73	92	63	31	1,457	0.40	311.22	754
San Clemente	278	63	333	206	140	94	141	75	61	2,611	0.68	564.83	1,351
Santa Margarita WD	740	257	1,105	679	553	662	792	466	336	9,485	4.08	1,929.91	4,908
Seal Beach	57	7	81	51	31	29	38	23	7	600	0.04	129.53	310
Serrano WD	23	7	21	20	13	10	26	8	10	356	0.16	81.13	184
South Coast WD	148	43	183	112	89	79	68	43	43	1,583	0.50	338.97	819
Trabuco Canyon WD	62	28	82	62	30	45	47	34	25	795	0.26	168.06	411
Tustin	144	45	174	97	78	59	80	66	39	1,607	0.57	358.29	832
Westminster	233	74	329	208	121	82	109	149	78	2,580	1.12	553.45	1,335
Yorba Linda	367	117	394	273	181	167	156	123	52	3,748	0.67	851.59	1,939
MWDOC Totals	8,106	3,331	10,686	7,350	5,365	5,094	6,002	4,726	3,308	95,204	40.68	20,051.12	18,393

Anaheim	781	860	910	477	331	285	295	266	170	10,639	1.86	2,373.39	5,505
Fullerton	330	69	397	270	200	186	211	165	93	3,681	1.05	726.18	1,905
Santa Ana	257	87	355	190	163	131	132	259	66	2,896	0.70	669.96	1,498
Non-MWDOC Totals	1,368	1,016	1,662	937	694	602	638	690	329	17,216	3.61	3,769.54	3,326

Orange County Totals	9,474	4,347	12,348	8,287	6,059	5,696	6,640	5,416	3,637	112,420	44.28	23,820.65	21,719
-----------------------------	--------------	--------------	---------------	--------------	--------------	--------------	--------------	--------------	--------------	----------------	--------------	------------------	---------------

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

Agency	FY 09/10		FY 10/11		FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY 16/17		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	
Brea	0	0	2	0	8	0	9	8	4	0	43	6	20	4	25	4	125	80	461.22
Buena Park	0	0	0	0	4	19	3	0	0	0	4	10	7	4	6	7	27	41	117.60
East Orange CWD RZ	0	0	1	0	5	0	2	0	0	0	2	0	1	0	10	1	24	1	7.37
El Toro WD	2	18	5	5	26	2	7	2	11	0	8	9	9	17	24	3	106	350	2,228.18
Fountain Valley	0	6	2	2	8	2	3	2	4	0	7	10	13	1	24	12	82	40	146.88
Garden Grove	6	0	5	4	7	0	5	2	9	0	10	14	13	11	13	0	86	38	141.85
Golden State WC	9	22	7	4	13	3	9	49	9	25	39	12	35	16	44	34	213	189	669.45
Huntington Beach	6	27	6	36	15	4	18	33	20	35	19	2	42	12	59	90	243	264	863.80
Invine Ranch WD	14	145	28	153	267	71	414	135	71	59	67	310	239	207	277	183	1,702	2,049	9,531.41
La Habra	0	21	0	0	3	0	4	7	2	0	4	7	3	3	1	8	32	44	171.57
La Palma	0	0	0	0	1	0	1	0	2	0	2	0	3	2	1	0	10	2	4.17
Laguna Beach CWD	2	14	4	1	109	2	76	2	71	0	86	0	86	1	25	0	495	20	198.46
Mesa Water	13	7	7	22	21	0	10	2	15	2	17	28	36	12	124	41	293	154	613.36
Moulton Niguel WD	17	162	36	60	179	31	51	74	40	45	46	95	163	100	208	95	886	767	2,969.00
Newport Beach	7	58	6	0	275	12	242	26	168	75	11	9	28	43	23	12	1,031	409	2,291.65
Orange	2	13	5	8	25	0	20	24	13	9	18	31	51	13	50	10	266	165	802.23
San Juan Capistrano	7	49	13	1	103	2	14	18	6	11	6	19	20	8	18	8	218	125	547.70
San Clemente	13	209	46	11	212	17	26	7	28	2	28	24	26	3	26	13	1,040	374	2,354.56
Santa Margarita WD	10	152	61	53	262	7	53	171	64	93	53	321	189	136	287	54	1,115	1,205	4,526.40
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Seal Beach	0	1	0	0	0	3	1	0	1	36	1	12	2	2,446	2	4	7	2,502	3,435.01
Serrano WD	11	0	4	0	3	0	1	0	0	0	4	0	11	2	4	0	38	2	10.86
South Coast WD	3	10	13	3	78	10	13	16	8	4	104	73	9	11	2	0	273	212	991.82
Trabuco Canyon WD	2	0	2	10	12	0	6	0	2	0	6	1	16	50	8	3	98	157	839.58
Tustin	10	14	10	0	11	0	8	4	9	1	18	14	33	8	27	10	137	67	269.58
Westminster	3	0	1	1	2	0	1	1	2	0	13	17	7	1	12	12	60	44	164.12
Yorba Linda	5	21	25	0	22	0	20	0	12	5	32	2	61	27	54	71	320	183	686.76
MWDOC Totals	142	949	289	374	1,671	185	1,017	583	571	402	648	1,026	1,123	3,136	1,361	674	8,927	9,484	35,044.60

Anaheim	5	46	12	11	23	60	19	10	9	26	7	52	30	34	58	10	215	457	2,285.86
Fullerton	2	39	9	33	22	51	9	29	8	0	40	26	32	12	33	7	179	199	789.48
Santa Ana	1	8	8	0	6	5	8	19	7	8	9	27	22	26	11	3	78	100	278.79
Non-MWDOC Totals	8	93	29	44	51	116	36	58	24	34	56	105	84	72	102	20	472	756	3,354.13

Orange County Totals	150	1,042	318	418	1,722	301	1,053	641	595	436	704	1,131	1,207	3,208	1,463	694	9,399	10,240	38,399
-----------------------------	------------	--------------	------------	------------	--------------	------------	--------------	------------	------------	------------	------------	--------------	--------------	--------------	--------------	------------	--------------	---------------	---------------

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

Agency	FY 11/12				FY 12/13				FY 13/14				FY 14/15				FY 15/16				FY 16/17				Total Program				Cumulative Water Savings across all Fiscal Years
	Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		
	Res	Comm.	Comm.	Res	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Small	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Small	Res	Comm.	Comm.	Large	Res	Comm.	Comm.		
Brea	130	0	0	65	120	0	84	0	0	157	45	0	74	2,484	0	0	0	572	2,749	0	32.68								
Buena Park	32	0	0	65	0	0	53	0	0	248	0	0	45	98	0	0	0	509	173	2,535	453.42								
East Orange	340	0	0	55	0	0	30	0	0	221	0	0	0	0	0	0	0	751	0	0	10.83								
El Toro	357	76	0	23	6,281	0	56	3,288	0	1,741	28,714	0	730	4,457	0	55	242	0	3,369	46,222	890	820.63							
Fountain Valley	108	0	0	35	0	0	0	0	0	107	0	0	222	0	0	0	0	710	0	0	10.22								
Garden Grove	119	0	0	95	0	0	80	0	0	88	50	0	110	0	0	55	98	0	933	299	0	19.72							
Golden State	294	0	0	257	2,595	0	192	0	0	583	1,741	0	1,088	0	0	176	5,766	0	3,417	11,074	0	156.55							
Huntington Beach	458	0	0	270	0	0	120	0	0	798	1,419	0	1,345	2,836	0	149	2,332	0	3,797	11,496	2,681	793.98							
Irvine Ranch	1,715	4,255	0	25,018	1,014	0	11,010	4,257	0	1,421	632	0	1,989	5,047	0	365	9,511	0	47,167	94,561	2,004	2,920.34							
La Habra	33	90	0	0	0	0	15	0	0	109	338	0	300	0	0	0	0	481	1,236	900	221.65								
La Palma	0	0	0	0	0	0	0	0	0	0	0	0	46	505	0	2,385	0	56	2,890	0	14.18								
Laguna Beach	763	0	0	3,596	0	0	2,948	878	0	2,879	1,971	0	1,390	0	0	0	0	12,139	2,896	0	224.61								
Mesa Water	297	277	0	270	0	0	361	0	0	229	0	0	166	0	0	113	0	2,030	385	343	122.17								
Moulton Niguel	1,225	0	0	512	1,385	0	361	227	0	1,596	4,587	0	5,492	1,441	0	153	5,872	0	11,874	20,515	2,945	1,017.52							
Newport Beach	640	3,273	0	25,365	50	0	19,349	6,835	0	460	3,857	0	348	670	0	0	0	46,678	21,413	0	1,178.02								
Orange	343	0	0	264	0	0	245	120	0	304	668	0	631	91	0	0	0	3,170	1,072	0	69.27								
San Clemente	4,266	117	1,343	631	172	0	415	5,074	0	326	0	0	426	0	0	0	0	9,989	7,538	1,343	415.75								
San Juan Capistrano	949	0	0	684	30	0	370	0	0	495	737	0	310	593	0	75	123	0	5,495	8,852	0	257.03							
Santa Margarita	4,817	0	0	983	0	0	389	0	0	1,207	1,513	0	1,820	837	0	15	0	16,165	6,921	611	450.33								
Seal Beach	0	0	0	0	0	0	0	0	0	40	5,261	0	0	2,300	0	0	0	155	7,852	0	90.55								
Serrano	58	0	0	190	0	0	105	0	0	377	0	0	695	0	0	0	0	3,405	0	0	55.23								
South Coast	688	359	0	435	0	0	70	0	0	4,993	13,717	0	1,421	2,889	0	16	0	8,130	18,870	0	323.31								
Trabuco Canyon	379	0	0	34	0	0	0	0	0	56	0	0	130	0	0	4,339	0	2,086	5,130	0	70.87								
Tustin	476	1,013	0	378	0	0	329	0	0	408	0	0	317	386	0	65	0	3,371	1,399	0	69.73								
Westminster	26	0	0	15	0	0	0	0	0	54	0	0	73	0	0	105	0	464	0	0	6.53								
Yorba Linda	559	0	0	730	0	0	40	990	0	921	0	0	1,715	0	0	213	0	6,081	4,359	500	278.38								
MWDOC Totals	19,072	9,460	1,343	59,970	11,647	0	36,622	21,669	0	19,818	65,250	0	20,883	24,634	0	1,555	30,668	0	192,994	277,902	14,752	10,083.46							
Anaheim	742	38,554	0	459	813	0	338	0	0	498	712	0	794	5,221	0	147	3,953	0	4,020	49,799	105	630.16							
Fullerton	409	0	0	119	0	0	107	0	0	684	1,196	0	521	7,015	0	65	3,034	0	2,910	11,309	1,484	386.40							
Santa Ana	22	65	0	99	0	0	86	2,533	0	310	0	0	0	1,420	0	0	1,106	0	859	5,752	0	85.35							
Non-MWDOC Totals	1,173	38,619	0	677	813	0	531	2,533	0	1,492	1,908	0	1,315	13,656	0	212	8,093	0	7,789	66,860	1,589	1,101.91							
Orange County Totals	20,245	48,079	1,343	60,647	12,460	0	37,153	24,202	0	21,310	67,158	0	22,198	38,290	0	1,767	38,761	0	200,783	344,762	16,341	11,185.38							

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

Agency	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Totals	Cumulative Water Savings across all Fiscal Years
Brea	27	113	24	4	1	234	0	10	91	0	631	394
Buena Park	153	432	122	379	290	5	23	56	591	0	2,356	1,070
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0	0
El Toro WD	0	92	143	1	137	0	212	6	268	35	1,062	587
Fountain Valley	17	35	0	2	314	0	0	1	249	0	872	584
Garden Grove	5	298	130	22	0	4	1	167	676	310	2,351	1,480
Golden State WC	46	414	55	68	135	0	1	0	1,008	53	2,865	1,896
Huntington Beach	48	104	126	96	156	104	144	7	783	512	2,825	1,560
Irvine Ranch WD	121	789	2,708	1,002	646	1,090	451	725	11,100	3,701	25,609	7,281
La Habra	191	75	53	4	0	0	0	0	340	0	883	544
La Palma	0	140	21	0	0	0	0	0	0	509	675	103
Laguna Beach CWD	20	137	189	0	0	0	27	0	0	0	446	312
Mesa Water	141	543	219	669	41	6	0	79	661	765	4,237	2,068
Moulton Niguel WD	9	69	151	6	0	0	0	3	413	92	1,088	814
Newport Beach	98	27	245	425	35	0	0	566	0	0	1,834	1,279
Orange	18	374	67	1	73	1	271	81	275	2,343	4,522	1,787
San Juan Capistrano	2	1	1	0	0	0	14	0	0	0	260	397
San Clemente	2	18	43	0	19	0	0	1	0	0	432	381
Santa Margarita WD	6	23	11	0	0	0	0	2	90	0	207	206
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	1	2	124	0	0	0	0	0	0	184	538	427
Serrano WD	0	0	0	0	0	0	0	0	0	0	0	0
South Coast WD	9	114	56	422	84	148	0	382	0	0	1,320	509
Trabuco Canyon WD	0	4	0	0	0	0	0	0	0	0	11	15
Tustin	115	145	25	230	0	0	0	75	358	178	1,368	821
Westminster	40	161	16	63	35	1	28	0	146	103	1,064	996
Yorba Linda	10	24	8	30	0	1	0	0	226	84	595	559
MWDOC Totals	1,079	4,134	4,537	3,424	1,966	1,594	1,172	2,161	17,275	8,869	58,051	26,067
Anaheim	766	3,298	582	64	48	165	342	463	3,072	309	13,753	6,901
Fullerton	133	579	29	4	0	94	0	178	476	621	2,778	1,627
Santa Ana	493	815	728	39	12	16	17	5	1,293	230	5,729	4,667
Non-MWDOC Totals	1,392	4,692	1,339	107	60	275	359	646	4,841	1,160	22,260	13,195
Orange County Totals	2,471	8,826	5,876	3,531	2,026	1,869	1,531	2,807	22,116	10,029	80,311	39,263

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

Water Smart Landscape Program

Total Number of Meters
in Program by Agency

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

INDUSTRIAL PROCESS WATER USE REDUCTION PROGRAM

Number of Process Changes by Agency

Agency	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Overall Program Interventions	Annual Water Savings[1]	Cumulative Water Savings across all Fiscal Years[1]
Brea	0	0	0	0	0	0	0	0	0	0	0
Buena Park	0	0	0	0	0	0	1	0	2	54	451
East Orange	0	0	0	0	0	0	0	0	0	0	0
El Toro	0	0	0	0	0	0	0	0	0	0	0
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0
Garden Grove	0	0	0	0	0	0	1	0	1	0	0
Golden State	0	0	0	0	0	0	0	0	1	3	27
Huntington Beach	0	0	0	2	0	1	2	0	5	132	441
Irvine Ranch	2	1	1	1	1	0	2	0	8	102	525
La Habra	0	0	0	0	0	0	1	0	1	0	0
La Palma	0	0	0	0	0	0	0	0	0	0	0
Laguna Beach	0	0	0	0	0	0	0	0	0	0	0
Mesa Water	0	0	0	0	0	0	0	0	0	0	0
Moulton Niguel	0	0	0	0	0	0	0	0	0	0	0
Newport Beach	0	0	0	0	0	1	0	0	1	21	51
Orange	0	0	0	0	0	0	1	2	4	88	416
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0
San Clemente	0	0	0	0	0	0	0	0	0	0	0
Santa Margarita	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	0	0	0	0	0	0
Serrano	0	0	0	0	0	0	0	0	0	0	0
South Coast	0	0	0	0	0	0	1	0	1	0	0
Trabuco Canyon	0	0	0	0	0	0	0	0	0	0	0
Tustin	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	0	0	0	0	0	0	0	0	0
Yorba Linda	0	0	0	0	0	0	0	0	0	0	0
MWDOC Totals	2	1	1	3	1	2	9	2	24	401	1912
Anaheim	0	0	0	0	0	0	0	0	0	0	0
Fullerton	0	0	0	0	0	0	0	0	0	0	0
Santa Ana	0	0	0	0	0	0	1	0	1	11	236
OC Totals	2	1	1	3	1	2	10	2	25	412	2148

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

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

Agency	FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY 16/17		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	3,397	9,466	7,605	0	5,697	0	71,981	30,617	118,930	404,411	6,794	479	214,404	444,973	209,96
Buena Park	0	0	0	0	0	0	11,670	1,626	77,127	16,490	3,741	0	92,538	18,116	32,32
East Orange	0	0	0	0	1,964	0	18,312	0	27,844	0	0	0	48,120	0	16,59
El Toro	4,723	0	4,680	72,718	4,582	0	27,046	221,612	63,546	162,548	10,311	23,019	114,888	479,897	233,12
Fountain Valley	1,300	0	682	7,524	4,252	0	45,583	5,279	65,232	0	1,274	0	118,323	12,803	49,02
Garden Grove	14,013	0	4,534	0	8,274	0	67,701	22,000	177,408	49,226	11,504	0	283,434	117,403	167,57
Golden State	42,593	30,973	31,813	3,200	32,725	8,424	164,507	190,738	310,264	112,937	0	0	581,902	346,272	377,04
Huntington Beach	27,630	48,838	9,219	12,437	20,642	0	165,600	58,942	305,420	270,303	9,560	21,534	538,872	415,705	355,17
Irvine Ranch	6,450	1,666	32,884	32,384	36,584	76,400	234,905	317,999	782,844	2,675,629	217,277	46,725	1,316,367	3,163,597	1,371,15
La Habra	0	8,262	0	0	0	0	14,014	1,818	49,691	72,164	0	0	63,705	90,019	55,33
La Palma	0	0	0	0	0	0	4,884	0	10,257	59,760	0	0	15,141	59,760	21,66
Laguna Beach	2,533	0	2,664	1,712	4,586	226	13,647	46,850	47,614	0	3,059	0	75,081	48,788	48,01
Mesa Water	6,777	0	10,667	0	22,246	0	131,675	33,620	220,815	106,896	3,006	42,848	395,186	183,364	193,22
Moulton Niguel	4,483	26,927	11,538	84,123	14,739	40,741	314,250	1,612,845	889,748	1,059,279	204,130	0	1,439,844	2,840,054	1,524,82
Newport Beach	3,454	0	3,548	2,346	894	0	33,995	65,277	76,675	375,404	1,528	0	120,094	443,027	176,01
Orange	12,971	0	15,951	8,723	11,244	0	120,093	281,402	289,990	106,487	8,810	2,366	459,059	398,978	315,66
San Clemente	21,502	0	16,062	13,165	18,471	13,908	90,349	1,137	215,249	438,963	3,950	0	365,583	467,173	278,80
San Juan Capistrano	22,666	103,692	29,544	27,156	12,106	0	101,195	32,366	197,290	143,315	2,624	40,748	365,415	347,277	310,13
Santa Margarita	1,964	11,400	10,151	11,600	17,778	48,180	211,198	514,198	534,048	550,420	8,822	28,094	788,444	1,169,453	686,70
Seal Beach	0	0	3,611	0	0	0	15,178	504	17,349	15,911	0	0	36,138	16,415	18,43
Serrano	0	0	0	0	2,971	0	41,247	0	127,877	4,403	3,539	0	175,634	4,403	56,52
South Coast	6,806	0	9,429	4,395	15,162	116,719	84,282	191,853	181,102	128,290	8,872	0	305,653	457,581	309,09
Trabuco Canyon	272	0	1,542	22,440	2,651	0	14,771	0	42,510	88,272	0	0	61,746	110,712	61,32
Tustin	0	0	9,980	0	1,410	0	71,285	14,137	232,697	33,362	9,043	0	324,415	47,499	119,41
Westminster	0	0	0	0	0	0	14,040	34,631	71,833	23,902	6,888	0	92,761	58,533	48,21
Yorba Linda	0	0	0	0	0	0	112,136	12,702	360,279	116,985	15,958	0	499,722	129,687	199,42
MWDOC Totals	183,524	241,224	216,104	303,923	238,978	304,598	2,195,544	3,692,153	5,493,639	7,015,357	540,690	205,813	8,892,469	11,871,489	7,234,68

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

Orange County Totals	183,524	241,224	216,104	303,923	238,978	313,812	2,195,544	3,692,153	5,493,639	7,015,357	540,690	205,813	8,892,469	11,880,703	7,240
-----------------------------	----------------	----------------	----------------	----------------	----------------	----------------	------------------	------------------	------------------	------------------	----------------	----------------	------------------	-------------------	--------------

⁽¹⁾ Installed device numbers are listed as square feet

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

Agency	FY05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	2	7	43	48	8	0	0	38	146	154	4	450	77.50
Buena Park	0	1	2	124	176	7	0	0	96	153	112	13	684	156.79
East Orange CWD RZ	0	0	10	12	1	0	0	0	0	26	24	0	86	16.77
El Toro WD	0	392	18	75	38	18	0	133	218	869	264	12	2,037	437.55
Fountain Valley	0	69	21	262	54	17	0	0	41	132	220	10	826	208.03
Garden Grove	0	14	39	443	181	24	0	0	63	350	363	6	1,483	348.18
Golden State WC	2	16	36	444	716	37	80	2	142	794	512	9	2,790	639.07
Huntington Beach	2	13	59	607	159	76	0	0	163	1,190	628	4	2,901	574.80
Irvine Ranch WD	29	1,055	826	5,088	2,114	325	0	1,449	810	1,777	2,798	585	16,856	4,561.86
Laguna Beach CWD	0	2	17	91	28	11	0	0	45	112	81	-1	386	84.65
La Habra	0	3	18	296	34	20	0	0	37	94	83	2	587	165.43
La Palma	0	1	10	36	26	13	0	0	21	59	52	0	218	46.77
Mesa Water	0	247	19	736	131	7	0	0	147	162	162	4	1,615	511.99
Moulton Niguel WD	0	20	104	447	188	46	0	0	400	2,497	1,939	49	5,690	856.59
Newport Beach	0	5	19	163	54	13	0	0	49	168	243	8	722	145.94
Orange	1	20	62	423	79	40	0	1	142	978	416	15	2,177	422.40
San Juan Capistrano	0	10	7	76	39	11	0	0	35	140	202	3	523	94.48
San Clemente	0	7	22	202	66	21	0	0	72	225	246	13	874	181.22
Santa Margarita WD	0	5	14	304	151	44	0	0	528	997	1,152	112	3,307	509.26
Seal Beach	0	678	8	21	12	1	0	2	17	50	69	-1	857	348.77
Serrano WD	2	0	1	13	5	0	0	0	2	40	55	3	121	18.39
South Coast WD	2	2	29	102	41	12	23	64	102	398	235	11	1,021	179.05
Trabuco Canyon WD	0	0	4	23	23	0	0	0	10	108	169	4	341	48.39
Tustin	0	186	28	387	479	17	0	0	64	132	201	13	1,507	460.79
Westminster	0	17	25	541	167	23	0	0	35	161	359	3	1,331	346.73
Yorba Linda WD	0	14	89	323	96	18	0	0	40	280	379	10	1,249	281.44
MWDOC Totals	38	2,779	1,494	11,282	5,106	809	103	1,651	3,330	12,038	11,118	891	50,639	11,722.81
Anaheim	0	255	78	2,771	619	114	0	0	156	1,188	614	68	5,863	1,692.06
Fullerton	0	4	28	286	60	23	0	0	61	293	286	11	1,052	223.22
Santa Ana	0	11	25	925	89	23	0	0	33	602	293	20	2,021	515.52
Non-MWDOC Totals	0	270	131	3,982	768	160	0	0	250	2,083	1,193	99	8,936	2,430.80
Orange County Totals	38	3,049	1,625	15,264	5,874	969	103	1,651	3,580	14,121	12,311	990	59,575	14,153.61

HOME WATER SURVEYS PERFORMED BY AGENCY

through MWDOC and Local Agency Conservation Programs

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

Anaheim	0	0	0	0	0	0	0	0	0.00
Fullerton	0	0	17	0	1	0	18	0	0.82
Santa Ana	0	0	0	0	0	0	0	0	0.00
Non-MWDOC Totals	0	0	17	0	1	0	18	0	0.82
Orange County Totals	78	0	181	1	53	0	312	1	15.266

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

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

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

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

[1] Installed device numbers are calculated in square feet

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

Agency	Previous Years	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	Total	Cumulative Water Savings across all Fiscal Years
Brea	378	189	299	299	122	144	867	585	341	401	26	48	17	4	0	3,720	1,692.64
Buena Park	361	147	331	802	520	469	524	1,229	2,325	1,522	50	40	18	9	0	8,347	3,498.37
East Orange CWD RZ	2	0	33	63	15	17	15	50	41	44	19	18	13	2	0	332	138.23
El Toro WD	1,169	511	678	889	711	171	310	564	472	324	176	205	61	40	0	3,321	3,091.16
Fountain Valley	638	454	635	858	1,289	2,355	1,697	1,406	1,400	802	176	111	58	32	0	11,911	5,383.10
Garden Grove	1,563	1,871	1,956	2,620	2,801	3,556	2,423	3,855	3,148	2,117	176	106	67	39	0	26,298	12,155.41
Golden State WC	3,935	1,396	3,141	1,113	3,024	2,957	1,379	2,143	3,222	1,870	167	116	501	43	0	24,607	11,731.47
Huntington Beach	3,963	1,779	2,600	2,522	2,319	3,492	3,281	2,698	3,752	1,901	367	308	143	121	0	29,246	13,854.70
Irvine Ranch WD	4,016	841	1,674	1,726	1,089	3,256	1,534	1,902	2,263	6,741	593	626	310	129	0	26,700	11,849.23
Laguna Beach CWD	283	93	118	74	149	306	220	85	271	118	32	26	29	6	0	1,810	845.69
La Habra	594	146	254	775	703	105	582	645	1,697	1,225	12	31	6	7	0	6,782	2,957.73
La Palma	65	180	222	125	44	132	518	173	343	193	31	27	20	17	0	2,090	927.52
Mesa Water	1,610	851	1,062	2,046	2,114	1,956	1,393	1,505	2,387	988	192	124	56	14	0	16,288	7,654.27
Moulton Niguel WD	744	309	761	698	523	475	716	891	728	684	410	381	187	100	0	7,607	3,371.14
Newport Beach	369	293	390	571	912	1,223	438	463	396	1,883	153	76	36	16	0	7,219	3,166.77
Orange	683	1,252	1,155	1,355	533	2,263	1,778	2,444	2,682	1,899	193	218	88	53	4	16,600	7,347.93
San Juan Capistrano	1,234	284	193	168	323	1,319	347	152	201	151	85	125	42	39	0	4,663	2,324.42
San Clemente	225	113	191	65	158	198	667	483	201	547	91	66	37	34	0	3,076	1,314.64
Santa Margarita WD	577	324	553	843	345	456	1,258	790	664	260	179	143	101	29	0	6,522	3,001.01
Seal Beach	74	66	312	609	47	155	132	81	134	729	29	10	6	12	0	2,396	1,073.80
Serrano WD	81	56	68	41	19	52	95	73	123	98	20	15	14	2	0	757	338.66
South Coast WD	110	176	177	114	182	181	133	358	191	469	88	72	32	22	0	2,305	990.05
Trabuco Canyon WD	10	78	42	42	25	21	40	181	102	30	17	20	12	14	0	634	273.02
Tustin	968	668	557	824	429	1,292	1,508	1,206	1,096	827	69	89	26	12	0	9,571	4,423.88
Westminster	747	493	969	1,066	2,336	2,291	2,304	1,523	2,492	1,118	145	105	70	24	0	15,683	7,064.28
Yorba Linda WD	257	309	417	457	404	1,400	759	1,690	1,155	627	158	136	81	41	0	7,891	3,409.49
MWDOC Totals	24,256	12,879	18,778	20,765	21,136	30,242	24,918	27,175	31,827	27,568	3,654	3,242	2,031	861	4	249,336	113,878.61

Anaheim	447	1,054	1,788	3,661	1,755	7,551	4,593	6,346	9,707	5,075	473	371	462	341	1	43,625	18,359.52
Fullerton	1,453	1,143	694	1,193	1,364	2,138	1,926	2,130	2,213	1,749	172	77	44	23	2	16,321	7,435.23
Santa Ana	1,111	1,964	1,205	2,729	2,088	8,788	5,614	10,822	10,716	9,164	279	134	25	5	0	54,644	22,887.95
Non-MWDOC Totals	3,011	4,161	3,687	7,583	5,207	18,477	12,133	19,298	22,636	15,988	924	582	531	369	3	114,590	48,682.70

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