

MEETING OF THE
BOARD OF DIRECTORS OF THE
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY
Jointly with the
PLANNING & OPERATIONS COMMITTEE
December 6, 2010, 8:30 a.m.
Conference Room 101

Committee:

Director Royce, Chairman
Director Clark
Director Hinman

Staff: K. Hunt, K. Seckel,
R. Bell, J. Berg, D. Cordero,
K. Davanaugh

Ex Officio Member: J. Finnegan

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 PARTICIPATION

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>.

ACTION ITEMS

1. LOCAL RESOURCES PROGRAM AGREEMENT BETWEEN METROPOLITAN, MWDOC AND IRVINE RANCH WATER DISTRICT FOR THE WELLS 21 & 22 PROJECT
2. CONTINUATION OF HOTEL WATER USE REDUCTION PROGRAM
3. CORDOBA CORPORATION CONTRACT – STRATEGIC ASSISTANCE ON MET ISSUES

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

4. SOUTH ORANGE COASTAL OCEAN DESALINATION PROJECT PARTICIPANTS COMMITTEE AGENDA FROM NOVEMBER 15, 2010
5. STATUS REPORT ON URBAN WATER MANAGEMENT PLANS
6. STATUS OF ONGOING MWDOC RELIABILITY AND ENGINEERING/PLANNING PROJECTS
7. MWDOC'S ALLOCATION PERFORMANCE THROUGH OCTOBER 2010
8. WATER USE EFFICIENCY REPORTS
 - a. Status of Water Use Efficiency Projects
 - b. Water Use Efficiency Programs Savings and Implementation Report
9. REVIEW OF ISSUES RELATED TO CONSTRUCTION PROGRAMS, FACILITY AND EQUIPMENT MAINTENANCE, WATER STORAGE, WATER QUALITY, CONJUNCTIVE USE PROGRAMS, EDUCATION, DISTRICT FACILITIES, and MEMBER-AGENCY RELATIONS

CLOSED SESSION

10. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Initiation of Litigation Pursuant to Government Code section 54956.9(c) (One Case)

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
December 15, 2010

TO: Board of Directors

FROM: **Planning & Operations**
(Directors Royce, Clark, Hinman)

Kevin Hunt
General Manager

Staff Contact: Keith Lyon

SUBJECT: LRP Agreement between Metropolitan, MWDOC and Irvine Ranch Water District for the Wells 21 & 22 Desalter Project

STAFF RECOMMENDATION

Staff recommends the Board of Directors authorize the General Manager to execute the final agreement with Metropolitan Water District of Southern California (MET) and Irvine Ranch Water District (IRWD) substantially in the form as attached for IRWD Wells 21 & 22 Desalter Project.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

IRWD submitted a Local Resources Program (LRP) application through MWDOC to MET for the Wells 21 & 22 Desalter Project. MET staff reviewed the application, and an agreement has been developed for approval by MWDOC and IRWD prior to consideration by MET's Board. IRWD's Board approved the agreement in concept on November 22, 2010. As MET's member agency, MWDOC's approval is required for MET to consider the LRP agreement. MET's Board will consider the Project and agreement during the January 2011 meeting.

IRWD's Wells 21 & 22 Desalter Project would produce and treat about 6,300 acre-feet (AF) per year of groundwater that would be served to IRWD's potable customers, thereby reducing IRWD's demand for imported water. Treatment of the water would be required

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

because it exceeds primary and secondary drinking water standards. The primary component of treatment would be reverse osmosis. In addition to the two wells and treatment facility, the project includes a raw water pipeline, finished water pipeline, and a brine disposal pipeline. IRWD's estimated capital cost of the project is close to \$40M, and operation of the facilities has been scheduled to begin in May 2012.

The LRP agreement would be for a term of 25 years, and provide financial incentives to IRWD that would range from \$0-\$250/AF for produced and used allowable yield, depending on the actual calculated annual costs of the project.

DETAILED REPORT

Due to increased demands and restrictions on imported water, IRWD decided to rehabilitate Wells 21 & 22, which were constructed in 1992, but were unusable due to nitrate levels that exceeded the primary drinking water standard, elevated total dissolved solids (TDS) above the secondary standard upper limit, and hardness levels above an acceptable concentration. The Wells 21 & 22 Desalter Project includes the two wells, a treatment facility, raw water pipeline, finished water pipeline, and a brine disposal pipeline. The treatment process would include pretreatment, reverse osmosis, decarbonation, chemical conditioning and disinfection to meet State Title 22 drinking water requirements. The new finished water pipeline would convey the treated water into IRWD's potable water system to serve the demand of customers. The brine line would convey the brine reject to the Orange County Sanitation District for disposal. Estimated capital cost is \$39,768,000. IRWD expects to receive up to \$9.9M from the Bureau of Reclamation for construction of the project.

The Project would produce about 6,330 AF per year of potable water, which would reduce IRWD's demand for imported water. The project has been scheduled to begin operation in May 2012.

The project wells are located within the City of Tustin, and IRWD and Tustin, with facilitation by Orange County Water District (OCWD), have approved a term sheet for an agreement to address mitigation for possible negative impacts to Tustin's wells and groundwater production. Work continues to finalize the agreement between Tustin and IRWD.

OCWD's Board of Directors approved a Basin Equity Assessment (BEA) Exemption agreement for the project. The BEA exemption would allow IRWD to produce around 7,000 AFY from the wells that would be additional to IRWD's pumping within the Basin Pumping Percentage (BPP) from their other wells. A provision of the BEA Exemption agreement included that IRWD's Deep Aquifer Treatment System (DATS) pumping would cease to receive BEA exemption effective in 2016, which means that the DATS pumping (colored groundwater from the deep aquifer requiring treatment to serve as potable) would be required to be accomplished within the BPP. IRWD's DATS is not covered under a MET LRP agreement. OCWD's BEA Exemption Program provides financial incentives for Producers to pump and treat impaired groundwater thereby providing clean up of the basin and avoiding migration of impaired water to other areas of the basin.

IRWD would receive LRP incentives ranging from \$0-\$250/AF depending on the net unit cost to produce allowable yield. Allowable yield would include produced and treated water delivered to and used by customers that replaced a demand for imported water. IRWD

would certify monthly to MET through MWDOC for the project allowable yield, and MET would provide the financial incentives on the next monthly water invoice, which MWDOC would pass to IRWD. The project production, unit cost and incentives would be assessed by MET annually, and adjustments made to total incentives, if needed.

The MET LRP agreement includes the Rate Structure Integrity provisions that were added to the standard agreement several years ago. Additional provisions have been added in Section 8, Term and Amendments compared to previous LRP agreements as directed by MET's Board related to potential changes in MET's programs and rates. The new provisions state that the agreement may be terminated if MET's Board determines to eliminate the LRP or the Water Stewardship rate. Also, a new provision states that termination of the agreement could also be triggered if: "A member of the MWDOC delegation to the Board of Directors of the Metropolitan Water District of Southern California votes in favor of the determination described in Subsection 8.4(a)." 8.4a discusses the potential of determination to eliminate the LRP or the Water Stewardship rate.

IRWD and MWDOC have other LRP agreements for other projects, and there are provisions in the Wells 21 & 22 agreement to clarify that the agreements are separate, and that production from one agreement may not be used toward another agreement. The Wells 21 & 22 agreement provides an annual threshold in AF of local production that must be accomplished before production from Wells 21 & 22 may qualify for LRP incentives.

As the MET member agency, MWDOC's approval of the agreement is required for consideration by MET's Board. Consideration of the LRP agreement has been scheduled for the January 2011 MET Board meeting. IRWD's Board reviewed the agreement on November 9 at Committee, and the full Board approved the agreement on November 22, 2010.

The latest draft LRP Agreement for the Wells 21 & 22 Desalter Project is attached.

AGREEMENT No. 91700
IRWD WELLS 21&22 DESALTER PROJECT
2007 LOCAL RESOURCES PROGRAM AGREEMENT
AMONG
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA,
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY AND
IRVINE RANCH WATER DISTRICT

DRAFT 11/4/10

AGREEMENT No. 91700
IRWD WELLS 21&22 DESALTER PROJECT
2007 LOCAL RESOURCES PROGRAM AGREEMENT
AMONG
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA,
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY AND
IRVINE RANCH WATER DISTRICT

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
RECITALS	3
Section 1: Definitions.....	4
Section 2: Representations and Warranties.....	5
Section 3: Ownership and Responsibilities.....	6
Section 4: Invoicing Process	6
Section 5: Reconciliation Process	7
Section 6: Record Keeping and Audit.....	8
Section 7: Rate Structure Integrity	9
Section 8: Term and Amendments.....	11
Section 9: Hold Harmless and Liability	12
Section 11: Successors and Assigns.....	13
Section 12: Severability	13
Section 13: Integration	13
Section 14: Governing Law	14

Exhibits

- Exhibit A (Project Description)
- Exhibit B (Annualized Capital Component)
- Exhibit C (Operation and Maintenance Component)
- Exhibit D (Performance Provisions)
- Exhibit E (MWD Administrative Code Section 4401(c))

AGREEMENT No. 91700
IRWD WELLS 21&22 DESALTER PROGRAM
2007 LOCAL RESOURCES PROGRAM AGREEMENT
AMONG
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA,
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY AND
IRVINE RANCH WATER DISTRICT

THIS AGREEMENT (Agreement) is made and entered into as of _____, 2011 by and among The Metropolitan Water District of Southern California (Metropolitan), Municipal Water District of Orange County (MWDOC), and the Irvine Ranch Water District (IRWD). Metropolitan, MWDOC, and IRWD may be collectively referred to as “Parties” and individually as “Party”.

RECITALS

- A. Metropolitan’s Board of Directors, at its April 2007 meeting, established terms and conditions for the 2007 LRP, which provides financial incentives up to \$250 per acre-foot (AF) for local resource development projects within Metropolitan’s service area for the purposes of improving regional water supply reliability.
- B. Metropolitan was incorporated under the Metropolitan Water District Act (Act) for the purpose of developing, storing, and distributing water for domestic and municipal purposes.
- C. The Act empowers Metropolitan to acquire water and water rights within or without the state; develop, store and transport water; provide, sell and deliver water at wholesale for municipal and domestic uses and purposes; set the rates for water; and acquire, construct, operate and maintain any and all works, facilities, improvements and property necessary or convenient to the exercise of the powers granted by the Act.
- D. MWDOC, as a member public agency of Metropolitan under the Act, is a wholesale purchaser within its service area of water developed, stored, and distributed by Metropolitan.
- E. IRWD is a member public agency of MWDOC and provides water services within MWDOC’s service area.
- F. Metropolitan has determined to take all reasonable and necessary steps to provide its service area with adequate and reliable water to meet present and future needs in an environmentally and economically responsible way, including providing financial incentives to water recycling and groundwater recovery projects under its LRP. IRWD seeks to enhance its local water supplies and reduce reliance on imported water by providing a direct replacement of imported water with recovered groundwater for potable uses.

- G. IRWD is currently planning to construct facilities collectively known as the “IRWD Wells 21 & 22 Desalter Project” to deliver up to 6,400 acre-feet per year of treated potable water for within its service area.
- H. Metropolitan, MWDOC, and IRWD have determined that it is mutually beneficial for local water projects originating in the service area of MWDOC to be developed as a supplement to Metropolitan’s imported water supplies in order to meet future water needs.
- I. Metropolitan desires to assist in increasing production and distribution of recovered groundwater by providing a financial incentive to IRWD to implement the Project.
- J. IRWD believes that Metropolitan’s continued financial contribution toward the cost of the Project will make the Project operation economically viable, and is committed to implementation of the Project.
- K. The Parties believe the development of treated potable water by the Project will benefit the local community within MWDOC and the region served by Metropolitan.

NOW, THEREFORE, in consideration of the promises and covenants hereinafter set forth, the Parties do agree as follows:

Section 1: Definitions

The following words and terms, unless otherwise expressly defined in their context, shall be defined to mean:

- 1.1 “Allowable Yield” shall mean the amount of Recovered Groundwater delivered to End Users by IRWD from the Project in a Fiscal Year that is eligible to receive Metropolitan’s financial assistance. Allowable Yield shall be used for potable uses through direct deliveries to End Users. Allowable Yield shall not exceed Ultimate Yield and shall exclude other waters that Metropolitan reasonably determines will not reduce MWDOC or IRWD’s demand for Metropolitan’s imported water. Unless otherwise approved in writing by Metropolitan, Allowable Yield shall exclude: (1) The first 40,000 acre-feet per year produced by IRWD from the Orange County Groundwater Basin; (2) Recovered Groundwater provided by existing projects, (3) Allowable Yield from other projects with active or terminated LRP or Groundwater Recovery Program agreements; (4) surface water, or recycled water; (5) Recovered Groundwater delivered to environmental and recreational impoundments; and (6) brine.
- 1.2 “End User” shall mean each user that purchases Allowable Yield furnished by this Project.
- 1.3 “Estimated LRP Contribution” shall mean the advanced financial contribution in dollars per acre-foot, not to exceed \$250 per acre-foot, Metropolitan pays for Allowable Yield to IRWD for monthly billing purposes until the Final LRP Contribution is calculated pursuant to procedures in Section 5.

- 1.4 “Final LRP Contribution” shall mean the financial contribution, not to exceed \$250 per acre-foot, by Metropolitan to the Project for Allowable Yield. The Final LRP Contribution for the Project is equal to the Project Unit Cost minus Metropolitan’s prevailing full service treated water rate.
- 1.5 “Fiscal Year” shall mean a Metropolitan Fiscal Year which begins on July 1 and ends on June 30 of the following calendar year.
- 1.6 “Project” shall mean the IRWD Wells 21 & 22 Desalter Project, being developed by IRWD to produce the Ultimate Yield as defined in Exhibit A attached hereto and incorporated herein by this reference. IRWD shall notify Metropolitan prior to making any changes to the Project that requires new environmental documentation other than addendum to the existing environmental documentation. Metropolitan shall inform MWDOC and IRWD of Metropolitan’s decision to include or exclude the Project change to this Agreement.
- 1.7 “Project Unit Cost” shall mean the actual cost to produce and distribute an acre-foot of Recovered Groundwater by the Project and is comprised of an Annualized Capital Component and an Operation and Maintenance Component, as specified in Exhibits B and C attached hereto and incorporated herein by this reference.
- 1.8 “Recycled Water” shall mean treated wastewater which, subject to regulatory requirements, is suitable for beneficial uses.
- 1.9 “Recovered Water” shall mean all types of water including groundwater, or other water delivered through Project facilities in a Fiscal Year.
- 1.10 “Ultimate Yield” is 6,400 acre-feet per Fiscal Year and subject to reduction provisions outlined in Exhibit D, incorporated herein by this reference.

Section 2: Representations and Warranties

- 2.1 IRWD warrants that it is able and has a right to sell Allowable Yield from the Project.
- 2.2 IRWD warrants that neither it nor any of its agents discriminate against employees or against any applicant for employment because of ancestry, creed, religion, age, sex, color, national origin, denial of family and medical care leave, marital status, medical condition, mental or physical disability (including HIV and AIDS), and further warrants that it requires all contractors and consultants performing work on the Project to comply with all laws and regulations prohibiting discrimination against employees or against any applicant for employment because of ancestry, creed, religion, age, sex, color, national origin, denial of family and medical care leave, marital status, medical condition, mental or physical disability (including HIV and AIDS).
- 2.3 IRWD warrants that it has or will comply with the provisions of the California Environmental Quality Act for each and all components of the Project facilities.

Section 3: Ownership and Responsibilities

- 3.1 IRWD shall be the sole owner of Project facilities. Metropolitan and MWDOC shall have no ownership right, title, security interest or other interest in the Project facilities.
- 3.2 IRWD shall be solely responsible for all design, environmental compliance, right-of-way acquisitions, permits, construction, and cost of the Project and all modifications thereof.
- 3.3 IRWD shall be solely responsible for operating and maintaining the Project, in accordance with all applicable local, state, and federal laws. Metropolitan and MWDOC shall have no rights, duties or responsibilities for operation and maintenance of Project facilities.
- 3.4 IRWD shall install, operate and maintain metering devices for the purpose of measuring the quantity of Recovered Water and Allowable Yield delivered to each End User.
- 3.5 IRWD shall also provide electrical metering devices to accurately measure the energy used for the Project to determine incurred operation and maintenance costs. Metropolitan shall not pay for electrical energy costs if IRWD fails to install electrical metering devices.
- 3.6 IRWD shall at all times during the term of this Agreement, use its best efforts to operate the Project facilities to maximize Allowable Yield on a sustained basis.
- 3.7 IRWD shall assist Metropolitan in its effort to forecast future Project production and cost.
- 3.8 IRWD shall notify and provide Metropolitan with a copy of relevant agreements and payments if IRWD decides to convey water using Project facilities to any party that is not an End User.

Section 4: Invoicing Process

- 4.1 IRWD shall notify Metropolitan in writing no less than 30 days prior to the start of Project operation. Before the first invoice, MWDOC, IRWD and Metropolitan shall meet to coordinate the agreement administration requirements and to determine the Estimated LRP Contribution based on historical cost data and expected Project activities. After the first year of operation, the Estimated LRP Contribution will be determined during the annual reconciliation process pursuant to Section 5.
- 4.2 After the start of Project operation, IRWD shall invoice Metropolitan monthly for the Estimated LRP Contribution based upon Allowable Yield delivered during the previous month. Metropolitan shall pay IRWD for invoiced Estimated LRP Contribution by means of a credit included on the next monthly water service invoice issued to MWDOC in accordance with Metropolitan's Administrative Code. Upon receiving the Metropolitan invoice, MWDOC shall include the full amount of the credit received from Metropolitan pursuant to the preceding sentence as a credit on its next water service invoice to IRWD.
- 4.3 Pursuant to Metropolitan's Administrative Code, invoices for Estimated LRP Contribution must be received by Metropolitan before 3:00 p.m. on the third working day after the end of the month

to receive credit for any preceding month on the next monthly water service invoices issued to MWDOC. Metropolitan will not pay for any invoiced Estimated LRP Contribution received more than six months following the end of any month in which a credit is claimed.

- 4.4 Metropolitan, MWDOC and IRWD have entered into agreements for development of local water resources projects. Each agreement contains specific terms and conditions to determine project yield, payment process, and project performance and any adjustments to contractual yield and incentive payments. Unless approved in writing by Metropolitan, these agreements are independent from each other and, therefore, the yield produced under one agreement shall not be used to fulfill the performance requirements under other agreements. These provisions shall also apply to all future incentive agreements between Metropolitan, MWDOC or IRWD.

Section 5: Reconciliation Process

- 5.1 After the start of Project operation and by December 31 of each year, IRWD shall provide Metropolitan with the following reconciliation data for the previous Fiscal Year: (a) records of Recovered Water and Allowable Yield; (b) supporting documentation of the actual cost of the Project required to perform the calculations prescribed in Exhibits B and C; (c) records of water deliveries to End Users; (d) terms and schedule of payments of the Project's financing instruments; (e) a description of any changes to the Project's financing instruments; and (f) all contributions pursuant to Section 5.4.
- 5.2 If reconciliation data is not submitted by December 31 in accordance with Section 5.1, Metropolitan will assess a late penalty charge to IRWD as prescribed in Metropolitan's Administration Code, currently set at \$2,500 in Section 4507 (K). Metropolitan may suspend its payment of Estimated LRP Contribution if IRWD fails to provide reconciliation data by the ensuing April 1. During the suspension period, IRWD shall continue to invoice Metropolitan for the Estimated LRP Contribution based upon the Allowable Yield for water accounting purposes. Metropolitan will resume payment of the monthly Estimated LRP Contribution once complete data is received and the corresponding reconciliation is complete pursuant to Section 5.3. In the event IRWD fails to provide reconciliation data by December 31 of the following Fiscal Year, which is 18 months after the end of the Fiscal Year for which a reconciliation is required, this Agreement shall automatically terminate without notice or action by any Party and IRWD shall repay Metropolitan all Estimated LRP Contributions for which no reconciliation data was provided within 90 days of termination.
- 5.3 Within 180 days after Metropolitan receives complete data from IRWD, pursuant to Section 5.1, Metropolitan shall calculate the Final LRP Contribution for the Fiscal Year. The Final LRP Contribution shall then apply retroactively to all Allowable Yield for the applicable Fiscal Year. An adjustment shall be computed by Metropolitan for over- or under-payment for the Allowable Yield and included on the next invoice issued to MWDOC. MWDOC shall pass through the full amount of the adjustment on its next billing to IRWD. As part of this reconciliation, Metropolitan shall also consult with IRWD to determine the Estimated LRP Contribution for the following year based on expected cost and Project deliveries.

- 5.4 The Parties agree that all contributions other than LRP incentives under this Agreement and contributions by MWDOC, including but not limited to grants provided by the U.S. Bureau of Reclamation and funding by private parties received prior to and during the term of this Agreement that offset eligible Project costs, shall be deducted from all respective cost components. During the reconciliation process, following receipt of such contributions, the Parties shall determine the equitable apportionment of such contributions for capital and/or operational purposes.

Section 6: Record Keeping and Audit

- 6.1 IRWD shall establish and maintain accounting records of all costs incurred for the construction, operation and maintenance, and replacement parts of the Project as described in Exhibits B and C. Accounting for the Project shall utilize generally accepted accounting practices and be consistent with the terms of this Agreement. IRWD's Project accounting records must clearly distinguish all costs for the Project from IRWD's other water production, treatment, and distribution costs. IRWD's records shall also be adequate to determine Allowable Yield and Recovered Water to accomplish all cost calculations contemplated in this Agreement.
- 6.2 IRWD shall establish and maintain accounting records of all contributions including grants that offset eligible Project capital costs, operation and maintenance costs, and/or replacement costs, as outlined in Section 5.4.
- 6.3 IRWD shall collect Recovered Water and Allowable Yield data for each Fiscal Year of Project operation and retain records of that data based on the metering requirements in Section 3.4. In addition, IRWD shall collect and retain records of the total annual amount of water conveyed outside of IRWD's service area using Project facilities.
- 6.4 Metropolitan shall have the right to audit Project costs and other data relevant to the terms of this Agreement for a period of three years following the termination of this Agreement. Metropolitan may elect to have such audits conducted by its staff or by others, including independent accountants, designated by Metropolitan. IRWD shall make available for inspection to Metropolitan or its designee, upon 30 days advance notice, all records, books and other documents, including all billings and costs incurred by contractors, relating to the construction, operation and maintenance of the Project; any grants and contributions, as described in Exhibits B and C, and capital cost financing. Upon 30 days advance notice and at Metropolitan's request, IRWD shall also allow Metropolitan's staff or its designee to accompany IRWD staff in inspecting IRWD's contractors' records and books for the purpose of conducting audits of Project costs.
- 6.5 In lieu of conducting its own audit(s), Metropolitan shall have the right to direct IRWD to have an independent audit conducted of all Project costs incurred in any Fiscal Year(s) pursuant to this Agreement. IRWD shall then have an audit performed for said Fiscal Year(s) by an independent certified public accounting firm and provide Metropolitan copies of the audit report within six months after the date of the audit was request. The cost of any independent audit performed

under this Agreement shall be paid by IRWD and is an allowable Project operation and maintenance cost pursuant to Exhibit C.

- 6.6 IRWD shall retain an independent auditor satisfactory to Metropolitan to conduct an initial audit of the Project costs and accounting record keeping practices and submit the results to Metropolitan with the first reconciliation data as outlined in Section 5.
- 6.7 IRWD shall keep all Project records for at least three years following the termination of this Agreement.
- 6.8 If an audit of IRWD's reported Project costs cannot be provided, then those costs are not eligible under this Agreement. Based on the results of any project cost audit, an adjustment for over- or under-payment of Allowable Yield for each applicable Fiscal Year shall be completed by Metropolitan and included in the next invoice issued to MWDOC. MWDOC shall pass through the full amount of the adjustment on its next billing to IRWD.

Section 7: Rate Structure Integrity

- 7.1 IRWD and MWDOC agree and understand that Metropolitan's rate structure as of January 1, 2004 ("Existing Rate Structure") provides the revenue necessary to support the development of new water supplies by local agencies through incentive payments in the Local Resources Program (LRP), Conservation Credits Program (CCP), and the Seawater Desalination Program (SDP). In particular, the Water Stewardship Rate is the component of Existing Rate Structure that provides revenue for the LRP, CCP and SDP. Further, IRWD and MWDOC acknowledge that Existing Rate Structure and all components within that rate structure were developed with extensive public input and member agency participation, and that the elements of Existing Rate Structure have been properly adopted in accordance with Metropolitan's rules and regulations.
- 7.2 (a) IRWD and MWDOC agree that Metropolitan's rates set under the Existing Rate Structure may be reset throughout the term of this Agreement to account for the cost of service, and that IRWD and MWDOC will address any and all future issues, concerns and disputes relating to Existing Rate Structure, through administrative opportunities available to them pursuant to Metropolitan's public board process. As such, IRWD and MWDOC agree if they file or participate in litigation or support legislation to challenge or modify Existing Rate Structure, including changes in overall rates and charges that are consistent with the current cost-of-service methodology, Metropolitan may initiate termination of this Agreement consistent with Section 7.4. below. Metropolitan agrees that any change in Existing Rate Structure, including changes in cost-of-service philosophy or methodology would be enacted only after collaboration and discussion with its member public agencies, and Metropolitan's public board review and approval process.

(b) Notwithstanding the foregoing, IRWD and MWDOC retain the right to file and/or participate in litigation and/or to support legislation without triggering the termination of this Agreement if there are material changes to Existing Rate Structure or changes in cost-of-service methodology used to set rates by future Metropolitan board action. IRWD and MWDOC also

retain the right to file and/or support litigation should Metropolitan, in setting rates under Existing Rate Structure, fail to comply with public notice, open meeting, or other legal requirements associated with the process of setting water rates and related taxes, fees, and charges. IRWD and MWDOC agree that they will not file or participate in litigation, nor will they support legislation affecting Metropolitan's rate structure after any such change in rate structure or violation of the law regarding rate setting processes until, and unless, they have exhausted all administrative opportunities available to them pursuant to Metropolitan's public board process.

- 7.3 IRWD and MWDOC agree that all users of the Metropolitan conveyance and distribution system should support the LRP, CCP, and SDP, that such projects provide benefits to Metropolitan and the users of the system by making existing distribution and conveyance capacity available for additional delivery, and that under Existing Rate Structure, the Water Stewardship Rate is an element of charges properly adopted by the Metropolitan Board and properly applied to water wheeled through the Metropolitan conveyance and distribution system.
- 7.4 Should IRWD or MWDOC file or support litigation, or sponsor or support legislation, that would challenge or be adverse to Existing Rate Structure, as described in Paragraph (a) of Section 7.2, Metropolitan's Chief Executive Officer may file a 90-day notice of intent to terminate this Agreement with Metropolitan's Executive Secretary, with copies to all members of Metropolitan's Board of Directors, and contemporaneously provide IRWD and MWDOC with a copy of the notice. Within 30 days of receipt of such notice, IRWD and MWDOC shall have the right to request, in writing, mediation of the dispute by a neutral third party with expertise in finance and rate setting. The mediator shall be selected by agreement of the Parties, or failing agreement within 60 days of such request for mediation, a mediator shall be selected by the Metropolitan Board of Directors from a list of at least four candidates, one each from IRWD and MWDOC, and two of which will be supplied by Metropolitan's Chief Executive Officer. The cost of the mediation shall be borne equally by the Parties. The request for mediation shall also serve to stay the 90-day notice of intent to terminate, but for no more than 90 days beyond the filing of the notice of request for mediation, unless otherwise agreed in writing by the Parties. If mediation does not result in an agreement acceptable to each party to this Agreement within the time provided herein, the notice of intent to terminate shall be reinstated. The Metropolitan Board of Directors shall act to approve or disapprove termination of this Agreement, and all of Metropolitan's obligations hereunder shall terminate if approved, on or before the ninetieth day following filing of the notice to terminate or, if mediation has been requested as described above, the ninetieth day following the request for mediation (or other date agreed in writing by the Parties.)
- 7.5 Metropolitan, IRWD and MWDOC agree that should litigation or legislation brought forth or sponsored by third parties result in changes to Existing Rate Structure, this Agreement will continue in effect unless mutually agreed in writing by the parties.
- 7.6 Should Metropolitan and its member agencies agree on an alternative rate and revenue structure that obviates the need for this section on Rate Structure Integrity, this Section shall be amended or deleted to conform to such action.

7.7 Notwithstanding the foregoing, Metropolitan shall have no power or authority under this Section to terminate this Agreement, and Metropolitan’s Chief Executive Officer shall not file a 90-day notice of intent to terminate this Agreement, if MWDOC (but not IRWD) files or participates in any litigation or supporting legislation to challenge or modify Existing Rate Structure, but IRWD transmits a writing to Metropolitan’s Chief Executive Officer within thirty (30) days of request therefore from Metropolitan, stating that IRWD has not participated directly or indirectly in the filing or prosecution of any litigation or the drafting or advocacy of any legislation to challenge or modify Existing Rate Structure, and indicates support for Existing Rate Structure.”

Section 8: Term and Amendments

8.1 The Agreement shall commence on the first date herein written and shall terminate 25 years after the date IRWD notifies Metropolitan that the Project has begun operation, subject to provisions outlined in Exhibit D. The provisions regarding reconciliation and audit shall remain in effect until three years after Agreement termination.

8.2 This Agreement may be amended at any time by the written mutual agreement executed by each of the Parties.

8.3 In addition to the automatic termination provided for in Section 5.2 and Exhibit D, Metropolitan may terminate this Agreement, upon thirty (30) days notice to IRWD on the occurrence of one the following:

- a. A material breach of this Agreement by any Party other than Metropolitan; provided that upon a Party’s receipt of written notice of material breach from Metropolitan, the breaching Party shall have a period of sixty (60) days to cure and shall not be in material breach nor shall such termination by Metropolitan be permitted so long as the Party has cured within such period, or if such cure is not reasonably possible within such period, has commenced within such period and is diligently pursuing such cure; or
- b. Payments are not required to be made under this Agreement by Metropolitan to IRWD for a five-consecutive-year period subsequent to initiation of Project operations.

8.4 Effective six (6) months after written notice to the Parties, this Agreement shall terminate with regard to all Parties upon the occurrence of the two events described in Subsection 8.4(a.) and Subsection 8.4(b.):

- a. Metropolitan determines that it will no longer:
 - i. Provide incentives or other financial support to its member agencies for seawater desalination, water recycling, or groundwater recovery projects through the Local Resources Program, Seawater Desalination Program, or similar programs;or

- ii. Utilize the Water Stewardship Rate or a similar charge to fund the Local Resources Program, Seawater Desalination Program, or other similar programs; or
 - iii. Include the Water Stewardship Rate as a charge for all water conveyed on the system; and
- b. A member of the MWDOC delegation to the Board of Directors of the Metropolitan Water District of Southern California votes in favor of the determination described in Subsection 8.4(a.).

8.5 The termination provisions of Section 8.4 shall remain in effect only so long as all Metropolitan Local Resources Program, Seawater Desalination Program, or similar program agreements approved by Metropolitan's Board of Directors after November 10, 2009 contain termination provisions materially in accord with Section 8.4 of this Agreement.

Section 9: Hold Harmless and Liability

9.1 IRWD agrees at its sole cost and expense to protect, indemnify, defend, and hold harmless Metropolitan and its Board of Directors, officers, representatives, agents and employees from and against any and all claims and liability of any kind (including, but not limited to, any claims or liability for injury or death to any person, damage to property, natural resources or the environment, or water quality problems) that arise out of or relate to IRWD's approval, construction, operation, repair or ownership of the Project, including any use, sale, exchange or distribution of Project water. Such indemnity shall include all damages and losses related to any claim made, whether or not a court action is filed, and shall include attorney fees, administrative and overhead costs, engineering and consulting fees and all other costs related to or arising out of such claim of liability

9.2 IRWD shall include the following language, or something similar, in any agreement with any consultant or contractor retained to work on the Project, to the extent applicable:

“(Consultant) agrees at its sole cost and expense to protect, indemnify, defend, and hold harmless Metropolitan and its Board of Directors, officers, representatives, agents and employees from and against any and all claims and liability of any kind (including, but not limited to, any claims or liability for injury or death to any person, damage to property, natural resources or the environment, or water quality problems) that arise out of or relate to IRWD's approval, construction, operation, repair or ownership of the Project. Such indemnity shall include all damages and losses related to any claim made, whether or not a court action is filed, and shall include attorney fees, administrative and overhead costs, engineering and consulting fees and all other costs related to or arising out of such claim of liability.”

Section 10: Notice

Any notice, payment or instrument required or permitted to be given hereunder shall be deemed received upon personal delivery or 24 hours after deposit in any United States post office, first class postage prepaid and addressed to the Party for whom intended, as follows:

If to Metropolitan:

The Metropolitan Water District of Southern California
Post Office Box 54153
Los Angeles, California 90054-0153
Attention: Water Resource Management Group Manager

If to MWDOC:

Municipal Water District of Orange County
18700 Ward Street
P.O. Box 20895
Fountain Valley, CA 92728
Attention: General Manager

If to IRWD:

Irvine Ranch Water District
P.O. Box 57000
Irvine, CA 92619-7000
Attention: General Manager

Any Party may change such address by notice given to each of the other Parties as provided in this section.

Section 11: Successors and Assigns

This Agreement shall inure to the benefit of and be binding upon the successors and assigns of the Parties hereto. This Agreement and any portion thereof shall not be assigned or transferred to any entity not an original Party to this Agreement, nor shall any of the duties be delegated, without the express written consent of all Parties. Any attempt to assign or delegate this Agreement or any of the obligations or benefits of this Agreement without the express written consent of all Parties shall be void and of no force or effect.

Section 12 Severability

The partial or total invalidity of one or more sections of this Agreement shall not affect the validity of this Agreement.

Section 13: Integration

This Agreement comprises the entire integrated understanding between the Parties concerning the IRWD Wells 21 & 22 Desalter Project, and supersedes all prior negotiations, representations, or agreements.

Section 14: Governing Law

The law governing this Agreement shall be the laws of the state of California and the venue of any action brought hereunder shall be in Los Angeles County, California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the date first hereinabove written.

APPROVED AS TO FORM:

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Karen L. Tachiki
General Counsel

Jeffrey Kightlinger
General Manager

By: _____
Setha E. Schlang
Deputy General Counsel

By: _____
Deven N. Upadhyay
Manager, Water Resource Management

APPROVED AS TO FORM:

MUNICIPAL WATER DISTRICT OF
ORANGE COUNTY

By: _____
General Counsel

By: _____
Kevin P. Hunt
General Manager

APPROVED AS TO FORM:

IRVINE RANCH WATER DISTRICT

By: _____
General Counsel

By: _____
Paul D. Jones II
General Manager

EXHIBIT A
IRWD Wells 21&22 Desalter
PROJECT DESCRIPTION
(TO BE COMPLETED WITH NEW INFO)

Overview

The Irvine Ranch Water District (IRWD) owns wells 21 and 22 located within the city of Tustin in an area where the groundwater contains high levels of nitrate (over 67 mg/L), hardness and total dissolved solids (TDS) over 500 mg/L. The proposed Wells 21&22 Project (Project) would recover, treat, and deliver up to 6,400 acre feet per year (AFY) of recovered groundwater from the Orange County Groundwater Basin for municipal use in IRWD's service area. The Project, which will be owned and operated by IRWD, would supplement IRWD's current potable supplies, reduce demand for imported water, and increase regional supply reliability.

Project Facilities

The Project involves the construction or rehabilitation of at least two groundwater wells (Wells 21 and 22), about 2.5 miles of raw water conveyance, finished water transmission, and disposal pipelines, and treatment facilities. The treatment facilities include pretreatment with cartridge filters and reverse osmosis membrane treatment.

Source of Project Water

The source of groundwater is the Orange County Groundwater Basin (Basin). Orange County Water District (OCWD) has agreed to exempt the project water from paying the basin equity assessment (BEA) because the Project would help clean up of the Orange County basin, increase IRWD's pumping and create room for more storage in the basin. BEA is assessed to pumpers for any water pumped over the basin pumping percentage (BPP) allocated by OCWD's board every year. Based on the BEA exemption, the Project has the capacity to maintain operation for three years without requiring replenishment from Metropolitan.

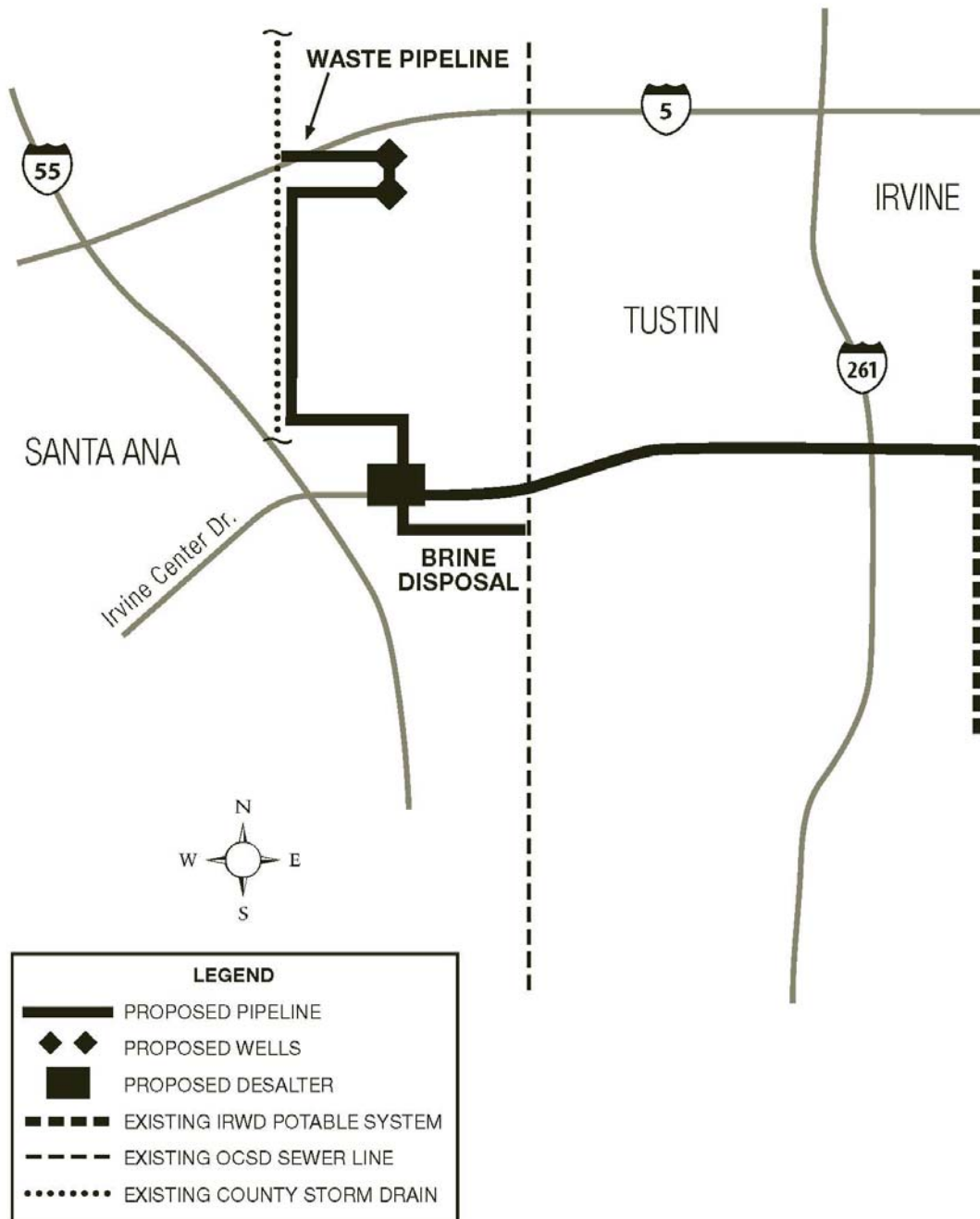
End Users

Project water would be delivered for potable uses to customers within IRWD's service area.

Points of Connection

Project facilities shall terminate at the point of connection to the existing potable distribution system and at the point of discharge of the concentrate into the sewer system.

FIGURE 1 IRWD WELLS 21 & 22 DESALTER



Map not to scale

EXHIBIT B

ANNUALIZED CAPITAL COMPONENT

1. The Annualized Capital Component shall be computed using only the following incurred costs by IRWD for the Project:
 - a. Design (including preliminary design) and construction management services.
 - b. Construction of Project facilities, more particularly described in Exhibit A.
 - c. IRWD administration of the Project design, construction, and start-up, not to exceed three (3) percent of construction costs unless otherwise approved in writing by Metropolitan.
 - d. Permits, including required data collection.
 - e. Land, right-of-way and easements for the Project described in Exhibit A.
 - f. Environmental documentation and mitigation measures directly related to the implementation or operation of the project and required to comply with applicable environmental permits and laws, including but not limited to the California Environmental Quality Act, National Environmental Policy Act, and the California and Federal Endangered Species Acts. Environmental documentation costs shall commence with the Notice of Preparation (NOP) and conclude with the filing of the Notice of Determination. Environmental documentation costs incurred prior to the NOP that are directly related to the environmental clearance of the Project may also be eligible, subject to review and approval by Metropolitan.
 - g. All contributions as outlined in Section 5.4 of this Agreement shall be treated as negative capital cost values for the purpose of computing the Annualized Capital Component.
2. Cost of the following items shall not be used to calculate the Annualized Capital Component:
 - a. Storm drains, sewer collection systems, and treatment and distribution facilities beyond the Project's points of connection.
 - b. Existing facilities, land, right-of-way, and easements.
 - c. Feasibility studies.
 - d. Deposit of any reserve funds required as a condition of financing.
 - g. Payments made to another department or element of IRWD and MWDOC, unless otherwise approved in writing by Metropolitan.

- h. Public outreach, education, and water marketing activities including but not limited to preparing brochures and handout materials, training, meetings, and workshops.
- i. All others costs not specified in Section 1 of this Exhibit, unless otherwise approved in writing by Metropolitan.

3. Annualized Capital Cost (ACCost) in dollars per year shall be computed using the following procedure:

- a. For fixed-interest rate financing:

$$ACCost = CRF_1 \times P_1 + CRF_2 \times P_2 + \dots + CRF_j \times P_j$$

Where:

P_j is each portion of incurred capital cost for Project with a distinct financing arrangement.

CRF_j is the capital recovery factor for each distinct financing arrangement, as follows:

$$CRF_j = [i \times (1+i)^n] / [(1+i)^n - 1]$$

where:

i is the interest rate (%).

n is the term of financing (in years) commencing in the first Fiscal Year of Project operation. For all capital financing, cash expenditures, and grants and contributions received after the Project begins operation, annual payments shall be calculated, using above process, beginning in the Fiscal Year the costs occur.

j is the number of each separate financing element.

In the first Fiscal Year and Fiscal Year $n+1$ of production of Allowable Yield, each amortization for the calculation of ACCost shall be prorated by the number of days needed to achieve exactly n years of amortization following the first day of production of Allowable Yield.

- b. For variable-interest rate financing, annual payments shall be computed based on the actual payments made in the applicable Fiscal Year according to IRWD's financing documents. Any principal payments toward the Project capital cost before the Project operation will be treated as cash. IRWD shall provide Metropolitan with the accumulated paid principal pursuant to Section 5.1.

- c. For fixed-interest rate financing with a non-uniform annual payment schedule, an economically-equivalent uniform annual payment schedule shall be calculated based on an “Internal Rate of Return” analysis to establish the annualized capital cost.
- d. Project capital costs not covered by a financing arrangement described above and all grants and contributions as defined in Section 5.3 shall be amortized over 25 years at an interest rate equal to the lesser of:
 - a) Metropolitan’s most recent weighted cost of long-term debt on June 30 in the year the capital expenditure occurred; or
 - b) The Fiscal Year average of the 25-bond Revenue Bond Index (RBI) as published in the Bond Buyer, or such other index that may replace the RBI, over the most recent Fiscal Year prior to the date the replacement cost was incurred.

All grants or contributions shall be amortized as negative capital cost values beginning in the year that money was received.

- e. After the first Fiscal Year of operation, only refinancing changes which lower the Annualized Capital Component shall be included in the Annualized Capital Component calculation of each subsequent Fiscal Year.
 - f. If the Project capital cost is part of a broad financing arrangement, annual payments shall be calculated by prorating the annual payments of the broad financing using the ratio of the Project capital cost to the initial principal of the broad financing arrangement.
4. The Annualized Capital Component (ACCom) in dollars per acre-foot for purposes of determining the Project Unit Cost each Fiscal Year shall be calculated using the following formula:

$$ACCom = ACCost / Recovered\ Water$$

EXHIBIT C

OPERATION AND MAINTENANCE COMPONENT

1. The Operation and Maintenance Component shall be computed using only the following incurred costs by IRWD during the applicable Fiscal Year.
 - a. Professional consulting services for Project operation, maintenance and audit, excluding daily Project operation.
 - b. IRWD labor costs and/or contract labor costs for production of up to 6,400 AFY equal to:
$$(\$250,000) \times (\text{CPI} / \text{CPI}_{2010})$$

Where, CPI is the All Urban Consumers Consumer Price Index published by the U.S. Bureau of Labor Statistics in July for Los Angeles, Riverside and Orange County, CA for the applicable Fiscal Year and CPI₂₀₁₀ is the CPI published for July 2010. Between July 1 and December 30 in the year 2013, and every third year thereafter, any Party may request Parties to revise the allowable labor cost. Labor cost in the first year of production of Allowable Yield and the last year of this Agreement shall be prorated based on the number of days of production of Allowable Yield.
 - c. Chemicals and supplies for Project operation and maintenance.
 - d. Net electrical energy (recovered energy shall be deducted from energy purchased) for Project operations. Metropolitan shall not pay for electrical energy cost if IRWD fails to install electrical metering devices.
 - e. Contractor services and supplies for Project facilities, operation, maintenance and repair to maintain reliable system operation and achieve regulatory compliance.
 - f. Monitoring required by permits, including water quality sampling and analysis of Recovered water produced by the Project.
 - g. All contributions as outlined in Section 5.4 of this Agreement shall be treated as negative operation and maintenance cost values for the purpose of computing the Operation and Maintenance Component.
 - i. Replacement costs of Project parts.
2. Costs of the following items shall not be used to calculate the Operation and Maintenance Component:
 - a. Operation and maintenance of any facilities beyond the Project's points of connection.

- b. Payments made to another department or element of IRWD and MWDOC, unless otherwise approved in writing by Metropolitan.
 - c. Public outreach, education, and water marketing activities including but not limited to preparing brochures and handout materials, training, meetings, and workshops.
 - d. Fines, penalties, settlements, or judgments due to Project operation.
 - e. All others costs not specified in Section 1 of this Exhibit, unless otherwise approved in writing by Metropolitan.
3. The Annualized Operation and Maintenance Component (O&MC) in dollars per acre-foot for purposes of determining the actual Project Unit Cost each Fiscal Year shall be calculated using the following formula:

$$\text{O\&MC} = (\text{Actual Annual Cost of O\&M}) / (\text{Recovered Water})$$

EXHIBIT D

PERFORMANCE PROVISIONS

1. The following performance provisions apply:
 - a. Metropolitan will terminate this Agreement if construction has not commenced within two years after Agreement execution. As opposed to Provision 1(b.) below, there is no established appeal process for this outcome.
 - b. Metropolitan will terminate this Agreement if Allowable Yield is not delivered within five years after Agreement execution. The Project sponsor(s) may appeal this decision to Metropolitan's Board of Directors.
 - c. If the Allowable Yield during Fiscal Years 4 through 7 after Agreement execution does not reach the target yield of 50% of the Ultimate Yield, then Metropolitan will reduce the Ultimate Yield by the target shortfall using the highest Allowable Yield produced in that four year period. For example, the Ultimate Yield of a project with the following performance will be reduced to 6,200 AFY for Scenario 1 while there would be no adjustment under Scenario 2:

Project Ultimate Yield = 6,400 AFY

Fiscal Year	Scenario 1 Allowable Yield (AFY)	Scenario 2 Allowable Yield (AFY)
4	1,500	1,800
5	2,900	2,100
6	2,800	3,000
7	3,000	3,300

50% of the Ultimate Yield = $0.50 \times 6,400 = 3,200$ AFY

- Scenario 1: Shortfall = $3,200 - 3,000 = 200$ AFY
Revised Ultimate Yield = $6,400 - 200$ AFY = 6,200 AFY
- Scenario 2: Since, the Allowable Yield in the Fiscal Year 7 is greater than 3,200 AFY, no adjustment is required. Ultimate Yield remains at 6,400 AFY.
- d. If the Allowable Yield during Fiscal Years 8 through 11 after Agreement execution does not reach the target yield of 75% of the Ultimate Yield or the Revised Ultimate Yield, then Metropolitan will reduce the Ultimate Yield (or the Revised Ultimate Yield) by the target shortfall using the highest Allowable Yield produced in that period. For Example, the Ultimate Yield of the project in this example with the following performance will be

reduced to 5,500 AFY for Scenario 1 while there would be no adjustment under Scenario 2:

	Scenario 1	Scenario 2
Fiscal Year	Allowable Yield (AFY)	Allowable Yield (AFY)
8	3,550	4,550
9	3,600	4,600
10	3,500	4,700
11	3,950	4,900

Scenario 1: Revised Ultimate Yield = 6,200 AFY (see above calculations)
 75% of Ultimate Yield = $0.75 \times 6,200 = 4,650$ AFY
 Shortfall = $4,650 - 3,950 = 700$ AFY
 Revised Ultimate Yield = $6,200 - 700 = 5,500$ AFY

Scenario 2: Ultimate Yield = 6,400 AFY
 75% of ultimate Yield = $0.75 \times 6,400 = 4,800$ AFY
 Since, the Allowable Yield in the Fiscal Year 11 is greater than 4,800 AFY, no adjustment is required.

- e. If the Allowable Yield during Fiscal Years 12 through 15 after Agreement execution (and every four-year period thereafter) does not reach the target yield of 75% of the Ultimate Yield or revised Ultimate Yield, then Metropolitan will reduce the Ultimate Yield (or the Revised Ultimate Yield) by the target shortfall using the highest Allowable Yield produced in that period. The adjustment will be made using the same methodology shown in the above examples.

(The text in this exhibit cannot be modified. It is a quote taken from MWD's Admin Code)

EXHIBIT E

MWD Administrative Code Section 4401 (c)

§ 4401. Rates.

(c) For purposes of agreements existing under the Local Resource Program, Local Project Program, Groundwater Recovery Program and other similar programs, references to the “full service water rate,” “full service treated water rate,” “treated non-interruptible water rate” or “other prevailing rate” or to the “reclaimed water rate” or “recycled service rate” shall be deemed to refer to the sum of the System Access Rate, Water Stewardship Rate, System Power Rate, the expected weighted average of Tier 1 Supply Rate and Tier 2 Supply Rate (equal to the estimated sales revenues expected from the sale of water at the Tier 1 and Tier 2 Supply Rates divided by the total District sales in acre-feet expected to be made at the Tier 1 and Tier 2 Supply Rates), a Capacity Charge expressed on a dollar per acre-foot basis and Treatment Surcharge.



ACTION ITEM
December 15, 2010

TO: Board of Directors

FROM: **Planning & Operations**
(Directors Royce, Clark, Hinman)

Kevin Hunt
General Manager

Staff Contact:

J. Berg
WUE Programs Manager

SUBJECT: **Continuation of the Hotel Water Use Reduction Program**

STAFF RECOMMENDATION

Staff recommends the Board of Directors increase the WaterWise Consulting, Inc. Professional Services Contract by \$130,025 using grant funds provided by the US Bureau of Reclamation.

COMMITTEE RECOMMENDATION

Committee recommends (To be determined at Committee Meeting)

SUMMARY

Over the past two years, MWDOC has operated the Hotel Water Use Reduction Program with funding assistance provided by the Department of Water Resources. To date, 24 indoor and outdoor water use surveys have identified annually water savings of 351 acre feet per year.

In 2009, MWDOC was awarded a second grant to continue the Hotel Water Use Reduction Program from the Bureau of Reclamation. Staff is requesting Board authorization to continue implementation of the Program using the additional Bureau of Reclamation grant funds.

DETAILED REPORT

Budgeted (Y/N): Yes, grant funds	Budgeted amount: \$130,025
Action item amount: \$130,025	Line item:
Fiscal Impact (explain if unbudgeted): Not applicable	

In July 2007, the Department of Water Resources awarded MWDOC a Water Use Efficiency Proposition 50 Grant in the amount of \$712,125 for implementation of a Hotel Water Use Reduction Program (Program). The water savings goal for this Grant is 425 acre feet per year, or 4,250 acre feet over ten years. MWDOC staff utilized a Request for Proposals process in July 2008 and received Board approval to hire WaterWise Consulting, Inc. to implement the program. The DWR grant was split into two parts, professional services (WaterWise Consulting and MWDOC staff time) and customer incentives for device retrofits. WaterWise Consulting, Inc.'s professional services tasks include Project Management, Outreach and Marketing, Indoor and Outdoor Hotel Water Surveys, Customer Rebate Incentives Assistance, Customer Follow-up, and Monitoring and Evaluation.

The Program provides local hotel customers with two levels of support including:

- Water use efficiency surveys containing recommendations to implement device efficiency retrofits and improvements, and
- Incentive funding, from MWDOC's grants and Metropolitan, to implement efficiency recommendations.

Hotels can proceed to implement the incentives directly by reserving a rebate and then purchasing and installing incentive-eligible devices without the benefit of a survey – or they can opt to have a detailed indoor/outdoor survey of all water-using aspects performed at the facility as a first step. The detailed survey includes a written report indentifying recommendations for water savings, costs to implement recommended savings measures, rebate-based incentives to offset the costs of savings measures, and an economic analysis to assist the site in making a business decision to retrofit water-wasting fixtures.

A total of 24 surveys have been completed or are in progress. The water savings potential identified in the surveys totals more than 351 acre feet per year (Attachment A). In addition, 9,590 devices have been installed through the Program, resulting from either a survey performed or a self-referral, saving an additional 370 acre feet of water per year. Staff will continue to work with interested hotels to move them toward surveys and rebate incentives.

Staff proposes to continue the Hotel Water Use Reduction Program using an additional grant from CALFED (administered by the Bureau of Reclamation) in the amount of \$388,925. The purpose of this grant is to conduct additional hotel surveys, monitor the water savings, and provide incentives for more efficient plumbing fixtures.

Grant	Professional Services		Incentives	Total
DWR Prop 50	\$337,125	WaterWise Consulting	\$375,000	\$712,125
USBR CALFED*	\$130,025	WaterWise Consulting	\$258,900	\$388,925
Total	\$467,150		\$633,900	\$1,101,050

* The DWR and USBR grants also include funding for MWDOC staff time reimbursement totaling \$35,314 and \$20,000 respectively. These grant funds are not included in Table11 to simplify the staff report and avoid confusion.

Of the \$388,925 from the USBR grant, approximately \$130,025 is for professional services for program implementation by WaterWise Consulting, and \$258,900 is for customer incentives. It should be noted that the grant allows for flexibility to shift funds between Professional Services and Incentives categories as the Program is implemented.

Program Implementation by WaterWise Consulting, Inc.

When the Program started in June 2008, WaterWise Consulting, Inc. was selected through an RFP process to implement the project. The RFP process included 21 consulting firms. Over the last two years, MWDOC and WaterWise Consulting have refined the implementation and participation process, which is running smoothly. WaterWise Consulting has strong expertise in hotel water use surveys and is performing this work at a high level of quality. Staff has been satisfied with their performance.

With the additional USBR grant, staff would like to continue to take advantage of WaterWise Consulting's expertise and is proposing to increase their contract by \$130,025 to conduct additional hotel surveys, provide marketing and customer follow-up, and assistance, and conduct implementation monitoring. WaterWise Consulting has agreed to continue to implement the project at the same rates agreed to when the project started. It is anticipated that up to 30 additional surveys will be conducted.

Incentives for Device Retrofits

When the Program started, incentives offered to customers to implement device retrofits were provided by MWDOC's DWR grant and Metropolitan's Conservation Credits Program. These rebate incentives are processed through the regional Save-Water Save-A-Buck rebate program. Since then, Metropolitan's funding has become increasingly uncertain due to recent Conservation Credits Program modifications. As a result, staff sought out and was awarded the US Bureau of Reclamation grant that could replace Metropolitan funding and be used to meet the DWR matching fund requirements. With intermittent Metropolitan funding and firm DWR/USBR funding, staff plans to continue to implement the Program using our grants as the primary source of incentive funding, but also access Metropolitan funding whenever available. To date, 9,590 devices have received rebate incentives totaling \$1,369,815 from Metropolitan and \$281,000 from MWDOC's DWR grant. Approximately \$352,900 in grant funding is still available to hotels in the MWDOC service area.

Conclusion

A significant water savings potential exists in the hotel sector. MWDOC has sufficient grant funding to continue implementing the Program through September 2013. Staff would like to continue implementation of the program by continuing to offer water use surveys and incentives for water saving improvements.

			Attachment A	
Water Smart Hotel Program Surveys Conducted				
Hotel	Water District	Survey Date	Report Status	Potential Water Savings (AF)
Aliso Creek Inn	South Coast Water District	3/3/2010	Complete	9.8
Best Western Regency	Huntington Beach	2/8/2010	Complete	4.7
Comfort Inn Irvine	El Toro Water District	11/17/2009	Complete	1.8
Courtyard Inn	City of Fountain Valley	7/23/2009	Complete	12.8
Double Tree Doheny Beach	South Coast Water District	11/30/2010	Pending	TBD
Embassy Suites	City of Garden Grove	9/8/2009	Complete	17.4
Hampton Inn	City of Buena Park	12/7/2010	Pending	TBD
Holiday Inn/Hanford	Mesa Consolidated Water Di	7/16/2009	Complete	20.4
Hotel Laguna	Laguna Beach County Water	2/2/2010	Complete	6.1
Hyatt Regency	Irvine Ranch Water District	10/21/2009	Complete	50.2
Key Inn	City of Tustin	7/21/2009	Complete	14.0
Laguna Cliffs Resort	South Coast Water District	5/6/2009	Complete	40.9
Marriott - Costa Mesa	Mesa Consolidated Water Di	4/29/2010	Complete	21.7
Marriott - Newport Beach	Irvine Ranch Water District	7/9/2010	Complete	6.9
Regency Inn	Irvine Ranch Water District	3/16/2010	Complete	4.4
Residence Inn	City of Fountain Valley	7/8/2009	Complete	13.3
Ritz-Carlton Hotel	South Coast Water District	4/28/2009	Complete	68.3
St. Regis Hotel	South Coast Water District	4/22-4/23/2010	Complete	10.0
Sun n' Sand	Huntington Beach	3/23/2010	Complete	1.6
Super 8	City of Buena Park	12/1/2010	Pending	TBD
Surf & Sand Resort	Laguna Beach County Water	3/25/2009	Complete	13.2
Westin South Coast Plaza	Mesa Consolidated Water Di	7/26/2010	Complete	11.0
Westminster Inn	City of Westminster	7/30/2009	Complete	2.5
Wyndam Hotel	Mesa Consolidated Water Di	2/24/2009	Complete	21.0
		Total Potential Savings		351.9



ACTION ITEM
December 15, 2010

TO: Board of Directors

FROM: **Planning & Operations**
(Directors Royce, Clark, Hinman)

Kevin Hunt
General Manager

**SUBJECT: CORDOBA CORPORATION CONTRACT – STRATEGIC ASSISTANCE
ON MET ISSUES**

STAFF RECOMMENDATION

Staff recommends the Board of Directors approve the Cordoba Corporation contract in the total amount of \$45,000.

COMMITTEE RECOMMENDATION

Committee recommends (to be determined at Committee Meeting)

SUMMARY

MWDOC has been cooperating with numerous Metropolitan member agencies on a variety of Metropolitan issues including the SDCWA/MET lawsuit, to which we are a partner. Several of the agencies, including MWDOC, have identified a need for some strategic advice. Ron Gastelum of Cordoba Corporation has the requisite expertise.

MWDOC and four other agencies are proposing to contract with Cordoba Corporation for a not-to-exceed amount of \$45,000. MWDOC's share will be \$9,000; however, since we will be managing the contract, the action today is to approve a \$45,000 contract with Cordoba Corporation. Duration of the contract is six months.

Budgeted (Y/N): Y	Budgeted amount: \$9,000
Action item amount: \$9,000	Line item:
Fiscal Impact (explain if unbudgeted):	

2. January/February/March 2011 Workshops on Project Delivery Options

Report:
Committee Questions
Public Comments
Committee Decision

Recommended Action: It is recommended that the Participant's discuss the timing of the workshops on Project Delivery Options.

MWDOC staff has begun its coordination on this work and met with Ed Means and Steve Diamond from Malcolm Pirnie (our consultant) to discuss the upcoming workshops on Project Delivery Alternatives for the SOCOD Project. Each of the five Participating Agencies will also have to get your staff and elected folks prepared for those meetings and for your interview meeting with Ed Means. With the elections completed, each Participant can begin planning who they would like at the interview and workshops (both staff and electeds). For any new members coming onto the Participants Committee MWDOC anticipates one or more project briefings to get folks up to speed. As a reminder, each of the 5 Participating agencies will meet with Ed Means prior to the workshops to discuss:

- Introduction of Ed Means to your agency contacts
- The process for conducting the workshops
- The workshop agendas (three meetings are planned)
- Any particular topics your agency wants to make sure gets covered in the workshops
- Any sensitive areas your agency may want to discuss with Ed so he can make sure the issue gets covered in the meetings

The meetings **ARE NOT** for Ed to provide you with a complete explanation of the advantages and disadvantages of Design-Bid-Build and Design-Build-Operate and variations thereof (however, prior to the interview, Malcolm Pirnie will provide an initial white paper outlining the advantages and disadvantages of Alternative Project Delivery Options). The main purpose of the interviews is so your agency can discuss the above topics in a confidential setting prior to the start of the workshops.

In addition, MWDOC will be soliciting from each agency a potential list of staff and electeds who might want to participate so we can arrange a convenient date for the interview and then for the workshop meetings. This can be anybody you want involved in the process. You are not limited in who you can bring to either the interview or the workshops.

The process, timing and sequence of work are anticipated as follows:

December 2010

- MWDOC to schedule and conduct meetings with any new Agency Representatives to bring them up to speed on the project and where we stand. This can be done individually or as a group or both. It may take more than one briefing.
- Participant Agencies decide who they want in the initial interview process with Malcolm Pirnie. The purpose of the interview is to review the entire process for the Project Delivery Workshops and receive input from each Agency, individually and confidentially, prior to the start of the formal workshops. This gives each Agency the ability to get to know the Malcolm Pirnie folks and to ask questions and understand the process before it starts.
- Malcolm Pirnie to complete White Paper on Alternative Delivery Systems and gets it out by middle of December

Early January 2011

- Interview meetings need to be set with each Agency for the first or second week in January

Mid January 2011

- Interviews are completed and input is incorporated into the Malcolm Pirnie work tasks. Malcolm Pirnie adjusts workshop materials and sends out to all for the first workshop – Third week in January

Late January 2011/Early February

- Hold Workshop #1 (target January 24 to Feb 4)
- (Not a lot of time needs to be scheduled between Workshop #1 and #2)
- Malcolm Pirnie prepares handouts for Workshop #2

Mid to Late February 2011

- Hold Workshop #2 (target Feb 7 to Feb 25)
- Malcolm Pirnie prepares handouts for Workshop #3

Mid March 2011

- Hold Workshop #3 (target March 14 to 25)
- Reminder, the purpose of Workshop #3 is for a group decision to be made on the schedule and preferred project delivery option. This will help us to better establish the future steps and schedule for the project.



AGENDA #1

South Orange Coastal Ocean Desalination (SOCOD) Project Alternative Project Delivery (APD) Methods - Workshop #1 Municipal Water District of Orange County (MWDOC)

January TBD, 2011
8:00 a.m. – 12:00 p.m.

Location: TBD

Objectives: Review Alternative Project Delivery (APD) Methods and begin to develop basis for APD Method selection

Item	Topic	Presenter	
1.	Introduction	Ed	Means (MP)
	A. Review of Meeting Objectives/Agenda		
	B. Discuss Project Objectives/Expectations of Participants		
	C. Overview of Full Scale Plant Components		
2.	Presentation on APD Methods. Presentation to include:		Clint Walker (MP)
	A. Overview of Alternatives		
	a. Key Contract Features		
	B. Advantages/Disadvantages for each Alternative		
	C. Cost/Schedule Comparisons		
	D. Discuss Case Studies		
3.	Review SOCOD Participant Interviews		Ed Means (MP)
	A. Discuss Key Issues Identified		
4.	Preliminary Discussion on Ranking Approach		Clint Walker (MP)
	A. Develop Preliminary List of Key Selection Criteria		
5.	Next steps	Ed	Means (MP)
	A. Review Agenda for Next Meeting		



AGENDA #2

South Orange Coastal Ocean Desalination (SOCOD) Project Alternative Project Delivery (APD) Methods - Workshop #2 Municipal Water District of Orange County (MWDOC)

**February TBD, 2011
8:00 a.m. – 12:00 p.m.**

Location: TBD

Objectives: Review Additional Case Studies, Refine Selection Criteria and Develop Selection Criteria Weighting

Item	Topic	Presenter	
1.	Introduction	Ed	Means (MP)
	A. Introduce New Presenters		
	B. Review of Meeting Objectives/Agenda		
2.	Workshop No. 1 Summary	Ed	Means (MP)
3.	Presentation on Three New Case Studies:		
	A. OCWD GWRS – DBB		TBD
	B. SDCWA Twin Oaks -DBO		TBD
	C. Perth Kwinana Plant - Alliance		Gary Crisp (GHD)
	D. Sydney Kurnell Plant – BTO	Steve	Linforth (SKM)
4.	Review and Update Key Selection Criteria List		Ed Means (MP)
5.	Discuss Selection Criteria Weighting		Ed Means (MP)
6.	Next steps	Ed	Means (MP)
	A. Review Agenda for Next Meeting		

AGENDA #3

South Orange Coastal Ocean Desalination (SOCOD) Project
Alternative Project Delivery (APD) Methods - Workshop #3
Municipal Water District of Orange County (MWDOC)

**March TBD, 2011
8:00 a.m. – 12:00 p.m.**

Location: TBD

Objectives: Review Detailed Schedule and Cash Flow Comparison (for DBB and DBO Methods), Present Draft APD Ranking and Review Operations Component

1. Introduction
 - A. Review of Meeting Objectives/Agenda
2. Workshop No. 1 and 2 Summary
3. Present Draft Ranking for Review and Discussion
4. Review Operations Component
6. Next steps

*****NOTE LATER START TIME OF 3:00 PM*****



A G E N D A

SOUTH ORANGE COASTAL OCEAN DESALINATION

**Participants Meeting Location:
Dana Hills Tennis Center
24911 Calle de Tennis
Dana Point, CA 92629**

**Monday, November 15, 2010
3:00 p.m.**

IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GOVERNMENT CODE SECTION 54954.2, THIS AGENDA SHALL BE POSTED IN THE MAIN LOBBY OF PARTICIPATING AGENCIES ADMINISTRATIVE OFFICES NOT LESS THAN 24 HOURS PRIOR TO THE MEETING DATE AND TIME ABOVE. ALL WRITTEN MATERIALS RELATING TO EACH AGENDA ITEM ARE AVAILABLE FOR PUBLIC INSPECTION IN THE RESPECTIVE AGENCIES OFFICE OF THE BOARD SECRETARY OR CITY CLERK. THE PARTICIPATING AGENCIES TO THE SOUTH ORANGE COUNTY OCEAN DESALINATION PROJECT ARE: MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, SOUTH COAST WATER DISTRICT, MOULTON NIGUEL WATER DISTRICT, LAGUNA BEACH COUNTY WATER DISTRICT, CITY OF SAN CLEMENTE AND CITY OF SAN JUAN CAPISTRANO.

IN THE EVENT ANY MATTER NOT LISTED ON THIS AGENDA IS PROPOSED TO BE SUBMITTED TO THE GROUP FOR DISCUSSION AND/OR ACTION, IT WILL SET FORTH ON A SUPPLEMENTAL AGENDA POSTED IN THE MANNER AS ABOVE, NOT LESS THAN 24 HOURS PRIOR TO THE MEETING DATE.

A. CALL TO ORDER

B. PLEDGE OF ALLEGIANCE(TBD)

C. ROLL CALL OF PARTICIPATING AGENCIES

- Municipal Water District of Orange County (MWDOC)
- South Coast Water District (SCWD)
- Moulton Niguel Water District (MNWD)
- Laguna Beach County Water District (LBCWD)
- City of San Clemente (CSC)
- City of San Juan Capistrano (CSJC)

D. ORAL COMMUNICATIONS / PUBLIC COMMENTS

All persons wishing to address the Participant's Group on specific agenda items or matters of general interest should do so at this time by completing a "Request to Speak" form available at the door. The completed "Request to Speak" form is to be submitted to the Chair prior to an individual being heard by the Group. **Remarks may be limited to three (3) minutes.**

E. CONSENT CALENDAR:

All matters listed under Consent Calendar are considered by the Participating Agencies to be routine and will all be enacted by one motion by the form listed below. There will be no separate discussion of the items prior to the time the Participating Agencies vote on the motion unless members of the Participating Agencies, or public request specific items to be discussed and/or removed from the Consent Calendar for separate discussion. Reports will only be given if items are pulled from the Consent Calendar.

Recommended Action: Motion to approve Consent Calendar Item(s):

Consent Calendar (Item(s) 1)

1. Approval of Meeting Minutes

South Orange Coastal Ocean Desalination Project Participants Committee Meeting of September 29, 2010

F. NEW BUSINESS

1. Project Status and General Update

Report:
Committee Questions
Public Comments
Committee Decision

a. November 2010 Status Report

Recommended Action: Information Item; receive and file.

2. January/February 2011 Workshops on Project Delivery Options

Report:
Committee Questions
Public Comments
Committee Decision

Recommended Action: It is recommended that the Participant's discuss the timing of the workshops on Project Delivery Options.

3. Other

Report:

Committee Questions

Public Comments

Committee Decision

a. CALDESAL Update

b. Next Meeting –(date to be discussed at the meeting)

c. Topics for Next Meeting

G. MISCELLANEOUS ORAL REPORTS

H. ADJOURNMENT

Accommodations for the Disabled. The Participants Meeting Room is wheelchair accessible. If you require any special disability related accommodations, please contact the South Coast Water District Dana Hills Tennis Center office at (949) 240-2104 as soon as possible prior to the scheduled meeting. Requests must specify the nature of the disability and the type of accommodation requested.

Written materials related to Agenda. At the time of the posting of the agenda for South Orange County Ocean Desalination Project meetings, the entire agenda packet is available for public review at the Participating Agencies Administrative Offices at Municipal Water District of Orange County, South Coast Water District, Laguna Beach County Water District, City of San Clemente and City of San Juan Capistrano. Pursuant to Government Code Section 54957.5 any writing that is distributed to the Group after the posting of a meeting agenda shall also be made immediately available to the public at the Participating Agencies Administrative Offices. Written materials distributed by members of the public at a meeting shall be made available immediately following the meeting. Information regarding the South Orange County Ocean Desalination Project is available on SCWD.org, including Meeting Schedules, Meeting Agendas and Minutes.

E. Recommended Action: Motion to approve Consent Calendar Item(s):

Consent Calendar (Item(s) 1)

1. Approval of Meeting Minutes

South Orange Coastal Ocean Desalination Meeting of September 29, 2010.

SOUTH ORANGE COASTAL
OCEAN DESALINATION



MINUTES

Meeting
September 29, 2010
2:30 PM

The meeting of Participants Group of the South Orange County Ocean Desalination was held on September 29, 2010, at 2:30 p.m., at the Dana Hills Tennis Center at 24911 Calle de Tennis, Dana Point, Orange County, California.

A. CALL TO ORDER

B. PLEDGE OF ALLEGIANCE Richard Dietmeier

C. ROLL CALL OF PARTICIPATING AGENCIES

There were present and participating the following agency participants, to wit: Municipal Water District of Orange County, South Coast Water District, Moulton Niguel Water District, Laguna Beach County Water District, City of San Juan Capistrano, and City of San Clemente.

D. ORAL COMMUNICATIONS / PUBLIC COMMENTS - None

E. CONSENT CALENDAR

1. Approval of Minutes

South Orange Coastal Ocean Desalination Meeting Minutes of August 23, 2010.

Upon Motion made by: City of San Clemente, seconded by City of San Juan Capistrano – and passed unanimously by a 5-0 vote, to approve the Meeting Minutes of August 23, 2010.

F. NEW BUSINESS

1. Project Status and General Update

Information item; receive and file.

2. Pilot Plant Construction Contract Close-Out with SCW and Intuitech

Upon Motion made by: South Coast Water District, seconded by City of San Clemente – and passed unanimously by a 5-0 vote, to concur with MWDOC accepting the work of SCW and Intuitech and making final payments for the contract amounts of \$518,921.99 and \$343,790.00 respectively.

3. Contract Authorizations for BUREC Grant for Iron and Manganese Removal

Upon Motion made by: City of San Juan Capistrano, seconded by South Coast Water District – and passed unanimously by a 5-0 vote, to concur with MWDOC awarding \$444,902 in contracts to complete the work under the BUREC WaterSmart 2010 Advanced Water Treatment Pilot Plant and Demonstration Grant for iron and Manganese removal.

5. Update on Marine Life Protection Act Regulations and Draft EIR

Information item; receive and file.

6. Update on Groundwater Modeling and Coordination with the San Juan Basin Authority

Information item; receive and file.

7. Fall 2010 Workshops on Project Delivery Options

The first Workshop will be held in the mid January timeframe.

8. Other

- a. Paul Shoenberger gave an update on CALDESAL
- b. Pilot plant open house:
 - October 28 (time to be determined) – Santa Ana Basin Section of CWEA
 - November 17, 1:00 pm – League of Women Voters
 - Desalination Association Conference – Huntington Beach - November 2 and 3.

Next meeting – Monday, November 15 at 3:00 p.m.

Adjournment: 4:10 p.m.

SOUTH ORANGE COASTAL OCEAN DESALINATION PROJECT

**MEETING LOCATION:
DANA HILLS TENNIS CENTER
24911 Calle de Tennis
Dana Point, CA 92629**

For the meeting of
Wednesday, September 29, 2010

Please print your name and affiliation below so that the Participating Agencies will have a record of those attending today's meeting. Thank you.

NAME	ADDRESS / AGENCY	E-MAIL
LEE GRODE	SJC Utility Dept	lee.grode@coy.net
Joe Anderson	City of San Clemente	
Don Martanson	CONSULTANT	d.martanson@cox.net
BILL WACHAL	CONSULTANT	willw@earthlink.net
Jane Zefy	H.B. Co Water Dept	jhegly@aol.com
Susan Hinman	MWD OC	shinman@cox.net
Warren Teitz	MWD	wteitz@mwdh2o.com
Lanaya Voelz	CDM	voelzld@cdm.com
DAVE STEPHENS	SJCA	STEPHENS.DAVE@GMAIL.COM
Kevin Thomas	RBF	kthomas@rbf.com
MARK DONOVAN	SPI	mdonovan@spierengineering.com
Denamarie Baker	OCHCA	dbaker@ochca.com
GARY CRISP	GHJ	gary.crisp@ghj.com
NICK APOSTOLIDIS	GHJ	nickapostolidis@ghj.com
Tom Huler	SJC	
MIKE CLASSE	MWD	
Bill Cameron	San Clemente	

SOUTH ORANGE COASTAL OCEAN DESALINATION PROJECT

**MEETING LOCATION:
 DANA HILLS TENNIS CENTER
 24911 Calle de Tennis
 Dana Point, CA 92629**

For the meeting of
 Wednesday, September 29, 2010

Please print your name and affiliation below so that the Participating Agencies
 will have a record of those attending today's meeting. Thank you.

NAME	ADDRESS / AGENCY	E-MAIL
DAVID REBENSPORF	CITY OF SAN CLEMENTE	REBENSPORF@SAN-CLEMENTE.ORG
BRAD FOWLER	" " DANA POINT	bfowler@danapoint.org
BOB MOORE	SCWD	
OLIVER PACIFIC	CPFH	OLIVER.PACIFIC@CPFH.CA.GOV
MATT COLLINGS	MNWD	mcollings@mnwd.com
Joe Savella	SCWD	jsavella@scwd.org
Kathy Barnes	"	Kathy Barnes @ MWD
Rena Hinchey	LBCWP	Rhinchey@LBCWP.org
Kevin Lussier	CSC	LUSSIERK@SAN-CLEMENTE.ORG
Paul Shoengeyer	Mesa Water	paul@mesawater
Ray Miller	S.T.E.	.org

F. NEW BUSINESS

1. Project Status and General Update

Report:
Committee Questions
Public Comments
Committee Decision

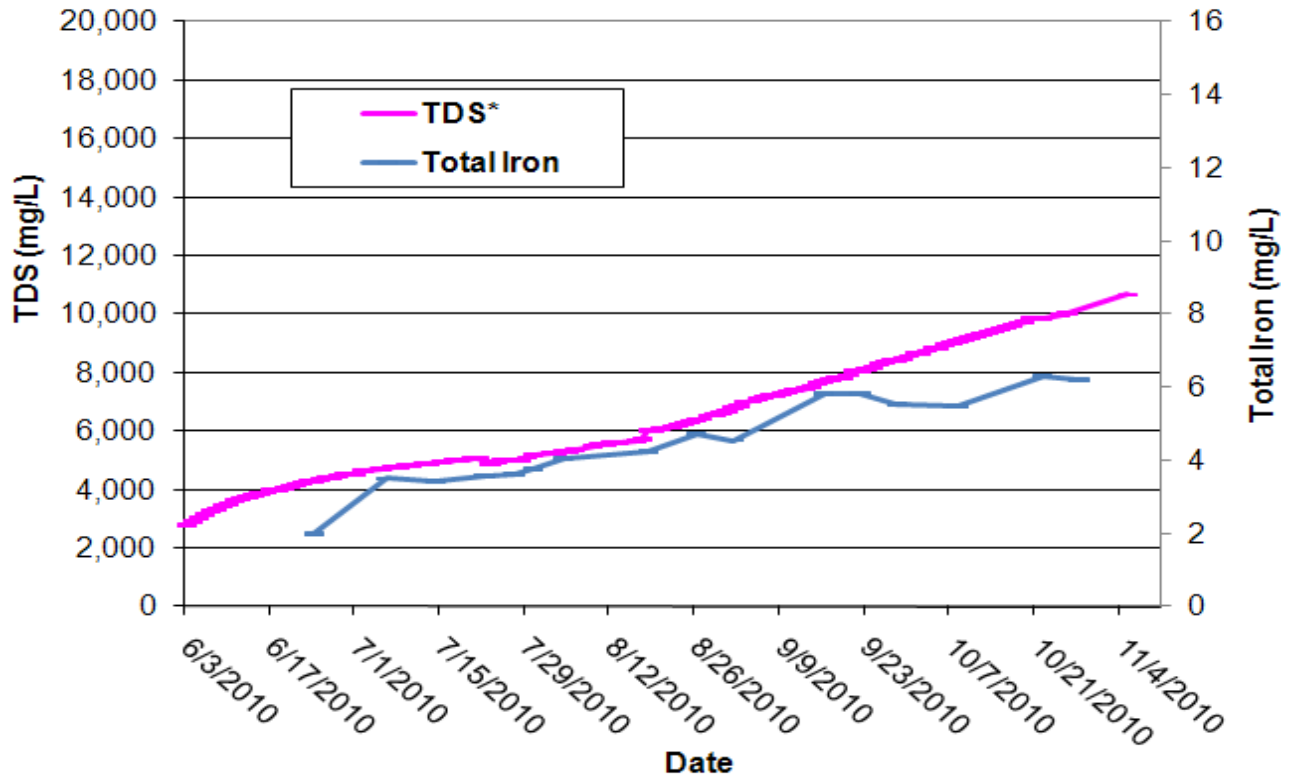
a. November 2010 Status Report

Recommended Action: Information Item, receive and file.

Following is a brief update on the status of the project and related activities.

- The Phase 3 test facility began operation on June 3, 2010 and has basically operated consistently since that time. No operational anomalies have occurred.
- System Operations. The salinity continues to steadily increase and is now over 10,000 mg/l. Turbidity levels are very low. As the extended pumping continues, the older marine groundwater is first being pulled out of the aquifer which will be replaced by ocean water. This old marine groundwater is showing a slightly decreasing pH and increasing dissolved iron and manganese content. The higher iron concentrations will likely increase then decrease to low levels as this water is pumped out and is replaced by ocean water, which is very low in iron. We have prepared a fact sheet for State Parks staff for public use to explain the red coloration on the jetty rocks around the discharge, which is due to oxidized iron. Iron is a nutrient that is in short supply in the ocean and has no adverse impact except for its aesthetic effects.

South Orange Coastal Ocean Desal Pilot Plant Slant Well TDS* and Total Iron



* Note: TDS calculated by 0.65 x Conductivity

- NPDES Discharge Compliance. The slant well discharge has shown a general absence of contaminants over the past few months and the discharge is in compliance with the NPDES permit (most recent report was transmitted in October and covers operations in September). Occasionally a very low detection of a contaminant is found that is below the lab reporting level. Richard Bell and Mary Jane Foley met with the Regional Board staff on November 4 to request a reduction in frequency of sampling at the monitoring wells from monthly to semi-annually due to a general absence of contaminants and very slow groundwater travel times. The Regional Board agreed to modify the sampling frequency for the two monitoring wells (all 5 zones) from monthly for 8 constituents to semi-annually for 1 constituent. This will save us significant funds.

Also, with respect to the toxicity tests that we have been having difficulty getting valid results, the Regional Board agreed that the tests are not accurate. They have changed the status on our testing from “potential violation” to “dismissed” (meaning we are not in violation). They also will allow a 3:1 dilution for future tests (unless we can show that the dilution is higher – apparently Scott Jenkins demonstrated it was a minimum of 7:1 at another location for another client). A 3:1 dilution means 3 parts of ocean water would be mixed with 1 part effluent and the mixture would be tested. They also provided a link to a draft toxicity testing policy which we have asked our consultant, Marine Biological Consultants, to review and provide comments. An invitation was offered to Executive Office Dave Gibson, Brian Kelly and Whitney Ghoram for a tour of the test facility. They will provide some dates. Dave Gibson has been impressed with the research into the slant well system.

- Marine Life Protection Act. We attended and submitted testimony before the State Fish & Game Commission (FGC) at their October 20 hearing in San Diego. FGC staff recommended correcting the oversight of the omission of the ocean desalination project and wastewater outfall and staff will re-notice to include allowable language. We have reviewed the proposed language and have reached agreement with the Department of Fish and Game staff. The allowable language will be re-noticed this month for action at the Dec 15 Fish & Game Commission meeting when they will adopt the plan, EIR and regulations. The Department of Fish and Game and State Parks staff were very helpful in this process. The language to define “allowable uses” that is moving forward in the process is as follows:

(C) Operation and maintenance of artificial structures and development, construction, operation and maintenance of desalination facilities inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

- US Army Corps of Engineers (ACOE) San Juan Basin Feasibility Study. Staff attended the public scoping meeting held by the USACOE and Orange County Flood Control in San Juan Capistrano on October 27. Staff provided a brief statement providing an overview of the SOCOD Project. This flood management study is expected to take from 3 to 5 years to complete. They will prepare several documents over this period: Baseline Conditions, Alternative Analysis, Public Review Draft, Final Feasibility/EIS/EIR, and then pursuing project authorization which requires congressional action from the local representatives. The objectives for this effort are: flood protection improvements and preserve and improve, where practicable native ecological habitat. Work will include flood plain mapping, geotechnical, erosion and sedimentation, economic analysis of flood damage (cost-benefit analysis), environmental studies, evaluation of potential measures (e.g. lining, channel improvements, bridge modifications, detention basins, etc). Following this meeting, additional meetings are being set up to discuss our project with Flood Control and ACOE staff to keep the efforts coordinated.
- Facility Tours. We hosted a general open house tour of the test facility on October 28. About 25 persons attended. Another open house tour is scheduled for Nov 17 from 1:00 to 3:00 pm.
- Groundwater Modeling in the San Juan Basin. One of the impacts from the use of slant wells for feedwater supply is the estimated movement of inland San Juan Creek groundwater estimated at about 1 to 2 mgd for the full scale project. We are working with the SJBA to model various scenarios during development of their groundwater management plan. Karl Seckel made a presentation to the San Juan Basin Authority Board in October to ensure that full coordination of efforts occurs. The presentation is attached to this report.

One method being considered to reduce drawdown impacts to the local wells is the use of radial collector wells. We hosted a tour on Nov 2 with a representative from Ranney Collector Wells, a division of Layne. A collector well differs from a vertical well, as it uses horizontal collectors that are drilled out from a central pumping shaft. This type of system is commonly used throughout the U.S. in shallow river alluvium. This type of well allows the continued high yield flows under conditions of increased drawdown. This type of well can produce about 7 to 8 times the flow rate as a

standard vertical well and would allow draw down of groundwater during droughts without adverse consequences from lowered pumping water levels that occur in vertical wells (which limits their effectiveness during droughts in stream alluvium, such as San Juan Creek.) Lowered pumping water levels into screened intervals in conventional wells allows cascading aerated water to enter the well which in turn promotes oxidation of dissolved iron and resulting growth of iron bacteria and well plugging and loss of well performance.

- The San Diego RWQCB is starting the Triennial Review of the Basin Plan. MWDOC will be working with SOCWA, South Coast WD and will be participating in their process and monitoring activities with the help of our consultants. It is critical that we participate in this process to protect the project interests and that the refinements to the Basin Plan are reasonable and don't unintentionally foreclose development of sound ocean desalination intakes and brine disposal systems.
- Meetings with the regulatory agencies and other stakeholders have not yet been set to discuss the environmental baseline monitoring and fisheries issues. For these meetings we are awaiting input from RECLAMATION environmental and fisheries experts.
- The Tracer Study was started on September 15. Our consultant "spiked" the lagoon with a harmless, odorless, colorless tracer. They use a gas chromatograph to periodically test the slant well intake water samples between November and January to measure the concentration of the tracer in the water. The results will be used in the permitting process and to calibrate the groundwater model.
- The 2010 STAG Grant work plan and budget was approved by EPA and MWDOC should soon be released to utilize the funds.
- DWR has not paid the \$960,000 invoiced through June 30, 2010.



South Orange Coastal Ocean
Desalination Project

Red Discoloration of Jetty Rocks
Information Sheet

The Municipal Water District of Orange County and its five Project Participants – South Coast Water District, Laguna Beach County Water District, Moulton Niguel Water District, City of San Clemente and City of San Juan Capistrano are working on the development of the South Orange Coastal (SOC) Ocean Desalination Project to improve water supply reliability. This project would decrease the area's 95% dependence on imported water for its drinking water supply. The SOC Ocean Desalination Project desalination plant will be located north of Doheny State Beach in Dana Point, just east of San Juan Creek, inland of Pacific Coast Highway. With the planned slant well intake system, it will produce 15 million gallons per day, meeting 25% of the area's drinking water demand. This new, drought proof supply will also benefit the area during outages of the regional imported water delivery system.

The project is planned to utilize a slant well intake system. The first of its kind, this type of desalination slant well was constructed in spring 2006, extending 350 feet out under the ocean. The wellhead is fully buried under Doheny State Beach. This approach provides three distinct advantages of conventional intakes in this location: (1) it is an environmentally preferred approach as it avoids harm to marine life, (2) it provides natural filtration and a buffer to changes in ocean water quality conditions, and (3) it is the most cost-effective intake for this location. The project has received wide support from the community as well as support from a number of organizations, including Surfrider Foundation, OC Coastkeeper, Trout Unlimited, Project Save our Surf and is supported by the California Coastal Commission.

The slant well pulls in groundwater from the marine aquifer that is situated offshore of Doheny State Beach. This aquifer contains older ocean water which contains fairly significant amounts of naturally occurring dissolved iron, which is one of the more common substances on earth. Once this water is pumped to the surface and tested, the water is sent to an outfall diffuser located at the jetty. As this groundwater leaves the diffuser, it becomes exposed to the air. Air causes the iron to turn into small red particles also known as common rust. This rust stain is now visible on some of the jetty rocks. This is a common naturally occurring process (Red Rock Canyon, etc). In this case, the water has caused the jetty rocks to turn various shades of earth toned reds. There are no human health concerns from naturally occurring iron oxides.

For more information or if you have questions, please contact Darcy Burke, Director of Public Affairs for the Municipal Water District of Orange County at 714-593-5014, or by email at dburke@mwdoc.com.

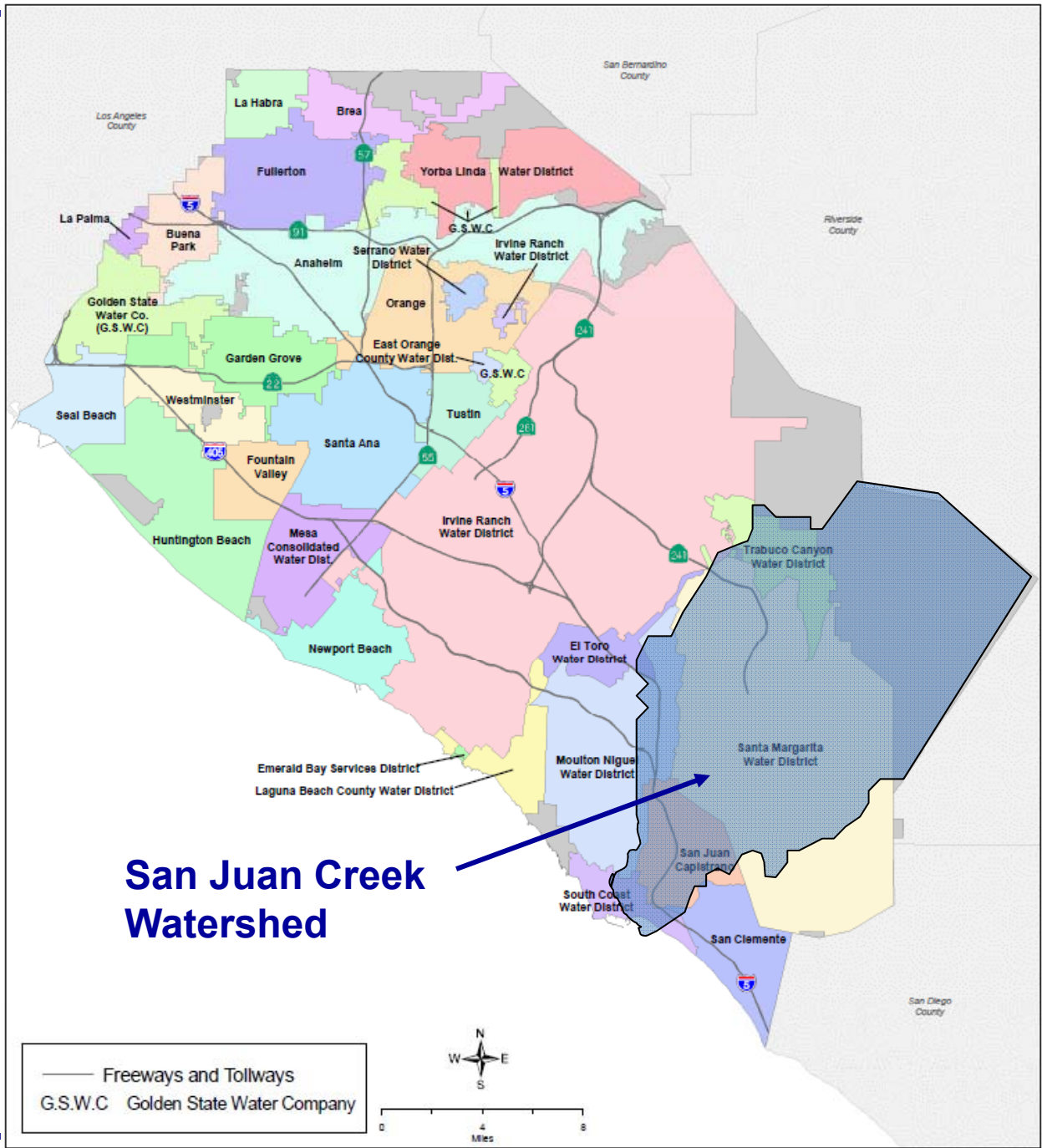
Coordination of Local Resources in South Orange County including Groundwater Modeling of the San Juan Basin and Development of the South Orange Coastal Ocean Desalination Project

**Karl W. Seckel, Assistant General Manager
Municipal Water District of Orange County**

October 12, 2010



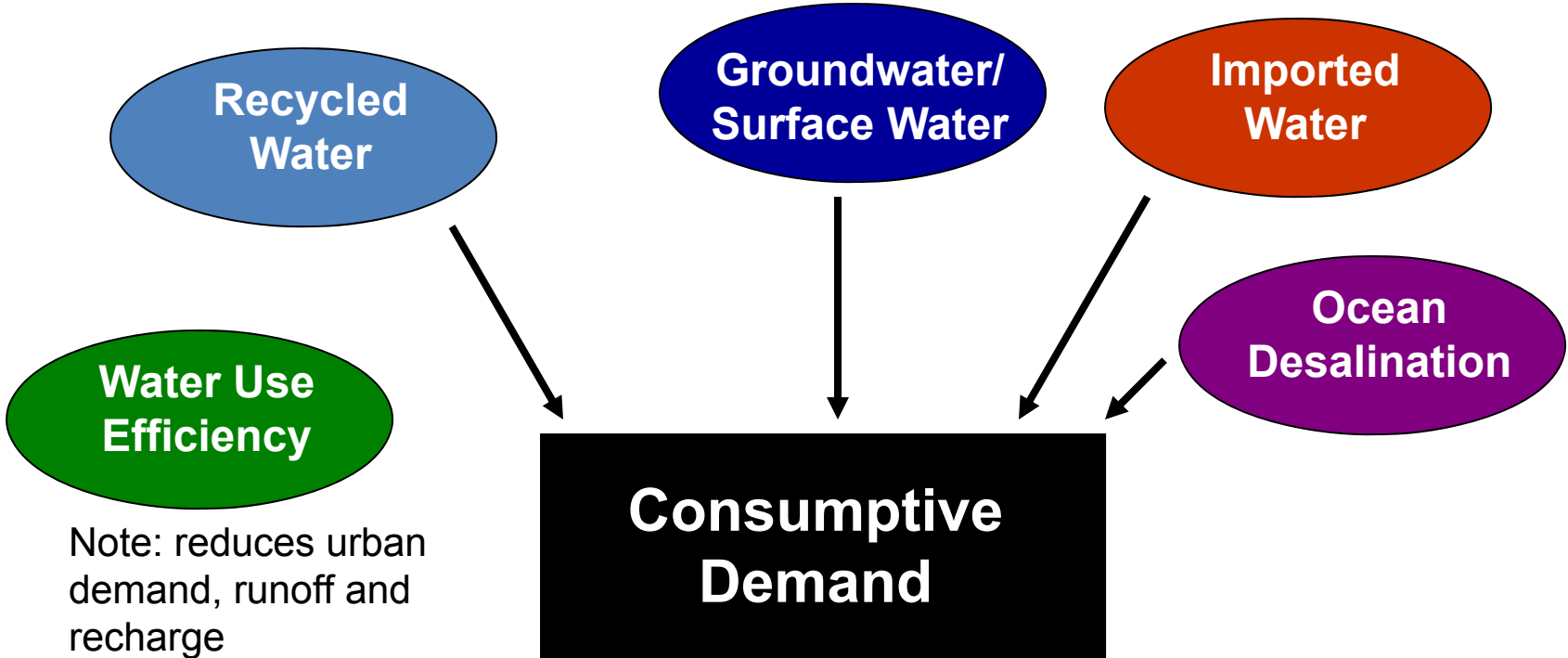
MWDOC Member Agency Map



Major Imported Water Facilities in Orange County



Anticipated Supplies in South Orange County



Total Demand

Less

Water Use Efficiency

EQUALS

Consumptive Demand

Less

Recycled Water

Less

Groundwater & Surface Water

Less

Ocean Desalination

EQUALS

Imported Water

Local Resources in San Juan Basin



Current Supplies – 2009-10* (AF/yr)

Agency	Consumptive Demand	San Juan			
		Recycled	Basin Wells *	Other Local	Imported Water
Moulton Niguel WD	36,693	6,858	-	-	29,835
San Juan Capistrano, City of	8,789	430	1,980	-	6,379
Santa Margarita WD	34,169	6,027	65	-	28,077
South Coast WD	6,529	446	634	-	5,449
SJBA subtotal	86,180	13,761	2,679	-	69,740
Laguna Beach CWD	4,067	-	-	-	4,067
San Clemente, City of	9,663	473	-	619	8,571
Trabuco Canyon WD	3,461	751	-	376	2,334
Total	103,371	14,985	2,679	995	84,712

* Does not include pumping from private wells in Lower San Juan Basin of about 1250 AF/yr or pumping in the Upper San Juan Basin.

Source: Agency responses to MWDOC "5-Year" survey Spring 2010 except no response yet from SMWD.



Last 5 Years Water Recycling (AF/yr)

Agency	Recycled Water				
	2005-06	2006-07	2007-08	2008-09	2009-10
Moulton Niguel WD	6,381	8,050	7,587	7,197	6,858
San Juan Capistrano, City of	335	156	167	263	430
Santa Margarita WD	3,620	6,517	5,774	5,914	6,027
South Coast WD	750	905	849	945	446
SJBA subtotal	11,085	15,628	14,378	14,318	13,761
Laguna Beach CWD	-	-	-	-	-
San Clemente, City of	328	541	664	617	473
Trabuco Canyon WD	789	818	981	829	751
Total	12,202	16,987	16,023	15,764	14,985



Last 5 Years Groundwater (AF/yr)

Agency	San Juan Basin Wells *				
	2005-06	2006-07	2007-08	2008-09	2009-10
Moulton Niguel WD	-	-	-	-	-
San Juan Capistrano, City of	5,609	3,788	1,989	2,648	1,980
Santa Margarita WD	71	78	65	73	65
South Coast WD			258	748	634
SJBA subtotal	5,681	3,867	2,312	3,468	2,679
			Other Groundwater		
Laguna Beach CWD	-	-	-	-	-
San Clemente, City of	279	529	474	554	619
Trabuco Canyon WD	648	54	206	264	376
Total	6,608	4,450	2,992	4,287	3,674

* Does not include pumping from private wells in Lower San Juan Basin of about 1250 AF/yr or pumping in the Upper San Juan Basin.

Source: MWDOC records.



Future Supplies in 2035* (AF/yr)

Agency	Consumptive Demand	San Juan			
		Recycled	Basin Wells *	Other Local	Imported Water
Moulton Niguel WD	37,900	9,800	-	-	28,100
San Juan Capistrano, City of	11,156	920	7,470	-	2,766
Santa Margarita WD	48,081	14,678	116	-	33,287
South Coast WD	9,406	1,000	1,500	-	6,906
SJBA subtotal	106,543	26,398	9,086	-	71,059
Laguna Beach CWD	4,520	-	-	-	4,520
San Clemente, City of	10,050	1,700	-	1,000	7,350
Trabuco Canyon WD	6,638	1,035	-	238	5,365
Total	127,751	29,133	9,086	1,238	88,294

* Does not include pumping from private wells in Lower San Juan Basin of about 1250 AF/yr or pumping in the Upper San Juan Basin.

Source: Agency responses to MWDOC "5-Year" survey Spring 2010 except no response yet from SMWD.



Total Demand

Less

Water Use Efficiency

AF per Year

127,751

EQUALS

Consumptive Demand

Local Resources

Less

Recycled Water

29,133

Less

Groundwater & Surface Water

**9,086 SJBA Planned
1,238 Other Local
???? Additional SJBA**

Less

Ocean Desalination

0 – 16,000

EQUALS

Imported Water

72,294 - 88,294



Potential Water Resources within the San Juan Basin

- **Well production for potable water**
 - Retention/Detention basins for more percolation
- **Recycled water**
 - For irrigation
 - For groundwater replenishment
- **Well production requiring treatment**
 - South Coast Desalter + expansion
 - San Juan Capistrano Desalter + expansion
 - Use of Radial Collector Wells to increase dry year production
- **Treatment of urban runoff/dry weather flows**
- **Ocean Water Desalination**

Issues with Increasing Local Resources

- Well pumping interference
- Best technology for shallow aquifers
- Groundwater contamination
- Treatment capacity/technology
- Hydrology/Droughts/Climate change
- Water rights
- Invasive species/health of riparian habitat
- Streamflows/emerging fisheries issues
- More stringent regulations
- Water use efficiency (20% by 2020)
- Costs/funding/sustainability

Goals of Groundwater Modeling Work in San Juan Basin

- **Develop estimate of long term sustainable yield from the basin**
- **Maximize cost effective production from the groundwater basin**
- **Maximize cost effective production from all sources**

Groundwater Modeling Work in San Juan Basin

- Work has been underway for some time
- Currently stopped to sync up with the SJBA Groundwater Management plan
- Prior modeling work estimated long term average supplies from the basin to be about 13,000 AF per year, with variations from 10,000 to 15,000 AF per year due to hydrology and well production constraints
- 8,000 AF per year is about the highest ever pumped



Changes in Groundwater Modeling Focused on:

- **Upstream water rights of 3,500 AF – this may reduce the long term yield estimate. Need to focus on boundary assumption at the Cristianitos fault.**
- **Stormwater infiltration/percolation estimates – refine modeling based on recent work completed by PACE Engineering for the County; develop streamflow recharge model.**
- **Examine land use changes over time and influence from 20 x 2020**
- **Account for water from inland sources flowing to ocean well = 1680 AF per year**
- **Examine use of Radial Wells to enable production when the basin is drawn down**
- **Examine what can be done to manage the water resources in the basin to maximize local production**



Ocean Desalination Modeling

- After groundwater modeling, impose the ocean desalination project on top and study impacts
- Overall, the preliminary model estimates that on average 95% of water comes from the ocean and about 5% comes from the basin (about 1,680 AF per year)
- Examine drawdown impacts in the lower basin and potential mitigation strategies.
- Critical to confirm geology under the ocean – need to conduct tracer study, borings and other work which is now underway



Schedule

- **Meet with SJBA Technical Advisory Committee to review scope of work for modeling improvements**
- **Work closely with Wildermuth Environmental**
- **Incorporate input**
- **Modeling work will take 4 months**
- **Review with the Technical Advisory Committee and Wildermuth Environmental**
- **April 2011 Presentation to SJBA Board**

Questions?

Thank you!



2. January/February 2011 Workshops on Project Delivery Options

Report:
Committee Questions
Public Comments
Committee Decision

Recommended Action: It is recommended that the Participant's discuss the timing of the workshops on Project Delivery Options.

Staff has begun its coordination with Malcolm Pirnie on this work. Now with the elections completed, each Participant can begin planning who they would like at the interview and workshops. For any new members coming onto the Participants Committee we should also provide a basic project briefing and education process to get them up to speed.

The process, timing and sequence of work is anticipated as follows:

December 2010

- MWDOC to schedule and conduct meetings with any new Agency Representatives to bring them up to speed on the project and where we stand.
- Participant Agencies decide who they want in the initial interview process with Malcolm Pirnie. The purpose of the interview is to review the entire process for the Project Delivery Workshops and receive input from each Agency, individually and confidentially, prior to the start of the formal workshops. This gives each Agency the ability to get to know the Malcolm Pirnie folks and to ask questions and understand the process before it starts.

December 2010 and early January 2011

- Interview meetings are set with each Agency
- Interviews are completed and input is incorporated into the Malcolm Pirnie work tasks

January 2011

- Malcolm Pirnie prepares handouts for Workshop #1
- Hold Workshop #1

February 2011

- Malcolm Pirnie prepares handouts for Workshop #2
- Hold Workshop #2
- Malcolm Pirnie prepares handouts for Workshop #3

- Hold Workshop #3 - Reminder, the purpose of Workshop #3 is for a group decision to be made on the schedule and preferred project delivery option. This will help us to better establish the future steps and schedule for the project.

Attached is the Proposal and Scope of Work from Malcolm Pirnie.



August 11, 2010

Mr. Karl Seckel, P.E.
Asst. General Manager
Municipal Water District of Orange County
P.O. Box 20895
Fountain Valley, CA 92728

Subject: Proposal in Response to "South Orange Coastal Ocean Desalination Project (SOCOD) Workshops to Consider Alternative Project Delivery Methods"

Dear Mr. Seckel:

Malcolm Pirnie is pleased to submit this proposal to assist the stakeholders for the SOCOD project become more knowledgeable about the two basic APD methods of Design-Bid-Build and Design-Build and the implications for the SOCOD Project. There are a variety of delivery methods including:

- Traditional (Design-Bid-Build)
- Engineer Procure Construction Management (EPCM)
- Design-Build (DB)
- Design-Build Operate (DBO)
- Build, Transfer and Operate (BTO)
- Build, Own, Operate and Transfer (BOOT)
- Build, Own and Operate (BOO)
- Alliance
- Contract Operations[CO, public agency or private firm)

We understand that the focus of the project is in the Design-Bid-Build and Design-Build-Operate areas. We will work closely with you as we identify other opportunities for you and the partners to consider.

The primary Project team members performing this effort will consist of:

- Ed Means (Vice President of Malcolm Pirnie) - Mr. Means will facilitate the workshops and is a familiar face to the Participants
- Clint Walker, PE, JD (Malcolm Pirnie) - Mr. Walker leads Malcolm Pirnie's alternative delivery practice nationally
- Steve Diamond (Malcolm Pirnie) - Mr. Diamond is a desalination design expert in our Irvine office
- Steve Linforth/Ralph Burch (Sinclair Knight Merz) - Mr. Linforth leads SKMs internationally large project pursuits group and is an expert on alternative delivery models
- Paul Choules (Veolia) - Mr. Choules will bring Veolia's operational expertise to the project

Short resumes of each of the proposed staff are attached.



The following describes the scope of work to be completed as part of this proposal:

SCOPE OF WORK

Task 1 – Project Management

Malcolm Pirnie's project manager, Ed Means, will maintain good communications with the Municipal Water District of Orange County (MWDOC) Project Manager to provide updates on project status, planning and execution of the workshops and submittal delivery dates, and to see to it that the project is delivered within the budget outlined and meeting the expectations of MWDOC and the project participants.

Task 2 – Review and Develop Detailed Schedules and Cash Flow Comparisons for Implementation of the SOCOD Project via DBB vs DBO

Upon project kickoff, Malcolm Pirnie will meet with MWDOC to collect relevant information. We will then conduct a detailed review of the progress of the SOCOD project including the existing MWDOC project schedule. Malcolm Pirnie will bring its 115 year history in delivering water and wastewater infrastructure, as well as its strong owner's agent resume (including very recent work for the San Diego County Water Authority as owner's agent for the 100 MGD Twin Oaks Water Treatment Plant) to this project. Malcolm Pirnie will use independent judgment to prepare detailed schedules and cash flow comparisons for delivery of the SOCOD Project via (a) Design Bid Build and (b) Design Build Operate. A comparison of the two methods, schedules and costs shall be prepared and summarized in a memo. Malcolm Pirnie will include review of this task deliverable by Sinclair Knight Merz (who designed the Gold Coast Plant and the Sydney Plant, both under tight schedules). Other significant delivery observations/alternatives identified by Malcolm Pirnie will be discussed as appropriate. We will prepare a table/matrix of the different contract models defining the basic characteristics, advantages and disadvantages of each alternative.

Since the selection and application of a contract delivery model is not a one size fits all endeavor, it is important to understand what questions and issues need to be asked and addressed, and what the potential issues are with its implementation. As such, this section will focus on addressing two key questions:

- When is it most appropriate to use which model?
- What are the potential risk factors?

We will discuss the criteria critical for selection of a contracting model, such as:

- Project Size
- Financing
- Regulatory Issues
- Schedule Constraints
- Design Needs
- Construction



- Operations
- Risk Management

For potential risk factors, the discussion will include:

- Complex/Unpredictable Risks
- Complex Interfaces
- Stakeholder Issues
- External Threats
- Tight or Extended Schedules
- Scope Changes
- Significant Client Involvement
- Collective Management of Threats/Issues

Task 3 – Conduct One-on-One Interviews with SOCOD Participants Prior to the Workshops

Malcolm Pirnie will conduct five confidential interviews of approximately one hour duration with the Participants to define fundamental issues of concern regarding the use of alternative project delivery methods for the SOCOD Project. The Consultant shall prepare and distribute an interview agenda and questionnaire to each Participant prior their interview. The insights gained will be used to prepare the workshop agenda and to increase the relevance of the presentation materials.

Task 4 - APD Workshop Preparation and Materials Distribution

Malcolm Pirnie shall prepare a draft workshop agenda and relevant materials and submit to MWDOC for input prior to finalizing the agenda and materials. All materials will be made available in electronic format for transmittal to the Participants prior to the start of the workshops.

Task 5 - APD Workshop Presentation and Facilitation

Malcolm Pirnie will conduct three four-hour workshop sessions to be scheduled in November and/or December of 2010 and January 2011. The subject matter for the three workshops is anticipated as follows:

First Workshop Session. Malcolm Pirnie will provide:

- An overview of the project delivery methods being considered
- Comparisons between the various APD methods
- The pros and cons of each method
- The key contract features and two case study APD projects with features and benefits illustrated. Case studies could include the previously mentioned Twin Oaks project, the West Basin Ed Little Plant, or the Tampa Bay Desalination Plant. The San Juan Desalter may provide instructive lessons
- Summary of the key issues identified in the interviews
- Preliminary discussion of key selection criteria



Ed Means will facilitate the meeting and Clint Walker will be the primary presenter from the consultant team. Discussion of the options for the operating component of the contract will be included - Veolia Water will provide input into this element of the presentation. Sinclair Knight Merz staff will also review the presentation materials.

Second Workshop Session. Malcolm Pirnie will facilitate a second workshop to include:

- Review of the information from the first workshop session
- At least one other consultant (to be selected by MWDOC) to share their experience and two public agency representatives (to be selected by MWDOC) to discuss their specific experience with DBO delivery mechanisms and what worked and what did not work.
- Coordination with the additional consultant and agency representatives to incorporate their presentations in the workshop materials and presentations including their experience and case studies. If Twin Oaks is selected as a case study, the materials from the First Session could be re-presented and the workshop time for the agency personnel focused on what worked versus what did not work.

Malcolm Pirnie suggests that some time be dedicated in this second workshop to the refinement of selection criteria and, if possible, establishment of relative selection criteria weighting so Participants can be better prepared to select an approach during the third workshop session..

Third Workshop Session. The third session will consider present:

- A detailed comparison of schedule and cash flow needs for DBB versus DBO for bringing the project to fruition.
- Decision criteria for determining the method of delivery for the SOCOD Project and the desired approach for placing the operational component. (These criteria will have been introduced in Workshop 1, discussed at Workshop 2 and refined in Workshop 3).

Task 6 - Summary Documentation

The outcomes of the discussion from the workshop and any decisions or follow-up required will be summarized and provided to MWDOC in memorandum format within two weeks following completion of the final workshop.

PROJECT DELIVERABLES

1. Task 1 memo on SOCOD schedule and cash flow under DBB and DBO
2. Task 2 One-on-one interview agenda, materials and confidential questionnaire
3. Workshop Presentation Materials
4. Workshop Summary Memorandum

BUDGET AND SCHEDULE

Based on the proposed level of effort identified in the above scope, we estimate a total lump sum cost of \$42,000.





Mr. Karl Seckel
Municipal Water District of Orange County
August 11, 2010
Page 5 of 11

We are confident that Malcolm Pirnie, SKM and Veolia have the resources, experience, and expertise to provide a quality product that will guide the Municipal Water District of Orange County through the details of Alternative Project Delivery model and to prepare for some of the upcoming challenges related to a desalination project. We welcome the opportunity to work with you. If you have any questions please call me.

Very truly yours,

Malcolm Pirnie

A handwritten signature in black ink that reads "Ed Means".

Edward G. Means
Vice President



Mr. Means has 31 years of experience, both international and domestic, with developing and implementing highly visible, municipal projects and facilities. Mr. Means' experience ranges from freshwater, marine and drinking water quality monitoring programs, municipal capital improvement, water resource feasibility studies, environmental assessments, utility assessments and service delivery programs to efficiency, and privatization. Mr. Means held roles as principal microbiologist and Water Quality Laboratory Manager for the Metropolitan Water District of Southern California's state of the art facility. Municipal projects, programs and project teams that Mr. Means has been involved in have resulted in the successful implementation of several billion dollars of infrastructure development in California alone.

SEAWATER TREATMENT RELATED EXPERIENCE

- **Huntington Beach Desalination Integration Study, Municipal Water District of Orange County, Huntington Beach, CA:** Project Director for an integration study for the MWDOC system, working with member agencies on both water quality and quantity issues. (Malcolm Pirnie assisted MWDOC in a desalination feasibility study at the San Onofre Nuclear Generating Station (through Moulton Niguel Water District. We also assisted in preparing the original grant application for the Dana Point studies.
- **Desalination Integration Studies, West Basin Municipal Water District, CA:** Principal Investigator of the WRF project entitled "Water Quality Implications of Large Scale Seawater Desalination" which included evaluation of case studies nationally, pilot study work in Florida, detailed water quality integration studies including algal toxins, corrosion pipe loops, and emerging contaminants.
- **Technical Support on Encina Plant Studies, San Diego County Water Authority, San Diego, CA:** Project Manager conducting an analysis of seawater permeate integration water quality issues; analysis of aesthetic impacts including pilot generation of permeate and pilot plant/flavor profile analysis with San Diego area consumers and as project manager over the detailed Encina Plant Sanitary Survey including

Edward Means, III Project Manager

Title/Firm:

Vice President, Malcolm Pirnie, Inc.

Years of Experience: 31

Education

BA Social Ecology/Environmental Analysis University of California, Irvine 1977

MA Social Ecology/Environmental Analysis/ University of California, Irvine 1980

Cert. Management University of Southern California 1987

Employment History

Malcolm Pirnie, Inc. 2005 to present

McGuire Environmental Consultants, Inc. 1999 to 2005

Metropolitan Water District of Southern California 1980 to 1998

University of California Irvine 1978 to 1980

coordination with California Department of Public Health regarding disinfection credits.

- **Coquina Coast Desalination Feasibility Study, FL:** Project Team Member responsible for technical review and management of Blue Ribbon Utility Panel. The study is assessing siting (ship vs land based), process, pilot testing, power, governance and financing for a desalination plant on the east coast of Florida.
- **Camp Pendleton Seawater RO Integration Study for the San Diego County Water Authority, CA:** Team Member responsible for examination of institutional issues associated with development of a 150MGD desalination facility and appurtenant piping.
- **St. Johns River WMD Desalination Plant Technical Reviewer:** Provided review of pilot testing results conducted by CH2M-Hill for the Water Management District.
- **Rosarito Beach Desalination Feasibility Study:** Project Director for a study assessing the demand, process, pilot work, power and conveyance issues associated with a 25 or 50 MGD desalination plant just south of the Mexican border.

Mr. Walker is responsible for Malcolm Pirnie's alternative project delivery practice. He is experienced in water resources management and engineering. He has been in charge of the development of facility and groundwater management plans, as well as conjunctive use/water reclamation projects. He has managed program teams and design teams for design and construction services of water and wastewater and water reclamation treatment facilities. He has conducted studies and authored papers on urban runoff retention; reclaimed water treatment, distribution and user retrofits; wastewater collection, treatment, and disposal; and groundwater recharge and reuse. His legal training has been of significant value in owner's agent service delivery for complex projects.

DETAILED EXPERIENCE

- **Metropolitan Water District of Southern California: Groundwater Recovery Program / Southern California CA.** Project Manager for review of the program for the District's service area. Developed evaluation criteria and reviewed groundwater recovery projects submitted by member agencies for inclusion in the program. Each project evaluation included confirmation of contaminated groundwater, groundwater management practices, CEQA compliance, project yield, and economic analysis. Developed methods for tracking and projecting over \$250M in future costs to District by the member agency participation.
- **City of Escondido: Recycled Water Retrofit Program / Escondido CA.** Principal in Charge of the program, including customer development, on-site retrofit design, regulatory coordination, and construction management. Project included on-site recycled water retrofit of city parks, schools, and industrial applications. Developed guide specifications for construction projects.
- **City of San Diego: North City Recycled Water Retrofit Program / San Diego CA.** As Principal in Charge, provided program management including private customer development, on-site retrofit design, regulatory coordination, and construction management. Project included on-site recycled water retrofit of over 40 individual users for both irrigation and industrial applications. Developed

Clint Walker

Alternative Delivery

Title/Firm:

Vice President, Malcolm Pirnie, Inc.

Years of Experience: 24

Education

BS Civil Engineering Texas Tech University 1985
MS Civil Engineering Texas Tech University 1986
MA Organizational Management University of Phoenix 1990
JD Law Thomas Jefferson School of Law 1996

Licenses and Certifications

Attorney at Law, California
Professional Engineer
Board Certified Environmental Engineer (BCEE)
Certified Construction Documents Technologist (CDT)
Legal Mediator Credential

Employment History

Malcolm Pirnie, Inc. 1999 to present
Dames & Moore (acquired HYA Consulting in 1996) 1996 to 1999
HYA Consulting Engineers 1994 to 1996

guide specifications used for all construction projects in recycled water programs.

- **City of San Diego: Genesee Avenue Subsystem Design / San Diego CA.** Project Manager for the design of a reclaimed water distribution system. The project, completed in December 1997, consisted of approximately 35,000 lf of 36-, 24-, 18- and 16-in-diam pipe to convey Title 22 tertiary effluent from the North City Water Reclamation Plant to the Torrey Pines Golf Course. Other elements of the project included public meetings, property acquisition, traffic control, survey, geotechnical investigations, corrosion system design, permitting, and construction cost estimates.
- **International Boundary & Water Commission: PERC / San Diego CA.** Assistant Project Manager for facility planning, design, and construction. The project included facility planning for a 160-acre site, including a 100-mgd (200-mgd peak) ultimate wastewater treatment facility for the International Boundary and Water Commission and a 55-mgd treatment facility for the City of San Diego.

Mr. Diamond has approximately 16 years of experience with planning, pilot testing, design, system optimization and full-scale implementation of membrane technologies, and has led numerous design efforts for reverse osmosis (RO) and nanofiltration (NF) water treatment plants across the country including projects in California, Florida, Arizona and Ohio. He has recently led pilot testing and design development efforts in Coachella, CA for a new surface water treatment plant and for a RO pilot in Delaware, OH treating brackish well water with iron and manganese pretreatment.

DETAILED EXPERIENCE

- **Capistrano Valley Water District, CA:** Provided technical support on reverse osmosis (RO) system and water treatment systems design for this design-build-operate-finance (DBOF) procurement project of a 5.14-MGD RO plant to treat brackish groundwater as a supplemental water supply for the City of San Juan Capistrano. In a follow-on project, conducted an iron and manganese study assessing colored water issues in the distribution system.
- **Coachella Valley Water District, CA:** Project Manager for a reverse osmosis pilot study demonstrating the performance of conventional reverse osmosis (RO) technology in comparison with an innovative solar evaporative process. The study included the installation of two subsurface intakes with 2 years of water quality assessment, and 9-months of treatment system operation. Technical evaluations and a cost analysis of concentrate management approaches led to a conceptual design for concentrate stabilization utilizing a constructed wetlands.
- **City of Columbus, OH:** RO Pilot Testing. Project engineer for piloting reverse osmosis membranes at the Dublin Road and Hap Cremean Water Treatment Plants in Columbus, OH. Project included the use of single and multiple element membrane test assemblies to evaluate six different reverse osmosis and nanofiltration membranes at each plant. Based on pilot test results, prepared conceptual design and cost estimates for membrane treatment facilities at both plants.

Stephen M. Diamond, PE, LEED^{AP} Desalination Design

Title/Firm:

Senior Project Engineer, Malcolm Pirnie, Inc.

Years of Experience: 16

Education

BSCE Civil Engineering (Environmental and Water Resources Engineering) Lehigh University 1993

Licenses and Certifications

Professional Engineer

LEED Accredited Professional

OSHA Occupational Safety and Health Training

Employment History

Malcolm Pirnie, Inc. 2000 to present

Metcalf & Eddy, Inc. 1994 to 2000

- **Charlotte County Utilities, FL:** Reverse Osmosis Pilot Study and Preliminary Design. Lead Process Engineer for the pilot study and preliminary design of the Burnt Store Reverse Osmosis Water Treatment Plant Expansion to approximately 3.5 MGD. Developed pilot study plan and led the pilot study efforts evaluating three different reverse osmosis (RO) membranes, in addition to evaluating multiple recovery/flux operating conditions and cleaning procedures to optimize the RO plant performance.
- **City of Delaware, OH:** Reverse Osmosis Pilot Study and Preliminary Design. Prepared the experimental design and developed the pilot testing protocol for testing two RO membranes for a water treatment facility in Delaware, OH. Started up the RO unit to initiate 2,000 hours of testing, and assisted with data assessment.
- **Marina Coast Water District, CA:** Project Engineer for an engineering evaluation of an ocean water desalination. The study presented preliminary facility sizing, layout and cost estimation, and included evaluations of operating scenarios and energy recovery options for a new 3,000 AFY ocean water desalination plant.
- **New Castle County, DE:** Prepared a conceptual design for a 20-mgd water treatment facility desalinating surface water from the Delaware River and several tidally influenced tributaries.

Mr. Linforth is a Senior Principal and Director of Sinclair Knight Merz (SKM) with nearly 30 years experience in water engineering . He has been involved with the successful delivery of both water and sewage treatment project ranging in size up to \$800M. Most recently he has been SKM's Project Director for the design of the \$800M Sydney Desalination Plant. He has had experience in a wide range of project delivery methods including traditional design bid build , design build (DB) , build own operate and transfer (BOOT) and alliance's. He is currently SKM's practice leader in Alliance project delivery.

Example Experience

- **San Diego County Water Authority Alliance Contracting Model Memorandum:** Project Manager for the preparation of a review of alternative delivery methods to deliver a desalination plant. Provide an overview of the Alliance Contracting method.
- **Sydney Water Desalination Plant:** Project Director for design services into the design joint venture contracted to the Blue Water Joint Venture for the Sydney Desalination Plant. This project has a capital value of \$1 billion.
- **Foundation Alliance Leadership:** Team member for the upgrade of the three main wastewater treatment works for Perth. They are Beenyup, Woodman Point and Subiaco. This alliance has a 15 year life with three increments of 5 years. The current budget is approximately 350M for the first five years.
- **Project Director for design services into the Mechanical and Electrical Maintenance and renewals Projects for Sydney Water:** This is a program of works to improve pumping stations and treatment works for both the sewerage and water supply system. This program has a capital value of approximately 30Million per annum.
- **Project Leadership Team Member - Bondi RIAMP:** This project has developed a concept design for the upgrade of the Bondi STP which will ensure its reliable and safe operation into the future. The Bondi STP conveys a flow of 142 ML/day and is almost completely constructed underground in sandstone caverns. This upgrade will see all flows with screenings, grit removal and primary treatment. It will permit the use of CAS to achieve removal efficiencies of 65%. It will

Steve Linforth

Alternative Delivery Models

Firm:
SKM

eliminate cliff face discharges except for emergency conditions. It will improve reliability by adding redundancy into each major unit.

Mr. Burch is a senior water engineer based in SKM's Brisbane office. He has over 24 years experience in a number of fields including seawater desalination plant design, water supply system design, planning and environmental studies, water resources and irrigation and drainage system design.

Ralph is currently SKM's Project Manager for the \$1.2 billion 33 MGD Gold Coast Desalination Plant Alliance Project, and is the Deputy Design Director for that project. He has been fully committed to the project for more than three years, having been responsible for the completion of a number of the early planning investigations for the desalination project for Gold Coast Water, as well as becoming part of the consortium management team for the successful tendering and delivery of the project. He has filled several design leadership roles on the Gold Coast Desalination project and has been intimately involved in all aspects of the design, including technical review, design delivery and performance management, resources management, and reporting.

As SKM's Manager, Desalination Projects Ralph has also undertaken senior management reviews of the design processes for the 66 MGD Sydney Desalination Plant, and has worked closely with the Sydney team to identify risk areas in the design process, and to develop strategies for efficient completion of design.

Whilst Ralph's background is largely one of design and design management, he also has a strong track record in the management and delivery of a diverse range of complex multi-disciplinary projects. From 2002 to 2004 he managed the water quality modeling and ecological assessment of the Pimpama River System on Queensland's Gold Coast to assess the potential impacts of discharges to the marine environment from a wastewater treatment plant. This project extended over 18 months at a cost of more than \$1 million and is considered to be at the cutting edge of water quality and ecological impact assessment investigations.

Ralph has strong record of working effectively with water authorities and local government, and was the Design Manager for the Stanthorpe Water Reuse Project, which was awarded the Institute of Public Works (Qld) Excellence Award in 1995.

Example Experience

- **Gold Coast Desalination Plant (Gold Coast Water and Queensland State Government) 2006-2007:** Deputy

Project Director for the detailed design of a \$1.2 billion,

Ralph Burch

Alternative Delivery Modeling

Firm:

SKM

33 MGD seawater Reverse Osmosis plant on the Gold Coast, which included twin intake/outfall tunnels each 2.8m dia. and 2km long, desalination plant, 20km of network pipeline, booster pump station and balancing storage. Responsible for:

- The overall coordination of design between the tunnelling/marine, desalination plant, and networks sub-elements of the project
- Design team resourcing
- Planning and management of design interfaces
- Design review and resolution of technical issues
- Design standards
- Establishment and implementation of processes to ensure Safety in Design principles were implemented
- Monitoring of design progress against program
- Reporting of design performance to the Project Executive

- **Gold Coast Desalination Plant 12 MGD Expansion Target Outturn Cost Design (Queensland State Government) 2007:** Design Manager of the Target Outturn Cost (TOC) preliminary design for a 12 MGD expansion of the Gold Coast Desalination Plant. Responsible for the establishment and management of a design team of approximately 40 people to complete preliminary design and related studies. This included detailed assessment and design of interface areas between the existing plant and the proposed expansion. The role involved close liaison with cost estimation team in the preparation of a Target Outturn Cost, and the assessment and valuation of project risks. Project completed to a high standard within very tight timeframe.

Mr. Choules is a Vice President and Desalination Program Manager with the engineering and construction group of Veolia Water in North America, Veolia Water Solutions and Technologies (VWS). He provides leadership for the development and implementation of desalination projects and related water supply projects in the Americas.

He has more than 28 years of seawater desalination experience, which includes involvement in sales, piloting, startup, commissioning, managing, and operating seawater reverse osmosis and thermal desalination plants around the world.

Mr. Choules is experienced with a variety of project approaches, including the engineering, procurement, construction and startup (EPC) services approach, and the design/build, design/build/operate and the design/build/own/operate (DBOO) project approaches.

Prior to joining Veolia Water, Mr. Choules was a Regional Vice President with Weir Techna (a firm that was acquired by VWS from the Weir Group). In that role, he was responsible for directing that firm's development and implementation of desalination projects for industrial applications in the South American and North American markets. The Houston and Rio de Janeiro, Brazil, offices reported to Mr. Choules. The Rio de Janeiro office was an engineering and project management executing office, and the Houston office was responsible for U.S. procurement, Sponsor monitoring and tendering Under his direction, this business unit sold and constructed more than 26-MGD of seawater membrane capacity in the Americas.

Prior to that, Mr. Choules worked for the Mechanical Equipment Company, Inc., and was based in Abu Dhabi, with responsibility for supporting over 250 desalination installations. In addition, he managed a workshop and operational staff that operated and maintained some 20 desalination units in the region.

Paul Choules

Piloting/Treatability Studies

Firm:

Veolia



CalDesal Email Alert

November 3, 2010

Call for Nominations:

Our upcoming Membership Meeting is fast approaching. Our meeting is going to be held at the Renaissance Esmeralda Resort during the ACWA conference. Please note your calendar for 7:00 am on December 1, 2010 in the meeting room called Malta A & B.

At the meeting, we will:

- Adopt By Laws
- Confirm Board Members
- Confirm Executive Committee

As a voting member, we need your help. Please review and respond to the following list of items needed.

1. Designate a board member from your organization
2. Confirm board member will attend Membership Meeting on December 1, 2010 or designate a representative that will attend on behalf of board member
3. Submit nominations for the Executive Committee that will be reviewed by the Nominating Committee to slate for a vote at the Membership Meeting

We ask that you send in your response via email to carrief@caldesal.org no later than November 17, 2010 by 3:00 pm.

Upcoming Events:



CalDesal Membership Meeting

Save the Date:
Wednesday, December 1, 2010
7:00 am
Renaissance Esmeralda Resort & Spa



CalDesal-Mixer

Please join us at Stir Lounge
In the
Renaissance Esmeralda
Resort & Spa
Wednesday, December 1, 2010
4:00 – 5:30 pm

3. Other Information Updates – oral, for receive and file.

Report:

Committee Questions

Public Comments

Committee Decision

- a. CALDESAL Update – Paul Shoenberger and/or other.
- b. Reports from Attendees of the IDA Conference in Huntington Beach
- c. Upcoming Open Houses or Tours – It has been suggested that specific open houses or tours be conducted for the Dana Point City Council, Board members of the Participant Agencies and/or other elected officials. MWDOC is also in the process of offering tours to the State and Federal legislative representatives from Orange County. It is in our best interest to keep all of these folks informed.
- d. Date and Time of Next Meeting – (actual date to be discussed at the meeting; we will need to transition to our workshops on the Project Delivery Options and may be able to forego our standard meetings for a couple of months depending on the desire of the Participants)
- e. Topics for Next Meeting (to be determined)

G. MISCELLANEOUS ORAL REPORTS

H. ADJOURNMENT



INFORMATION ITEM

December 6, 2010

TO: Planning & Operations
(Directors Royce, Clark, Hinman)

FROM: Kevin Hunt
General Manager

Staff Contact: Harvey De La Torre

SUBJECT: Status Report on Urban Water Management Plans

BACKGROUND

The State of California requires water suppliers (including wholesalers), either publicly or privately owned, that provide water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet annually to submit an updated Urban Water Management Plan (UWMP) with the Department of Water Resources (DWR) at least once every five years; in years ending in five or zero. This year the UWMPs are not due until July 1, 2011 (six months later) due to the recent adoption of SBx7-7 - 20% by 2020 conservation requirement.

To provide consistency and cost savings through economies of scale, MWDOC led the effort to facilitate a joint effort with retail water agencies in Orange County to retain one consulting firm, Malcolm Pirnie, to update their 2010 UWMPs. Twenty-two retail agencies, including the three MET member agency cities, are participating in the group.

The purpose of this report is to update the Board as to the status of the participating agencies', including MWDOC's, UWMPs and the proposed timeline for completion.

REPORT

In May, MWDOC staff initiated the process of updating the UWMPs by providing data, reports, and updated plans to Malcolm Pirnie. From this information, Malcolm Pirnie began to revise key sections and establish a general framework for the plans to provide consistently and clarity.

In early August, MWDOC and Malcolm Pirnie established "kick-off" meetings with all of the participating agencies to review data and exchange key information as well as discuss the new provisions of the 2010 UWMP i.e. 20% by 2020 conservation requirement. All the meetings were very productive and provided the consultant with information on what the retail agencies identified as needed changes from their 2005 UWMP.

Below is a table illustrating the "percent of completion" of all of the participating agencies as of November 2010:

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

Participating Agency	Percent Completed
City of Anaheim	79%
City of Brea	67%
East Orange County Water District	36%
El Toro Water District	84%
City of Fountain Valley	83%
City of Fullerton	77%
City of Garden Grove	79%
City of La Habra	69%
City of La Palma	42%
Mesa Consolidated Water District	76%
Moulton Niguel Water District	70%
MWDOC	42%
City of Newport Beach	38%
City of Orange	79%
City of San Clemente	41%
City of San Juan Capistrano	35%
City of Santa Ana	79%
Santa Margarita Water District	34%
City of Seal Beach	33%
South Coast Water District	35%
City of Tustin	75%
City of Yorba Linda	73%

While a majority of the draft UWMPs are more than half-way, drafts for all the participating agencies are well under way and on schedule to be completed by January.

It important to note, that a number of factors influence their progress such as available staff, complexity of the water agency's system, the exchange of key information with the consultant, and the release of DWR's UWMP Guidebook (expected in mid-December), which includes direction for meeting the 20% by 2020 requirements. Moreover, Metropolitan's (MET) Regional UWMP, recently adopted in October, contains a significant amount of key information such as water reliability and future supplies conditions that MWDOC and retail agencies rely on in preparing their plans.

The next major milestones are:

January/February - Second round of face-to-face meetings with each agency to review the draft

March – Release of Public Drafts to meet the 60-day public review requirement.

May - City Councils/Boards approval

July 1, 2010 – UWMP submittal deadline to DWR

Status of Ongoing MWDOC Reliability and Engineering and Planning Projects

November 30, 2010

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 is Jan 2013	<p>IRWD is proceeding with the final design of the facilities, including the treatment plant, a reservoir and a pump station to connect into the AMP. A pump station is also being designed to allow water from Irvine Lake to be delivered through the Baker Pipeline to the treatment plant. The treatment plant is being designed at 43.5 cfs with 10.5 cfs going directly to IRWD and 33 cfs going into the AMP. The updated schedule for this project is:</p> <ul style="list-style-type: none"> • Preliminary design has been completed • Final design completed by March 2011 • Construction – June 2011 – Jan 2013 <p>MWDOC staff is working on the issues with MET to gain MET Board approval for the introduction of the Baker Treatment Plant water into the lower reaches of the Allen McColloch Pipeline.</p>
MET Interconnections – Second Lower Cross Feeder	MET	100% for the study	June 2010 for the AECOM Study	Nothing New to Report.
South Orange Coastal Ocean Desalination	MWDOC		Phase 3 work completed in	The next meeting of the Participants has not yet been scheduled. With the election results in, we will have three

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
Project			2011.	<p>seats to be filled on the Participants Committee. As soon as we have confirmed the replacements, we will begin the education process of bringing the new Participant representatives up to speed.</p> <p>In addition, preparations are being made for meetings in January, February and March to conduct workshops on project delivery issues. The workshops will be facilitated by Malcolm Pirnie and will help to identify and come to agreement among the Participants on various issues with bringing the project to fruition including the schedules and cash flow needs. The specific dates for the meetings have not yet been adopted.</p>
IRWD Strand Ranch Water Banking Program				The agreement between MET, MWDOC and IRWD is being drafted and will be brought to the MWDOC Board in January or February.
IRWD MET Local Resources Program Agreement for Wells 21 and 22 Treatment Project				Staff has been working on seeking LRP funding from MET to help with implementation of IRWD's Well 21 & 22 Project. The project calls for treatment of high TDS water in the Tustin area. The agreement is going to the MET Board in January.
Budget Based Tiered Rates Grant from DWR				Work is proceeding with a number of agencies under this grant program. So far, ETWD has been the first agency to move into implementation of budget based tiered rates. South Coast WD has decided to remain with their existing

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>tiered rates system. MNWD is proceeding into implementation of budget based tiered rates anticipated in 2011. The other agencies are still working on rate structure and other implementation issues and will have decisions pending. The remaining agencies include:</p> <ul style="list-style-type: none"> • EOCWD • Newport Beach • Huntington Beach • Yorba Linda WD • Buena Park <p>Karl Seckel is working on the Second Quarterly Report to DWR under the Grant Program. DWR has processed the first invoice, but has not yet made the first payment to MWDOC.</p>
<p>Completion of Urban Water Management Plans for 2010</p>			<p>July 2011</p>	<p>For the final count, we have 22 agencies participating in the preparation of the UWMP for 2010 under the contract MWDOC has set up with Malcolm Pirnie.</p> <ol style="list-style-type: none"> 1. MWDOC 2. City of Anaheim (not part of MWDOC) 3. City of Fullerton (not a part of MWDOC) 4. City of Garden Grove 5. City of La Palma 6. City of Orange 7. City of Seal Beach

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>8. City of Tustin 9. Yorba Linda Water District 10. East Orange County Water District* 11. City of Fountain Valley 12. City of Newport Beach 13. City of Santa Ana (not a part of MWDOC) 14. Mesa Consolidated Water District 15. City of San Clemente 16. El Toro Water District 17. South Coast Water District 18. Moulton Niguel Water District 19. City of San Juan Capistrano 20. Santa Margarita Water District 21. City of Brea 22. City of La Habra</p> <p>Meetings have been completed with all agencies. Comments have been received from about 75% of the agencies on the template draft of the Urban Water Management Plans. The schedule calls for the first complete drafts to be provided to the agencies in early January. Work is underway on MWDOC's plan as well.</p> <p>On November 29, MWDOC hosted a workshop on the SB-7 Compliance issues. A white paper on the regional compliance will be developed to enable agencies to fully understand and explain the ins and outs of regional compliance.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
Other Meetings				
				Karl Seckel presented information on the South Orange Coastal Ocean Desalination Project to the South Orange County Mayors Group at the invitation of San Clemente who hosted the November meeting.
				Karl Seckel presented information on the South Orange Coastal Ocean Desalination Project to the OCBC Infrastructure Committee on Nov 9 to get a resolution of support for the South Orange Coastal Ocean Desalination Project.
				Karl Seckel and Richard Bell hosted a meeting of the San Juan Basin Authority Technical Advisory Committee to come to agreement on groundwater modeling work for the San Juan Basin. Agreement was reached at the meeting on how to address several issues. One follow up meeting occurred between the consultants and MWDOC and agreement was reached on the conduct of the modeling work by Geoscience Support Services. The work will take about three months to complete.
				Karl Seckel and Keith Lyon met with San Juan Capistrano and MET to discuss performance issues on the non-domestic system expansion agreement.
				Karl Seckel and Keith Lyon met with South Coast Water District to discuss expansion of the existing groundwater

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				desalter program agreement with MET.
				Karl Seckel, Keith Lyon and Lee Jacobi hosted several additional meetings on the Poseidon Huntington Beach Working Group Subcommittee to discuss integration of the product water back into the local agency water systems. The work is looking at the least expensive way to operate the local water systems to integrate the ocean water while maintaining the ability to deliver the ocean water to the various subscribers under emergency conditions.
				Karl Seckel and Lee Jacobi hosted several meetings of a workgroup of the retail agencies to review the Annual Water Rates Survey to make recommendations for future publications. Lisa Ohlund from EOCWD is heading up the committee reviewing the survey. A number of changes will be made to the survey for the 2010 version.
				Karl Seckel and Richard Bell hosted a meeting with the Orange County Flood Control folks to provide a presentation on the South Orange Coastal Ocean Desalination Project to ensure full coordination and cooperation in future activities. A similar meeting is being planned with the Army Corps of Engineers.
				Karl Seckel and Lee Jacobi met with LAFCO staff and staff from OCWD and OCS D to discuss demographic changes and water demands and sewage generation levels. LAFCO is conducting a study on future capacity needs for infrastructure

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				in the County and is looking into impacts of an aging population.
BUREC and Carollo Engineering Research at the Yuma Desalting Facility				<p>MWDOC has been asked by BUREC to facilitate research testing of a new membrane at their Yuma Arizona Research facility. To conduct the testing and receive approval from California Department of Public Health (CDPH) approval for the new membrane, BUREC needs a California sponsor that CDPH can use to invoice their time charges. MWDOC's role in this effort is to serve as the billing entity. A typical charge for this type of project is estimated at about \$5,000 for the review. Typically, CDPH will review the protocols and bill the sponsoring agency; when MWDOC receives the bill, we will forward it to Carollo to pay.</p> <p>The Yuma Arizona Water Quality Improvement Center (WQIC) is a comprehensive membrane research facility. BUREC conducts internal and external research projects to advance the state of water treatment technology. Carollo Engineering will be working with BUREC to evaluate a novel ultrafiltration membrane to earn California Department of Public Health (CDPH) Alternative Filtration Technology (AFT) conditional approval. The test involves challenging the membrane using test protocols Carollo will develop and which CDPH will review and (hopefully) approve. Carollo's partner in this venture, the membrane manufacturer Litree Purifying Technology Co. Ltd., will cover the costs of CDPH's review, so, there should be no net cost to MWDOC for these activities.</p>



INFORMATION ITEM

December 6, 2010

TO: Planning & Operations
(Directors Royce, Clark, Hinman)

FROM: Kevin Hunt
General Manager

Staff Contact: Harvey De La Torre/
Warren Greco

SUBJECT: MWDOC'S ALLOCATION PERFORMANCE THROUGH OCTOBER 2010

STAFF RECOMMENDATION

Staff recommends the Board of Directors review and discuss this information.

REPORT

In April 2010, the Metropolitan (MET) Board called for mandatory conservation and adopted a resolution implementing its Water Supply Allocation Plan at a Stage Level 2, effective July 1, 2010. This is the second consecutive year that MET declared allocations, mainly the result of environmental pumping restrictions in the Bay-Delta that are significantly limiting the flow of State Water Project water to Southern California.

Each MET member agency was given an allocation of imported water through a formula that considered a number of factors: historical usage, increase in population, dependence on imported water, availability of local supplies, conservation savings, and non-potable recycled water.

The allocation formula was amended by the MET Board in August 2010 for the 2010/11 Allocation Year. The adopted changes provide MWDOC and other MET agencies with additional reliability under the formula, in part by applying the Retail Impact Adjustment at all stage levels and by excluding Seawater Barrier Supplies from the calculation of local supplies.

From the formula, MWDOC's allocation results in a need to reduce its retail demand for its service area by approximately 6% (or by 27,786 AF) by the end of the fiscal year. For every acre-foot of imported water over the allocation limit, a penalty rate of approximately \$1,402/AF (2 times the untreated Tier 2 rate) will be assessed at the end of the year.

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

As part of the effort to update the Board on how MWDOC is performing within its allocation and to determine whether any penalties will be assessed to the District, staff has provided monthly reports of actual usage within the District against monthly allocation targets.

Cumulative Results for the Allocation Period Ending October 31, 2010:

	Imported Water Use	Retail Water Use
Actual Usage	78,405 AF	153,998 AF
Allocation Target*	98,612 AF	186,101 AF
Amount Below Allocation Target	20,207 AF 20.5%	32,103 AF 17.3%

MWDOC's retail water usage for the month of October was 24.3% (9,412 AF) below the monthly allocation target. As illustrated above, the cumulative retail water usage through October 31, 2010 was 17.3% (32,103 AF) below the allocation target.

MWDOC's cumulative imported water usage through October 31, 2010 was 20.5% (20,207 AF) below the allocation target.

Tier-2 Avoidance Program

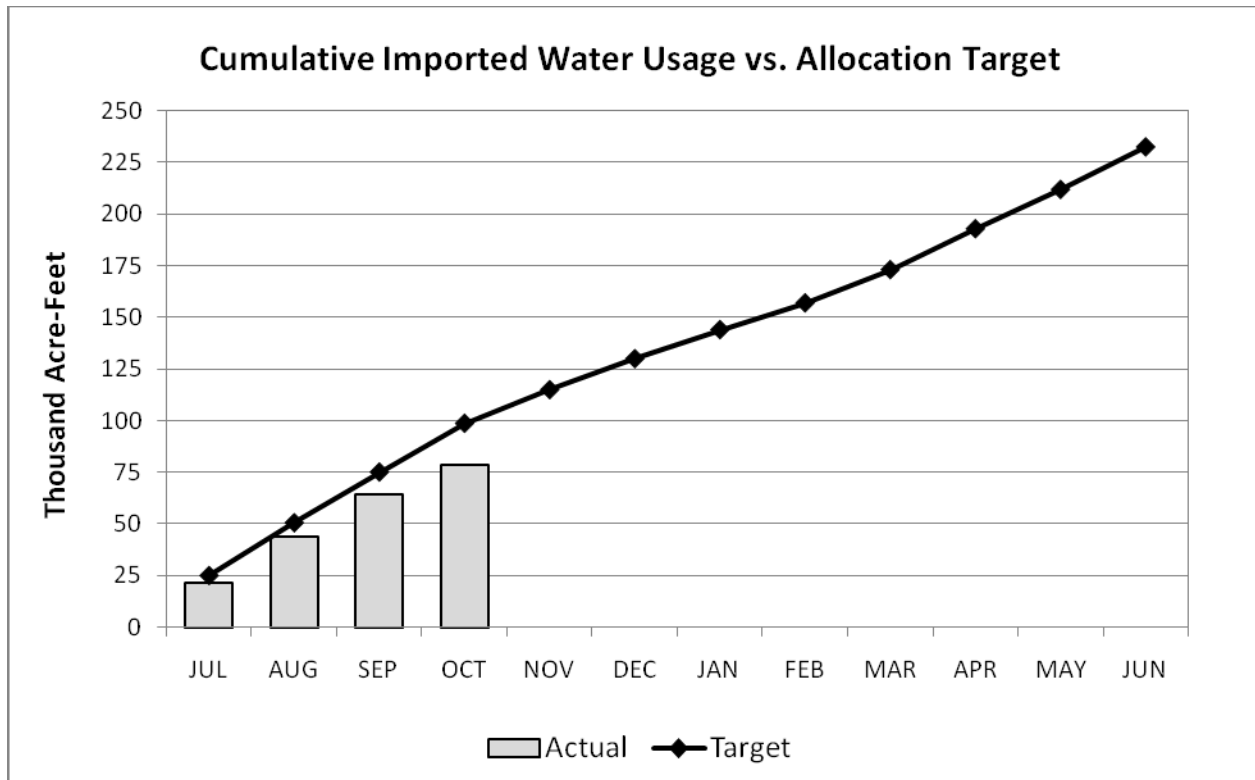
Based on the region's performance under allocations, MWDOC, Orange County Water District (OCWD) and MWDOC member agencies are proposing a groundwater pumping program that will help the Cities of Anaheim and Santa Ana avoid Tier 2 charges for calendar year 2010. The program calls for Anaheim and Santa Ana to reduce their imported water deliveries and pump an additional 5,000 AF of groundwater, while MWDOC member agencies' IRWD and Mesa Consolidated Water District will in turn reduce their pumping and purchase an additional 5,000 AF of imported water. Thus, the cities of Anaheim and Santa Ana would remain under their Tier 1 limit with MET and MWDOC's imported purchases would increase while not exceeding MWDOC's Tier 1 limit.

MWDOC staff estimates that MWDOC will have between 15,000 to 20,000 AF of unused Tier 1 water by the end of the calendar year 2010. Therefore, MWDOC can offer 5,000 AF to both Anaheim and Santa Ana and provide 10,000 AF of untreated imported to OCWD for spreading purposes without paying MET's Tier 2 charges. However, if this program causes MWDOC to exceed its Tier 1 limit, there is a provision in the program's agreement that recuperates Tier 2 charges from Anaheim and Santa Ana.

Potential Changes to MET's Water Supply Allocation Plan

MET's water storage levels and supplies have greatly improved in 2010. Due to a combination of low demands and increased water supplies, storage levels have exceeded expectations and have increased by as much as 600,000 AF; placing MET's dry-year storage around 1.6 Million AF. Based on these changed conditions, MET staff will be presenting options to the MET Board in December on potentially changing MET's Water Supply Allocation Plan for FY 2010/11 in order to place more water into local storage while maintaining retail/wholesale conservation efforts with the public.

[*] It is important to note this information reflects only partial data out of a twelve month allocation period and does not represent a final allocation estimate



[*] It is important to note this information reflects only partial data out of a twelve month allocation period and does not represent a final allocation estimate

Status of Water Use Efficiency Projects

November 2010

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Smart Timer Rebate Program	MWDSC	65%	December 2011	<p>In October 2010, 10 smart timers were installed in the residential sector, and 14 were installed in the commercial sector. The smaller than anticipated numbers over the last month in the commercial sector is due to MET's 4-month program hiatus and the re-launch of their commercial Save-A-Buck rebate program on June 4, 2010. MET's rebate contractor – Honeywell - is making some changes to the rebate process and is slow to finalize those rebate applications in the queue. It is anticipated this number will once again begin to grow back up to the monthly average of 35-40 installations in the near future.</p> <p>The South Orange County Integrated Regional Watershed Management Plan (SOCIRWMP) Water Use Efficiency Program Expansion (WUEPE) Project has entered into the next phase of the Grant. The Project, titled "The SmartScape Irrigation Improvement Project," has 52 of the 220 sites enrolled in the Project. The Project calls for properties in eight south county MWDOC Member Agencies (city of San Clemente, city of San Juan Capistrano, and the water districts of El Toro, Moulton Niguel, South Coast, Santa Margarita, Laguna Beach, and Trabuco) to receive irrigation improvements, which include a smart timer installation, irrigation system improvements, and turf removal for the installation of California Friendly plantings. The project will run through late spring</p> <p>For program water savings and number of Smart Timer rebates, see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Synthetic Turf Rebate Program	MWDSC	100%	Program Concluded	<p>In October 2010, there was no commercial or residential activity.</p> <p>For the entire program, a total of 674,566 square feet (or 15.5 acres) of synthetic turf has been installed and rebated on in Orange County (471,998 square feet in residential settings and 202,568 square feet in commercial settings).</p> <p>Metropolitan discontinued the Synthetic Turf Rebate Program on May 31, 2010, and Metropolitan's rebate administration contractor has processed the remaining rebate applications.</p> <p>For program savings and implementation information, please see MWDSC Water Use Efficiency Program Savings and Implementation Report.</p>
Rotating Nozzles Rebate Program	MWDSC	On-going	February 2013	<p>In October 2010, 3,535 rotating nozzles were installed in Orange County (792 in the residential sector and 2,743 in the commercial sector).</p> <p>For the entire program, a total of 146,855 rotating nozzles have been installed and rebated on in Orange County (24,050 rotating nozzles in residential settings and 122,805 rotating nozzles in commercial settings).</p> <p>For program savings and implementation information, please see MWDSC Water Use Efficiency Program Savings and Implementation Report.</p>
Landscape Performance Certification Program	MWDSC	On-going	December 2011	<p>In August 2010, a total of 10,423 meters received monthly irrigation performance reports comparing actual water use to a landscape irrigation budget customized to each meter. Sixteen client agencies are participating in the program.</p> <p>Staff has begun a stakeholder-based process to develop a Performance-Based Irrigation Contract Template for use by</p>

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Landscape Performance Certification Program (cont.)				<p>property owners. To date, a stakeholder committee has been formed, and a draft contract template is being developed. The first stakeholder drafting committee meeting was held on October 14, 2010 and the second was held on November 16, 2010. The purpose of this template is to place the responsibility of efficient irrigation management on the landscape maintenance contractor. The template will use the monthly Irrigation Performance Reports created through the Certification Program to monitor water use. The template will be structured in a way to reward good irrigation management.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
California Friendly Landscape Training Program	MWDOC	90%	December 2010	Metropolitan reduced the number of classes available to its member agencies from eight in FY 09-10 to four for FY 10-11. Three residential classes have already been held, and one more remains to be held on December 11 th in Cypress.
High Efficiency Clothes Washer Rebate Program	MWDCS	On-going	June 2015	<p>A total of 932 High Efficiency Clothes Washers were installed in single and multi-family settings in October 2010.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
Save Water, Save A Buck Rebate Program	MWDCS	On-going	June 2012	<p>In October 2010, a total of 944 devices were installed through this program.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
Industrial Process Water Use Reduction Program	MWDOC	67%	June 2011	Survey scheduling is ongoing. A total of 29 Focused Surveys and 10 Comprehensive Surveys have been completed. To date, four companies have signed Incentive Agreements, and 10 companies have signed Statement of Interest forms. Focused

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Industrial Process Water Use Reduction Program (cont.)				<p>Survey reports were issued to Excello Circuits and Oakley. Program staff conducted a preliminary focused survey site visit at B. Braun in Irvine, CA.</p> <p>The Comprehensive Survey for Jazz Semiconductor is ongoing. Jazz is trying to complete the additional laboratory water quality analysis needed to complete the report. Final comments have been incorporated into the Comprehensive Survey Draft Report for Teva, Staff in the process of scheduling the Report Delivery appointment to review and submit the report to Teva. Electrolurgy has a final incentive agreement for signature.</p> <p>Staff continues to follow up with past survey participants, as well as market the program to targeted companies via retail agency and vendor contacts. At the November Board Meeting, staff was authorized to add a new Bureau of Reclamation agreement into the program allowing for additional Focused and Comprehensive Surveys at new industrial sites and additional incentives for process improvements.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
High Efficiency Toilet Rebate Program	MWDCS	100%	Program Concluded	<p>In October 2010, no High Efficiency Toilets were installed through this program.</p> <p>Metropolitan discontinued rebates for residential high efficiency toilets as of May 31, 2010 and Metropolitan's rebate administration contractor has processed the remaining rebate applications.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Landscape Programs Database	MWDOC	48%	January 2011	<p>In May 2010, the Board approved the staff recommendation to hire Fortech to develop the Comprehensive Landscape Programs Database.</p> <p>The Data Base Design Document was completed in October and the development of the data base coding has begun. A web demo of the database is being scheduled for mid-December.</p>
MWDOC Conservation Meeting	MWDOC	On-going	Monthly	The next meeting will be held on December 2, 2010 and will be hosted by the Mesa Consolidated Water District
Metropolitan Conservation Meeting	MWDSC	On-going	Monthly	The next meeting will be hosted by Metropolitan on December 16, 2010.
Quality Control Activities	MWDOC	On-going	On-going	Staff continues to perform on-site installation verification of all SmarTimer and Sprinkler Nozzle program participants.
Water Smart Hotel Program	MWDOC	12%	December 2013	<p>MWDOC was awarded a Proposition 50 Water Use Efficiency grant, to be matched with Metropolitan funds (Save Water, Save A Buck), to conduct up to 75 commercial and landscape audits of hotels. Enhanced financial incentives, not to exceed \$375,000, will be distributed to augment rebate levels among Save A Buck fixtures.</p> <p>At the December 2010 Planning and Operations Committee and Board Meetings, staff will be requesting Board authorization to add a Bureau of Reclamation grant to the program that will provide for additional water efficiency surveys and incentives for water efficiency improvements.</p> <p>Survey scheduling is ongoing and targets small, medium, and large hotels. On October 20, 2010, a Hotel Report Delivery was conducted at the Marriott Bayview in Newport Beach.</p>
Turf Removal Program	MWDOC	0%	March 31, 2011	MWDOC has received a total of 16 Turf Removal applications proposing 86,988 sqft of turf to be removed (60,621 sqft commercial and 26,367 sqft residential). Pre-inspections are being scheduled by individual member agencies to measure

Description	Lead Agency	Status % Complete	Scheduled Completion or Renewal Date	Comments
Turf Removal Program (cont.)				each application's proposed turf removal areas. Of the proposed 86,988 sqft to be removed, 47,227 sqft has been reserved for turf removal rebates. No rebate payments have been made at this time.

Orange County

Water Use Efficiency Programs Savings and Implementation Report

Retrofits and Acre-Foot Water Savings for Program Activity

Program	Program Start Date	Retrofits Installed Through	Month Indicated		Current Fiscal Year To Date		Overall Program To Date	
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Water Savings
High Efficiency Toilet (HET) Program	2005	October-10	0	0.00	818	12	26,668	3,419
High Efficiency Clothes Washer Program	2001	October-10	932	2.14	3,561	18.2	64,882	7,785
Smart Timer Program - Irrigation Timers	2004	October-10	24	0.72	66	1.49	5,814	8,097
Rotating Nozzles Rebate Program	2007	October-10	3,535	1.18	6,584	2	146,855	2,580
Synthetic Turf Rebate Program	2007	October-10	0	0.00	13,539	0.15	674,566	275
Save Water Save A Buck Commercial Plumbing Fixture Rebate Program	2002	October-10	944	4.99	1,210	78.51	37,612	16,859
Landscape Certification Program [1]	1997	July-10	10,253	731.65	10,253	732	10,253	18,957
Industrial Process Water Use Reduction Program	2006	September-10	0	0.00	0	0	5	351
Ultra-Low-Flush-Toilet Programs [2]	1992	June-09	0	0	0	0	363,926	138,457
Home Water Surveys [2]	1995		0	0	0	0	11,867	1,708
Showerhead Replacements [2]	1991		0	0	0	0	270,604	19,083
Total Water Savings All Programs				740.7		8,860.0		217,570

(1) Landscape Certification Program participation is based on the number of water meters receiving monthly Irrigation Performance Reports.

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

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	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	2	7	43	48	8	108	11.53
Buena Park	0	1	2	124	176	7	310	31.66
East Orange CWD RZ	0	0	10	12	1	0	23	3.32
El Toro WD	0	392	18	75	38	15	538	99.93
Fountain Valley	0	69	21	262	54	14	420	56.90
Garden Grove	0	14	39	443	181	17	694	82.31
Golden State WC	2	16	36	444	716	33	1,247	129.08
Huntington Beach	2	13	59	607	159	72	912	107.42
Irvine Ranch WD	29	1,055	826	5,088	2,114	291	9,403	1,214.47
Laguna Beach CWD	0	2	17	91	28	11	149	17.79
La Habra	0	3	18	296	34	17	368	45.11
La Palma	0	1	10	36	26	13	86	9.28
Mesa Consol. WD	0	247	19	736	131	7	1,140	161.21
Moulton Niguel WD	0	20	104	447	188	44	803	96.91
Newport Beach	0	5	19	163	54	12	253	30.22
Orange	1	20	62	423	79	32	617	77.16
San Juan Capistrano	0	10	7	76	39	11	143	16.81
San Clemente	0	7	22	202	66	17	314	37.37
Santa Margarita WD	0	5	14	304	151	34	508	56.56
Seal Beach	0	678	8	21	12	1	720	149.38
Serrano WD	2	0	1	13	5	0	21	2.77
South Coast WD	2	2	29	102	41	7	183	22.68
Trabuco Canyon WD	0	0	4	23	23	0	50	5.58
Tustin	0	186	28	387	479	16	1,096	135.21
Westminster	0	17	25	541	167	23	773	92.14
Yorba Linda WD	0	14	89	323	96	13	535	68.09
MWDOC Totals	38	2,779	1,494	11,282	5,106	715	21,414	2,760.89

Anaheim	0	255	78	2,771	619	68	3,791	476.92
Fullerton	0	4	28	286	60	15	393	47.88
Santa Ana	0	11	25	925	89	20	1,070	133.12
Non-MWDOC Totals	0	270	131	3,982	768	103	5,254	657.92

Orange County Totals	38	3,049	1,625	15,264	5,874	818	26,668	3,418.81
-----------------------------	-----------	--------------	--------------	---------------	--------------	------------	---------------	-----------------

HIGH EFFICIENCY CLOTHES WASHERS INSTALLED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 01/02	FY 02/03	FY03/04	FY 04/05	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	Total	Current FY Water Savings Ac/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years
Brea	17	107	178	132	143	132	175	156	42	69	1,151	0.35	136.86
Buena Park	9	45	88	81	84	85	114	146	59	80	791	0.42	86.92
East Orange CWD RZ	3	8	20	20	11	18	22	17	3	6	128	0.03	15.72
El Toro WD	21	88	108	103	83	91	113	130	32	50	819	0.25	96.67
Fountain Valley	36	127	209	196	178	205	219	243	72	102	1,587	0.51	187.71
Garden Grove	39	173	278	243	243	238	304	332	101	152	2,103	0.79	244.70
Golden State WC	37	195	339	374	342	339	401	447	168	192	2,834	0.97	334.01
Huntington Beach	114	486	857	738	680	761	750	751	211	288	5,636	1.47	684.46
Irvine Ranch WD	159	626	1,087	1,093	1,445	1,972	2,052	1,844	1,394	867	12,539	4.46	1,408.55
La Habra	8	40	86	81	66	96	136	83	22	46	664	0.23	78.77
La Palma	3	5	13	21	18	33	35	51	25	31	235	0.17	24.23
Laguna Beach CWD	17	88	119	84	68	57	77	77	27	22	636	0.10	77.02
Mesa Consolidated WD	24	117	228	240	212	239	249	246	73	69	1,697	0.32	208.51
Moulton Niguel WD	158	630	841	640	570	652	716	742	250	330	5,529	1.59	651.76
Newport Beach	17	144	343	277	243	245	270	259	57	63	1,918	0.31	238.05
Orange	58	247	304	358	330	366	365	403	111	105	2,647	0.57	324.61
Orange Park Acres	-	-	-	-	-	4	8	-	-	-	12	0.00	1.44
San Juan Capistrano	16	95	120	107	102	109	103	127	43	53	875	0.28	103.82
San Clemente	32	182	235	170	136	204	261	278	63	101	1,662	0.50	191.14
Santa Margarita WD	140	510	743	573	592	654	683	740	257	325	5,217	1.69	612.84
Seal Beach	13	28	57	39	46	47	46	57	7	24	364	0.12	43.30
Serrano WD	9	16	54	39	39	30	31	23	7	5	253	0.03	32.58
South Coast WD	35	138	165	97	103	107	130	148	43	58	1,024	0.30	118.70
Trabuco Canyon WD	10	63	76	58	44	69	60	62	28	19	489	0.10	58.29
Tustin	21	89	152	138	127	152	146	144	45	54	1,068	0.27	129.44
Westminster	37	159	235	196	186	213	171	233	74	99	1,603	0.54	190.56
Yorba Linda	36	214	342	355	333	288	350	367	117	115	2,517	0.62	306.98
MWDOC Totals	1,069	4,620	7,277	6,453	6,424	7,406	7,987	8,106	3,331	3,325	55,998	16.98	6,587.65
Anaheim	917	677	904	1,364	701	319	3	3	1	1	4,890	0.00	714.31
Fullerton	40	196	369	289	263	269	334	330	69	113	2,272	0.59	273.67
Santa Ana	15	69	188	269	244	236	235	257	87	122	1,722	0.62	209.76
Non-MWDOC Totals	972	942	1,461	1,922	1,208	824	572	590	157	236	8,884	1.22	1,197.74
Orange County Totals	2,041	5,562	8,738	8,375	7,632	8,230	8,559	8,696	3,488	3,561	64,882	18.20	7,785.39

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

Agency	FY 04/05		FY 05/06		FY 06/07		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.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	2	0	1	3	8	6	0	40	3	9	0	0	0	0	14	58	141.36
Buena Park	0	0	0	0	0	0	0	0	3	1	0	0	0	0	3	1	2.18
East Orange CWD RZ	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0.88
El Toro WD	1	0	8	0	4	95	1	174	0	25	2	18	1	0	17	312	757.68
Fountain Valley	3	3	2	2	11	0	4	0	1	0	0	6	0	0	21	11	31.40
Garden Grove	2	2	11	1	2	0	1	3	2	1	6	0	3	0	27	7	25.89
Golden State WC	0	0	15	2	24	12	8	8	1	2	9	22	3	2	60	48	104.00
Huntington Beach	5	2	21	9	12	12	7	1	13	1	6	27	1	0	65	52	125.02
Irvine Ranch WD	2	2	68	111	160	434	66	183	29	56	14	145	6	2	345	933	2,450.80
La Habra	0	0	0	0	7	1	1	0	0	0	0	21	0	0	8	22	29.43
La Palma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Laguna Beach CWD	3	0	5	0	21	0	5	0	2	0	2	14	0	0	38	14	25.05
Mesa Consolidated WD	5	0	13	27	14	6	12	0	6	7	13	7	1	0	64	47	146.21
Moulton Niguel WD	2	0	25	10	39	52	59	20	21	23	17	162	9	0	172	267	498.62
Newport Beach	3	17	35	4	125	86	98	40	10	27	7	58	1	0	279	232	606.49
Orange	8	4	37	13	28	38	4	0	5	2	2	13	1	0	85	70	213.81
San Juan Capistrano	0	0	5	4	5	4	11	1	10	0	7	49	0	0	38	58	92.44
San Clemente	4	0	483	1	46	7	21	60	81	20	13	209	3	0	651	297	608.34
Santa Margarita WD	3	0	15	8	40	96	53	70	25	44	10	152	5	13	151	383	767.85
Seal Beach	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1.18
Serrano WD	0	0	0	0	0	0	0	0	0	0	11	0	1	0	12	0	1.06
South Coast WD	2	0	6	1	17	29	7	49	11	6	3	10	1	0	47	95	235.74
Trabuco Canyon WD	0	0	29	0	10	93	4	0	1	0	2	0	0	0	46	93	284.81
Tustin	1	0	1	4	0	0	2	3	7	9	10	14	4	0	25	30	56.55
Westminster	1	0	8	12	6	0	1	0	3	0	3	0	0	0	22	12	47.13
Yorba Linda	0	0	30	6	31	5	20	41	8	5	5	21	4	0	98	78	186.72
MWDOC Totals	48	30	820	218	610	976	385	693	242	238	142	949	44	17	2,291	3,121	7,440.62

Anaheim	6	1	8	13	17	78	12	57	9	59	5	46	1	0	58	254	583.57
Fullerton	0	0	2	0	10	0	10	0	2	2	2	39	1	0	27	41	54.61
Santa Ana	0	0	0	0	1	0	3	0	2	4	1	8	3	0	10	12	17.76
Non-MWDOC Totals	6	1	10	13	28	78	25	57	13	65	8	93	5	0	95	307	655.93

Orange County Totals	54	31	830	231	638	1054	410	750	255	303	150	1042	49	17	2386	3428	8,096.55
-----------------------------	-----------	-----------	------------	------------	------------	-------------	------------	------------	------------	------------	------------	-------------	-----------	-----------	-------------	-------------	-----------------

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

Agency	FY 06/07			FY 07/08			FY 08/09			FY 09/10			FY 10/11			Total Program			Cumulative Water Savings across all Fiscal Years
	Small		Large	Small		Large	Small		Large	Small		Large	Small		Large	Small		Large	
	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	
Brea	0	0	0	0	0	0	22	0	0	8	100	0	0	0	0	30	100	0	1.13
Buena Park	0	0	0	0	0	0	37	75	0	0	0	2,535	29	0	0	66	75	2,535	178.91
East Orange	0	0	0	0	0	0	105	0	0	0	0	0	0	0	0	105	0	0	1.26
El Toro	0	0	0	0	0	0	88	710	0	145	2,874	890	0	0	0	233	3,584	890	96.01
Fountain Valley	0	0	0	51	0	0	83	0	0	21	0	0	27	0	0	182	0	0	2.09
Garden Grove	0	0	0	44	0	0	153	106	0	151	45	0	0	0	0	348	151	0	5.38
Golden State	0	0	0	161	0	0	83	0	0	280	29	0	128	0	0	652	29	0	6.55
Huntington Beach	0	0	0	93	845	1,202	322	19	1,174	39	3,420	305	59	0	0	513	4,284	2,681	359.88
Irvine Ranch	0	0	0	610	7,435	440	1,594	5,108	85	1,034	54,441	1,479	522	2,122	0	3,760	69,106	2,004	837.29
La Habra	0	535	0	9	0	0	15	0	900	0	273	0	0	0	0	24	808	900	107.70
La Palma	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	10	0	0	0.12
Laguna Beach	0	0	0	115	0	0	101	47	0	191	0	0	49	0	0	456	47	0	5.34
Mesa Consolidated	83	0	0	0	25	343	198	0	0	195	83	0	30	0	0	506	108	343	54.80
Moulton Niguel	0	0	0	297	120	0	426	6,883	1,986	234	0	959	770	0	0	1,727	7,003	2,945	374.94
Newport Beach	0	0	0	22	569	0	65	170	0	92	4,781	0	104	630	0	283	6,150	0	54.17
Orange	0	0	0	158	0	0	961	163	0	129	0	0	65	30	0	1,313	193	0	17.42
San Clemente	0	0	0	118	0	0	466	25	0	729	1,299	0	25	0	0	1,338	1,324	0	24.09
San Juan Capistrano	0	0	0	70	0	0	434	1,660	0	656	5,709	0	0	0	0	1,160	7,369	0	77.14
Santa Margarita	0	0	0	165	0	0	1,079	68	0	1,731	937	611	413	0	0	3,388	1,005	611	82.15
Seal Beach	0	0	0	0	0	0	115	0	0	0	291	0	0	0	0	115	291	0	3.71
Serrano	0	0	0	94	0	0	24	0	0	1,498	0	0	0	0	0	1,616	0	0	13.77
South Coast	0	0	0	74	133	0	115	0	0	0	0	0	32	1,031	0	221	1,164	0	8.94
Trabuco Canyon	0	0	0	130	0	0	0	0	0	1,357	791	0	0	0	0	1,487	791	0	19.26
Tustin	0	0	0	23	0	0	549	0	0	314	0	0	174	0	0	1,060	0	0	10.16
Westminster	0	0	0	0	0	0	111	0	0	80	0	0	0	0	0	191	0	0	1.97
Yorba Linda	0	0	0	563	0	0	440	113	500	371	3,256	0	106	0	0	1,480	3,369	500	97.56
MWDOC Totals	83	535	0	2,797	9,127	1,985	7,596	15,147	4,645	9,255	78,329	6,779	2,533	3,813	0	22,264	106,951	13,409	2441.74

Anaheim	0	0	0	68	0	0	329	0	0	273	164	105	0	0	0	670	164	105	15.88
Fullerton	0	0	0	95	0	0	446	64	0	48	0	1,484	238	0	0	827	64	1,484	112.85
Santa Ana	0	0	0	145	0	0	96	56	0	48	572	0	0	0	0	289	628	0	9.10
Non-MWDOC Totals	0	0	0	308	0	0	871	120	0	369	736	1,589	238	0	0	1,786	856	1,589	137.83

Orange County Totals	83	535	0	3,105	9,127	1,985	8,467	15,267	4,645	9,624	79,065	8,368	2,771	3,813	0	24,050	107,807	14,998	2579.56
-----------------------------	-----------	------------	----------	--------------	--------------	--------------	--------------	---------------	--------------	--------------	---------------	--------------	--------------	--------------	----------	---------------	----------------	---------------	----------------

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	1.95
Buena Park	0	0	1,566	5,850	0	0	0	0	1,566	5,850	3.11
East Orange	0	0	0	0	983	0	0	0	983	0	0.28
El Toro	3,183	0	2,974	0	3,308	0	0	0	9,465	0	3.96
Fountain Valley	11,674	0	1,163	0	2,767	0	463	0	16,067	0	7.87
Garden Grove	1,860	0	0	0	3,197	0	274	0	5,331	0	1.98
Golden State	6,786	0	13,990	0	15,215	0	1,319	0	37,310	0	14.12
Huntington Beach	15,192	591	12,512	0	4,343	1,504	0	0	32,047	2,095	15.73
Irvine Ranch	11,009	876	13,669	0	2,585	0	0	0	27,263	876	13.12
La Habra	0	0	0	0	0	0	0	0	0	0	-
La Palma	429	0	0	0	0	0	0	0	429	0	0.24
Laguna Beach	3,950	0	3,026	0	725	0	0	0	7,701	0	3.69
Mesa Consolidated	4,114	0	3,005	78,118	4,106	0	1,993	0	13,218	78,118	37.80
Moulton Niguel	14,151	0	25,635	2,420	7,432	0	0	0	47,218	2,420	21.79
Newport Beach	2,530	0	6,628	0	270	0	0	0	9,428	0	4.28
Orange	4,169	0	7,191	0	635	0	0	0	11,995	0	5.53
San Clemente	9,328	0	11,250	455	2,514	1,285	0	0	23,092	1,740	11.20
San Juan Capistrano	0	0	7,297	639	2,730	0	4,282	0	14,309	639	4.70
Santa Margarita	12,922	0	26,069	0	21,875	0	3,488	0	64,354	0	24.80
Seal Beach	0	0	817	0	0	0	0	0	817	0	0.34
Serrano	7,347	0	1,145	0	0	0	0	0	8,492	0	4.60
South Coast	2,311	0	6,316	0	17,200	0	615	0	26,442	0	8.85
Trabuco Canyon	1,202	0	9,827	0	0	0	0	0	11,029	0	4.80
Tustin	6,123	0	4,717	0	2,190	0	0	0	13,030	0	6.02
Westminster	2,748	16,566	8,215	0	890	0	0	0	11,853	16,566	14.52
Yorba Linda	11,792	0	12,683	0	4,341	5,835	0	0	28,816	5,835	14.78
MWDOC Totals	132,820	18,033	181,848	89,642	97,806	8,624	12,434	0	424,908	116,299	230.04

Anaheim	4,535	0	7,735	20,093	13,555	65,300	1,000	0	26,825	85,393	36.45
Fullerton	4,865	876	5,727	0	6,223	0	105	0	16,920	876	7.38
Santa Ana	0	0	2,820	0	525	0	0	0	3,345	0	1.33
Non-MWDOC Totals	9,400	876	16,282	20,093	20,303	65,300	1,105	0	47,090	86,269	45.15

Orange County Totals	142,220	18,909	198,130	109,735	118,109	73,924	13,539	0	471,998	202,568	275.19
-----------------------------	----------------	---------------	----------------	----------------	----------------	---------------	---------------	----------	----------------	----------------	---------------

[1] Installed device numbers are calculated in square feet

SAVE WATER SAVE A BUCK COMMERCIAL PLUMBING FIXTURES REBATE PROGRAM^[1]
INSTALLED BY AGENCY
 through MWDOC and Local Agency Conservation Programs

Agency	FY 01/02	FY 02/03	FY 03/04	FY 04/05	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	Totals	Cumulative Water Savings across all Fiscal Years
Brea	0	51	0	22	52	2	27	113	24	0	291	159.52
Buena Park	10	83	28	55	64	65	153	432	122	0	1,012	364.45
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0	0.00
El Toro WD	23	23	73	42	5	2	0	92	143	0	403	222.70
Fountain Valley	1	94	2	59	35	63	17	35	0	0	306	242.57
Garden Grove	21	199	51	297	34	136	5	298	130	10	1,181	719.62
Golden State WC	11	197	34	232	80	531	46	414	55	0	1,600	899.05
Huntington Beach	5	191	73	185	82	209	48	104	126	81	1,104	679.27
Irvine Ranch WD	306	1,085	87	325	1,044	429	121	789	2,708	401	7,295	2,614.80
La Habra	10	37	52	45	60	16	191	75	53	0	539	249.65
La Palma	0	0	0	0	5	0	0	140	21	0	166	27.78
Laguna Beach CWD	2	30	2	18	9	12	20	137	189	0	419	128.68
Mesa Consolidated WD	424	155	22	130	241	141	141	543	219	17	2,033	867.00
Moulton Niguel WD	31	74	65	172	3	0	9	69	151	6	580	404.60
Newport Beach	4	230	9	77	24	94	98	27	245	423	1,231	539.47
Orange	84	144	22	553	127	88	18	374	67	0	1,477	823.50
San Juan Capistrano	0	34	21	181	0	6	2	1	1	0	246	216.80
San Clemente	0	36	5	95	40	173	2	18	43	0	412	192.98
Santa Margarita WD	0	16	3	56	0	0	6	23	11	0	115	100.88
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0.00
Seal Beach	3	34	44	40	61	45	1	2	124	0	354	198.71
Serrano WD	0	0	0	0	0	0	0	0	0	0	0	0.00
South Coast WD	0	31	8	54	8	4	9	114	56	0	284	136.03
Trabuco Canyon WD	0	1	0	6	0	0	0	4	0	0	11	7.36
Tustin	9	114	16	82	14	7	115	145	25	177	704	357.34
Westminster	16	109	32	153	57	104	40	161	16	0	688	477.43
Yorba Linda	0	36	12	42	4	118	10	24	8	30	284	265.61
MWDOC Totals	960	3,004	661	2,921	2,049	2,245	1,079	4,134	4,537	1,145	22,735	10,895.81
Anaheim	1,042	400	947	362	1,113	780	766	3,298	582	64	9,354	3,109.19
Fullerton	28	41	138	270	91	96	133	579	29	1	1,406	735.87
Santa Ana	115	153	589	227	624	373	493	815	728	0	4,117	2,117.99
Non-MWDOC Totals	1,185	594	1,674	859	1,828	1,249	1,392	4,692	1,339	65	14,877	5,963.05
Orange County Totals	2,145	3,598	2,335	3,780	3,877	3,494	2,471	8,826	5,876	1,210	37,612	16,858.85

[1] Retrofit devices include ULF Toilets and Urinals, High Efficiency Toilets and Urinals, 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, and Water Pressurized Brooms.

LANDSCAPE PERFORMANCE CERTIFICATION PROGRAM

Total Number of Meters in Program by Agency

Agency	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	Overall Water Savings To Date (AF)
Brea	0	0	0	0	0	0	0	0.00
Buena Park	0	0	0	0	0	17	101	8.42
East Orange CWD RZ	0	0	0	0	0	0	0	0.00
El Toro WD	88	109	227	352	384	371	372	1,261.42
Fountain Valley	0	0	0	0	0	0	0	0.00
Garden Grove	0	0	0	0	0	0	0	0.00
Golden State WC	0	0	0	14	34	32	32	56.52
Huntington Beach	0	0	0	0	0	31	31	8.85
Irvine Ranch WD	277	638	646	708	1,008	6,297	6,297	8,538.71
Laguna Beach CWD	0	0	0	0	57	141	141	137.94
La Habra	0	0	0	0	23	22	22	37.61
La Palma	0	0	0	0	0	0	0	0.00
Mesa Consolidated WD	191	170	138	165	286	285	286	928.03
Moulton Niguel WD	80	57	113	180	473	571	571	1,239.80
Newport Beach	32	27	23	58	142	171	171	376.06
Orange	0	0	0	0	0	0	0	0.00
San Clemente	191	165	204	227	233	247	247	1,032.43
San Juan Capistrano	0	0	0	0	0	0	0	0.00
Santa Margarita WD	547	619	618	945	1,571	1,666	1,666	4,931.36
Seal Beach	0	0	0	0	0	0	0	0.00
Serrano WD	0	0	0	0	0	0	0	0.00
South Coast WD	0	0	0	62	117	108	108	268.74
Trabuco Canyon WD	0	0	0	12	49	48	48	83.70
Tustin	0	0	0	0	0	0	0	0.00
Westminster	0	0	0	10	18	18	18	35.32
Yorba Linda WD	0	0	0	0	0	0	0	0.00
MWDOC Totals	1,406	1,785	1,969	2,733	4,395	10,025	10,111	18,944.9
Anaheim	0	0	0	0	0	142	142	12.35
Fullerton	0	0	0	0	0	0	0	0.00
Santa Ana	0	0	0	0	0	0	0	0.00
Non-MWDOC Totals	0	0	0	0	0	142	142	12.35
Orange Co. Totals	1,406	1,785	1,969	2,733	4,395	10,167	10,253	18,957.24

INDUSTRIAL PROCESS WATER USE REDUCTION PROGRAM

Number of Process Changes by Agency

Agency	FY 07/08	FY 08/09	FY 09/10	FY 10/11	Total Program	Current Fiscal Year Water Savings ^[1]	Cumulative Water Savings across all Fiscal Years ^[1]
Brea	0	0	0	0	0	0	0.00
Buena Park	0	1	0	0	1	0	144.00
East Orange	0	0	0	0	0	0	0.00
El Toro	0	0	0	0	0	0	0.00
Fountain Valley	0	0	0	0	0	0	0.00
Garden Grove	0	0	0	0	0	0	0.00
Golden State	1	0	0	0	1	0	69.74
Huntington Beach	0	0	0	0	0	0	0.00
Irvine Ranch	0	0	2	0	2	0	26.08
La Habra	0	0	0	0	0	0	0.00
La Palma	0	0	0	0	0	0	0.00
Laguna Beach	0	0	0	0	0	0	0.00
Mesa Consolidated	0	0	0	0	0	0	0.00
Moulton Niguel	0	0	0	0	0	0	0.00
Newport Beach	0	0	0	0	0	0	0.00
Orange	1	0	0	0	1	0	111.29
San Juan Capistrano	0	0	0	0	0	0	0.00
San Clemente	0	0	0	0	0	0	0.00
Santa Margarita	0	0	0	0	0	0	0.00
Seal Beach	0	0	0	0	0	0	0.00
Serrano	0	0	0	0	0	0	0.00
South Coast	0	0	0	0	0	0	0.00
Trabuco Canyon	0	0	0	0	0	0	0.00
Tustin	0	0	0	0	0	0	0.00
Westminster	0	0	0	0	0	0	0.00
Yorba Linda	0	0	0	0	0	0	0.00
MWDOC Totals	2	1	2	0	5	0	351.11

[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.

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	1,446.24
Buena Park	361	147	331	802	520	469	524	1,229	2,325	1,522	50	40	18	9	0	8,347	2,945.51
East Orange CWD RZ	2	0	33	63	15	17	15	50	41	44	19	18	13	2	0	332	116.24
El Toro WD	1,169	511	678	889	711	171	310	564	472	324	176	205	61	40	0	6,281	2,675.14
Fountain Valley	638	454	635	858	1,289	2,355	1,697	1,406	1,400	802	176	111	58	32	0	11,911	4,594.17
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	10,413.55
Golden State WC	3,535	1,396	3,141	1,113	3,024	2,957	1,379	2,143	3,222	1,870	167	116	501	43	0	24,607	10,101.62
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	11,917.59
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	10,080.76
Laguna Beach CWD	283	93	118	74	149	306	220	85	271	118	32	26	29	6	0	1,810	725.80
La Habra	594	146	254	775	703	105	582	645	1,697	1,225	12	31	6	7	0	6,782	2,508.52
La Palma	65	180	222	125	44	132	518	173	343	193	31	27	20	17	0	2,090	789.09
Mesa Consol. WD (100%)	1,610	851	1,052	2,046	2,114	1,956	1,393	1,505	2,387	988	192	124	56	14	0	16,288	6,575.43
Moulton Niguel WD	744	309	761	698	523	475	716	891	728	684	410	381	187	100	0	7,607	2,867.29
Newport Beach	369	293	390	571	912	1,223	438	463	396	1,883	153	76	36	16	0	7,219	2,688.62
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	6,248.42
San Juan Capistrano	1,234	284	193	168	323	1,319	347	152	201	151	85	125	42	39	0	4,663	2,015.57
San Clemente	225	113	191	65	158	198	667	483	201	547	91	66	37	34	0	3,076	1,110.90
Santa Margarita WD	577	324	553	843	345	456	1,258	790	664	260	179	143	101	29	0	6,522	2,569.03
Seal Beach	74	66	312	609	47	155	132	81	134	729	29	10	6	12	0	2,396	915.10
Serrano WD	81	56	68	41	19	52	95	73	123	98	20	15	14	2	0	757	288.52
South Coast WD	110	176	177	114	182	181	133	358	191	469	88	72	32	22	0	2,305	837.38
Trabuco Canyon WD	10	78	42	42	25	21	40	181	102	30	17	20	12	14	0	634	231.03
Tustin	968	668	557	824	429	1,292	1,508	1,206	1,096	827	69	89	26	12	0	9,571	3,789.94
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	6,025.51
Yorba Linda WD	257	309	417	457	404	1,400	759	1,690	1,155	627	158	136	81	41	0	7,891	2,886.83
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	97,363.80

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	15,470.01
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	6,354.20
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	19,268.60
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	41,092.81

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	138,456.61
-----------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	--------------	--------------	--------------	--------------	----------	----------------	-------------------