

**AGENDA
IRVINE RANCH WATER DISTRICT
BOARD OF DIRECTORS
REGULAR MEETING**

June 24, 2013

PLEDGE OF ALLEGIANCE

CALL TO ORDER

5:00 P.M., Board Room, District Office
15600 Sand Canyon Avenue, Irvine, California

ROLL CALL

Directors Matheis, LaMar, Swan, Withers and President Reinhart

NOTICE

If you wish to address the Board on any item, including Consent Calendar items, please file your name with the Secretary. Forms are provided on the lobby table. Remarks are limited to five minutes per speaker on each subject. Consent Calendar items will be acted upon by one motion, without discussion, unless a request is made for specific items to be removed from the Calendar for separate action.

COMMUNICATIONS TO THE BOARD

1. A. Written:

B. Oral: Mrs. Joan Irvine Smith's assistant relative to the Dyer Road Wellfield.

2. **ITEMS RECEIVED TOO LATE TO BE AGENDIZED**

Recommendation: Determine that the need to discuss and/or take immediate action on item(s) introduced come to the attention of the District subsequent to the agenda being posted.

PUBLIC HEARING

Next Resolution No. 2013-21

3. **PROPOSED CHANGES TO THE SCHEDULE OF RATES AND CHARGES
EFFECTIVE JULY 1, 2013**

1. Recommendation: Open the hearing.
2. Inquire of the Secretary how the hearing was noticed.
3. Receive and file the affidavit of mailing.
4. Request legal counsel to describe the nature of the proceedings.
5. Request the Director of Finance to report on protests received.
6. Hear any person who wish to speak regarding the proposed changes to the rates and charges.
7. Inquire of the Board if they have any comments or questions.
8. Close the hearing.
9. Adopt a resolution by title.

Reso No. 2013-

PRESENTATIONS

4. ORANGE COUNTY TRANSPORTATION AUTHORITY BLUE DIAMOND RIDESHARE AWARD
- A representative from OCTA will be presenting to the District its Blue Diamond Rideshare Award.
5. 2013 DISTINGUISHED SERVICE AWARD FROM SOUTHWEST MEMBRANE OPERATORS ASSOCIATION
- Mr. Eric Owens, President of the Southwest Membrane Operators Association, will present the 2013 Distinguished Service awards to the District and Mr. Carl Spangenberg.

CONSENT CALENDAR

Items 6-18

6. MINUTES OF REGULAR BOARD MEETING
- Recommendation: That the minutes of the June 10, 2013 Regular Board Meeting be approved as presented.
7. RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS
- Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Mary Aileen Matheis, Doug Reinhart, John Withers and Peer Swan.
8. MAY 2013 TREASURY REPORTS
- Recommendation: That the Board receive and file the Treasurer's Investment Summary Report and the monthly Interest Rate Swap Summary for May 2013; approve the may 2013 summary of payroll ach payments in the total amount of \$2,121,252 and approve the May 2013 Accounts Payable disbursement summary of Warrants 338887 through 339700, workers' compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$13,040,749.
9. STRATEGIC MEASURES DASHBOARD
- Recommendation: That the Board receive and file the Strategic Measures Dashboard and information items.
10. QUITCLAIM OF REAL PROPERTY GRAYBEARD TOO, LLC SEWER PIPELINE EASEMENT PER TR. 15105 NEWPORT COAST
- Recommendation: That the Board adopt a Resolution by title approving execution of a Quitclaim Deed to Graybeard Too, LLC.

CONSENT CALENDAR - Continued	Next Resolution No. 2013-21	Items 6-18
11.	<u>INITIAL DISINFECTION FACILITY CHLORINE INJECTION LINE REPLACEMENT EXPENDITURE AUTHORIZATION</u>	
	Recommendation: That the Board approve an Expenditure Authorization in the amount of \$152,300 for the Initial Disinfection Facility Chlorine Injection Line Replacement, project 11669 (4285).	
12.	<u>PLANNING AREA 51 HERITAGE FIELDS EXPENDITURE AUTHORIZATION ALLOCATION ADJUSTMENTS</u>	
	Recommendation: That the Board approve Expenditure Authorizations for projects 11660 (3977), 21660 (3980), and 31660 (3983) to update the allocation to Improvement Districts 112/212.	
13.	<u>SANTIAGO CREEK DAM OUTLET TOWER SEISMIC EVALUATION BUDGET INCREASE, EXPENDITURE AUTHORIZATION, AND CONSULTANT SELECTION</u>	
	Recommendation: That the Board authorize a budget increase in the amount of \$17,600, from \$133,100 to \$150,700, for project 30331 (1813); approve an Expenditure Authorization in the amount of \$90,700; and authorize the General Manager to execute a Professional Services Agreement with URS Corporation in the amount of \$59,000 for Phase 1 of the Santiago Creek Dam Outlet Tower Seismic Evaluation, project 30331 (1813).	
14.	<u>FISCAL YEAR 2013-14 EXPENDITURE AUTHORIZATIONS</u>	
	Recommendation: That the Board approve Expenditure Authorizations for FY 2013-14 in the amount of \$99,000 for Engineering Planning Study Reserve (water), project 11055 (1780); \$85,800 for Engineering Planning Study Reserve (sewer), project 21055 (1350); \$88,000 for Engineering Planning Study Reserve (recycled), project 31055 (1575); \$1,877,000 for OCSD CORF, project 20114 (1543); \$1,264,000 for OCSD Solids Handling, project 20811 (1400); \$165,000 for raise manholes to grade 13/14, project 20946 (4572); \$84,700 for Health Department fees, project 30400 (4463); \$145,800 for Recycled Conversions Off-site, project 30399 (4464); \$250,000 for Recycled Conversions On-site, project 30398 (4465).	

CONSENT CALENDAR - Continued	Next Resolution No. 2013-21	Items 6-18
15.	<u>WASTEWATER OPERATIONS FISCAL YEAR 2013-14 EXPENDITURE AUTHORIZATIONS</u>	
	<p>Recommendation: That the Board approve expenditure authorizations for project 11677 (4421) for \$400,000; project 21144 (4431) for \$350,000; project 30395 (4424) for \$350,000; project 20958 (4574) for \$275,000; project 20913 (4437) for \$264,000; project 21009 (4419) for \$210,000 and project 21052 (4573) for \$44,000.</p>	
16.	<u>WATER OPERATIONS FISCAL YEAR 2013-14 EXPENDITURE AUTHORIZATIONS – SHEILDS</u>	
	<p>Recommendation: That the Board authorize the addition of Project 10391 (1214) for \$424,900 to the Fiscal Year 2013-14 Capital Budget and approve expenditure authorizations for; Project 11579 (1282) for \$294,100; Project 11584 (1295) for \$650,100; Project 31584 (1333) for \$206,800; Project 21584 (1491) for \$200,200; Project 11583 (1300) for \$203,500; Project 11581 (1292) for \$170,500; Project 31581 (1415) for \$170,500; Project 11580 (1277) for \$91,700, Project 30364 (1011) for \$120,500 and Project 11582 (1285) for \$135,300.</p>	
17.	<u>MICHELSON WATER RECYCLING PLANT PHASE 2 EXPANSION AND FLOOD PROTECTION IMPROVEMENTS VARIANCES</u>	
	<p>Recommendation: That the Board authorize the General Manager to execute Variance No. 3 in the amount of \$115,600 with EI&C Engineering, Inc. for engineering support services related to start-up activities for the MWRP Phase 2 expansion, projects 20214 (1599) and 30214 (1706), and authorize the General Manager to execute Variance No. 4 in the amount of \$22,800 with Borchard Surveying and Mapping for supplemental survey services for the MWRP Phase 2 and Flood Protection Improvements, projects 20214 (1599), 20542 (1150), 30214 (1706), and 30542 (1118).</p>	
18.	<u>AGREEMENT FOR RELOCATION OF THE MICHELSON PARK PLACE SEWER LIFT STATION</u>	
	<p>Recommendation: That the Board authorize the General Manager to execute the agreement for relocation of the Michelson Park Place Sewer Lift Station and the subsequent dismantling and quitclaiming of the existing site and pipeline easements to LBA IV-PPI, LLC, subject to non-substantial changes and at LBA's sole cost and expense.</p>	

ACTION CALENDAR

19. VAULT AND VAULT LID REPLACEMENT CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase in the amount of \$188,100, from \$297,600 to \$485,700, for project 11358 (1800); approve an Expenditure Authorization in the amount of \$331,100 for project 11358 (1800); and authorize the General Manager to execute a construction contract with Paulus Engineering, Inc. in the amount of \$211,575 for the Vault and Vault Lid Replacement, project 11358 (1800).

20. ORANGE PARK ACRES RESERVOIR DEMOLITION CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase of \$112,200, from \$275,000 to \$387,200 for project 11416 (1337); approve an Expenditure Authorization in the amount of \$387,200 for project 11416 (1337); and authorize the General Manager to execute a construction contract with Schuler Engineering, Inc. in the amount of \$255,121 for the Orange Park Acres Reservoir Demolition, project 11416 (1337).

21. NON-POTABLE WATER SYSTEM HYDRAULIC MODEL CONSULTANT SELECTION

Recommendation: That the Board approve an expenditure authorization in the amount of \$467,500 for Project 31384 (1106), and authorize the General Manager to execute a professional services agreement with AKM Consulting Engineers in the amount of \$299,640 for development of the non-potable water system hydraulic model.

22. IRWD 2013 SEWER SYSTEM MANAGEMENT PLAN

Recommendation: That the Board authorize the General Manager to receive and file the 2008-2011 Sewer System Management Plan audit report and certify the IRWD 2013 Sewer System Management Plan.

23. SETTING CONNECTION FEES AND PROPERTY TAX RATES FOR FISCAL YEAR 2013-14

Recommendation: That the Board adopt resolutions changing connection fees and establishing Ad Valorem Tax revenues for FY 2013-14.

Reso No. 2013-
Reso No. 2013-

24. RETIREMENT BENEFIT FUNDING TRUST AGREEMENT FUNDING APPROVAL

Recommendation: That the Board adopt a resolution approving Declaration of Trust for the IRWD post-employment benefits trust; and authorize the funding of the IRWD post-employment benefits trust for an amount up to \$35 million.

Reso No. 2013-

ACTION CALENDAR

25. LETTER OF CREDIT EXTENSIONS AND REMARKETING REALLOCATION

Recommendation: That the Board adopt a resolution authorizing certain actions in connection with extensions of Letters of Credit, conversion of interest rate mode and substitution of remarketing agents (Consolidated Series 1995, Consolidated Refunding Series 2008A, Consolidated Series 2009A and Consolidated Series 2009B).

Reso No. 2013-

OTHER BUSINESS

Pursuant to Government Code Section 54954.2, members of the Board of Directors or staff may ask questions for clarification, make brief announcements, make brief reports on his/her own activities. The Board or a Board member may provide a reference to staff or other resources for factual information, request staff to report back at a subsequent meeting concerning any matter, or direct staff to place a matter of business on a future agenda. Such matters may be brought up under the General Manager's Report or Directors' Comments.

26. A. General Manager's Report

B. Directors' Comments

C. CLOSED SESSION WITH LEGAL COUNSEL RELATIVE TO: Anticipated litigation - Government Code Section 54956.9(b) - significant exposure to litigation – 1 claim filed under the Tort Claims Act, on file with the District.

D. Adjournment

President Reinhart to adjourn meeting to Friday, June 28, 2013 at 11:00 a.m. in the Multi-Purpose Room to hold a Strategic Planning Workshop.

* * * * *

Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Irvine Ranch Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Board Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance to the Board of Directors Room of the District Office. The Irvine Ranch Water District Board Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

June 24, 2013

Prepared by: Christopher Smithson/Tina
Bertsch *TS*

Submitted by: Cheryl Clary *CC*

Approved by: Paul Cook *PC*

PUBLIC HEARING

PROPOSED CHANGES TO THE SCHEDULE OF RATES AND CHARGES EFFECTIVE JULY 1, 2013

SUMMARY:

The Fiscal Year (FY) 2013-14 Operating Budget was adopted by the Board at the public workshop held on April 22, 2013. The proposed changes to the rates and charges were publicly noticed by mail as required under Proposition 218 and protests to the implementation of those rates and charges have been tallied by the District. As of June 18, 2013, 8 protests were received by the District, which represents 0.01% of the total customers, substantially less than the 50% which would have been required to prevent the Board from adopting the current proposed rates and charges. Protests may be received up until the commencement of the public hearing; staff will provide an updated report as part of the hearing process.

In addition to monthly operating rates, in a separate Board item on June 24, 2013, staff recommends the adoption of connection fees and property taxes as part of the new schedule of rates and charges proposed to be adopted.

Pursuant to the requirements of Proposition 218, a Public Hearing on the rates and charges is required. Following the Public Hearing, staff recommends that the Board adopt the proposed changes to the Schedule of Rates and Charges required to fund operating expenses.

OUTLINE OF PROCEEDINGS

President: Declare this to be the time and place for a hearing on the proposed changes to the rates and charges. Ask the Secretary how the hearing was noticed.

Secretary: The hearing was noticed by mail. Present affidavit of mailing.

Board: RECOMMENDED MOTION: "RECEIVE AND FILE THE AFFIDAVIT OF MAILING BY AN INDEPENDENT PROCESSING FIRM AS PRESENTED BY THE SECRETARY."

President: Request Legal Counsel to describe the nature of the proceedings.

Legal
Counsel: Describe the proceedings.

President: Request a staff report from the Executive Director of Finance on the proposed rates and charges and inquire whether there have been any written communications.

Exec. Director
of Finance: Provide staff report and respond regarding the number of protests received to the implementation of the rates and charges.

President: Inquire whether there is anyone present who wishes to address the Board regarding the proposed changes to the rates and charges.

President:
(continued) Inquire whether there are any comments or questions from members of the Board of Directors. State that the hearing will be closed.

Board: RECOMMENDED MOTION: THAT THE HEARING BE CLOSED AND THAT THE FOLLOWING RESOLUTION BE ADOPTED BY TITLE:

RESOLUTION NO. 2013 -

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
RESCINDING RESOLUTION NO. 2012- AND ADOPTING
CHANGES TO THE SCHEDULE OF RATES AND CHARGES AS
SET FORTH IN EXHIBIT "B" TO THE RULES AND
REGULATIONS OF IRVINE RANCH WATER DISTRICT
FOR WATER, SEWER AND RECLAIMED WATER SERVICE

BACKGROUND:

Proposed Rates and Charges for FY 2013-14:

Staff has reviewed costs and revenues for the treated water system, the untreated water system and the sewer system (which includes reclaimed water system). As a result of this review, changes to the water and wastewater rates for the Irvine Ranch rate area, Orange Park Acres (OPA) rate area and the Los Alisos rate area recommended for FY 2013-14 include:

Irvine Ranch Rate Area

Treated Water System:

- No change to the low volume rate in the Irvine Ranch rate area, keeping the current rate of \$0.91/ccf.
- An increase to the base commodity rate of \$0.03/ccf, from \$1.24/ccf to \$1.27/ccf.
- An increase of \$0.55 to the current monthly service charge, from \$9.30 to \$9.85, which includes monthly user rate contributions of \$0.80/month for water capital infrastructure replacements and \$0.70/month for water capital infrastructure enhancements.

Sewer & Recycled Water System:

- An increase to the current monthly service charge of \$1.20, from \$17.20 to \$18.40, which includes monthly user rate contributions of \$6.05/month for sewer/recycled water capital infrastructure replacements and \$0.70/month for sewer and recycled water capital infrastructure enhancements.

OPA Rate Area (ID 156)

Treated Water System:

The OPA rate area has tiered rates that are not allocation-based conservation rates, but escalate based on set levels of water used per month. Changes in the rates for the OPA rate area are indexed to the changes in the Irvine rate area by agreement until such time as the acquisition balance is paid in full:

- An increase to the base commodity rate of \$0.03/ccf, from \$1.76 to \$1.79/ccf.
- An increase of \$0.55 to the current monthly service charge, from \$17.80 to \$18.35.

Los Alisos Rate Area (ID 135/235)

Treated Water System:

The rate adjustments for the Los Alisos rate area treated system include a factor aligning Los Alisos meter rates with the Irvine Ranch meter rates.

- An increase to the base commodity rate of \$0.10/ccf, from \$2.14/ccf to \$2.24/ccf.
- An increase of \$0.25 to the current monthly service charge, from \$9.60 to \$9.85, which includes a monthly user rate contributions of \$0.80/month for water capital infrastructure replacements and \$0.70/month for water capital infrastructure enhancements.
- An increase of up to 19.5% to the monthly service charge for all meters greater than 1” in diameter.

Sewer & Recycled Water System:

- An increase to the current monthly service charge of \$1.20, from \$17.20 to \$18.40, which includes monthly user rate contributions of \$6.05/month for sewer/recycled water capital infrastructure replacements and \$0.70/month for sewer and recycled water capital infrastructure enhancements.

The proposed treated tiered rates for both rate areas follow:

Tiers	Irvine Ranch	Los Alisos
Low Volume	\$0.91	\$1.54
Base Rate	\$1.27	\$2.24
Inefficient	\$2.86	\$3.20
Excessive	\$4.80	\$4.80
Wasteful	\$9.84	\$9.84

A proposed redline version of the schedule of rates and charges is provided as Exhibit “B”, and contains all of the proposed rates for all three rate areas.

User/Replacement and Enhancement Capital Component:

Replacement and enhancement rate components were increased for both water and sewer as noted above. The added components are estimated to generate an additional \$266,000 and \$3,185,000 for the treated water and sewer systems, respectively. Combined with the existing replacement and enhancement rate components, the total capital components area are estimated to generate \$3.8 million and \$14.4 million on the treated water and sewer systems, respectively.

Comparison to City of Orange Rates:

On August 28, 2006, IRWD and the City of Orange executed an agreement by which IRWD would provide services to the area known as the “Santiago Hills II / East Orange Area”. One of the conditions stipulated in this agreement was that the cumulative fixed and commodity charges for water service to an IRWD customer using the median amount of water would not exceed the same charges incurred by a customer in the City of Orange using the median amount of water in the City. Based on the rates as proposed for FY 2013-14, a customer in IRWD using the median amount of water (11 ccf per month) will pay an average of \$20.94 per month for the water service fixed and commodity charges. Based on the most current water rates in the City of Orange, a customer using the median amount of water (18 ccf per month) will pay an average of \$38.36 per month for the water service fixed and commodity charges or 83% more than a comparable ratepayer in IRWD.

Proposition 218 Notice:

Proposition 218, enacted in 1996, mandates that proposed increases in “property-related fees” must be noticed to property owners, and that such owners have an opportunity to protest prior to the enactment of the fee increases. While water districts and sewer agencies throughout the state believed, based on court decisions, that water and sewer service was exempt from this requirement, in July 2006, the California Supreme Court issued a decision in the matter of Bighorn, which held that water delivery charges are property-related. Following the Supreme Court’s logic, most interpretations of the decision are that both water and sewer charges should be noticed in order to be in compliance with Proposition 218.

Under Proposition 218, the notice to customers must be sent to all property owners. As permitted by statute, the District sent its notices to all of its customers (including tenants) in the District’s service area at their billing addresses.

The District received all protests from property owners in the District at a separate post office box from the rest of the District’s mail. As of June 18, 2013, 8 protests have been received, representing 0.01% of the 87,114 notices sent, 0.57% were retained as undeliverable. Under Proposition 218, more than 50% of the IRWD customers would have had to protest in order to prevent the Board from adopting the Proposed Rates and Charges.

Copies of all 8 protest letters received to date are attached as Exhibit “C”.

ENVIRONMENTAL COMPLIANCE:

The establishment, modification, structuring, restructuring or approval of rates, tolls, fares, or other charges by public agencies are exempt from the requirements of the California Environmental Quality Act (CEQA) provided that certain findings are made specifying the basis for the claim of exemption. The necessary findings are contained in the proposed resolution.

FISCAL IMPACTS:

The District's FY 2013-14 Consolidated Operating Budget totals \$117.1 million, representing a \$6.0 million or 5.4% increase from the Fiscal Year 2012-13 Operating Budget. The proposed adjustments to the District's Schedule of Rates and Charges will generate approximately \$2,450,000 of additional revenue for the treated water system and approximately \$2,550,000 of additional revenue in the sewer system.

Included in the additional revenue is \$133,000 for water system enhancement projects and \$110,000 for sewer system enhancement projects. Also included is additional revenue generated to provide funding for water system replacement projects in the amount of \$133,000 and sewer system replacement projects in the amount of \$3,075,000.

COMMITTEE STATUS:

The proposed changes to the Schedule of Rates and Charges were reviewed by the:

- Finance and Personnel Committee on March 8, 2013, March 20, 2013 and April 2, 2013.
- Board of Directors Workshop on April 8, 2013 and April 22, 2013.

LIST OF EXHIBITS:

Exhibit "A" – Resolution to Adopt Schedule of Rates and Charges
Exhibit "B" – Proposed changes to the Schedule of Rates and Charges
Exhibit "C" – Protest Letters received as of June 18, 2013

Exhibit "A"

RESOLUTION NO. 2013 -

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA ADOPTING CHANGES TO THE SCHEDULE OF RATES AND CHARGES AS SET FORTH IN EXHIBIT "B" TO THE RULES AND REGULATIONS OF IRVINE RANCH WATER DISTRICT FOR WATER, SEWER AND RECLAIMED WATER SERVICE

WHEREAS, the Irvine Ranch Water District (IRWD) is a California Water District organized and existing under the California Water District Law, and all of the lands within the boundaries of said District are located in the County of Orange, State of California; and

WHEREAS, Sections 35423, 35470 and Section 35501 of the California Water Code empower the District to establish, print and distribute equitable rules and regulations and prescribe and collect rates or other charges for water and sewer service; and

WHEREAS, the Board of Directors of IRWD, by adoption of Resolution No. 2009-4 approved and adopted amended "Rules and Regulations of Irvine Ranch Water District for Water, Sewer, Recycled Water, and Natural Treatment System Service," effective February 9, 2009"; and

WHEREAS, Exhibit "B" of said Rules and Regulations sets forth Rates and Charges, which Exhibit "B" may be changed from time to time by adoption of changes to any of the rates and charges or any new rates and charges as may be established and set forth therein; and

WHEREAS, Section 21080(b) (8) of the Public Resources Code provides that the establishment, modification, structuring, restructuring or approval of rates, tolls, fares, or other charges by public agencies are exempt from the requirements of the California Environmental Quality Act (CEQA) provided that certain findings are made specifying the basis for the claim of exemption; and

WHEREAS, Article XIII B of the Constitution of the State of California, limiting local agencies' appropriations of proceeds of taxes, excludes user charges or fees or regulatory fees from the definition of proceeds of taxes, as long as such fees and charges do not produce revenue exceeding the costs reasonably borne in providing the regulation, product or service, and further excludes appropriations for debt service and appropriations for qualified capital outlay projects from appropriations subject to limitation; and

WHEREAS, the Board of Directors of IRWD deems it advisable and finds that it would be in the best interest of the District to amend or establish certain rates and charges, consistent with applicable constitutional and statutory requirements; and

WHEREAS, Article XIII D of the Constitution of the State of California provides that, in imposing or increasing any property-related fee or charge (which term was held by the

California Supreme Court in July, 2006, in the case *Bighorn-Desert View Water Agency v. Virjil*, to include charges for water delivery), an agency shall provide written notice by mail of the proposed fee or charge to the record owner of each identified parcel upon which the fee or charge is proposed for imposition, the amount, basis of calculating, and reason for such proposed fee or charge, and the date, time and location of a public hearing on the proposed fee or charge to be conducted not less than 45 days after the mailing of said notice, and Government Code Section 53755 provides for such notice to be given by mailing to the address where billing statements are customarily sent by the District;

WHEREAS, said mailed notice was given, setting Monday, June 24, 2013, at the hour of 5:00 p.m. of said day in the Board of Directors Room of Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California, as the time and place for a public hearing on the proposed increases in property-related rates and charges and any proposed new property-related rates and charges set forth in Exhibit "A" to this resolution; and

WHEREAS, at the time set, the duly noticed public hearing was held and all persons interested were given an opportunity to be heard concerning the increases in property-related rates and charges and any proposed new property-related rates and charges;

WHEREAS, this Board of Directors has considered all protests presented to the District by owners of identified parcels against the proposed increases in property-related rates and charges and any proposed new property-related rates and charges;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of IRWD as follows:

Section 1. It is hereby found and determined that the number of written protests presented to the District against the proposed increases in property-related rates and charges and any proposed new property-related rates and charges has been tabulated and does not constitute a majority of the number of owners of identified parcels.

Section 2. It is hereby found and determined that the proposed changes to the Schedule of Rates and Charges are within the purposes set forth in Section 21080(b) of the Public Resources Code including but not by way of limitation, the purposes of (1) meeting operating expenses, (2) purchasing or leasing supplies, equipment or materials, (3) meeting financial reserve needs and requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing areas, and therefore, that such changes are exempt from CEQA.

Section 3. It is hereby found and determined that the rates and charges of IRWD are imposed on the basis of demand as determined by measurements including water metering and meter size, equivalent dwelling unit sewage loads or sewage volume and strength characteristics, dwelling units, acreage or other demand-generation characteristics of properties requesting connection, and cost of service restoration, inspection and other services provided for all fees; that such rates, charges and fees are imposed upon the request for or use of services; and that the water user charges satisfy the criteria and requirements of Water Code Sections 370 *et seq.* relating to allocation-based conservation water pricing.

Section 4. It is hereby found and determined that relative to Article XIII B of the Constitution of the State of California, the user charges and fees and regulatory fees established or increased hereby do not produce revenues exceeding the costs reasonably borne in providing the regulation, product or service and/or are used for debt service or qualified capital outlay projects and accordingly do not constitute proceeds of taxes, the appropriation of which is limited under Article XIII B, and that the documentation used in making such determinations has been on file in the office of IRWD for not less than 15 days prior to the date hereof, pursuant to Section 7910 of the Government Code of the State of California.

Section 5. The new and/or revised rate(s), fee(s) and/or charge(s) as set forth in Exhibit "A" attached to this resolution and by this reference incorporated herein are hereby adopted, and the corresponding rate(s), fee(s) or charge(s), if any, as set forth in Exhibit B currently in effect, are hereby superseded. Staff is directed to incorporate the hereby adopted new and/or revised rate(s), fee(s) and/or charge(s) into Exhibit "B" to the Rules and Regulations.

Section 6. That the provisions of this Resolution shall be effective upon adoption.

Section 7. That the Secretary is hereby ordered and directed to post a certified copy of this Resolution in a public place within the Irvine Ranch Water District.

ADOPTED, SIGNED and APPROVED this 24th day of June, 2013.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel - IRWD

By: _____

Water System Charges

Monthly Water Service Charge

Monthly Service Charge for residential, master metered apartments/condos, commercial/industrial, public authority, non-agricultural and recycled:

Meter Size	Flow in Gallons	Chart (a)	Chart (b)	Chart (c)	Chart (d)	Chart (e)
User Description						
Irvine Ranch Rate Area						
Residential detached, attached and apartments					See chart (a)	
Residential apartments and condominiums (master metered)					See chart (b)	
Commercial, Industrial, Public Authority and Landscape					See chart (b)	
Landscape recycled user					See chart (b)	
Temporary water service connections					See chart (c)	
Former Los Alisos Rate Area						
Residential and Non-Residential customers					See chart (d)	
Orange Park Acres						
Residential and Non-Residential customers					See chart (e)	
5/8" or 3/4" Disc	0-22	\$9.85 \$9.30	\$9.85 \$9.30	\$78.00 \$73.65	\$9.85 \$9.60	\$18.35 \$17.80
5/8" Disc	0-22					
3/4" Disc	0-22					
1" Disc	23-37	\$9.85 \$9.30	\$19.45 \$18.35	\$87.20 \$82.35	\$19.45 \$18.20	\$18.35 \$17.80
1 1/2" Disc	38-75	\$23.20 \$21.90	\$53.85 \$50.85	\$121.90 \$116.10	\$53.85 \$50.85	\$18.35 \$17.80
2" Disc	76-120	\$31.75 \$30.00	\$88.65 \$83.70	\$156.70 \$147.95	\$84.90 \$71.05	\$18.35 \$17.80
3" Compound	161-280		\$211.35 \$199.55	\$279.40 \$263.85	\$197.00 \$164.85	\$18.35 \$17.80
4" Compound	361-450		\$342.20 \$323.10	\$464.15 \$438.30	\$304.45 \$254.75	\$18.35 \$17.80
6" Compound	451-750		\$549.40 \$518.70	\$617.10 \$582.70	\$549.40 \$503.45	
8" Compound	1001-1450		\$1,226.65 \$1,158.15	\$1,118.30 \$1,056.00	\$958.10 \$801.75	
10" Compound	1451-1600		\$1,361.30 \$1,285.30	\$1,428.90 \$1,349.30	\$1,361.30 \$1,150.35	
14" Compound	2001-3500		\$2,099.70 \$1,982.45	\$2,091.35 \$1,974.85	\$2,099.70 \$1,982.45	
2" Turbo	120-160		\$118.85 \$112.20	\$186.80 \$176.40	\$118.85 \$105.10	
3" Turbo	281-360		\$272.95 \$257.70	\$340.65 \$321.65	\$272.95 \$229.70	
4" Turbo	751-1000		\$811.15 \$765.85	\$878.65 \$829.70	\$750.40 \$627.95	
6" Turbo	1601-2000		\$1,435.70 \$1,365.55	\$1,503.30 \$1,419.55	\$1,435.70 \$1,249.95	
8" Turbo	2001-3500		\$2,099.70 \$1,982.45	\$2,167.05 \$2,046.30	\$2,090.60 \$1,749.45	
10" Turbine	3500-5500		\$3,268.35 \$3,085.95	\$3,369.00 \$3,181.30		
2" Magnetic Meter	161-280		\$211.35 \$199.55	\$279.40 \$263.85	\$197.00 \$164.85	
4" Magnetic Meter	751-1000		\$811.15 \$765.85	\$878.65 \$829.70	\$750.40 \$627.95	
6" Magnetic Meter	1601-2000		\$1,435.70 \$1,365.55	\$1,503.30 \$1,419.55	\$1,435.70 \$1,249.95	
8" Magnetic Meter	2001-3500		\$2,099.70 \$1,982.45	\$2,167.05 \$2,046.30	\$2,090.55 \$1,749.40	
6" Propeller	1001-1450		\$1,226.65 \$1,158.15			
8" Propeller	1451-1600		\$1,361.30 \$1,285.30			
10" Propeller	1601-2000		\$1,435.70 \$1,365.55			
12" or 14" Propeller	2001-3500		\$2,099.70 \$1,982.45			
16", 18", or 20" Propeller	3501-5500		\$3,301.85 \$3,117.60			
Construction Meters					\$892.25 \$746.65	\$307.70 \$298.60
3 Main Line					\$124.80 \$104.45	
4 Main Line					\$249.95 \$209.15	
6 Main Line					\$468.50 \$392.05	
8 Main Line					\$562.30 \$479.55	
10 Main Line					\$749.40 \$627.10	

Santiago rates migrating to IRWD rates

Service Charges – Private Fire Protection Service

1. Service-Line Charge

The monthly service charge for private fire line service will be \$13.60 for each inch of diameter of service connection. This charge includes water used for fire extinguishing purposes. The fee for the former Los Alisos Water District rate area will be \$9.50 per inch of diameter of pipe with a commodity charge of ~~\$2.05~~2.24 per ccf.

2. Fire Hydrant Charge

The monthly charge for private fire hydrant service shall be \$23.70 per hydrant. This charge includes water used for fire extinguishing purposes.

3. Fire Flow Testing

The District will charge a one-time fee of \$250.00 to administer fire flow tests.

4. Former Santiago County Water District Rate Area

Monthly private fire line service will be:

1 – 1 1/2" only	\$ 8.80
Larger meter(s) charge	\$ 13.60 per diameter inch

Commodity Charges: Potable Water

Irvine Ranch Rate Area

1. Commodity Charge for Residential Detached Dwelling Units

Tier	Rate/ccf	Indoor Usage in ccf	Landscape Percent of usage
Low Volume	\$ 0.91	0-4	0-40
Base Rate	<u>\$ 1.27</u> \$1.24	5-9	41-100
Inefficient	<u>\$ 2.86</u> \$2.76	10-14	101-150
Excessive	<u>\$ 4.80</u> \$4.70	15-19	151-200
Wasteful	\$ 9.84	19+	201+

2. Commodity Charge for Residential Attached Dwelling Units

(Base allocation x number of dwelling units)

Tier	Rate/ccf	Indoor Usage in ccf	Landscape Percent of usage
Low Volume	\$ 0.91	0-3	0-40
Base Rate	<u>\$ 1.27</u> \$1.24	4-7	41-100
Inefficient	<u>\$ 2.86</u> \$2.76	8-10	101-150
Excessive	<u>\$ 4.80</u> \$4.70	11-14	151-200
Wasteful	\$ 9.84	15+	201+

3. Commodity Charge for Apartments

(Base allocation x number of dwelling units)

Tier	Rate/ccf	Indoor Usage in ccf
Low Volume	\$ 0.91	0-2
Base Rate	<u>\$ 1.27</u> \$1.24	3-4
Inefficient	<u>\$ 2.86</u> \$2.76	5-7
Excessive	<u>\$ 4.80</u> \$4.70	8-9
Wasteful	\$ 9.84	10+

4. Commodity Charge for Commercial, Industrial and Public Authority and Mixed Usage

Tier	Rate/ccf	Base Index Percent of Usage
Base Rate	<u>\$ 1.27</u> \$1.24	0-100
Inefficient	<u>\$ 2.86</u> \$2.76	101-110
Excessive	<u>\$ 4.80</u> \$4.70	111-120
Wasteful	\$ 9.84	121+

Irvine Ranch Rate Area (Continued)

5. Commodity Charge for Potable Landscape Irrigation (Acre Feet per Acre Basis)

Tier	Rate/ccf	ET Index Percent of Usage
Low Volume	\$ 0.91	0-40
Base Rate	<u>\$ 1.27</u> \$1.24	41-100
Inefficient	<u>\$ 2.86</u> \$2.76	101-110
Excessive	<u>\$ 4.80</u> \$4.70	111-120
Wasteful	\$ 9.84	121+

6. Charge for Non-Conforming Uses

*Non-Conforming Use	Rate/ccf
Base Rate	<u>\$ 4.80</u> \$ 4.70

* The non-conforming use charge shall be applied, as defined in IRWD's "Rules and Regulations", in addition to the applicable commodity charge.

Los Alisos Rate Area

7. Commodity Charge for Residential Detached Dwelling Units

Tier	Rate/ccf	Allocation In ccf	Landscape Percent of usage
Low Volume	\$ 1.54	0-4	0-40
Base Rate	<u>\$ 2.24</u> \$2.14	5-9	41-100
Inefficient	<u>\$ 3.20</u> \$3.16	10-14	101-150
Excessive	<u>\$ 4.80</u> \$4.70	15-19	151-200
Wasteful	\$ 9.84	19+	201+

8. Commodity Charge for Residential Attached Dwelling Units

Tier	Rate/ccf	Allocation In ccf	Landscape Percent of usage
Low Volume	\$ 1.54	0-3	0-40
Base Rate	<u>\$ 2.24</u> \$2.14	4-7	41-100
Inefficient	<u>\$ 3.20</u> \$3.16	8-10	101-150
Excessive	<u>\$ 4.80</u> \$4.70	11-14	151-200
Wasteful	\$ 9.84	15+	201+

9. Commodity Charge for Apartments

(Base allocation x number of dwelling units)

Tier	Rate/ccf	Allocation In ccf
Low Volume	\$ 1.54	0-2
Base Rate	<u>\$ 2.24</u> \$2.14	3-4
Inefficient	<u>\$ 3.20</u> \$3.16	5-7
Excessive	<u>\$ 4.80</u> \$4.70	8-9
Wasteful	\$ 9.84	10+

Effective 10/09/12 Proposed 06/24/13

Los Alisos Rate Area (Continued)

10. Commodity Charge for Commercial, Industrial, Public Authority and Mixed Usage

Tier	Rate/ccf	Base Index Percent of Usage
Base Rate	\$ 2.24 \$2.14	0-100
Inefficient	\$ 3.20 \$3.16	101-110
Excessive	\$ 4.80 \$4.70	111-120
Wasteful	\$ 9.84	121+

11. Commodity Charge for Potable Landscape Irrigation (Acre Feet per Acre Basis)

Tier	Rate/ccf	ET Index Percent of Usage
Low Volume	\$ 1.54	0-40
Base Rate	\$ 2.24 \$2.14	41-100
Inefficient	\$ 3.20 \$3.16	101-110
Excessive	\$ 4.80 \$4.70	111-120
Wasteful	\$ 9.84	121+

12. Charge for Non-Conforming Uses

*Non-Conforming Use	Rate/ccf
Base Rate	\$ 4.80 \$4.70

* The non-conforming use charge shall be applied, as defined in IRWD's "Rules and Regulations", in addition to the applicable commodity charge.

Orange Park Rate Area

13. Commodity Charge

3/4" Meter Size	Rate/ccf	Allocation
Standard Tier I	\$ 1.79 \$1.76	0-10 ccf
Excess Tier II	\$ 2.13 \$2.10	11-40 ccf
Excess Tier III	\$ 2.68 \$2.65	41+ ccf

Commodity Charges: Potable Water System - Agricultural

Water supplied under this section shall be used only for the growing or raising, in conformity with recognized practices of husbandry, for the purposes of commerce, trade, or industry, of agricultural, or floricultural products, and produced (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, such products to be grown or raised on parcels of land having an area of not less than five acres utilized exclusively there for.

1. Commodity Charge:

Tier	Rate/ccf	Base Index Percent of Usage
Base Rate	\$ 1.54 \$1.50	0-100
Inefficient	\$ 3.46 \$3.36	101-110
Excessive	\$ 5.81 \$6.71	111-120
Wasteful	\$ 11.96	121+

2. Los Alisos Rate Area

Tier	Rate/ccf	Base Index Percent of Usage
Base Rate	\$ 2.60 \$2.48	0-100
Inefficient	\$ 4.52 \$4.29	101-110
Excessive	\$ 7.21 \$7.04	111-120
Wasteful	\$ 11.70 \$11.34	121+

Commodity Charges: Nonpotable Water System Including Agricultural

1. Commodity Charge

The commodity charge for nonpotable ILP water used for agricultural purposes (including agricultural irrigation, landscape irrigation, commercial usage, lake users and grading users of nonpotable water) shall be:

Area	Rate/ccf	Per Acre Foot
IRWD rate area	\$ 1.12	\$ 487.90

Lake fillers used for landscape irrigation purpose:

Tier	Rate/ccf	ET Index Percent of Usage
Low Volume	\$ 0.82	0-40
Base Rate	\$ 1.11	41-100
Inefficient	\$ 2.48	101-110
Excessive	\$ 4.23	111-120
Wasteful	\$ 8.85	121+

The commodity charge for recycled water used for agricultural purposes (including agricultural and landscape irrigation) shall be:

Area	Rate/ccf	Per Acre Foot
IRWD rate area	\$ 1.11	\$ 483.50

2. Santiago aqueduct Commission (SAC) Water

The commodity charge for nonpotable SAC water used for agricultural and non-agricultural (landscape irrigation, commercial and grading) purposes shall be:

Area	Rate/ccf	Per Acre Foot
Agricultural	\$ 1.57 \$ 1.50	\$ 683.90
Non-Agricultural	\$ 1.50 \$ 1.43	\$ 653.40

3. Surcharge

The District reserves the right to impose, based upon relevant factors, a surcharge to the basic commodity rate for nonpotable agricultural irrigation water.

4. Seasonal Pricing Policy

The District may from time to time, at the discretion of the General Manager, implement a seasonal pricing structure that offers available supplies of untreated water at a discounted rate. The seasonal rate will be established by the Board of Directors.

Commodity Charges: Nonpotable (Untreated) Water System- Non-Agricultural Landscape Irrigation

1. Commodity Charge

The commodity charge for nonpotable ILP water used for landscape irrigation (acre foot per acre basis) based on evapotranspiration (ET) for each microclimate:

Tier	Rate/ccf	ET Index Percent of Usage
Low Volume	\$ 0.82	0-40
Base Rate	\$ 1.11	41-100
Inefficient	\$ 2.48	101-110
Excessive	\$ 4.23	111-120
Wasteful	\$ 8.85	121+

Commodity Charges: Recycled Water System Non-Agricultural Landscape Irrigation

1. Commodity Charge

Commodity charge for nonpotable recycled water used for landscape irrigation (acre foot per acre basis) based on evapotranspiration (ET) for each microclimate:

Tier	Rate/ccf	ET Index Percent of Usage
Low Volume	\$ 0.82	0-40
Base Rate	\$ 1.11	41-100
Inefficient	\$ 2.48	101-110
Excessive	\$ 4.23	111-120
Wasteful	\$ 8.85	121+

2. Recycled Loan Customers

The commodity charge for recycled loan customers (acre foot basis):

Tier	Rate/ccf	ET Index Percent of Usage
Low Volume	\$ 0.91	0-40
Base Rate	\$ 1.27 \$ 1.24	41-100
Inefficient	\$ 2.86 \$ 2.76	101-110
Excessive	\$ 4.80 \$ 4.70	111-120
Wasteful	\$ 9.84	121+

Commodity Charges: Recycled Water System - Commercial/Industrial

1. Commodity Charge for Commercial and Industrial

Tier	Rate/ccf	Base Index Percent of Usage
Base Rate	\$ 0.76	0-100
Inefficient	\$ 1.67	101-110
Excessive	\$ 2.82	111-120
Wasteful	\$ 5.91	121+

2. Commodity Charge for Commercial and Industrial Loan Customers

Tier	Rate/ccf	Base Index Percent of Usage
Base Rate	\$ 1.27 \$1.24	0-100
Inefficient	\$ 2.86 \$2.76	101-110
Excessive	\$ 4.80 \$4.70	111-120
Wasteful	\$ 9.84	121+

Allocations and Variances

1. Base Allocations for Commodity Charges

Monthly allocation includes fixed component for indoor usage and variable component based on evapotranspiration (ET) rate for landscape irrigation.

Account Type	Base Allocation Number of Residents	Landscape Area (LA)	Base Allocation Indoor	Base Allocation Outdoor	Total Allocation
Residential Detached	4	1300 sq. ft (0.03 acres)	# Residents x 55 gpd	ET x Kc x 1.40 x LA	(Indoor + Outdoor) x # days in bill service period
Residential Attached*	3	435 sq. ft	# Residents x 55 gpd	ET x Kc x 1.40 x LA	(Indoor + Outdoor) x # days in bill service period
Apartments*	2	N/A	# Residents x 55 gpd		Indoor x # days in bill service period
Irrigation		Site specific based on irrigated acreage	N/A	ET x Kc x 1.40 x LA	Outdoor x # days in bill service period
Commercial, Industrial, Institutional			Site specific, based on productivity, employees, water use efficiency practices etc.	Site specific, based on irrigation needs	Site specific, adjusted for # days in bill service period

*For master-metered apartments and condominiums, the base allocation is multiplied by the number of dwelling units.

gpd = gallons per day

CCF = 100 cubic feet. 1 CCF = 1 billing unit = 748 gallons

ET (evapotranspiration) – from IRWD weather stations located in coastal, central or foothill zones

Kc (crop co-efficient) – relative amount of water warm-season turf needs at various times of the year

1.40 irrigation system efficiency – extra water to make up for inefficiencies in the irrigation system

LA = landscape acreage. Assumes that 100% of the landscape is warm-season turf-grass

2. Variances from Ascending Tiered Rate Allocations

Water allocations are based on the number of residents, landscape square footage and actual daily weather and evapotranspiration (ET) data for each of three microclimates within the District rate area. Variances are available for larger than normal landscaped areas, more people living in the home or special medical needs.

Procedure

See IRWD Rules and Regulations, Section 12.6

3. Grounds for Variance

Proof acceptable to the District will be required for each ground(s) of variance.

a. Number of people residing in a residential dwelling unit.

Each additional person increases the base by 1.8 ccf/month (indoor usage factor x 0.8)

b. Landscape

Increased allocations shall be given for residential lot size beyond the standard base allocation lot size. It is the obligation of the customer to provide to the District acceptable documentation of the actual landscape area served.

c. Medical Needs

- Approval is contingent upon medical documentation.
- Increased allocation will be determined on a case by case basis and based on the type of medical need.

d. Licensed Care Facilities (in a residential dwelling unit)

- A current license from appropriate regulatory agency will be required.
- A licensed 24-hour care facility will be allocated increases based on the additional people per dwelling unit formula at 1.8 ccf per month per additional person.
- A licensed day care facility (not 24-hour) will be granted one ccf per additional person, or one third of the allotment (rounded to the next highest ccf) of the licensed 24-hour care facility.
- Additional allocation for medical reasons will be determined on a case by case basis.

e. Fire Control Zones

- Increased allocations will be determined by the District based upon relevant factors such as area, slope, planting material, etc.

f. Commercial/Industrial/Public Authority

- Increases to the base allocation will be determined on a case by case basis. Relevant factors will include expansion of productive capacity, existing conservation practices that can be shown to have reduced water usage, severe economic hardship, etc.

g. New Account Establishment Variance

Landscape Accounts - will be placed on conservation base rate for the first six months.

Commercial and Industrial Accounts - will be placed on conservation base rate for the first six months.

4. Limitations

a. An approved variance will become effective on the date the request for variance is submitted to the District, but must be submitted within thirty (30) days of receipt of the bill.

b. Approvals are valid for a period specified by the District (one year or less), and must be resubmitted on or before the expiration date to remain in effect.

5. Effect of Increased Allocations

a. Residential:

Approved variances will extend each tier of the residential structure, excluding the low volume tier, by the number of increased ccf's.

b. Non-Residential:

Approved variances will extend each tier of the non-residential structure by a given percentage (or other method) determined on a case by case basis.

Pumping Surcharges

1. Potable Water Pumping Surcharges

A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs.

Zone Name	Surcharge/ccf
Zone 4	\$ 0.17
Coast Zone 4	\$ 0.16
Zone 6	\$ 0.18
Zone 6A	\$ 0.25
Coast Zone 6	\$ 0.29
Zone 7	\$ 0.42
Zone 8	\$ 0.28
Zone 9	\$ 0.32
Los Alisos Zone 3	\$ 0.18

2. Recycled Water Pumping Surcharges

A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs.

Zone Name	Surcharge/ccf
Zone D	\$ 0.16
Zone D (Quail Hill Zone B)	\$ 0.16
Zone G	\$ 0.29
Zone H	\$ 0.42

Temporary Water Service Connection

1. Monthly Service Charge

See Chart C on page 4.

2. Commodity Charge

Wherever feasible, recycled water shall be used for temporary construction uses. The Commodity Charge shall be as follows:

Potable	\$ <u>1,701.78</u> /ccf	
Recycled	\$ <u>1,531.60</u> /ccf	
Former Orange Park Acres Rate Area – Potable		\$ <u>1,821.85</u> /ccf
Former Los Alisos Rate Area		\$ <u>2,492.61</u> /ccf

3. Meter Deposit

A deposit equal to the replacement cost of the construction meter shall be collected at the time of service application. For FY ~~2012-13~~2013-14, this is estimated to be \$1,025.00. The deposit will be applied to the closing bill and any remaining amount refunded to the customer. Lost meters will result in forfeiture of deposit.

4. Materials for Repairing Damaged Construction Meters

	Cost
Eddy Valve (2")	\$ 200.00
Eddy Valve (3")	\$ 380.00
Meter, complete	\$ 1,012.00
Swivel Adapter	\$ 158.00
Register	\$ 113.00
Male Fitting	\$ 95.00
Female Attachment	\$ 158.00
Lock & Chain	\$ 30.00
Chain (per five-foot length)	\$ 11.00
Lock	\$ 15.00
Handle (main case)	\$ 323.00
Hydrant Collar	\$ 100.00
Rotor	\$ 94.00
Rotor Cap	\$ 27.00
Collar (with barrel lock)	\$ 106.00
Barrel Lock	\$ 6.00
Stores Clearing	40% of total parts billed
Labor & Overhead	\$ 120.00
Meter Body only	\$ 323.00

(1) Santiago rates migrating to IRWD rates

5. Replacement Costs for Residential Customers Who Destroy District Property

	Cost
5/8" meter	\$ 37.00 <u>41.00</u>
3/4" meter	\$ 57.00 <u>64.00</u>
1" meter	\$ 82.00 <u>93.00</u>
1 1/2" meter	\$ 171.00 <u>218.00</u>
2" meter	\$ 246.00 <u>298.00</u>

New Account Fees for Water Service

This section is applicable to all requests for new or transferred service.

1. Charges

A fee of ~~\$15.00~~\$17.00 shall be collected to establish a new account for water and sewer service, or to transfer an existing account to a new location.

2. Residential Deposit

For residential customers, a deposit of \$50.00 may be required until a one year payment history is established.

3. Non-Residential Deposit

A deposit of \$100.00 is required until a one year payment history is established.

Delinquency and Service Restoration Charges

All bills and charges for water, sewer and recycled water service shall be due and payable upon presentation and shall become delinquent twenty-five (25) days thereafter.

1. Delinquency Charges

If payment is not made within twenty-five (25) days after presentation, a late charge will be levied upon the unpaid balance as follows:

For residential and non-residential accounts with an unpaid balance of \$10 or more, a one-time charge of 10% of the unpaid balance plus 1.5% interest will be assessed, and each month thereafter the unpaid balance will be subject to an interest charge of 1.5%.

2. Restoration Charges

When service is discontinued because of delinquency in payment of a water, sewer, or recycled water bill, the service shall not be restored until all charges, including a restoration charge, have been paid.

- (a) **Restoration Charge During Normal Working Hours:** The restoration charge applicable for work requested to be performed during normal working hours of the District will be \$70.00.
- (b) **Restoration Charge After Normal Working Hours:** The restoration charge applicable for work requested to be performed after normal working hours of the District will be \$95.00.

3. Non-Sufficient Funds Checks

A \$20.00 service fee will be charged for each check returned from the bank for non-sufficient funds.

Special Contract Billing

4. Residential Domestic Water Sold to Trabuco Canyon Water District

(a) ~~Commodity Charge: The base residential commodity rate shall be \$ 1.90 per hundred cubic feet.~~

(b) ~~Pumping Surcharge: A pumping surcharge of \$0.32 per hundred cubic feet shall be added to the base residential commodity rate.~~

(c) ~~Monthly Service Charge: The monthly service charge shall be \$ 5.51 per residential customer.~~

Monthly Wastewater Service Charges

Residential	
(a) Single Family Dwelling Units	
<u>AVERAGE MONTHLY WATER USE</u>	<u>SERVICE CHARGE PER MONTH</u>
Over 1000 cubic feet (10 ccf)	• 100% rate = \$ 17.20 18.40 per unit
501-1000 cubic feet (5.01-10.0 ccf)	• 90% rate = \$ 15.50 16.55 per unit
0-500 cubic feet (0-5.0 ccf)	• 75% rate = \$ 12.00 13.80 per unit
(1) Monthly service charge based upon actual water meter readings during the twelve month period ending December 31.	
(2) To qualify for the reduced rates a customer must have usage history for a full calendar year.	
	<u>SERVICE CHARGE PER MONTH</u>
(b) Multiple Family Dwelling Units	• \$ 12.00 13.80 per unit
(1) No credit will be granted for vacancies resulting from the normal turnover of occupants in an existing multiple dwelling unit. The price structure contained herein includes considerations of average vacancy rates.	
(2) A newly constructed multiple dwelling unit may be billed at the non-residential metered rate, with appropriate allowance for landscape irrigation, until the structure is substantially occupied.	
(c) Single or Multiple Family Dwelling Units	
	<u>SERVICE CHARGE PER MONTH</u>
(1) Portola Hills	• \$ 17.20 18.40 per unit
(2) A portion of Newport Coast	• \$ 6.25 6.70 per unit
NON-RESIDENTIAL – CLASS II	
Quantity charges are based on the supposition that 90 percent (90%) of non-residential water consumption returns to the sewer. Because of landscape irrigation or consumptive usage, some non-residential users may discharge substantially less of their metered water into the wastewater system. Those users may, upon request to the District, be permitted to have the amount of water being discharged into the sewer determined by means acceptable to the District.	
(a) Shall apply to all commercial, industrial and institutional users whose consumption is equal to or less than an average of 10 ccf per month.	<u>SERVICE AND QUANTITY CHARGE PER MONTH</u>
	• Service charge - \$ 17.20 18.40
	• Quantity charge - \$ 2.00 2.11/ccf
(1) To qualify for this rate, a customer usage history based upon actual water meter readings is not greater than 120 ccf in a full calendar year.	
(b) Shall apply to all commercial, industrial and institutional users whose consumption is in excess of 10 ccf per month.	<u>SERVICE /QUANTITY/COMMODITY CHARGE PER MONTH</u>
	• Service charge - \$ 17.20 18.40+2.00 = \$19.20
	• Quantity charge - \$ 2.00 2.11/ccf = \$ 2.0952.213/ccf
	• <u>Industrial Waste Charge Commodity charge</u> - \$0.095103/ccf
(c) Portola Hills customers	<u>SERVICE AND QUANTITY CHARGE PER MONTH</u>
	• Service charge - \$ 17.20 18.40
	• Quantity charge - \$ 2.00 2.11/ccf

Non-Residential Class I Wastewater

This section shall be applicable to non-residential and Class I customers who discharge extra-strength wastewater into the wastewater system, or discharge or have the potential to discharge constituents subject to federal or state standards and local discharge limitations.

1. Discharge Limits

The limits in this table are local limits. Customers subject to federal categorical pretreatment standards may be required to meet more stringent limits.

Constituent	Concentration Limit in mg/L
Arsenic	2.00
Cadmium	1.00
Chromium	2.00
Copper	3.00
Lead	2.00
Mercury	0.03
Nickel	10.00
Silver	5.00
Zinc	10.00
Cyanide (Total)	5.00
Cyanide (Amenable)	1.00
Polychlorinated Biphenyls	0.01
Pesticides	0.01
Total Toxic Organics	0.58
Sulfide (Total)	5.00
Sulfide (Dissolved)	0.50
Oil and grease of mineral or petroleum origin	100.00

2. Appeals to the Board of Directors

Appeal fee - \$500

3. Charges and Fees

Basic Service and Quality Charge

The Class I charge for use shall be computed by the following formula:

$$\text{Charge for use} = VR_v + BR_b + SR_s$$

Where V = Total volume of flow in hundred cubic feet.

B = Total discharge of biochemical oxygen demand (BOD) in pounds.

S = Total discharge of suspended solids (SS) in pounds

Rv = \$ 1.140-220 per hundred cubic feet

Rb = \$ 0.318-340 per pound of BOD

Rs = \$ 0.277-296 per pound of SS

4. Fees for Noncompliance with Permit Conditions

a. Minor Violation

Condition where the limitation is less than the violation and the violation is less than the technical review criterion.

Fee per violation - \$350

b. Significant Noncompliance or Significant Violation

Condition where the violation is greater than the technical review criterion or qualifies under the definition of significant noncompliance.

Fee per violation - \$550

c. Batch Dump or Slug Load

Fee per violation - \$550

d. Probation Orders

Enforcement Compliance Schedule Agreements and subsequent two year probation, and Regulatory Compliance Schedule Agreements.

Fee per violation - \$550

e. ~~Fees for Restaurant Grease Trap Service Calls~~ Fats, Oils, and Grease (FOG) Control Programs Fees

~~Fee for service call within 12 month period - \$1,000~~

~~Fee for all other service calls within 12 month period - \$2,000~~

FOG Binder:

The FOG Program Binder must be available during an inspection. Failure to locate the binder during an inspection, whether misplaced or lost, will trigger the issuance of a new FOG Binder. The \$50.00 replacement cost will be billed to the Food Service Establishment (FSE) at the time of replacement.

Permitting Fees:

A FOG Wastewater Discharge Permit of two-year duration is \$200.00.

Service Call and Follow Up Inspection Fees:

The General Non-Compliance Fee for District follow-up activities due to permit, ordinance, or regulatory non-compliance is \$100.00 per event.

Significant Non-Compliance Fees:

A condition where the violation continues after 45 days of notification to the FSE, the fee is \$550.00 per violation and \$550.00 every 45 days thereafter.

Exhibit "C"

Patrick Verta

5282 E Lomita Avenue, Orange, CA 92869

RECEIVED

JUN 17 2013

**FINANCE
IRVINE RANCH WATER DISTRICT**

To IRWD :

This letter is to protest against the proposed water rate increase. Tier II and III are already above the average in the country.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Verta', written in a cursive style.

Patrick Verta

11 June 2013



CEDAR GLEN HOMEOWNERS' ASSOCIATION

25885 Trabuco Road, Lake Forest, CA 92630
Cedar Glen is a condominium community consisting
of 321 units in Lake Forest, California

RECEIVED

JUN 17 2013

FINANCE
IRVINE RANCH WATER DISTRICT

June 13, 2013

The Board of Directors
Irvine Ranch Water District

SUBJECT: Proposed Rate Increase July 2013

The Cedar Glen Board of Directors would like to protest the fee increase for water meters. Cedar Glen is a 321 unit condominium association in Lake Forest. We have 29, 2" disc meters.

No one likes increases. I believe the increases for actual water use are fair and you haven't been excessive with these increases, but water meters are another issue


We constantly have problems with components of the water meters breaking --- excessive water is lost and we have to pay for it. Yet all IRWD does is repair the meter. Perhaps replacement of some of the older ones would be appropriate.

Our Association is on a tight budget and a \$4,819 increase in one area is a lot for us to accommodate. You have nearly doubled the fee for the meters in the last four years.

Water Service Charge (fixed rate for meter)

Year of Rate change	New Rate	Amount of Increase	Impact on Budget
7/2013	\$84.90	\$13.85/meter	\$401.60/mo \$4,819/year
7/2012	\$71.05	\$11.60.meter	\$336/mo \$4,032/year
7/2011	\$59.45		
7/2010	\$59.45	\$10.00/meter	\$290/mo \$3,480.yr
8/2009	\$49.45		

Sincerely,


Sharon D. Brimer, Secretary
Board of Directors
Cedar Glen Homeowners' Association

This letter was approved for distribution at its June 11, 2013 Board meeting.

PRESIDENT
Ron Lerman
VICE-PRESIDENT
Carol Fleischer
SECRETARY
Sharon D. Brimer
TREASURER
Julie Peterson
Mindiola

OUR MISSION

- Maintain and further develop Cedar Glen as a desirable and enjoyable residence for individuals and families of all ages.
- Create a safe environment through adherence to our by-laws, CC&R's and rules and regulations that will provide a quality community for our residents.
- Foster open communication among residents, committees, and the Board of Directors.

Property Management Firm
Seabreeze Management Company, Inc.
Contact: Megan Hewitt, Property Manager
39 Argonaut, Suite 100, Aliso Viejo, CA 92656
Phone 949-855-1800

POWERSTONE

PROPERTY MANAGEMENT

June 10, 2013

Irvine Ranch Water District
P.O. Box 5149
Irvine, CA 92616

RECEIVED

JUN 12 2013

Re: Orange Tree Patio Homes Association
Increase in Fees

FINANCE
IRVINE RANCH WATER DISTRICT

To Whom It May Concern:


The Board of Directors for the Orange Tree Patio Homes Association has requested that I contact you regarding the following matter.

The Board of Directors has recently been advised of the potential rate increase proposed by Irvine Ranch Water District. The Board of Directors of the Association through its members is protesting the increase on the water rates and these rates will drive up the fees charged to the Association Members. We thank you for your time and consideration as we do not want to pass on another fee increase to the Association members on top of the increase that would be assessed to them by IRWD for their water and sewer. The address that appears on our billing statement is 16470 Bake Parkway, Irvine, CA 92618.

If you have any questions regarding this matter, please feel free to contact me at 949.716.7998 ext. 35 or via email at amcginley@powerstonepm.com.

Sincerely,

AT THE DIRECTION OF THE BOARD OF DIRECTORS


Amanda McGinley, CCAM
Community Manager
Powerstone Property Management

cc: Board of Directors

C-3

16470 Bake Parkway Irvine, CA 92618

phone. 949.716.3998

fax. 949.415.2344

www.powerstonepm.com

Lynda M. Jenkins
12680 Homestead
Tustin Ranch, CA 92782
714-743-5226

May 28, 2013

Irvine Ranch Water District
P.O. Box 5149
Irvine, CA 92626

RECEIVED

JUN 03 2013

**FINANCE
IRVINE RANCH WATER DISTRICT**

To Whom It May Concern:

I am writing this this letter of protest concerning the proposed fee increases proposed by IRWD. Please tabulate this letter against the proposal, as we feel the fee hikes are becoming almost automatic. We feel there is no need to hike the fees this year, as in the past.

Thank you,


Lynda M. Jenkins



6500 E. Santiago Canyon Road
Orange, CA 92869

Phone: 714.633.2366
Fax: 714.633.6937

www.salemorange.com

CERTIFIED/RETURN RECEIPT REQUESTED

May 16, 2013

RECEIVED

MAY 22 2013

IRWD
PO Box 5149
Irvine, CA 92616

FINANCE
IRVINE RANCH WATER DISTRICT

Re: Account #72089291016 - 19952 Santiago Canyon Road, OR,
OPA

WRITTEN PROTEST

This is a written statement of protest regarding the proposed IRWD Residential Water Rates increase as well as the Usage Tier System being used.

Salem Lutheran Church is being charged Water Usage Tiers using the same CCF limit's as a residential property in the Orange Park Acres area. The subject account serves both Church and School buildings/restrooms and landscape as well as irrigation for the School recess/sports field.

It is our position that as a Church and School facility located on 6 acres with over 400 students and staff, our base Standard Tier I should more accurately reflect our non-residential use. Salem should be designated as a commercial account and should not be subject to a rate increase.

Sincerely,

A handwritten signature in cursive script that reads 'Dan Ventura'.

Dan Ventura
Executive Director of Finance

KNOW Christ

GROW in Community

LIVE with Purpose

C-5

Bringing Life to the Community, and the Community to Life.

May 10, 2013

Board of Directors
Irvine Ranch Water District
P.O.Box 5149
Irvine, CA 92616

RECEIVED

MAY 20 2013

Re: Notice of Proposed Water and Sewer Rate Change

**FINANCE
IRVINE RANCH WATER DISTRICT**

Irvine Ranch Water District has been serving our community with excellence for many years. For which we commend the Staff, and the Board of Directors.

Undoubtedly, such service/the plants etc. require upgrades, maintenance, community education and other.


We have taken tours of the IRWD facilities more than once, and each time it has been a pleasant educational exposure. Thank you.

As you are well aware, there are families living in Irvine in one residence comprising more than ten people, and there are smaller families, and single seniors living in their homes. They all require the same source of water, with differing volume usage.

Seniors have limited income, and low volume usage.
In the event that that has not been looked at, it should be.

Rather than call this protest letter, it is to ask that you, as the Board, view usage differently. Seniors who generally may have lower/low income should not have to carry the burden.

Thanks for considering.

H. Aharonian 
1 Petersburg
Irvine, CA 92620

May 9, 2013

IRWD – Board of Directors
P.O. Box 5149
Irvine, CA 92616

RECEIVED

MAY 20 2013

**FINANCE
IRVINE RANCH WATER DISTRICT**

Dear Board Members,

After reading the letter received today from IRWD I'm opposed to the proposed rate increases for the following reasons.

I find it interesting that dollars are used to show increases but no mention of percent's. According to my calculations the rate increase changes for line items affected account for about a 6% increase. Tell me, how many people in Irvine do you think had a pay increase of 6% this year?

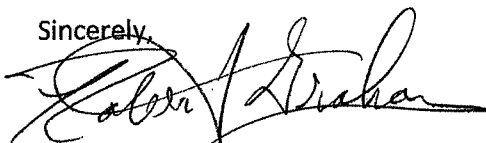
The national cost of living index is only going up ⁱ1.7% for 2013. That puts IRWD 300% higher. The ⁱⁱNational Consumer Price Index for the last twelve months increased only 1.5%, which puts IRWD at 400% higher. For the average pay increase people can hopefully expect is about ⁱⁱⁱ3%, again, Irvine is higher with this time being 200% higher than the national cost of living index. Irvine already has a reputation of being nearly 100% higher than the rest of the national ^{iv}cost of living average.

Foreclosures, unemployment, empty units in strip malls all contribute to Irvine's reputation as a good place to live but with its residents struggling. Yes we are a great city with crime rates and many other things to be proud of. Property taxes are only allowed to increase by 2% and yet we are able to maintain a city to be proud of. Why then should IRWD demand and get a 6% increase.

I find it interesting in the IRWD letter that a footnote states, *"*The proposed rates will become effective..."*, rather than "could" or "if approved", as if to say the IRWD is fully expecting a rubber stamp approval of their request from the board. I have been on over a half dozen corporate boards and learned that when staff starts requesting more money with full expectations of getting exactly what they request, the corporation and the board ultimately lose their reputation as fair and honest guardians of the public's trust.

I urge the board to consider a much more reasonable increase and not just rubber stamp this unreasonable request from IRWD staff in these difficult economic times for its residents.

Sincerely,



Robert Graham

8 Admiral

Irvine, CA 92604

RECEIVED

MAY 20 2013

May 16, 2013

Irvine Ranch Water District
P.O. Box 5149
Irvine, CA 92616

FINANCE
IRVINE RANCH WATER DISTRICT

RE: Protest Letter to the latest IRWD Water AND Sewer fee increase

Why are you still wasting money publishing and mailing full-color "*pipelines*" when your latest notice to raise rate AGAIN states you need to bill us MORE to shore up reserves?

The timing of your 2013 proposed rate increase rivals the atrocious timing of your 2009 rate increase. In February 2009, all Californians were subjected to:

- double car registration fees,
- increased state income taxes, and
- an additional penny per dollar sales taxes

Just when informed voters defeated the 5-19-2009 propositions to extend these usury fees for 2 additional years, the IRWD raised our fees again.

I objected to the 2009 IRWD rate increases and I heartily object to this 2013 surcharge. Your existing investments are cash cows, your reserves are plentiful and your 82-acre Serrano Summit real estate in Lake Forest promises to reap **millions** of the dollars for IRWD.

Do you have no concern for cash-strapped households? Many IRWD families have lost full-time jobs or are on disability. Many of my rental neighbors are in dire straits. We have cut back to the bone to pay college tuition while our health insurance premiums have soared to \$1,434 per month.

There are other ways to save money. I'd suggest

- Eliminating the monthly "*pipelines*" publication
- Utilization of bi-monthly or quarterly or semi-annual billing
- Not mailing "bills" with envelopes to customers that have a credit

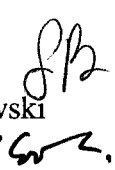
Live within your means and cut unnecessary costs instead of demanding MORE, MORE, MORE.

The Dormans
19 Orange Blossom
Irvine, CA 92618

June 24, 2013

Prepared and

Submitted by: L. Bonkowski

Approved by: P. Cook 

CONSENT CALENDAR

MINUTES OF BOARD MEETING

SUMMARY:

Provided are the minutes of the June 10, 2013 Regular Board meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE JUNE 10, 2013 REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – Minutes – June 10, 2013

EXHIBIT "A"

MINUTES OF REGULAR MEETING – June 10, 2013

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:00 p.m. by Vice President LaMar on June 10, 2013 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: Withers, Matheis, Swan, and LaMar

Directors Absent: Reinhart

Also Present: General Manager Cook, Executive Director of Finance Clary, Executive Director of Engineering Burton, Executive Director of Operations Sheilds, Director of Public Affairs Beeman, Executive Director of Water Policy Heiertz, Director of Risk Management and Treasury Jacobson, Director of Water Resources Weghorst, Assistant Director of Conservation Sanchez, Legal Counsel Arneson, Secretary Bonkowski, Mr. Mike Hoolihan, Mr. Wayne Clark, Mr. Joe Costantino, Ms. Gretchen Maswadeh, Mr. Eric Akiyoshi, Mr. Ian Swift, Ms. Shannon Reed, Ms. Kelly Welch, Ms. Cheryl Kelly, Ms. Christine Compton, Mr. Jim Reed, Mr. Bruce Newell, and other members of the public and staff.

WRITTEN COMMUNICATION: None.

ORAL COMMUNICATION

Mrs. Joan Irvine Smith's assistant addressed the Board of Directors with respect to the Dyer Road wellfield. She said it was her understanding that currently wells C-8, C-9, 10, 11, 12, 15, 16, 17 and 18 will operate in accordance with the District's annual pumping plan. Wells 1, 2, 3, 4, 5, 6, 7, 13 and 14 will be off. This was confirmed by Mr. Cook, General Manager of the District.

With respect to the OCWD annexation of certain IRWD lands, on June 5, 2009, IRWD received a letter from OCWD noting that OCWD has completed the formal responses to comments they previously received on the draft program Environmental Impact Report. The letter further noted that with this task completed, OCWD has exercised its right to terminate the 2004 Memorandum of Understanding (MOU) regarding annexation. OCWD also indicated that due to the lack of progress on the annexation issue, the draft program Environmental Impact Report will not be completed. On June 8, 2009, OCWD completed the Long-Term Facilities Plan which was received and filed by the OCWD Board in July 2009. Staff has been coordinating with the City of Anaheim (Anaheim) and Yorba Linda Water District (YLWD) on their most recent annexation requests and has reinitiated the annexation process with OCWD. IRWD, YLWD and Anaheim have negotiated a joint MOU with OCWD to process and conduct environmental analysis of the annexation requests. The MOU was approved by the OCWD Board on July 21, 2010. This was confirmed by Mr. Cook.

With respect to the Groundwater Emergency Service Plan, IRWD has an agreement in place with various south Orange County water agencies, MWDOC and OCWD, to produce additional groundwater for use within IRWD and transfer imported water from IRWD to south Orange County in case of emergencies. IRWD has approved the operating agreement with certain south Orange County water agencies to fund the interconnection facilities needed to affect the emergency transfer of water. MWDOC and OCWD have also both approved the operating agreement. This was confirmed by Mr. Cook.

ITEMS TOO LATE TO BE AGENDIZED:

General Manager Cook reported that an item came to staff's attention after the agenda was posted in regard to the District funding Director Swan for a campaign effort of the Association of California Water Agencies (ACWA) to be elected Vice President. On MOTION by Matheis, seconded by Withers and unanimously carried, IT WAS DETERMINED THAT THERE WAS A NEED TO TAKE IMMEDIATE ACTION TO CONSIDER FUNDING A CAMPAIGN EFFORT FOR DIRECTOR SWAN FOR THE POSITION OF VICE PRESIDENT OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES FOR A TWO-YEAR TERM OF OFFICE BEGINNING IN 2014, AND THIS ITEM WAS ADDED TO THE ACTION CALENDAR AS ITEM NO. 17 (see page 6).

PRESENTATION - SCIENCE FAIR WINNERS

Ms. Cheryl Kelly presented awards to local students for their water-related projects entered in the Irvine Unified School District Science Fair.

WORKSHOP – FISCAL YEAR 2013-14 CAPITAL BUDGET

Mr. Eric Akiyoshi, using a PowerPoint presentation, said that several changes were made subsequent to the May 28, 2013 Board meeting adding an additional \$874,000 to the Fiscal Year 2013-14 Capital Budget for a revised total budget of \$110.3 million of which \$44.4 million is for domestic water expenditures and \$65.9 million for sewer expenditures. Mr. Akiyoshi said that the additional projects included Zone C strainer replacement, the sewer general system modifications, raising manholes to grade, and Chiquita General System modifications. In response to Director Swan's inquiry relative to the Chiquita General System modification project, Executive Director of Water Resources Heiertz said he would provide him with a copy of the agreement with Santa Margarita Water District for his review of capacity ownership and renewal terms. Mr. Akiyoshi said that Improvement District splits were also adjusted for both the PA 30/15 development projects and the Orange Park Acres Reservoir Demolition project. Following a review of the flagged project list, Director Swan asked that all of the well projects be flagged for further review by the Board of Directors prior to implementation of the next phase of the respective projects.

There being no further comments, on MOTION by Matheis, seconded by Swan and unanimously carried, THE FOLLOWING RESOLUTION WAS ADOPTED BY TITLE:

RESOLUTION NO. 2013 – 21

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY
CALIFORNIA, APPROVING THE DISTRICT'S CAPITAL
BUDGET FOR FISCAL YEAR 2013-14

CONSENT CALENDAR

On MOTION by Withers, seconded and unanimously carried, CONSENT CALENDAR ITEMS 5 THROUGH 11 WERE APPROVED AS FOLLOWS:

5. MINUTES OF REGULAR BOARD MEETING

Recommendation: That the minutes of the May 28, 2013 Regular Board Meeting be approved as presented.

6. RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Mary Aileen Matheis, Peer Swan, Douglas Reinhart, and John Withers.

7. NEWPORT BOULEVARD DOMESTIC WATER MAIN RELOCATION PROJECT CONTRACT CHANGE ORDER AND FINAL ACCEPTANCE

Recommendation: That the Board approve Contract Change Order No. 12 with Sully Miller Contracting Company in the credit amount of (\$262,843.40) for project 10822 (1866); accept construction of Newport Boulevard Domestic Water Main Relocation Project; authorize the General Manager to file a Notice of Completion; and authorize the release of retention 35 days after filing of the Notice of Completion.

8. ISDOC PROPOSED BYLAW AMENDMENTS

Recommendation: That the Board authorize staff to submit comments before June 21, 2013 as deemed appropriate by IRWD's Board to the Independent Special Districts of Orange County in a joint letter from south Orange County Special Districts regarding proposed amendments to its bylaws.

CONSENT CALENDAR (CONTINUED)

11. IRWD APARTMENT CONSULTANT – CONTRACT RENEWAL

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Market-THINK, LLC for a period of two years for a total fee not to exceed \$100,000 to provide advisory services related to the operation of the Sycamore Canyon and Wood Canyon Villa Apartment properties, which includes monthly out-of-pocket expenses estimated at \$50 per month.

ACTION CALENDAR

REVISED WATER BANKING, TRANSFERS AND WHEELING POLICY POSITION PAPER

Director of Water Resources Weghorst reported that the District's *Water Banking, Transfers and Wheeling* position paper was last revised and adopted by the Board on August 9, 2010 and at that time, the approved policy reflected the construction of the Strand Ranch Integrated Banking Project, acquisition of the Jackson Ranch property, development of an agreement with Metropolitan Water District of Southern California for coordinated delivery of State Water Project Supplies and the execution of two approved pilot programs involving unbalanced exchanges.

Mr. Weghorst said that staff has reviewed the current policy and proposes that the *Water Banking, Transfers and Wheeling* policy position paper be revised and updated to reflect more current relevant information about activities to date and objectives. He said that various water and regulatory agencies have indicated water exports from the Delta could be interrupted due to actual levee failures which would take up to three years to repair. He e said there is also a risk of shortages of water from the Colorado River which must be considered so staff is taking this into consideration for reframing the policy. He also said that staff would like to ramp up the target storage in the Strand Ranch facilities to 88 thousand acre-feet from the current 50 thousand acre-feet capacity. Mr. Weghorst further reviewed the chart in the revised polity position paper of existing and currently planned storage, recharge, and recovery capacity in IRWD's water banking program.

Director Swan reported that this item was reviewed by the Water Banking Committee on May 22, 2013. Following discussion, staff was asked to focus on language to increase recovery capacity for use during peak periods which can be reviewed and approved at a future Water Banking Committee meeting. On **MOTION** by Swan, seconded and unanimously carried, **THE BOARD ADOPTED THE REVISED POLICY POSITION PAPER ENTITLED *WATER BANKING, TRANSFERS AND WHEELING* SUBJECT TO AMENDING LANGUAGE ON THE TERMS RELATING TO RECOVERY CAPACITY DURING PEAK PERIODS IN THE IRWD'S WATER BANKING PROGRAM WITH STAFF SUBMITTING FINAL LANGUAGE ON THIS SECTION TO THE WATER BANKING COMMITTEE FOR REVIEW AND APPROVAL.**

AGREEMENT FOR PARTICIPATION AND FUNDING IN SPECIFIED MUNICIPAL WATER DISTRICT OF ORANGE COUNTY REBATE PROGRAMS

Tactical Incentives are one of the key elements of IRWD's Water Use Efficiency Program which are cost-effective financial incentives provided to supplement existing regional rebate programs administered by either Metropolitan Water District of Southern California (MWD) and/or MWDOC. The incentives are based on IRWD's calculated avoided costs resulting from the installation of the various conservation devices. Staff has reviewed the water savings and funding levels for the various devices and recommends incentive levels. Based on customer participation, staff is proposing a total of \$500,000 in total incentive funding, of which \$450,000 would be allocated to residential programs, and \$50,000 to commercial programs. There is flexibility within the agreement to transfer funding between the residential and commercial programs as necessary. On MOTION by Matheis, seconded and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE AN AGREEMENT SUBJECT TO NON-SUBSTANTIVE CHANGES FOR PARTICIPATION AND CO-FUNDING BY IRVINE RANCH WATER DISTRICT IN SPECIFIED MUNICIPAL WATER DISTRICT OF ORANGE COUNTY REBATE PROGRAMS, WITH \$500,000 IN FUNDING FOR FY 2013-14, FOR COST-EFFECTIVE TACTICAL INCENTIVE WATER USE EFFICIENCY MEASURES.

MICHELSON WATER RECYCLING PLANT ELECTRICAL VAULT REPLACEMENT CONSTRUCTION AWARD

An electrical vault located at the Michelson Water Recycling Plant (MWRP) has shown significant deterioration, posing both operational and staff safety concerns which needs to be replaced immediately. Staff negotiated with Arizona Pipeline for a bid based upon doing the work without a power shutdown. On MOTION by Swan, seconded and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH ARIZONA PIPELINE COMPANY IN THE AMOUNT OF \$121,850 FOR THE MICHELSON WATER RECYCLING PLANT ELECTRICAL VAULT REPLACEMENT, PROJECT 20214 (1599).

PROPOSED PERSONNEL CHANGES FOR FY 2013-14

General Manager Cook reported that as a follow-up item to the adoption of the FY 2013-14 Operating Budget, staff requests that the Board approve the recommended changes in budgeted positions for FY 2013-14 and also adopt the revised salary grade schedule, effective July 1, 2013. Mr. Cook said that the changes include the upgrade of 10 positions to higher levels, the downgrade of four positions to lower levels, and elimination of one position. Staff also recommends the addition of eight new budgeted positions and title changes for nine budgeted positions. The estimated net annual cost to implement the recommended changes is an increase in the salary budget of \$280,412, or 1.0%. On MOTION by Swan, seconded and unanimously carried, THE BOARD APPROVED THE PROPOSED CHANGES IN THE DISTRICT'S BUDGETED POSITIONS AS OUTLINED IN THE ADOPTED OPERATING BUDGET; APPROVED THE SALARY GRADE SCHEDULE CHANGES EFFECTIVE WITH THE APPROVED FY 2013-14 OPERATING BUDGET DATED JULY 1, 2013; AND ADOPTED THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2013-22

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE IRVINE RANCH WATER DISTRICT
RESCINDING RESOLUTION NO. 2013-2 AND
ESTABLISHING REVISED SCHEDULE OF
POSITIONS AND SALARY RATE RANGES

FISCAL YEAR 2013-14 GENERAL COUNSEL SERVICES FOR BOWIE, ARNESON,
WILES, & GIANNONE

Bowie, Arneson, Wiles & Giannone (BAWG) has provided a proposed letter of engagement for the purpose of providing legal services to the District for Fiscal Year (FY) 2013-14, effective July 1, 2013. BAWG's services shall not exceed \$515,000 without additional authorization from the District, of which \$415,000 is for general legal services and \$100,000 for the J127 matter. On MOTION by Swan, seconded and unanimously carried, THE BOARD APPROVED AND AUTHORIZED THE GENERAL MANAGER TO EXECUTE THE ENGAGEMENT AGREEMENT WITH BOWIE, ARNESON, WILES, & GIANNONE EFFECTIVE JULY 1, 2013 FOR GENERAL COUNSEL SERVICES IN THE AMOUNT NOT TO EXCEED \$515,000, SUBJECT TO THE NOT-TO-EXCEED AMOUNTS WITHIN SUCH TOTAL AMOUNT AS PROVIDED IN SEPARATE DETAIL.

CAMPAIGN FOR THE ASSOCIATION OF CALIFORNIA WATER AGENCIES' VICE
PRESIDENT

As a follow-up to the May 28, 2013 Board meeting where the Board approved up to \$2,000 for a campaign for Director Swan to run for ACWA's Vice President in 2014, General Manager Cook said he placed before each Director a document prepared by Director Swan providing a revised estimate of the cost of running the campaign at \$3,800. Director Matheis made a motion seconded by Director Withers to approve this revised expenditure. Prior to the vote, Vice President LaMar said that he would be voting no as at the last Board meeting Director Swan said that if elected Vice President, he would act for ACWA's interests independent of IRWD's interests, and that as a result, Vice President LaMar believed this expense was not appropriately borne by the ratepayers. There being no further comments, THE BOARD INCREASED THE EXPENDITURE FROM \$2,000 TO \$3,800 FOR THE CAMPAIGN EFFORT TO ELECT PEER SWAN FOR VICE PRESIDENT OF ASSOCIATION OF CALIFORNIA WATER AGENCIES WITH THE FOLLOWING VOTE: WITHERS, MATHEIS AND SWAN VOTING AYE AND LAMAR VOTING NO.

GENERAL MANAGER'S REPORT

General Manager Cook provided an update on Orange County Water District (OCWD) annexation events. Mr. Cook said that OCWD has received comments relative to the annexation Environmental Impact Report and the consulting team is currently preparing responses. He said that he placed before each Director a letter sent to OCWD from nine groundwater producers expressing concerns on the annexation's cost which they feel should be

cost-neutral; however, they are not opposed to the annexation itself. He said that the next steps include a presentation of the letter by OCWD to its Water Issues Committee, ongoing meetings with the Groundwater Producers, and scheduling an OCWD/IRWD Ad Hoc Committee meeting within the next two weeks. Following comments from members of the Board, Mr. Cook said that he will be updating the Board on this issue at future Board meetings.

Mr. Cook provided an update on AB 543 (Campos) which is currently on the floor of the Assembly. He said this bill would require a translation of the California Environmental Quality Act environmental review documents for non-English speakers and that the District is currently opposing this bill. He also said that a coalition letter is being prepared which staff recommends signing.

DIRECTORS' COMMENTS

Director Matheis reported on her attendance at a City of Tustin address as well as a WACO meeting. She also commented on two articles she recently read, one on a county park moving forward in the area of the former Tustin airport hanger and the other on the value of incinerators for burning trash versus filling up landfills.

Director Swan reported on his attendance at a WACO meeting, a two-day ACWA Board meeting, and a Newport Chamber of Commerce Government Affairs meeting.

Director LaMar reported on his attendance at a MWDOC Planning and Operations Committee meeting and a WACO meeting.

ADJOURNMENT

There being no further business, President LaMar adjourned the meeting at 6:12 p.m.

APPROVED and SIGNED this 24th day of June, 2013.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

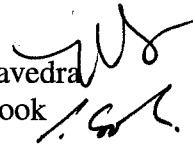
Legal Counsel - Bowie, Arneson, Wiles & Giannone

June 24, 2013

Prepared and

Submitted by: N. Savedra

Approved by: P. Cook



CONSENT CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS'
ATTENDANCE AT MEETINGS AND EVENTS

SUMMARY:

Pursuant to Resolution 2006-29 adopted on August 28, 2006, approval of attendance of the following events and meetings are required by the Board of Directors.

Events/Meetings

Steven LaMar

7/17/13 OCBC/Orange County Forum

Mary Aileen Matheis

7/17/13 OCBC/Orange County Forum

Douglas Reinhart

6/17/13 IRWD/OCWD Ad Hoc Committee Pre-Meeting
6/18/13 Monthly meeting with Paul Cook regarding District activities
6/21/13 IRWD/OCWD Ad Hoc Committee Meeting

Peer Swan

6/17/13 IRWD/OCWD Ad Hoc Committee Pre-Meeting
6/21/13 IRWD/OCWD Ad Hoc Committee Meeting
6/26/13 MWD-Southern California Water Dialogue Meeting
7/25-26/13 ACWA Board of Directors Meeting, Sacramento, CA

John Withers

7/17/13 OCBC/Orange County Forum

RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE MEETINGS AND EVENTS FOR STEVEN LaMAR, MARY AILEEN MATHEIS, DOUGLAS REINHART, PEER SWAN, AND JOHN WITHERS AS DESCRIBED.

LIST OF EXHIBITS:

None

June 24, 2013

Prepared by: Jacobson/Fournier/Davis

Submitted by: Cheryl Clary

Approved by: Paul Cook

CONSENT CALENDAR

MAY 2013 TREASURY REPORTS

SUMMARY:

The following is submitted for the Board's information and approval:

- A. The Investment Summary Report for May 2013. This Investment Summary Report is in conformity with the 2013 Investment Policy and provides sufficient liquidity to meet estimated expenditures during the next six months, as outlined in Exhibit "A".
- B. The Monthly Interest Rate Swap Summary as of May 31, 2013, as outlined in Exhibit "B".
- C. The Summary of Payroll ACH payments in the total amount of \$2,121,252, as outlined in Exhibit "C".
- D. The May 31, 2013 Disbursement Summary of warrants 338887 through 339700, wire transfers, Workers' Compensation distributions, payroll withholding distributions, and voided checks in the total amount of \$13,040,749, as outlined in Exhibit "D".

FISCAL IMPACTS:

As of May 31, 2013, the book value of the investment portfolio was \$355,152,055, with a 0.35% rate of return and a market value of \$355,114,125. Based on the District's March 31, 2013 quarterly real estate investment rate of return of 11.15%, the District's weighted average return for the fixed income and real estate investments was 2.20%.

As of May 31, 2013, the total notional amount of the interest rate swap portfolio was \$130 million of fixed payer swaps. Cash accrual in May from all swaps was negative \$643,886 and negative \$6,870,638 fiscal year to date.

Payroll ACH payments totaled \$2,121,252 and wire transfers, all other ACH payments, and checks issued for debt service, accounts payable, payroll and water purchases for May totaled \$13,040,749.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3 Section 15378.

COMMITTEE STATUS:

This item was not submitted to a Committee; however, the investment and interest rate swap reports are submitted to the Finance and Personnel Committee on a monthly basis.

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE TREASURER'S INVESTMENT SUMMARY REPORT AND THE MONTHLY INTEREST RATE SWAP SUMMARY FOR MAY 2013; APPROVE THE MAY 2013 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$2,121,252 AND APPROVE THE MAY 2013 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 338887 THROUGH 339700, WORKERS' COMPENSATION DISTRIBUTIONS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$13,040,749.

LIST OF EXHIBITS:

- Exhibit "A" - Investment Summary Report
- Exhibit "B" - Monthly Interest Rate Swap Summary
- Exhibit "C" - Monthly Payroll ACH Summary
- Exhibit "D" - Monthly Summary of District Disbursements

05/31/13

SETTLEMENT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON	YIELD	YTPC	ORIGINAL COST	CARRY VALUE	MARKET VALUE (1)	UNREALIZED GAIN/(LOSS)(2)	
05/01/13			07/01/13		LAIF	State of California Tsy.	\$50,000,000		0.260%		\$50,000,000.00	\$50,000,000.00	50,050,930.00	50,930.00	
04/15/13			07/01/13		LAIF-JPA	State of California Tsy.	50,000,000		0.260%		\$50,000,000.00	\$50,000,000.00	50,050,930.00	50,930.00	
04/15/13			06/17/13		LAIF BABS	State of California Tsy.	35,561,697		0.260%		\$35,561,696.89	\$35,561,696.89	35,597,920.03	36,223.14	
08/23/12	N/A	N/A	06/20/13		CA ST-RANS-A1	State of California	3,500,000	2.500%	0.430%	0.430%	3,559,535.00	3,509,691.74	3,503,850.00	(5,841.74)	
12/20/12	N/A	N/A	12/19/13	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.190%	0.183%		10,000,700.00	10,000,386.54	10,002,600.00	2,213.46	
04/24/12	N/A	N/A	12/23/13	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.625%	0.304%		5,026,600.00	5,008,968.75	5,012,200.00	3,231.25	
07/11/12	N/A	N/A	02/25/14	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	1.375%	0.301%		5,086,800.00	5,038,495.21	5,043,800.00	5,304.79	
05/23/12	N/A	N/A	05/23/14	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.350%	0.394%		4,995,600.00	4,997,854.25	5,007,400.00	9,545.75	
04/18/12	N/A	N/A	05/28/14	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	1.375%	0.354%		5,107,250.00	5,050,282.14	5,058,400.00	8,117.86	
01/30/12	One Time	01/30/14	01/30/15	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.750%	0.500%	0.500%	5,024,850.00	5,013,785.40	5,013,050.00	(735.40)	
01/30/12	One Time	01/30/14	01/30/15	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	10,000,000	0.750%	0.453%	0.453%	10,059,000.00	10,032,729.93	10,026,100.00	(6,629.93)	
02/09/12	Continuous	05/09/12	02/09/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.460%	0.480%	0.700%	4,997,000.00	4,998,308.39	5,000,100.00	1,791.61	
03/14/12	Continuous	09/12/12	03/12/15	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.550%	0.601%	0.855%	4,992,500.00	4,995,546.66	5,000,100.00	4,553.34	
04/29/13	Quarterly	10/29/13	04/29/15	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.320%	0.310%	0.280%	5,001,000.00	5,000,954.79	4,994,350.00	(6,604.79)	
12/18/12	Continuous	03/18/13	06/18/15	Aaa/NA/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.320%	0.360%	0.720%	9,990,000.00	9,991,809.21	9,987,500.00	(4,309.21)	
12/27/12	Continuous	03/26/13	06/26/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.375%	0.375%	0.375%	10,000,000.00	10,000,000.00	9,996,700.00	(3,300.00)	
04/30/13	Continuous	07/15/13	07/15/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.290%	0.290%	0.290%	5,000,000.00	5,000,000.00	4,989,600.00	(10,400.00)	
08/28/12	Continuous	08/27/13	08/27/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.480%	0.480%	0.480%	10,000,000.00	10,000,000.00	10,008,400.00	8,400.00	
09/17/12	Continuous	09/17/13	09/17/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.480%	0.482%	0.482%	4,999,750.00	4,999,808.68	5,001,100.00	1,291.32	
09/17/12	Continuous	09/17/13	09/17/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.480%	0.455%	0.472%	5,001,250.00	5,000,956.62	5,001,100.00	143.38	
09/25/12	Quarterly	09/25/13	09/25/15	Aaa/AA+/NR	FHLMC - Note	Fed Home Loan Mortgage Bank	5,000,000	0.500%	0.470%	0.490%	5,001,500.00	5,001,158.90	4,999,100.00	(2,058.90)	
09/28/12	Continuous	12/28/12	09/28/15	NA/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.450%	0.470%	0.470%	4,997,000.00	4,997,673.97	5,000,100.00	2,426.03	
10/17/12	One Time 2yr	10/09/14	10/09/15	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.480%	0.460%	0.460%	5,002,000.00	5,001,582.34	5,001,950.00	367.66	
12/18/12	Continuous	03/18/13	12/18/15	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	0.400%	0.425%	0.701%	9,992,500.00	9,993,630.14	9,974,900.00	(18,730.14)	
12/21/12	Continuous	03/21/13	12/21/15	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.410%	0.418%	0.510%	4,998,750.00	4,998,934.93	4,991,406.00	(7,528.93)	
01/15/13	N/A	07/15/13	01/15/16	NA/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.375%	0.390%		4,997,750.00	4,997,875.34	4,985,350.00	(12,525.34)	
01/17/13	Quarterly	07/15/13	01/15/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.500%	0.500%	0.500%	5,000,000.00	5,000,000.00	4,991,300.00	(8,700.00)	
03/21/13	Quarterly	09/04/13	03/04/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.600%	0.566%	0.379%	5,005,000.00	5,004,692.57	4,991,650.00	(13,042.57)	
03/14/13	Continuous	09/07/13	03/07/16	Aaa/AA+/AAA+	FHLB - Note	Fed Home Loan Bank	10,000,000	0.470%	0.490%		9,994,000.00	9,994,435.26	9,979,800.00	(14,635.26)	
05/22/13	Quarterly	08/28/13	03/28/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.650%	0.256%	0.613%	5,005,250.00	5,005,199.57	4,996,250.00	(8,949.57)	
04/12/13	Continuous	07/12/13	04/12/16	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.410%	0.447%	0.851%	4,994,500.00	4,994,750.91	4,980,500.00	(14,250.91)	
04/30/13	Quarterly	10/25/13	04/25/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.580%	0.536%	0.310%	5,006,550.00	5,006,357.88	4,983,300.00	(23,057.88)	
05/24/13	Quarterly	10/25/13	04/25/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	4,975,000	0.580%	0.568%	0.500%	4,976,641.75	4,976,592.64	4,958,383.50	(18,209.14)	
05/20/13	Quarterly	10/29/13	04/29/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.500%	0.500%	0.500%	5,000,000.00	5,000,000.00	4,977,500.00	(22,500.00)	
05/31/13	Quarterly	11/27/13	05/27/16	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.520%	0.585%	0.935%	4,990,000.00	4,990,009.16	4,984,500.00	(5,509.16)	
03/14/13	Continuous	12/26/12	09/26/16	Aaa/AA+/AA+	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.680%	0.683%		4,999,500.00	4,999,530.57	4,983,650.00	(15,880.57)	
SUB-TOTAL							\$334,036,697				\$334,364,473.64	\$334,163,699.39	\$334,125,769.53	(\$37,929.86)	
RESTRICTED CASH (Swap Collateral Deposits)															
					Collateral Deposit	Citi-Group	\$15,308,356		0.150%		\$15,308,355.63	\$15,308,355.63	15,308,355.63		
					Collateral Deposit	Merrill Lynch	\$5,680,000		0.150%		\$5,680,000.00	\$5,680,000.00	5,680,000.00		
SUB-TOTAL							\$20,988,356				\$20,988,355.63	\$20,988,355.63	\$20,988,355.63		
TOTAL INVESTMENTS							\$355,025,053				\$355,352,829.27	\$355,152,055.02	\$355,114,125.16		
					Petty Cash						3,300.00				
		May			Bank Bal.	Bank of America					2,659,219.90				
											\$358,015,349.17				

(1) LAIF market value is as of the most recent quarter-end as reported by LAIF.

Security market values are determined using Bank of New York ("Trading Prices"), Bloomberg and/or broker dealer pricing.

(2) Gain (loss) calculated against carry value using the trading value provided by Bank of New York/or Brokers

(3) Real estate rate of return is based on most recent quarter end return

Outstanding Variable Rate Debt

Net Outstanding Variable Rate Debt (Less \$130 million fixed-payer swaps)

Investment Balance: \$363,000,000

Investment to Variable Rate Debt Ratio: \$233,000,000

Portfolio - Average Number of Days To Maturity: 154%

466

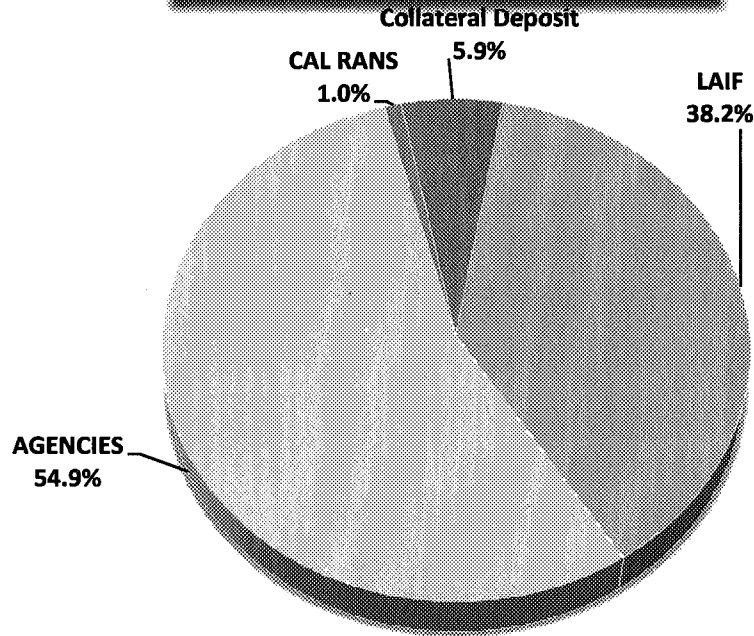
	Investment Portfolio	Real Estate Portfolio (3)	Weighted Avg. Return
May	0.35%	11.15%	2.20%
April	0.38%	11.15%	2.27%
Change	-0.03%		

This Investment Summary Report is in conformity with the 2013 Investment Policy and provides sufficient liquidity to meet the next six months estimated expenditures.

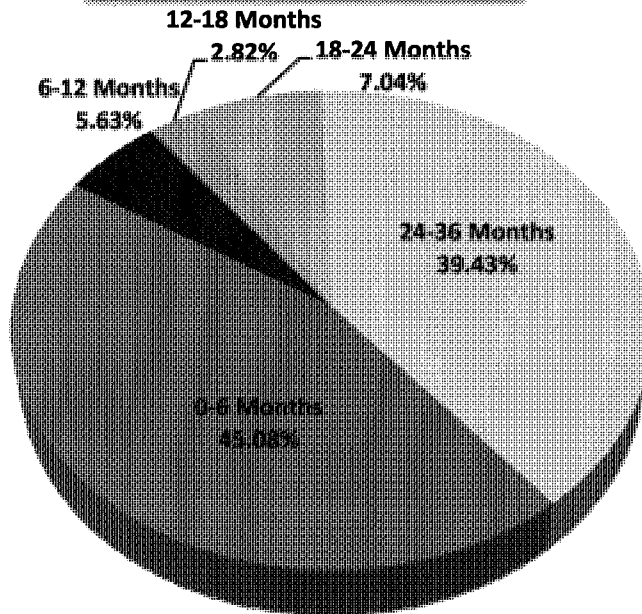
May 2013 INVESTMENT PORTFOLIO

May 31, 2013

Portfolio by Investment Type



Portfolio by Maturities



Irvine Ranch Water District
 Summary of Real Estate
 3/31/2012

	<u>ACQUISITION DATE</u>	<u>PROPERTY TYPE</u>	<u>OWNERSHIP INTEREST</u>	<u>ORIGINAL COST</u>	<u>RATE OF RETURN QUARTER ENDED Mar-13</u>
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 43,550,810	14.90%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	8.44%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,739,845	7.43%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,630,577	3.27%
Sand Canyon Professional Center	Jul-12	Medical Office	Fee Simple	\$ 8,648,594	4.48%
				<u>\$ 72,569,826</u>	<u>11.15%</u>

IRVINE RANCH WATER DISTRICT
 INVESTMENT SUMMARY REPORT

Joint Powers Agency - Investment Contracts

5/31/2013

Settlement Date	JPA Issue	Investment Contract	Original Cost	Current Par	Market Value 05/31/13
10/25/1994	JPA - Issue #1	AIG Matched Funding Corp. 7.705% Due 2-15-14	\$ 407,878,616	\$ 238,687,800	\$ 238,687,800
10/25/1994	JPA - Issue #2	Federal National Mortgage Assoc. 8.18% Due 2-15-14	\$ 518,644,189	\$ 365,300,641	\$ 389,282,628
			<u>\$ 926,522,805</u>	<u>\$ 603,988,441</u>	<u>\$ 627,970,428</u>

IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT
INVESTMENT ACTIVITY
May-13

MATURITIES/SALES/CALLS

PURCHASES

DATE	SECURITY TYPE	PAR	YIELD	Settlement Date	Maturity Date	SECURITY TYPE	PAR	YIELD TO MATURITY
5/8/2013	Fed Home Loan Mortgage Bank	\$5,000,000	0.50%					
5/16/2013	Fed Home Loan Mortgage Bank	\$5,000,000	0.50%	5/20/2013	4/29/2016	Federal National Mortgage Assoc.	\$5,000,000	0.50%
5/22/2013	Federal National Mortgage Assoc.	\$5,000,000	0.64%	5/22/2013	3/28/2016	Federal National Mortgage Assoc.	\$5,000,000	0.61%
5/24/2013	Fed Home Loan Mortgage Bank	\$5,000,000	0.50%	5/24/2013	4/25/2016	Federal National Mortgage Assoc.	\$4,975,000	0.57%
				5/31/2013	5/27/2016	Federal National Mortgage Assoc.	\$4,990,000	0.59%

**IRVINE RANCH WATER DISTRICT
INTEREST RATE SWAP MONTHLY SUMMARY REPORT - DETAIL
May 31, 2013**

Exhibit "B"

Current Fiscal Year Active Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date	Years to Maturity	Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Prior Mo	Current Mo	12-Mo Avg	Cumulative Cash Flow	Current Mark to Market	Notional Difference
								0.20%	0.18%	0.21%			
Fixed Payer Swaps - By Effective Date													
6/4/2006	6/4/2019	6.0	ML	\$ 20,000,000	FXP	LIBOR	6.200%	\$ (103,156)	\$ (103,352)	\$ (1,103,178)	\$ (6,146,025)	\$ 14,455,025	\$ (5,544,975)
6/4/2006	6/4/2019	6.0	CG	\$ 20,000,000	FXP	LIBOR	6.200%	\$ (103,156)	\$ (103,352)	\$ (1,103,178)	\$ (6,146,025)	\$ 14,444,943	\$ (5,555,057)
6/17/2006	6/17/2019	6.0	CG	\$ 30,000,000	FXP	LIBOR	6.140%	\$ (153,236)	\$ (153,664)	\$ (1,638,524)	\$ (9,105,811)	\$ 21,741,998	\$ (8,258,002)
3/10/2007	3/10/2029	15.8	ML	\$ 30,000,000	FXP	LIBOR	5.687%	\$ (141,554)	\$ (141,759)	\$ (1,512,879)	\$ (8,066,297)	\$ 18,703,673	\$ (11,296,327)
3/10/2007	3/10/2029	15.8	CG	\$ 30,000,000	FXP	LIBOR	5.687%	\$ (141,554)	\$ (141,759)	\$ (1,512,879)	\$ (8,066,297)	\$ 18,687,549	\$ (11,312,451)
Totals/Weighted Avgs		10.5		\$ 130,000,000			5.949%	\$ (642,656)	\$ (643,886)	\$ (6,870,638)	\$ (37,530,456)	\$ 88,033,188	\$ (41,966,812)
Total Current Year Active Swaps				\$ 130,000,000				\$ (642,656)	\$ (643,886)	\$ (6,870,638)	\$ (37,530,456)	\$ 88,033,188	\$ (41,966,812)

Current Fiscal Year Terminated Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date		Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference
Total Current Year Terminated Swaps								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Current Fiscal Year - Total Swaps								Cash Flow				Mark to Market	
								Prior Month	Current Month	Fiscal YTD	Cumulative Cash Flow	Current Mark to Market	Notional Difference
Total Current Year Active & Terminated Swaps								\$ (642,656)	\$ (643,886)	\$ (6,870,638)	\$ (37,530,456)	\$ 88,033,188	\$ (41,966,812)

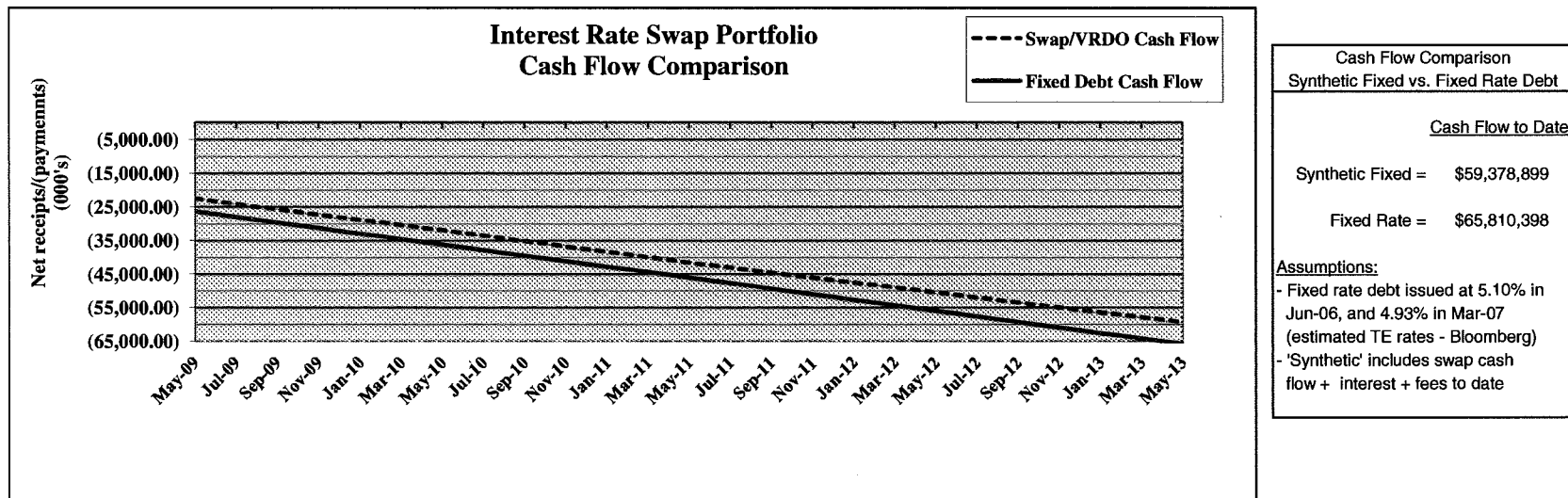


Exhibit "C"

MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS

May
2013

DATE	AMOUNT	VENDOR	PURPOSE
5/3/2013	696,766.57	BANK OF AMERICA	ACH Payments for Payroll
5/17/2013	701,862.22	BANK OF AMERICA	ACH Payments for Payroll
5/31/2013	722,623.25	BANK OF AMERICA	ACH Payments for Payroll
	<u><u>\$2,121,252.04</u></u>		

Exhibit "D"

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 1
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
338887		02-MAY-13	ORANGE COUNTY BUSINESS COUNCIL	PURCHASE_P AY	5,000.00	09-MAY-13	5,000.00	Reconciled
338888		02-MAY-13	JOHN MICHAEL COVASSILVERADO		134.00	09-MAY-13	134.00	Reconciled
338889		02-MAY-13	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	ROSEVILLE	34,622.82	09-MAY-13	34,622.82	Reconciled
338890		02-MAY-13	FIDELITY SECURITY LIFE INSURANCE COMPANY	CINCINNATI	5,960.28	09-MAY-13	5,960.28	Reconciled
338891		02-MAY-13	Harry Cho		33.90	06-MAY-13	33.90	Reconciled
338892		02-MAY-13	James Hamer		27.37			Negotiable
338893		02-MAY-13	Lars Oldewage		109.62	06-MAY-13	109.62	Reconciled
338894		02-MAY-13	Malcolm Cortez		56.50			Negotiable
338895		02-MAY-13	Natalie Castaneda		129.59	17-MAY-13	129.59	Reconciled
338896		02-MAY-13	71-81 COWAN BLDG CA GEN PARTMS		734.60	03-MAY-13	734.60	Reconciled
338897		02-MAY-13	ACTION ELECTRIC CORP		553.31	08-MAY-13	553.31	Reconciled
338898		02-MAY-13	ADVANCED ELECTRONICS INC		240.29	07-MAY-13	240.29	Reconciled
338899		02-MAY-13	AKM CONSULTING ENGINEERS, INC.		23,682.00	09-MAY-13	23,682.00	Reconciled
338900		02-MAY-13	ALEXANDER CONTRACT SERVICES INC		101,027.02	08-MAY-13	101,027.02	Reconciled
338901		02-MAY-13	AMERICAN TRAINING RESOURCES, INC		544.55	07-MAY-13	544.55	Reconciled
338902		02-MAY-13	ANDERSONPENNA PARTNERS, INC		20,840.00	08-MAY-13	20,840.00	Reconciled
338903		02-MAY-13	ARC		320.54	03-MAY-13	320.54	Reconciled
338904		02-MAY-13	ARMORCAST PRODUCTS COMPANY		7,822.45	08-MAY-13	7,822.45	Reconciled
338905		02-MAY-13	AT&T		50.87	07-MAY-13	50.87	Reconciled
338906		02-MAY-13	AT&T		240.88	07-MAY-13	240.88	Reconciled
338907		02-MAY-13	BANK OF AMERICA		20,220.08	08-MAY-13	20,220.08	Reconciled
338908		02-MAY-13	BARNES GROUP INC		181.52	09-MAY-13	181.52	Reconciled
338909		02-MAY-13	BARTOLIC, PATRICK		0.88			Negotiable
338910		02-MAY-13	BELLINO, STEVEN JOHN		9,600.00	22-MAY-13	9,600.00	Reconciled
338911		02-MAY-13	BIGWIG MONSTER, LLC		4,500.00	03-MAY-13	4,500.00	Reconciled
338912		02-MAY-13	BILL'S SWEEPING SERVICE INC		805.00	07-MAY-13	805.00	Reconciled
338913		02-MAY-13	BLACK BOX CORP OF PENNSYLVANIA		580.64	07-MAY-13	580.64	Reconciled
338914		02-MAY-13	BNI PUBLICATIONS, INC.		1,424.45			Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 2
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
338915		02-MAY-13	BOTTOM LINE UTILITY SOLUTIONS, INC.		20,362.82	07-MAY-13	20,362.82	Reconciled
338916		02-MAY-13	BTF PRECISE MICROBIOLOGY INC.		529.20	09-MAY-13	529.20	Reconciled
338917		02-MAY-13	C WELLS PIPELINE MATERIALS INC		7,981.48	23-MAY-13	7,981.48	Reconciled
338918		02-MAY-13	CALIFORNIA BARRICADE INC		6,993.84	07-MAY-13	6,993.84	Reconciled
338919		02-MAY-13	CALIFORNIA WATER ENVIRONMENT ASSOCIATION		755.00	16-MAY-13	755.00	Reconciled
338920		02-MAY-13	CANON SOLUTIONS AMERICA INC		3,253.85	06-MAY-13	3,253.85	Reconciled
338921		02-MAY-13	CITY OF ORANGE		231.23	06-MAY-13	231.23	Reconciled
338922		02-MAY-13	CITY OF TUSTIN		150.31	03-MAY-13	150.31	Reconciled
338923		02-MAY-13	COASTAL TRAFFIC SYSTEMS, INC		510.00	09-MAY-13	510.00	Reconciled
338924		02-MAY-13	COMMERCE ENERGY INC		555.40	06-MAY-13	555.40	Reconciled
338925		02-MAY-13	COMMERCIAL CLEANING SYSTEMS INC		10,994.74	07-MAY-13	10,994.74	Reconciled
338926		02-MAY-13	CONDITION MONITORING SERVICES INC		813.75	07-MAY-13	813.75	Reconciled
338927		02-MAY-13	CONEYBEARE INC		12,328.73	07-MAY-13	12,328.73	Reconciled

D-1

338928	02-MAY-13	CONTROLLED KEY SYSTEMS INC	860.00	10-MAY-13	860.00	Reconciled
338929	02-MAY-13	CORNERSTONE PROPERTIES	25.65	03-MAY-13	25.65	Reconciled
338930	02-MAY-13	COX COMMUNICATIONS	228.43	06-MAY-13	228.43	Reconciled
338931	02-MAY-13	DRAEGER SAFETY INC	5,853.66	10-MAY-13	5,853.66	Reconciled
338932	02-MAY-13	ELECTRICAL SYSTEMS ENGINEERING	7,987.00	13-MAY-13	7,987.00	Reconciled
338933	02-MAY-13	EVERGREEN OIL INC	144.00	07-MAY-13	144.00	Reconciled
338934	02-MAY-13	FARRELL & ASSOCIATES	347.29	03-MAY-13	347.29	Reconciled
338935	02-MAY-13	FERGUSON WATERWORKS	4,455.11	06-MAY-13	4,455.11	Reconciled
338936	02-MAY-13	FIRST CHOICE SERVICES	233.75	07-MAY-13	233.75	Reconciled
338937	02-MAY-13	FISHER SCIENTIFIC COMPANY LLC	6,654.33	08-MAY-13	6,654.33	Reconciled
338938	02-MAY-13	FISHNET SECURITY INC	4,440.00	06-MAY-13	4,440.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 3
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
338939	02-MAY-13	FITCH, INC.	5,000.00	13-MAY-13	5,000.00	Reconciled		
338940	02-MAY-13	FRANK LA PLACA EXTERMINATING INC	175.00	10-MAY-13	175.00	Reconciled		
338941	02-MAY-13	GLOBALSTAR INC	169.01	06-MAY-13	169.01	Reconciled		
338942	02-MAY-13	GOZZO, JIM	34.46	06-MAY-13	34.46	Reconciled		
338943	02-MAY-13	GRAINGER	2,653.02	06-MAY-13	2,653.02	Reconciled		
338944	02-MAY-13	GRIFFITH, GORDON	528.04	08-MAY-13	528.04	Reconciled		
338945	02-MAY-13	HACH COMPANY	5,056.56	10-MAY-13	5,056.56	Reconciled		
338946	02-MAY-13	HARMSWORTH ASSOCIATES	2,210.00	15-MAY-13	2,210.00	Reconciled		
338947	02-MAY-13	HILL BROTHERS CHEMICAL COMPANY	5,744.55	07-MAY-13	5,744.55	Reconciled		
338948	02-MAY-13	HOME DEPOT USA INC	95.81	20-MAY-13	95.81	Reconciled		
338949	02-MAY-13	INDUSTRIAL ELECTRIC MACHINERY LLC	1,892.95	14-MAY-13	1,892.95	Reconciled		
338950	02-MAY-13	INDUSTRIAL METAL SUPPLY CO	428.18	07-MAY-13	428.18	Reconciled		
338951	02-MAY-13	INNOVATION PRODUCTS, INC.	495.00	07-MAY-13	495.00	Reconciled		
338952	02-MAY-13	IRVINE PIPE & SUPPLY INC	696.23	09-MAY-13	696.23	Reconciled		
338953	02-MAY-13	IRWD-PETTY CASH CUSTODIAN	1,027.39	03-MAY-13	1,027.39	Reconciled		
338954	02-MAY-13	JOE RHODES MAINT. SERVICE, INC.	387.32	09-MAY-13	387.32	Reconciled		
338955	02-MAY-13	John Hayes	1,059.46	13-MAY-13	1,059.46	Reconciled		
338956	02-MAY-13	JP MACHINE TOOL SERVICE	650.00	08-MAY-13	650.00	Reconciled		
338957	02-MAY-13	JUNE BUG CONFECTIONS	44.54	07-MAY-13	44.54	Reconciled		
338958	02-MAY-13	KOELLER NEBEKER CARLSON & HALUCK, LLP	300.00	06-MAY-13	300.00	Reconciled		
338959	02-MAY-13	KONECRANES INC	2,999.00	06-MAY-13	2,999.00	Reconciled		
338960	02-MAY-13	LENOVO UNITED STATES INC	2,592.17	06-MAY-13	2,592.17	Reconciled		
338961	02-MAY-13	LEWIS BRISBOIS BISGAARD AND SMITH LLP	4,008.05	09-MAY-13	4,008.05	Reconciled		
338962	02-MAY-13	MC MASTER CARR SUPPLY CO	481.28	06-MAY-13	481.28	Reconciled		
338963	02-MAY-13	MUNEMITSU TRUST	54.40	10-MAY-13	54.40	Reconciled		
338964	02-MAY-13	NATIONAL READY MIXED CONCRETE CO	5,456.76	08-MAY-13	5,456.76	Reconciled		

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 4
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
338965	02-MAY-13	NEW PIG CORPORATION	290.56	08-MAY-13	290.56	Reconciled		
338966	02-MAY-13	NIRVANA ALONSO	555.00	06-MAY-13	555.00	Reconciled		
338967	02-MAY-13	NORITSU AMERICA CORPORATION	480.00	21-MAY-13	480.00	Reconciled		
338968	02-MAY-13	OLIN CORPORATION	27,625.56	08-MAY-13	27,625.56	Reconciled		
338969	02-MAY-13	ORANGE COUNTY FIRE AUTHORITY	6,965.00	09-MAY-13	6,965.00	Reconciled		
338970	02-MAY-13	ORANGE COUNTY HOSE	547.32	03-MAY-13	547.32	Reconciled		

338971	02-MAY-13	OUTSOURCE	13,158.00	10-MAY-13	13,158.00	Reconciled
338972	02-MAY-13	TECHNICAL LLC PACIFIC GAS AND ELECTRIC COMPANY	249.09	07-MAY-13	249.09	Reconciled
338973	02-MAY-13	PARKHOUSE TIRE INC	4,027.41	07-MAY-13	4,027.41	Reconciled
338974	02-MAY-13	PAUL E BRADLEY INC	382.50			Negotiable
338975	02-MAY-13	PINGREE, DAVID	12.57	07-MAY-13	12.57	Reconciled
338976	02-MAY-13	FRAXAIR DISTRIBUTION INC	502.98	08-MAY-13	502.98	Reconciled
338977	02-MAY-13	PSB INTEGRATED MARKETING	2,587.50	03-MAY-13	2,587.50	Reconciled
338978	02-MAY-13	RED HAWK FIRE & SECURITY (CA) LLC	800.00	06-MAY-13	800.00	Reconciled
338979	02-MAY-13	RED WING SHOES	168.48	06-MAY-13	168.48	Reconciled
338980	02-MAY-13	RODRIGUEZ, RICHARD	12.99			Negotiable
338981	02-MAY-13	SANTONI, MARCI	21.53	06-MAY-13	21.53	Reconciled
338982	02-MAY-13	SCHINDLER ELEVATOR CORPORATION	176.40	06-MAY-13	176.40	Reconciled
338983	02-MAY-13	SECURTEC DISTRICT PATROL INC	5,400.00	13-MAY-13	5,400.00	Reconciled
338984	02-MAY-13	SHAMROCK SUPPLY CO INC	755.10	03-MAY-13	755.10	Reconciled
338985	02-MAY-13	SOUTHERN CALIFORNIA EDISON COMPANY	222,553.75	03-MAY-13	222,553.75	Reconciled
338986	02-MAY-13	SOUTHERN COUNTIES LUBRICANTS LLC	2,831.07	03-MAY-13	2,831.07	Reconciled
338987	02-MAY-13	STRAUTZ, ROBERT	4.68	15-MAY-13	4.68	Reconciled
338988	02-MAY-13	SUPERIOR WATER TECHNOLOGIES	3,200.00	06-MAY-13	3,200.00	Reconciled
338989	02-MAY-13	TALLEY INC	1,456.71	07-MAY-13	1,456.71	Reconciled
338990	02-MAY-13	TANGRAM ONSITE	405.00	06-MAY-13	405.00	Reconciled
338991	02-MAY-13	TETRA TECH, INC	26,751.71	09-MAY-13	26,751.71	Reconciled
338992	02-MAY-13	THE MARLIN COMPANY	3,420.27	09-MAY-13	3,420.27	Reconciled
338993	02-MAY-13	THE NEW HOME COMPANY	319.47	14-MAY-13	319.47	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 5
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
338994		02-MAY-13	THE PARK @ SPECTRUM APTS		659.00	09-MAY-13	659.00	Reconciled
338995		02-MAY-13	THOMAS HARDER & CO		6,148.80	17-MAY-13	6,148.80	Reconciled
338996		02-MAY-13	THYSSENKRUPP ELEVATOR		212.45	06-MAY-13	212.45	Reconciled
338997		02-MAY-13	TRIPAC MARKETING INC		332.83	03-MAY-13	332.83	Reconciled
338998		02-MAY-13	TROPICAL PLAZA NURSERY INC		1,021.67	03-MAY-13	1,021.67	Reconciled
338999		02-MAY-13	UNITED PARCEL SERVICE INC		39.34	06-MAY-13	39.34	Reconciled
339000		02-MAY-13	URS CORPORATION		20,833.75	08-MAY-13	20,833.75	Reconciled
339001		02-MAY-13	VERIZON WIRELESS SERVICES LLC		5,584.70	10-MAY-13	5,584.70	Reconciled
339002		02-MAY-13	VIEWPOINT REO REALTY		29.34	14-MAY-13	29.34	Reconciled
339003		02-MAY-13	VULCAN MATERIALS COMPANY		1,343.02	06-MAY-13	1,343.02	Reconciled
339004		02-MAY-13	WASTE MANAGEMENT OF ORANGE COUNTY		1,662.77	07-MAY-13	1,662.77	Reconciled
339005		02-MAY-13	WATERLINE TECHNOLOGIES INC		2,780.00	08-MAY-13	2,780.00	Reconciled
339006		02-MAY-13	WAXIE'S ENTERPRISES, INC		1,211.60	06-MAY-13	1,211.60	Reconciled
339007		02-MAY-13	WEST & SYLVESTER ELECTRICAL		3,466.00	07-MAY-13	3,466.00	Reconciled
339008		02-MAY-13	WESTERN WATER WORKS SUPPLY COMPANY		11,338.28	07-MAY-13	11,338.28	Reconciled
339009		02-MAY-13	JCI JONES CHEMICALS INC	CINCINNATI	5,505.50	06-MAY-13	5,505.50	Reconciled
339010		02-MAY-13	PSB INTEGRATED MARKETING	LAKE FOREST	31,570.30	07-MAY-13	31,570.30	Reconciled
339011		03-MAY-13	JCI JONES CHEMICALS INC	CINCINNATI	2,202.20	07-MAY-13	2,202.20	Reconciled
339012		03-MAY-13	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	530.00	08-MAY-13	530.00	Reconciled
339013		06-MAY-13	INTERNAL REVENUE SERVICE	FRESNO	25.00	10-MAY-13	25.00	Reconciled
339014		06-MAY-13	CLEARINGHOUSE	PHOENIX	528.45	08-MAY-13	528.45	Reconciled
339015		06-MAY-13	PERS LONG TERM CARE	PASADENA 2	1,003.81	10-MAY-13	1,003.81	Reconciled
339016		06-MAY-13	IRWD EMPLOYEE ASSOCIATION	IRVINE	450.00	08-MAY-13	450.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 6
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)

D-3

Payment Type: All

Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339017		06-MAY-13	STATE BOARD OF EQUALIZATION	SACRAMENTO	780.50	13-MAY-13	780.50	Reconciled
339018		09-MAY-13	Alexander Murphy		112.66			Negotiable
339019		09-MAY-13	Anthony Mossbarger		95.51	10-MAY-13	95.51	Reconciled
339020		09-MAY-13	Carl Spangenberg		826.13	10-MAY-13	826.13	Reconciled
339021		09-MAY-13	Cheryl Kelly		140.91	10-MAY-13	140.91	Reconciled
339022		09-MAY-13	Christopher Smithson		607.06	13-MAY-13	607.06	Reconciled
339023		09-MAY-13	Gretchen Maswadeh		33.90	09-MAY-13	33.90	Reconciled
339024		09-MAY-13	Julie Bendzick-Sin		28.39	13-MAY-13	28.39	Reconciled
339025		09-MAY-13	Matt Marshall		114.68	15-MAY-13	114.68	Reconciled
339026		09-MAY-13	Nancy Savedra		21.70	09-MAY-13	21.70	Reconciled
339027		09-MAY-13	Richard Gallegos		140.00	10-MAY-13	140.00	Reconciled
339028		09-MAY-13	Richard Olson		100.00	24-MAY-13	100.00	Reconciled
339029		09-MAY-13	Rudy Ocampo		100.00	17-MAY-13	100.00	Reconciled
339030		09-MAY-13	Thomas Bonkowski		27.69	13-MAY-13	27.69	Reconciled
339031		09-MAY-13	AIRGAS-WEST, INC.		5,114.99	16-MAY-13	5,114.99	Reconciled
339032		09-MAY-13	ALLIANT INSURANCE SERVICES, INC		7,779.00	14-MAY-13	7,779.00	Reconciled
339033		09-MAY-13	AMERICAN MESSAGING SERVICES LLC		281.33	14-MAY-13	281.33	Reconciled
339034		09-MAY-13	ANGIER, JEFF		100.00	14-MAY-13	100.00	Reconciled
339035		09-MAY-13	ANTHEM BLUE CROSS		562.26	20-MAY-13	562.26	Reconciled
339036		09-MAY-13	AQUA BEN CORPORATION		33,638.33	14-MAY-13	33,638.33	Reconciled
339037		09-MAY-13	AT&T		1,813.41	13-MAY-13	1,813.41	Reconciled
339038		09-MAY-13	AT&T		2,897.13	14-MAY-13	2,897.13	Reconciled
339039		09-MAY-13	AT&T		121.50	14-MAY-13	121.50	Reconciled
339040		09-MAY-13	BATES, SUSAN		15.39	29-MAY-13	15.39	Reconciled
339041		09-MAY-13	BEHRAZFAR, ELAHEH		100.00	14-MAY-13	100.00	Reconciled
339042		09-MAY-13	BENDER, GARY		100.00	13-MAY-13	100.00	Reconciled
339043		09-MAY-13	BIOMAGIC INC		10,556.56	14-MAY-13	10,556.56	Reconciled
339044		09-MAY-13	C WELLS PIPELINE MATERIALS INC		40,605.30	16-MAY-13	40,605.30	Reconciled
339045		09-MAY-13	CALIFORNIA BARRICADE INC		3,255.08	13-MAY-13	3,255.08	Reconciled
339046		09-MAY-13	CALTROL INC		1,394.64	13-MAY-13	1,394.64	Reconciled
339047		09-MAY-13	CANON FINANCIAL SERVICES, INC		8,899.48	16-MAY-13	8,899.48	Reconciled
339048		09-MAY-13	CANON SOLUTIONS AMERICA INC		520.69	13-MAY-13	520.69	Reconciled
339049		09-MAY-13	CAPTIVE AUDIENCE MARKETING INC.		85.32	14-MAY-13	85.32	Reconciled
339050		09-MAY-13	CARL WARREN & CO		2,602.24	13-MAY-13	2,602.24	Reconciled
339051		09-MAY-13	CASTRO, GABRIELLE		31.10	22-MAY-13	31.10	Reconciled
339052		09-MAY-13	CHANDRA, RAVI		50.66			Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 7
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339053		09-MAY-13	CHANG, MINGCHI		82.28	21-MAY-13	82.28	Reconciled
339054		09-MAY-13	CHANG, TAMANA		100.00	28-MAY-13	100.00	Reconciled
339055		09-MAY-13	CHAO, MEI-LING		100.00	20-MAY-13	100.00	Reconciled
339056		09-MAY-13	CHEM TECH INTERNATIONAL INC		1,641.20	22-MAY-13	1,641.20	Reconciled
339057		09-MAY-13	CHEN, HSIN K		100.00			Negotiable
339058		09-MAY-13	CHEN, JULIE		43.00			Negotiable
339059		09-MAY-13	CLEAN ENERGY FUELS		1,324.89	15-MAY-13	1,324.89	Reconciled
339060		09-MAY-13	CNC ENGINEERING, INC		660.00	13-MAY-13	660.00	Reconciled
339061		09-MAY-13	COASTAL TRAFFIC SYSTEMS, INC		510.00	16-MAY-13	510.00	Reconciled
339062		09-MAY-13	COMMERCIAL COATING RESOURCE INC		11,350.00	17-MAY-13	11,350.00	Reconciled
339063		09-MAY-13	COMMERCIAL DOOR OF ORANGE COUNTY, INC.		269.30	15-MAY-13	269.30	Reconciled
339064		09-MAY-13	CONDITION MONITORING SERVICES INC		4,680.00	13-MAY-13	4,680.00	Reconciled
339065		09-MAY-13	CONEYBEARE INC		10,973.43	16-MAY-13	10,973.43	Reconciled
339066		09-MAY-13	Constantino Silva		488.70	17-MAY-13	488.70	Reconciled
339067		09-MAY-13	CR & R INCORPORATED		12.20	16-MAY-13	12.20	Reconciled
339068		09-MAY-13	CREATIVE ALLIANCE GROUP LLC		3,064.41	17-MAY-13	3,064.41	Reconciled
339069		09-MAY-13	CRESSWELL, VANESSA		38.12			Negotiable
339070		09-MAY-13	CYPRESS VILLAGE VENETO		34,607.23	16-MAY-13	34,607.23	Reconciled
339071		09-MAY-13	DAN'S MACHINE		481.20	10-MAY-13	481.20	Reconciled

339072	09-MAY-13	TOOL, INC		100.00	15-MAY-13	100.00	Reconciled
339073	09-MAY-13	DEMBEKJIAN, SETA		55,962.00	17-MAY-13	55,962.00	Reconciled
339074	09-MAY-13	DEPARTMENT OF WATER RESOURCES		18,900.00	17-MAY-13	18,900.00	Reconciled
339075	09-MAY-13	EAGLE AERIAL IMAGING		14,735.66	16-MAY-13	14,735.66	Reconciled
339076	09-MAY-13	EAST ORANGE COUNTY WATER DISTRICT		3,824.00	10-MAY-13	3,824.00	Reconciled
339077	09-MAY-13	EDISON ESI EMPLOYMENT DEVELOPMENT DEPARTMENT		2,134.70	14-MAY-13	2,134.70	Reconciled
339078	09-MAY-13	ENVIRONMENTAL RESOURCE ASSOCIATES		8,496.77	16-MAY-13	8,496.77	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 8
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339079		09-MAY-13	EQUIPCO SALES & SERVICE		3,842.80	14-MAY-13	3,842.80	Reconciled
339080		09-MAY-13	EXPRESSAIR		139.00	16-MAY-13	139.00	Reconciled
339081		09-MAY-13	FAIRCHILD, MICHAEL		100.00			Negotiable
339082		09-MAY-13	FEDEX		320.59	15-MAY-13	320.59	Reconciled
339083		09-MAY-13	FERRIS, CAROLYN		14.86	14-MAY-13	14.86	Reconciled
339084		09-MAY-13	FISHER SCIENTIFIC COMPANY LLC		2,935.52	13-MAY-13	2,935.52	Reconciled
339085		09-MAY-13	FM3 RESEARCH		2,400.00	13-MAY-13	2,400.00	Reconciled
339086		09-MAY-13	FRONTLINE MANAGEMENT INC		17,614.26	20-MAY-13	17,614.26	Reconciled
339087		09-MAY-13	GALATIOTO, SAMUEL		15.10			Negotiable
339088		09-MAY-13	GILBERT, ESTHER		100.00	23-MAY-13	100.00	Reconciled
339089		09-MAY-13	GOOLSBY, BRYAN		100.00	21-MAY-13	100.00	Reconciled
339090		09-MAY-13	GRAINGER		2,225.66	13-MAY-13	2,225.66	Reconciled
339091		09-MAY-13	HACH COMPANY		8,900.61	20-MAY-13	8,900.61	Reconciled
339092		09-MAY-13	HALDEMAN INC		1,026.00	15-MAY-13	1,026.00	Reconciled
339093		09-MAY-13	HARRINGTON INDUSTRIAL PLASTICS LLC		196.75	13-MAY-13	196.75	Reconciled
339094		09-MAY-13	HELLD, HOLLY		100.00	22-MAY-13	100.00	Reconciled
339095		09-MAY-13	HIGUCHI, CHIZUKO		27.47	28-MAY-13	27.47	Reconciled
339096		09-MAY-13	HILL BROTHERS CHEMICAL COMPANY		19,177.95	14-MAY-13	19,177.95	Reconciled
339097		09-MAY-13	HOME DEPOT USA INC		2,128.00	28-MAY-13	2,128.00	Reconciled
339098		09-MAY-13	HOPKINS, SUSAN		6.46	10-MAY-13	6.46	Reconciled
339099		09-MAY-13	HSG INC		1,462.00	13-MAY-13	1,462.00	Reconciled
339100		09-MAY-13	INLAND POTABLE SERVICES, INC		9,845.00	17-MAY-13	9,845.00	Reconciled
339101		09-MAY-13	IOM2 INC.		850.00	16-MAY-13	850.00	Reconciled
339102		09-MAY-13	IRVINE PIPE & SUPPLY INC		3,218.45	16-MAY-13	3,218.45	Reconciled
339103		09-MAY-13	ISBELL, MICHAEL		27.90			Negotiable
339104		09-MAY-13	KATROWSKI, DAVID S		100.00	13-MAY-13	100.00	Reconciled
339105		09-MAY-13	KELLY SERVICES INC		6,670.80	15-MAY-13	6,670.80	Reconciled
339106		09-MAY-13	KLING, MARTHA		100.00	16-MAY-13	100.00	Reconciled
339107		09-MAY-13	KUO, SHIH-SHUAN		100.00	22-MAY-13	100.00	Reconciled
339108		09-MAY-13	LAGUNA BEACH COUNTY WATER DISTRICT		2,616.92			Negotiable
339109		09-MAY-13	LCS TECHNOLOGIES, INC.		10,625.00	20-MAY-13	10,625.00	Reconciled
339110		09-MAY-13	LE, HUONG		100.00	15-MAY-13	100.00	Reconciled
339111		09-MAY-13	LEADERSHIP TOMORROW		1,400.00			Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 9
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339112		09-MAY-13	LENOVO UNITED STATES INC		4,836.84	13-MAY-13	4,836.84	Reconciled
339113		09-MAY-13	LEWIS OPERATING CORP		1,200.00	10-MAY-13	1,200.00	Reconciled
339114		09-MAY-13	LGC GEOTECHNICAL, INC.		455.00	17-MAY-13	455.00	Reconciled
339115		09-MAY-13	LIN, CHARLOTTE		100.00	15-MAY-13	100.00	Reconciled
339116		09-MAY-13	LOWRY, HEYLANDS		39.96			Negotiable
339117		09-MAY-13	LSA ASSOCIATES INC		1,565.15	10-MAY-13	1,565.15	Reconciled
339118		09-MAY-13	LUBRICATION ENGINEERS, INC.		1,404.22	13-MAY-13	1,404.22	Reconciled
339119		09-MAY-13	LUNG & ASSOCIATES INC, ROBERT J		2,732.40	20-MAY-13	2,732.40	Reconciled

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
339120		09-MAY-13	LUU, NGHIA		17.94			Negotiable
339121		09-MAY-13	MARTINOFF, DONNA		100.00	13-MAY-13	100.00	Reconciled
339122		09-MAY-13	MBC APPLIED ENVIRONMENTAL SCIENCES		1,250.00	13-MAY-13	1,250.00	Reconciled
339123		09-MAY-13	MC MASTER CARR SUPPLY CO		1,934.32	14-MAY-13	1,934.32	Reconciled
339124		09-MAY-13	MCGEE, JAMES F		100.00	10-MAY-13	100.00	Reconciled
339125		09-MAY-13	MDT INC		8,250.00	21-MAY-13	8,250.00	Reconciled
339126		09-MAY-13	MERCHANTS LANDSCAPE SERVICES INC		7,280.00	14-MAY-13	7,280.00	Reconciled
339127		09-MAY-13	MOBILE MODULAR MANAGEMENT CORPORATION		1,111.32	13-MAY-13	1,111.32	Reconciled
339128		09-MAY-13	MUTUAL PROPANE		273.11	13-MAY-13	273.11	Reconciled
339129		09-MAY-13	NASERY, FAHE		342.82			Negotiable
339130		09-MAY-13	NATIONAL READY MIXED CONCRETE CO		622.62	13-MAY-13	622.62	Reconciled
339131		09-MAY-13	NATURES IMAGE INC		4,131.12	13-MAY-13	4,151.12	Reconciled
339132		09-MAY-13	NCH CORPORATION		1,111.39	14-MAY-13	1,111.39	Reconciled
339133		09-MAY-13	NEPTUNE TECHNOLOGY GROUP, INC.		73,872.00	16-MAY-13	73,872.00	Reconciled
339134		09-MAY-13	NINYO & MOORE		100.00	13-MAY-13	100.00	Reconciled
339135		09-MAY-13	NMG GEOTECHNICAL INC		7,983.90	17-MAY-13	7,983.90	Reconciled
339136		09-MAY-13	OLIN CORPORATION		2,683.37	13-MAY-13	2,683.37	Reconciled
339137		09-MAY-13	ORACLE AMERICA, INC.		426,888.50	15-MAY-13	426,888.50	Reconciled
339138		09-MAY-13	OUTSOURCE TECHNICAL LLC		26,188.00	15-MAY-13	26,188.00	Reconciled
339139		09-MAY-13	PAK, SUNG		33.55	29-MAY-13	33.55	Reconciled

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-13 To 31-MAY-13
 Account: Checking AP and PR
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Report Date: 03-JUN-2013 08:40
 Page: 10

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339140		09-MAY-13	PARADA PAINTING INC		31,457.35	17-MAY-13	31,457.35	Reconciled
339141		09-MAY-13	PARK, GRACE		15.00	20-MAY-13	15.00	Reconciled
339142		09-MAY-13	PARKER, LISA		100.00			Negotiable
339143		09-MAY-13	PEREZ, KATHRYN		75.95	10-MAY-13	75.95	Reconciled
339144		09-MAY-13	PERKINELMER HEALTH SCIENCES INC		12,188.35	16-MAY-13	12,188.35	Reconciled
339145		09-MAY-13	PERRY, COREY		100.00	20-MAY-13	100.00	Reconciled
339146		09-MAY-13	PIERCE, STEVEN		100.00	17-MAY-13	100.00	Reconciled
339147		09-MAY-13	PINNACLE LANDSCAPE COMPANY		6,560.00	15-MAY-13	6,560.00	Reconciled
339148		09-MAY-13	PRAXAIR DISTRIBUTION INC		3,498.78	15-MAY-13	3,498.78	Reconciled
339149		09-MAY-13	PRINCIPAL LIFE INSURANCE		25,007.90	17-MAY-13	25,007.90	Reconciled
339150		09-MAY-13	PRUDENTIAL OVERALL SUPPLY		518.40	10-MAY-13	518.40	Reconciled
339151		09-MAY-13	PSOMAS		3,992.85	13-MAY-13	3,992.85	Reconciled
339152		09-MAY-13	PURE EFFECT INC		5,955.00	17-MAY-13	5,955.00	Reconciled
339153		09-MAY-13	PYRO-COMM SYSTEMS INC		1,490.00	10-MAY-13	1,490.00	Reconciled
339154		09-MAY-13	RAINBOW DISPOSAL CO INC		482.22	13-MAY-13	482.22	Reconciled
339155		09-MAY-13	RAM AIR ENGINEERING INC		2,966.17	15-MAY-13	2,966.17	Reconciled
339156		09-MAY-13	RATHOR, UMESH		10.09			Negotiable
339157		09-MAY-13	REACH EMPLOYEE ASSISTANCE INC		851.20	20-MAY-13	851.20	Reconciled
339158		09-MAY-13	RED HAWK FIRE & SECURITY (CA) LLC		475.00	13-MAY-13	475.00	Reconciled
339159		09-MAY-13	REED, JAMES D		1,906.59	16-MAY-13	1,906.59	Reconciled
339160		09-MAY-13	REFRIGERATION SUPPLIES		477.51	13-MAY-13	477.51	Reconciled
339161		09-MAY-13	RESPONSE ENVELOPE, INC		155.93	10-MAY-13	155.93	Reconciled
339162		09-MAY-13	RINGCLEAR LLC		40.92			Negotiable
339163		09-MAY-13	ROBINSON, LYNDON D		100.00	13-MAY-13	100.00	Reconciled
339164		09-MAY-13	SAFECHECKS		1,272.11	13-MAY-13	1,272.11	Reconciled
339165		09-MAY-13	SAN DIEGO FLUID SYSTEM TECH		131.26	14-MAY-13	131.26	Reconciled
339166		09-MAY-13	SANDERS PAVING INC		15,512.00	14-MAY-13	15,512.00	Reconciled
339167		09-MAY-13	SANTA ANA BLUE PRINT		828.87	15-MAY-13	828.87	Reconciled
339168		09-MAY-13	SANTA ANA CITY OF		19,760.37			Negotiable
339169		09-MAY-13	SANTA MARGARITA WATER DISTRICT		42,023.48	14-MAY-13	42,023.48	Reconciled

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-13 To 31-MAY-13
 Account: Checking AP and PR
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Report Date: 03-JUN-2013 08:40
 Page: 11

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339170		09-MAY-13	SANTIAGO AQUEDUCT COMMISSION		27,622.20	14-MAY-13	27,622.20	Reconciled
339171		09-MAY-13	SCHENDEL, HERBERT		15.39			Negotiable
339172		09-MAY-13	SHAMROCK SUPPLY CO INC		1,792.99	13-MAY-13	1,792.99	Reconciled
339173		09-MAY-13	SIMI VALLEY LANDFILL AND RECYCLING CENTER		452.60	14-MAY-13	452.60	Reconciled
339174		09-MAY-13	SIRIUS COMPUTER SOLUTIONS INC		215.00	13-MAY-13	215.00	Reconciled
339175		09-MAY-13	SMITH, EDYTHE		75.00	16-MAY-13	75.00	Reconciled
339176		09-MAY-13	SMITH, TAWNI		100.00	16-MAY-13	100.00	Reconciled
339177		09-MAY-13	SONOMA APTS		336.52	16-MAY-13	336.52	Reconciled
339178		09-MAY-13	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		1,515.93	24-MAY-13	1,515.93	Reconciled
339179		09-MAY-13	SOUTH COAST WATER DISTRICT		2,508.61	13-MAY-13	2,508.61	Reconciled
339180		09-MAY-13	SOUTHERN CALIFORNIA EDISON COMPANY		215,500.58	10-MAY-13	215,500.58	Reconciled
339181		09-MAY-13	SOUTHERN CALIFORNIA SECURITY CENTER, INC.		10.80	17-MAY-13	10.80	Reconciled
339182		09-MAY-13	SPECTER INSTRUMENTS		990.00	14-MAY-13	990.00	Reconciled
339183		09-MAY-13	STANTEC CONSULTING SERVICES INC.		6,164.84	16-MAY-13	6,164.84	Reconciled
339184		09-MAY-13	SUPERMEDIA LLC		72.75	14-MAY-13	72.75	Reconciled
339185		09-MAY-13	TAJADODE, FAYE		100.00	17-MAY-13	100.00	Reconciled
339186		09-MAY-13	TAYLOR WOODROW HOMES		53.29	30-MAY-13	53.29	Reconciled
339187		09-MAY-13	TERRELL, MARILEE		100.00	13-MAY-13	100.00	Reconciled
339188		09-MAY-13	TESTAMERICA LABORATORIES, INC		192.15	15-MAY-13	192.15	Reconciled
339189		09-MAY-13	TETRA TECH, INC		4,188.41	13-MAY-13	4,188.41	Reconciled
339190		09-MAY-13	THERMO FISHER SCIENTIFIC LLC		3,035.12	13-MAY-13	3,035.12	Reconciled
339191		09-MAY-13	THOMPSON, KENNETH M		100.00	13-MAY-13	100.00	Reconciled
339192		09-MAY-13	TIC-RETAIL PROPERTIES		5,473.54	15-MAY-13	5,473.54	Reconciled
339193		09-MAY-13	TOXGUARD FLUID TECHNOLOGIES		245.18	16-MAY-13	245.18	Reconciled
339194		09-MAY-13	TRAN, KAREN		132.85	21-MAY-13	132.85	Reconciled
IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40								
BANK: Bank of America N.A.			Branch : Los Angeles		Account: Checking AP and PR		Page: 12	
Bank Account Currency: USD (US Dollar)			Payment Currency: USD (US Dollar)			Display Supplier Address: No		
Payment Type: All								

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339195		09-MAY-13	TROPICAL PLAZA NURSERY INC		5,790.48	14-MAY-13	5,790.48	Reconciled
339196		09-MAY-13	TRUCPARCO		1,033.36	17-MAY-13	1,033.36	Reconciled
339197		09-MAY-13	TRUGREEN LANDCARE LLC		353.27	13-MAY-13	353.27	Reconciled
339198		09-MAY-13	TRUJILLO, ROSE ANN		60.00	14-MAY-13	60.00	Reconciled
339199		09-MAY-13	TURPIN, JOHN S		100.00	13-MAY-13	100.00	Reconciled
339200		09-MAY-13	UMETSU, WAYNE T		100.00			Negotiable
339201		09-MAY-13	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA		735.00	15-MAY-13	735.00	Reconciled
339202		09-MAY-13	UNITED PARCEL SERVICE INC		73.52	13-MAY-13	73.52	Reconciled
339203		09-MAY-13	UNITED RENTALS NORTHWEST INC		1,075.05	13-MAY-13	1,075.05	Reconciled
339204		09-MAY-13	UNITED SITE SERVICES OF CALIFORNIA INC		458.67	13-MAY-13	458.67	Reconciled
339205		09-MAY-13	UNITED STATES POST OFFICE		25,000.00	16-MAY-13	25,000.00	Reconciled
339206		09-MAY-13	URS CORPORATION		250.00	13-MAY-13	250.00	Reconciled
339207		09-MAY-13	US PEROXIDE LLC		16,923.40	16-MAY-13	16,923.40	Reconciled
339208		09-MAY-13	USA MOBILITY WIRELESS INC		70.88	14-MAY-13	70.88	Reconciled
339209		09-MAY-13	VERIZON CALIFORNIA INC		239.41	15-MAY-13	239.41	Reconciled
339210		09-MAY-13	VERIZON WIRELESS SERVICES LLC		558.90	14-MAY-13	558.90	Reconciled
339211		09-MAY-13	VERTEX INC		3,380.00	13-MAY-13	3,380.00	Reconciled
339212		09-MAY-13	VWR INTERNATIONAL, LLC		7,332.83	16-MAY-13	7,332.83	Reconciled
339213		09-MAY-13	WALTERS WHOLESALE		2,072.83	14-MAY-13	2,072.83	Reconciled

D-7

339214	09-MAY-13	ELECTRIC WASTE MANAGEMENT OF ORANGE COUNTY	1,614.40	14-MAY-13	1,614.40	Reconciled
339215	09-MAY-13	WATERLINE TECHNOLOGIES INC	2,780.00	15-MAY-13	2,780.00	Reconciled
339216	09-MAY-13	WECK LABORATORIES INC	864.50	15-MAY-13	864.50	Reconciled
339217	09-MAY-13	WEST COAST PIPE	100,575.00	15-MAY-13	100,575.00	Reconciled
339218	09-MAY-13	WEST COAST SAFETY SUPPLY INC	2,103.70	22-MAY-13	2,103.70	Reconciled
339219	09-MAY-13	WEST COAST SAND & GRAVEL INC.	878.32	13-MAY-13	878.32	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 13
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339220		09-MAY-13	WESTERN EXTERMINATOR COMPANY		10,227.50	28-MAY-13	10,227.50	Reconciled
339221		09-MAY-13	WILLIAM LYON HOMES		70.50			Negotiable
339222		09-MAY-13	WIRELESS WATCHDOGS, LLC		908.00	21-MAY-13	908.00	Reconciled
339223		09-MAY-13	WORKFLOWONE		2,457.92	13-MAY-13	2,457.92	Reconciled
339224		09-MAY-13	WORLDWIDE CORPORATE HOUSING, L.P.		952.00	13-MAY-13	952.00	Reconciled
339225		09-MAY-13	YEE, CARL		65.95	15-MAY-13	65.95	Reconciled
339226		09-MAY-13	YILDIZ, OZKUR		100.00			Negotiable
339227		09-MAY-13	YIP, JENNY		15.00	17-MAY-13	15.00	Reconciled
339228		09-MAY-13	YOUSSEFI, SHAHRIAR		100.00			Negotiable
339229		09-MAY-13	YU, ALEX		703.06	16-MAY-13	703.06	Reconciled
339230		09-MAY-13	ZEE MEDICAL SERVICE CO		642.43	10-MAY-13	642.43	Reconciled
339231		13-MAY-13	THE TULSA RIB COMPANY INC	ORANGE 1	5,756.67	21-MAY-13	5,756.67	Reconciled
339232		13-MAY-13	MAYER HOFFMAN MCCANN P.C.	PAY	260.00	14-MAY-13	260.00	Reconciled
339233		15-MAY-13	THE GITTELMAN GROUP	LA JOLLA	10,000.00	17-MAY-13	10,000.00	Reconciled
339234		16-MAY-13	Carlos Collazo		90.00	28-MAY-13	90.00	Reconciled
339235		16-MAY-13	Douglas Reinhart		35.03	20-MAY-13	35.03	Reconciled
339236		16-MAY-13	Kevin Walsh		310.00			Negotiable
339237		16-MAY-13	Margaret Pulles		47.91	16-MAY-13	47.91	Reconciled
339238		16-MAY-13	Michael Chandler		90.00	21-MAY-13	90.00	Reconciled
339239		16-MAY-13	Ricky Ruiz		193.77	20-MAY-13	193.77	Reconciled
339240		16-MAY-13	Steven LaMar		16.95	20-MAY-13	16.95	Reconciled
339241		16-MAY-13	Steven Malloy		2,049.90	20-MAY-13	2,049.90	Reconciled
339242		16-MAY-13	A&A WIPING CLOTH CO		81.01	20-MAY-13	81.01	Reconciled
339243		16-MAY-13	ACCURATE AIR ENGINEERING INC		1,076.10	21-MAY-13	1,076.10	Reconciled
339244		16-MAY-13	AIRGAS-WEST, INC.		390.54	20-MAY-13	390.54	Reconciled
339245		16-MAY-13	APCO GRAPHICS INC		108.00	21-MAY-13	108.00	Reconciled
339246		16-MAY-13	APPLIED GEODETICS, INC.		2,500.00	21-MAY-13	2,500.00	Reconciled
339247		16-MAY-13	AQUA-METRIC SALES COMPANY		25,746.16			Negotiable
339248		16-MAY-13	ARCADIS U.S., INC.		3,151.00	21-MAY-13	3,151.00	Reconciled
339249		16-MAY-13	AT&T		162.75	21-MAY-13	162.75	Reconciled
339250		16-MAY-13	AT&T		3,522.38	20-MAY-13	3,522.38	Reconciled
339251		16-MAY-13	AT&T		47.70	21-MAY-13	47.70	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 14
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339252		16-MAY-13	ATTENBOROUGH, SCOTT		26.50	28-MAY-13	26.50	Reconciled
339253		16-MAY-13	BDC SPECIAL WASTE		200.00	21-MAY-13	200.00	Reconciled
339254		16-MAY-13	BK FOUNTAIN WORKS		815.28	20-MAY-13	815.28	Reconciled
339255		16-MAY-13	BORCHARD SURVEYING & MAPPING, INC.		5,357.50			Negotiable
339256		16-MAY-13	BRENNTAG PACIFIC INC		6,132.84	23-MAY-13	6,132.84	Reconciled
339257		16-MAY-13	BRUCE NEWELL		1,316.00	20-MAY-13	1,316.00	Reconciled
339258		16-MAY-13	C WELLS PIPELINE MATERIALS INC		494.64	23-MAY-13	494.64	Reconciled
339259		16-MAY-13	CALIFORNIA BARRICADE INC		1,735.08	21-MAY-13	1,735.08	Reconciled
339260		16-MAY-13	CHARLES P CROWLEY COMPANY INC		550.00	17-MAY-13	550.00	Reconciled
339261		16-MAY-13	CHEM TECH		6,564.80	30-MAY-13	6,564.80	Reconciled

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
339262	16-MAY-13	INTERNATIONAL INC			15.00	20-MAY-13	15.00	Reconciled
339263	16-MAY-13	CHOH, STEVE			11.50	22-MAY-13	11.50	Reconciled
339264	16-MAY-13	CHOUNG, HEE'TAE			886.91	17-MAY-13	886.91	Reconciled
339265	16-MAY-13	CITY OF NEWPORT BEACH			510.00	22-MAY-13	510.00	Reconciled
339266	16-MAY-13	COASTAL TRAFFIC SYSTEMS, INC			97.28			Negotiable
339267	16-MAY-13	COLOME AUTO SALES COMMERCIAL CLEANING SYSTEMS			240.00	20-MAY-13	240.00	Reconciled
339268	16-MAY-13	COMMERCIAL DOOR OF ORANGE COUNTY, INC.			9,863.00	22-MAY-13	9,863.00	Reconciled
339269	16-MAY-13	CONEYBEARE INC			12,029.56	23-MAY-13	12,029.56	Reconciled
339270	16-MAY-13	CORTEZ, ANTHONY			117.90			Negotiable
339271	16-MAY-13	DANGELO CO			395.15	20-MAY-13	395.15	Reconciled
339272	16-MAY-13	DE MOULIN, DIANE			79.00			Negotiable
339273	16-MAY-13	DELISLE, THOMAS J			58.30	23-MAY-13	58.30	Reconciled
339274	16-MAY-13	DISCOVERY SCIENCE CENTER			15,644.34	22-MAY-13	15,644.34	Reconciled
339275	16-MAY-13	DON WILSON BUILDERS			35.55	21-MAY-13	35.55	Reconciled
339276	16-MAY-13	DOUG MARTIN CONTRACTING CO			929.36	23-MAY-13	929.36	Reconciled
339277	16-MAY-13	DRAEGER SAFETY INC			881.17	21-MAY-13	881.17	Reconciled
339278	16-MAY-13	EAGLE GRAPHICS INC			1,287.09	20-MAY-13	1,287.09	Reconciled
339279	16-MAY-13	EMEDCO			464.95	23-MAY-13	464.95	Reconciled
339280	16-MAY-13	EMPLOYEE BENEFIT SPECIALIST, INC			660.00	20-MAY-13	660.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 15
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339281	16-MAY-13	ENVIRON INTERNATIONAL CORP.			3,161.98	20-MAY-13	3,161.98	Reconciled
339282	16-MAY-13	ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC.			14,604.36	22-MAY-13	14,604.36	Reconciled
339283	16-MAY-13	ENVIRONMENTAL RESOURCE ASSOCIATES			1,204.97	20-MAY-13	1,204.97	Reconciled
339284	16-MAY-13	EXPRESSAIR			70.00	29-MAY-13	70.00	Reconciled
339285	16-MAY-13	EXTERRAN ENERGY SOLUTIONS LP			9,184.17	23-MAY-13	9,184.17	Reconciled
339286	16-MAY-13	FARMERS INSURANCE			3,901.79	21-MAY-13	3,901.79	Reconciled
339287	16-MAY-13	FARRELL & ASSOCIATES			1,155.15	24-MAY-13	1,155.15	Reconciled
339288	16-MAY-13	FERGUSON, DAVID			8,444.17	17-MAY-13	8,444.17	Reconciled
339289	16-MAY-13	FIERRO, SERGIO D			2,675.25	22-MAY-13	2,675.25	Reconciled
339290	16-MAY-13	FIRST CHOICE SERVICES			254.55	22-MAY-13	254.55	Reconciled
339291	16-MAY-13	FISHER SCIENTIFIC COMPANY LLC			2,351.96	20-MAY-13	2,351.96	Reconciled
339292	16-MAY-13	FISHNET SECURITY INC			258.96	21-MAY-13	258.96	Reconciled
339293	16-MAY-13	FITCH, INC.			8,000.00	23-MAY-13	8,000.00	Reconciled
339294	16-MAY-13	GENTERRA CONSULTANTS INC			627.92	20-MAY-13	627.92	Reconciled
339295	16-MAY-13	GJ AUTOMOTIVE EQUIPMENT CO INC			4,285.32	24-MAY-13	4,285.32	Reconciled
339296	16-MAY-13	GOLDMAN, SACHS & CO			18,922.19	23-MAY-13	18,922.19	Reconciled
339297	16-MAY-13	GOOGLE INC.			1,121.76	21-MAY-13	1,121.76	Reconciled
339298	16-MAY-13	GRAINGER			3,738.66	21-MAY-13	3,738.66	Reconciled
339299	16-MAY-13	HACH COMPANY			289.31	20-MAY-13	289.31	Reconciled
339300	16-MAY-13	HARPER & ASSOCIATES ENGINEERING INC			5,162.50			Negotiable
339301	16-MAY-13	HDR ENGINEERING INC			200,373.47	23-MAY-13	200,373.47	Reconciled
339302	16-MAY-13	HILL BROTHERS CHEMICAL COMPANY			7,053.00	21-MAY-13	7,053.00	Reconciled
339303	16-MAY-13	HO, CHRIS			568.08			Negotiable
339304	16-MAY-13	HOME DEPOT USA INC			269.01	22-MAY-13	269.01	Reconciled
339305	16-MAY-13	HOROWITZ, SHEILA			302.37	20-MAY-13	302.37	Reconciled
339306	16-MAY-13	HSG INC			1,462.00	20-MAY-13	1,462.00	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 16
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								

339307	16-MAY-13	INDUSTRIAL ELECTRIC MACHINERY LLC	2,616.57	24-MAY-13	2,616.57	Reconciled
339308	16-MAY-13	INFOSYS LIMITED	150,000.00	23-MAY-13	150,000.00	Reconciled
339309	16-MAY-13	INTEGRITY MUNICIPAL SERVICES LLC	3,300.00	22-MAY-13	3,300.00	Reconciled
339310	16-MAY-13	IRVINE PIPE & SUPPLY INC	2,214.41	24-MAY-13	2,214.41	Reconciled
339311	16-MAY-13	IRWD-PETTY CASH CUSTODIAN	1,045.70	17-MAY-13	1,045.70	Reconciled
339312	16-MAY-13	J POST GRADING INC	858.58	21-MAY-13	858.58	Reconciled
339313	16-MAY-13	JOHN G. ALEVIZOS D.O. INC.	247.00	21-MAY-13	247.00	Reconciled
339314	16-MAY-13	KELLY SERVICES INC	1,744.00	20-MAY-13	1,744.00	Reconciled
339315	16-MAY-13	KOHLER, CAROL	15.83			Negotiable
339316	16-MAY-13	LEE & RO, INC.	14,157.24	22-MAY-13	14,157.24	Reconciled
339317	16-MAY-13	LEGG, TOM	27.53			Negotiable
339318	16-MAY-13	LENOVO UNITED STATES INC	20,100.53	22-MAY-13	20,100.53	Reconciled
339319	16-MAY-13	LGC GEOTECHNICAL, INC.	9,093.50	28-MAY-13	9,093.50	Reconciled
339320	16-MAY-13	LIGHT COMMUNICATIONS INC	19,875.00	29-MAY-13	19,875.00	Reconciled
339321	16-MAY-13	LIU, SHYHKWEI	77.54	22-MAY-13	77.54	Reconciled
339322	16-MAY-13	LOWE, BERENNEN	41.72	28-MAY-13	41.72	Reconciled
339323	16-MAY-13	LSA ASSOCIATES INC	1,901.67			Negotiable
339324	16-MAY-13	LUBRICATION ENGINEERS, INC.	532.17	20-MAY-13	532.17	Reconciled
339325	16-MAY-13	MAIN ELECTRIC SUPPLY CO., LLC	248.03	22-MAY-13	248.03	Reconciled
339326	16-MAY-13	MARK COMPANY	753.07			Negotiable
339327	16-MAY-13	MARVIN GARDENS LLC	343.08	17-MAY-13	343.08	Reconciled
339328	16-MAY-13	MC MASTER CARR SUPPLY CO	1,969.76	21-MAY-13	1,969.76	Reconciled
339329	16-MAY-13	MCR TECHNOLOGIES INC	14,511.36	22-MAY-13	14,511.36	Reconciled
339330	16-MAY-13	MERKER, MICHELLE	16.99			Negotiable
339331	16-MAY-13	MGH PAINTING INC	2,065.00	21-MAY-13	2,065.00	Reconciled
339332	16-MAY-13	MURTHY, INDRANI	77.18			Negotiable
339333	16-MAY-13	MWH AMERICAS INC	382.50	20-MAY-13	382.50	Reconciled
339334	16-MAY-13	NATIONAL READY MIXED CONCRETE CO	791.40	20-MAY-13	791.40	Reconciled
339335	16-MAY-13	NCH CORPORATION	729.72	20-MAY-13	729.72	Reconciled
339336	16-MAY-13	O'HAREN GOVERNMENT RELATIONS	13,121.63	22-MAY-13	13,121.63	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 17
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339337		16-MAY-13	OLIN CORPORATION		33,074.89	24-MAY-13	33,074.89	Reconciled
339338		16-MAY-13	ORANGE COUNTY FIRE PROTECTION		1,963.80	23-MAY-13	1,963.80	Reconciled
339339		16-MAY-13	ORANGE COUNTY TREASURER		897.50	20-MAY-13	897.50	Reconciled
339340		16-MAY-13	ORANGE, COUNTY OF		3,932.50	22-MAY-13	3,932.50	Reconciled
339341		16-MAY-13	ORANGE, COUNTY OF		6,553.00	21-MAY-13	6,553.00	Reconciled
339342		16-MAY-13	OUTSOURCE TECHNICAL LLC		5,520.00	24-MAY-13	5,520.00	Reconciled
339343		16-MAY-13	PACIFIC COAST BOLT CORP		1,137.63	21-MAY-13	1,137.63	Reconciled
339344		16-MAY-13	PACIFIC GAS AND ELECTRIC COMPANY		24.93	21-MAY-13	24.93	Reconciled
339345		16-MAY-13	PALOS, CINDY		126.35	20-MAY-13	126.35	Reconciled
339346		16-MAY-13	PAPER DEPOT DOCUMENT DESTRUCTION LLC		963.59	24-MAY-13	963.59	Reconciled
339347		16-MAY-13	PARK, JOHNNY		15.96	20-MAY-13	15.96	Reconciled
339348		16-MAY-13	PIPELOGIX INC		1,980.00	20-MAY-13	1,980.00	Reconciled
339349		16-MAY-13	PLASTINO, RICHARD		45.99			Negotiable
339350		16-MAY-13	PRAXAIR DISTRIBUTION INC		205.86	24-MAY-13	205.86	Reconciled
339351		16-MAY-13	PRESLEY, MARY		33.99	21-MAY-13	33.99	Reconciled
339352		16-MAY-13	R&B AUTOMATION INC		5,634.76	23-MAY-13	5,634.76	Reconciled
339353		16-MAY-13	RBF CONSULTING		7,589.32	23-MAY-13	7,589.32	Reconciled
339354		16-MAY-13	RED WING SHOES		155.52	30-MAY-13	155.52	Reconciled
339355		16-MAY-13	S2 REAL ESTATE CORP		15.00	20-MAY-13	15.00	Reconciled
339356		16-MAY-13	SANTA ANA BLUE PRINT		12,662.91	23-MAY-13	12,662.91	Reconciled
339357		16-MAY-13	SEAL ANALYTICAL INC		351.96	20-MAY-13	351.96	Reconciled
339358		16-MAY-13	SECURTEC DISTRICT PATROL INC		7,000.00	23-MAY-13	7,000.00	Reconciled
339359		16-MAY-13	SHAMROCK SUPPLY CO INC		858.07	20-MAY-13	858.07	Reconciled
339360		16-MAY-13	SKAGGS, JULON		50.74			Negotiable
339361		16-MAY-13	SOLIDUM, YVONE		52.74	24-MAY-13	52.74	Reconciled

339362	16-MAY-13	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		2,797.02	29-MAY-13	2,797.02	Reconciled
339363	16-MAY-13	SOUTH COAST WATER CO.		151.68	21-MAY-13	151.68	Reconciled
339364	16-MAY-13	SOUTH COAST WATER CO.		40.00	21-MAY-13	40.00	Reconciled

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-13 To 31-MAY-13
 Account: Checking AP and PR
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Report Date: 03-JUN-2013 08:40
 Page: 18

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339365		16-MAY-13	SOUTH ORANGE COUNTY WASTEWATER AUTHORITY		138,900.00	21-MAY-13	138,900.00	Reconciled
339366		16-MAY-13	SOUTHERN CALIFORNIA EDISON COMPANY		547.00	17-MAY-13	547.00	Reconciled
339367		16-MAY-13	SOUTHERN CALIFORNIA EDISON COMPANY		66,153.15	17-MAY-13	66,153.15	Reconciled
339368		16-MAY-13	SOUTHERN CALIFORNIA SECURITY CENTER, INC.		18.36	23-MAY-13	18.36	Reconciled
339369		16-MAY-13	SOUTHWEST ENVIRONMENTAL INC		150,916.71	22-MAY-13	150,916.71	Reconciled
339370		16-MAY-13	SPARKLETTTS		307.15	24-MAY-13	307.15	Reconciled
339371		16-MAY-13	SPARLING INSTRUMENTS LLC		534.07	20-MAY-13	534.07	Reconciled
339372		16-MAY-13	STERIS CORPORATION		4,197.58	20-MAY-13	4,197.58	Reconciled
339373		16-MAY-13	STRAIGHT-LINE SOLUTIONS		1,371.65	24-MAY-13	1,371.65	Reconciled
339374		16-MAY-13	SUKUT CONSTRUCTION INC		502.23	20-MAY-13	502.23	Reconciled
339375		16-MAY-13	SULLY-MILLER CONTRACTING CO.		3,660.45	22-MAY-13	3,660.45	Reconciled
339376		16-MAY-13	SULLY-MILLER CONTRACTING CO.		69,548.54	21-MAY-13	69,548.54	Reconciled
339377		16-MAY-13	SYNAGRO SOUTH, LLC		9,123.58	23-MAY-13	9,123.58	Reconciled
339378		16-MAY-13	TABARES ENTERTAINMENT INC		2,652.32	20-MAY-13	2,652.32	Reconciled
339379		16-MAY-13	TANAKA, TOMOKI		41.70			Negotiable
339380		16-MAY-13	TAYLOR WOODROW HOMES		26.73	30-MAY-13	26.73	Reconciled
339381		16-MAY-13	THE GAS COMPANY		3,605.69	22-MAY-13	3,605.69	Reconciled
339382		16-MAY-13	TOXGUARD FLUID TECHNOLOGIES		61.50	23-MAY-13	61.50	Reconciled
339383		16-MAY-13	TRENCH SHORING COMPANY		249.05	21-MAY-13	249.05	Reconciled
339384		16-MAY-13	TROPICAL PLAZA NURSERY INC		4,472.63	20-MAY-13	4,472.63	Reconciled
339385		16-MAY-13	UNITED PARCEL SERVICE INC		175.87	20-MAY-13	175.87	Reconciled
339386		16-MAY-13	UNITED STATES POSTAL SERVICE		54.02	28-MAY-13	54.02	Reconciled
339387		16-MAY-13	US PEROXIDE LLC		12,615.44	23-MAY-13	12,615.44	Reconciled
339388		16-MAY-13	VA CONSULTING, INC		2,320.00	20-MAY-13	2,320.00	Reconciled

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-13 To 31-MAY-13
 Account: Checking AP and PR
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Report Date: 03-JUN-2013 08:40
 Page: 19

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339389		16-MAY-13	VAN SLUIS, RAYMOND & SUSAN		579.94	30-MAY-13	579.94	Reconciled
339390		16-MAY-13	VANQUACKENBUSH, MARIA		38.61	20-MAY-13	38.61	Reconciled
339391		16-MAY-13	VERIZON CALIFORNIA INC		42.74	21-MAY-13	42.74	Reconciled
339392		16-MAY-13	VWR INTERNATIONAL, LLC		1,531.17	20-MAY-13	1,531.17	Reconciled
339393		16-MAY-13	WALTERS WHOLESALE ELECTRIC		515.08	22-MAY-13	515.08	Reconciled
339394		16-MAY-13	WANG, WANJING		33.14			Negotiable
339395		16-MAY-13	WASTE MANAGEMENT OF ORANGE COUNTY		457.59	21-MAY-13	457.59	Reconciled
339396		16-MAY-13	WATERLINE TECHNOLOGIES INC		2,780.00	22-MAY-13	2,780.00	Reconciled
339397		16-MAY-13	WAXIE'S ENTERPRISES, INC		2,683.79	20-MAY-13	2,683.79	Reconciled
339398		16-MAY-13	WECK LABORATORIES INC		705.00	21-MAY-13	705.00	Reconciled
339399		16-MAY-13	WEST COAST SAND &		1,028.07	20-MAY-13	1,028.07	Reconciled

339400	16-MAY-13	GRAVEL INC.		159.96				Negotiable
339401	16-MAY-13	WILLIAM LYON HOMES		590.00	20-MAY-13	590.00		Reconciled
		LABORATORY OF HYGENE						
339402	16-MAY-13	WMM CUSHING PROPERTIES		526.47	21-MAY-13	526.47		Reconciled
339403	16-MAY-13	YRC INC		148.98	21-MAY-13	148.98		Reconciled
339404	16-MAY-13	ZEE MEDICAL SERVICE CO		999.43	20-MAY-13	999.43		Reconciled
339405	16-MAY-13	PERS LONG TERM CARE	PASADENA 2	1,003.81	23-MAY-13	1,003.81		Reconciled
339406	16-MAY-13	CLEARINGHOUSE	PHOENIX	528.45	20-MAY-13	528.45		Reconciled
339407	16-MAY-13	INTERNAL REVENUE SERVICE	FRESNO	25.00	22-MAY-13	25.00		Reconciled
339408	16-MAY-13	IRWD EMPLOYEE ASSOCIATION	IRVINE	460.00	17-MAY-13	460.00		Reconciled
339409	21-MAY-13	JCI JONES CHEMICALS INC	CINCINNATI	11,186.95	28-MAY-13	11,186.95		Reconciled
339410	21-MAY-13	BRITHINEE ELECTRICPAY		6,217.42	24-MAY-13	6,217.42		Reconciled
339411	22-MAY-13	ADS LLC		1,991.00	28-MAY-13	1,991.00		Reconciled
339412	22-MAY-13	AIRGAS-WEST, INC.		935.42	28-MAY-13	935.42		Reconciled
339413	22-MAY-13	ALLIANCE RESOURCE CONSULTING LLC		6,500.00	28-MAY-13	6,500.00		Reconciled
339414	22-MAY-13	ALVARELLOS, MARIELLA		33.46				Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 20
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339415		22-MAY-13	AMRULL, RAHANA		58.86			Negotiable
339416		22-MAY-13	AQUA BEN CORPORATION		33,958.76	28-MAY-13	33,958.76	Reconciled
339417		22-MAY-13	ARC		1,079.28	28-MAY-13	1,079.28	Reconciled
339418		22-MAY-13	ARREDONDO, ERIN		32.16			Negotiable
339419		22-MAY-13	AT&T		4,846.24	29-MAY-13	4,846.24	Reconciled
339420		22-MAY-13	AT&T		44.40	30-MAY-13	44.40	Reconciled
339421		22-MAY-13	AT&T		3,475.71	30-MAY-13	3,475.71	Reconciled
339422		22-MAY-13	BELL TOWER FLORIST & GIFTS		196.90			Negotiable
339423		22-MAY-13	BILL'S SWEEPING SERVICE INC		460.00	28-MAY-13	460.00	Reconciled
339424		22-MAY-13	BIOMAGIC INC		9,029.71	28-MAY-13	9,029.71	Reconciled
339425		22-MAY-13	BORCHARD SURVEYING & MAPPING, INC.		2,712.50			Negotiable
339426		22-MAY-13	BOWIE, ARNESON, WILES & GIANNONE		34,108.41	28-MAY-13	34,108.41	Reconciled
339427		22-MAY-13	BRENNTAG PACIFIC INC		7,146.78	28-MAY-13	7,146.78	Reconciled
339428		22-MAY-13	BRIGHT VIEW DEVELOPMENT		15.52			Negotiable
339429		22-MAY-13	BUSH & ASSOCIATES INC		3,288.00			Negotiable
339430		22-MAY-13	C WELLS PIPELINE MATERIALS INC		1,939.14	28-MAY-13	1,939.14	Reconciled
339431		22-MAY-13	CALIFORNIA BARRICADE INC		1,365.00	28-MAY-13	1,365.00	Reconciled
339432		22-MAY-13	CAMERON-COLE, LLC		2,921.67	28-MAY-13	2,921.67	Reconciled
339433		22-MAY-13	CASSMAN, ROBERT		39.56	28-MAY-13	39.56	Reconciled
339434		22-MAY-13	CHAO, CHARLOTTE		54.58			Negotiable
339435		22-MAY-13	CHATTHA, NUTAN		26.50			Negotiable
339436		22-MAY-13	CHEM TECH INTERNATIONAL INC		4,103.00	30-MAY-13	4,103.00	Reconciled
339437		22-MAY-13	CITY CIRCUIT BREAKERS		2,223.94	24-MAY-13	2,223.94	Reconciled
339438		22-MAY-13	CITY OF IRVINE		361,714.01	28-MAY-13	361,714.01	Reconciled
339439		22-MAY-13	CITY OF LAKE FOREST		381,746.56			Negotiable
339440		22-MAY-13	CITY OF NEWPORT BEACH		291.68	29-MAY-13	291.68	Reconciled
339441		22-MAY-13	COASTAL TRAFFIC SYSTEMS, INC		510.00	29-MAY-13	510.00	Reconciled
339442		22-MAY-13	CONYBEARE INC		688.50	29-MAY-13	688.50	Reconciled
339443		22-MAY-13	CONTROLLED KEY SYSTEMS INC		1,464.58	28-MAY-13	1,464.58	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 21
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339444		22-MAY-13	CREDENTIAL CHECK CORPORATION		732.32	28-MAY-13	732.32	Reconciled

339445	22-MAY-13	DALEY & HEFT LLP	7,148.40	29-MAY-13	7,148.40	Reconciled
339446	22-MAY-13	DATA CLEAN CORPORATION	513.25	29-MAY-13	513.25	Reconciled
339447	22-MAY-13	DIRECTV INC	94.99	29-MAY-13	94.99	Reconciled
339448	22-MAY-13	ELECTRABOND	368.00			Negotiable
339449	22-MAY-13	ENVIRONMENTAL EXPRESS INC	974.01	29-MAY-13	974.01	Reconciled
339450	22-MAY-13	ENVIRONMENTAL RESOURCE ASSOCIATES	198.16	29-MAY-13	198.16	Reconciled
339451	22-MAY-13	FEDEX	964.18	28-MAY-13	964.18	Reconciled
339452	22-MAY-13	FERRANDO, CHRISTOPH	54.23			Negotiable
339453	22-MAY-13	FIRST CHOICE SERVICES	876.78	29-MAY-13	876.78	Reconciled
339454	22-MAY-13	FISERV	12,035.04	28-MAY-13	12,035.04	Reconciled
339455	22-MAY-13	FISHER SCIENTIFIC COMPANY LLC	1,169.96	28-MAY-13	1,169.96	Reconciled
339456	22-MAY-13	FIVE POINT PARTNERS LLC	33,275.57	28-MAY-13	33,275.57	Reconciled
339457	22-MAY-13	FLATIRON WEST INC	942,909.73	29-MAY-13	942,909.73	Reconciled
339458	22-MAY-13	FLEET SOLUTIONS LLC	4,016.95	29-MAY-13	4,016.95	Reconciled
339459	22-MAY-13	FOSTER, DAWN	42.97			Negotiable
339460	22-MAY-13	GARCIA, CHRISTOPHE	67.52			Negotiable
339461	22-MAY-13	GEORGE YARDLEY CO INC	550.84	28-MAY-13	550.84	Reconciled
339462	22-MAY-13	GROUP PROPERTIES PREFERRED	12.37			Negotiable
339463	22-MAY-13	HACH COMPANY	1,235.26	28-MAY-13	1,235.26	Reconciled
339464	22-MAY-13	HAMILTON, KURT	772.14	28-MAY-13	772.14	Reconciled
339465	22-MAY-13	HARMSWORTH ASSOCIATES	640.00	28-MAY-13	640.00	Reconciled
339466	22-MAY-13	HEMATABADI, MOJTABA	39.37			Negotiable
339467	22-MAY-13	HERTZ EQUIPMENT RENTAL	644.76	29-MAY-13	644.76	Reconciled
339468	22-MAY-13	HILL BROTHERS CHEMICAL COMPANY	14,783.20	29-MAY-13	14,783.20	Reconciled
339469	22-MAY-13	HILL, STEVE	15.61			Negotiable
339470	22-MAY-13	HOLMES, GLEN	18.42	28-MAY-13	18.42	Reconciled
339471	22-MAY-13	HOME DEPOT USA INC	993.50	29-MAY-13	993.50	Reconciled
339472	22-MAY-13	HOROWITZ, SHEILA	141.09	28-MAY-13	141.09	Reconciled

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 22
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339473		22-MAY-13	HUNSAKER & ASSOCIATES IRVINE		217.00	29-MAY-13	217.00	Reconciled
339474		22-MAY-13	HUNTINGTON WEST PROPERTIES		38.74	28-MAY-13	38.74	Reconciled
339475		22-MAY-13	I. KRUGER INC.		3,561.77	28-MAY-13	3,561.77	Reconciled
339476		22-MAY-13	II FUELS INC		39,881.05	28-MAY-13	39,881.05	Reconciled
339477		22-MAY-13	INDUSTRIAL METAL SUPPLY CO		9.04	29-MAY-13	9.04	Reconciled
339478		22-MAY-13	IRON MOUNTAIN INFORMATION MANAGEMENT INC		1,681.58	28-MAY-13	1,681.58	Reconciled
339479		22-MAY-13	IRONMAN PARTS & SERVICE		250.00	28-MAY-13	250.00	Reconciled
339480		22-MAY-13	IRVINE PIPE & SUPPLY INC		2,611.71	30-MAY-13	2,611.71	Reconciled
339481		22-MAY-13	KANOTZ, BILL		10.83			Negotiable
339482		22-MAY-13	KENNEDY/JENKS CONSULTANTS INC		6,775.50	29-MAY-13	6,775.50	Reconciled
339483		22-MAY-13	KESSLER, CHARLES		32.51			Negotiable
339484		22-MAY-13	KIM, SOON TAE		1,000.00			Negotiable
339485		22-MAY-13	KS DIRECT LLC		486.00	28-MAY-13	486.00	Reconciled
339486		22-MAY-13	LA HABRA FENCE COMPANY INC		2,300.00			Negotiable
339487		22-MAY-13	LACONICO, VURGENCITA		32.16			Negotiable
339488		22-MAY-13	LIFE TECHNOLOGIES CORPORATION		157.79	28-MAY-13	157.79	Reconciled
339489		22-MAY-13	LIN, OLIVER		47.50			Negotiable
339490		22-MAY-13	MAIA, THERESA		30.54			Negotiable
339491		22-MAY-13	MAJESTY INVESTMENT GROUP INC		26.50			Negotiable
339492		22-MAY-13	MANLEY, DWIGHT		42.72	28-MAY-13	42.72	Reconciled
339493		22-MAY-13	MARVIN GARDENS LLC		1,595.96	24-MAY-13	1,595.96	Reconciled
339494		22-MAY-13	MC MASTER CARR SUPPLY CO		1,412.02	28-MAY-13	1,412.02	Reconciled
339495		22-MAY-13	MCCARTHY, CAROLYN		55.64			Negotiable
339496		22-MAY-13	MCCREARY, DAVID		30.80			Negotiable
339497		22-MAY-13	MISSION COMMUNICATIONS LLC		1,126.80	29-MAY-13	1,126.80	Reconciled
339498		22-MAY-13	MOODY'S INVESTORS SERVICE INC		6,500.00	29-MAY-13	6,500.00	Reconciled

339499 22-MAY-13 MUNICIPAL MAINTENANCE EQUIPMENT INC 4,722.63 28-MAY-13 4,722.63 Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 23
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339500		22-MAY-13	MUNICIPAL WATER DISTRICT OF ORANGE-COUNTY		20,800.00	28-MAY-13	20,800.00	Reconciled
339501		22-MAY-13	MURA, MICHAEL		39.85			Negotiable
339502		22-MAY-13	MYERS & SONS HI-WAY SAFETY, INC.		2,827.44	24-MAY-13	2,827.44	Reconciled
339503		22-MAY-13	NAQVI, ZAFAR		28.61	28-MAY-13	28.61	Reconciled
339504		22-MAY-13	NMG GEOTECHNICAL INC		6,964.55			Negotiable
339505		22-MAY-13	NORITSU AMERICA CORPORATION		964.54	29-MAY-13	964.54	Reconciled
339506		22-MAY-13	NOVACOAST INC		3,450.00	29-MAY-13	3,450.00	Reconciled
339507		22-MAY-13	OLIN CORPORATION		27,484.74	29-MAY-13	27,484.74	Reconciled
339508		22-MAY-13	OLSON HAGEL FISHBURN, LLP		416.50	28-MAY-13	416.50	Reconciled
339509		22-MAY-13	ONESOURCE DISTRIBUTORS LLC		1,509.95	28-MAY-13	1,509.95	Reconciled
339510		22-MAY-13	ORANGE COUNTY VECTOR CONTROL DISTRICT		910.11			Negotiable
339511		22-MAY-13	OUTSOURCE TECHNICAL LLC		54,713.75	28-MAY-13	54,713.75	Reconciled
339512		22-MAY-13	PAC RIM ENGINEERING		3,277.50	29-MAY-13	3,277.50	Reconciled
339513		22-MAY-13	PACIFIC PARTS & CONTROLS INC		3,844.80	24-MAY-13	3,844.80	Reconciled
339514		22-MAY-13	PASCAL & LUDWIG CONSTRUCTORS		90,223.40	28-MAY-13	90,223.40	Reconciled
339515		22-MAY-13	PAULUS ENGINEERING INC		230,245.41	28-MAY-13	230,245.41	Reconciled
339516		22-MAY-13	PHAN, BRIAN		32.12			Negotiable
339517		22-MAY-13	PINNACLE TOWERS LLC		592.11	28-MAY-13	592.11	Reconciled
339518		22-MAY-13	PIVOT INTERIORS INC		7,287.58	28-MAY-13	7,287.58	Reconciled
339519		22-MAY-13	POST COMPANY		514.76	28-MAY-13	514.76	Reconciled
339520		22-MAY-13	PRAXAIR DISTRIBUTION INC		1,031.91	29-MAY-13	1,031.91	Reconciled
339521		22-MAY-13	PSB INTEGRATED MARKETING		225.00	24-MAY-13	225.00	Reconciled
339522		22-MAY-13	PSOMAS		6,471.17	28-MAY-13	6,471.17	Reconciled
339523		22-MAY-13	PURE EFFECT INC		5,955.00			Negotiable
339524		22-MAY-13	R & S SOIL PRODUCTS INC		842.40	29-MAY-13	842.40	Reconciled
339525		22-MAY-13	RBF CONSULTING		1,107.90	28-MAY-13	1,107.90	Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 24
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339526		22-MAY-13	RESPONSE ENVELOPE, INC		2,952.18	29-MAY-13	2,952.18	Reconciled
339527		22-MAY-13	RHODIA INC		9,807.94	30-MAY-13	9,807.94	Reconciled
339528		22-MAY-13	ROBLEDO, MICHAEL		26.95			Negotiable
339529		22-MAY-13	RODRIGUEZ, ELVIRA		34.31			Negotiable
339530		22-MAY-13	RVOC TR		38.49	29-MAY-13	38.49	Reconciled
339531		22-MAY-13	UTDO60789CZBROKMAN SAN CARLOS APTS		100.70	30-MAY-13	100.70	Reconciled
339532		22-MAY-13	SANTA ANA BLUE PRINT		946.09	24-MAY-13	946.09	Reconciled
339533		22-MAY-13	SANTA ANA CITY OF		64.54	28-MAY-13	64.54	Reconciled
339534		22-MAY-13	SCHOOLER, TODD		19.32			Negotiable
339535		22-MAY-13	SHAMROCK SUPPLY CO INC		2,256.73	24-MAY-13	2,256.73	Reconciled
339536		22-MAY-13	SHELLY, MADELYN		37.42			Negotiable
339537		22-MAY-13	SIGMA-ALDRICH INC		312.80	28-MAY-13	312.80	Reconciled
339538		22-MAY-13	SIRIUS COMPUTER SOLUTIONS INC		81,019.05	29-MAY-13	81,019.05	Reconciled
339539		22-MAY-13	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		1,190.83	29-MAY-13	1,190.83	Reconciled
339540		22-MAY-13	SOUTH COAST ANSWERING SERVICE		571.87	29-MAY-13	571.87	Reconciled
339541		22-MAY-13	SOUTHERN CALIFORNIA EDISON		44,659.37	24-MAY-13	44,659.37	Reconciled

339542	22-MAY-13	COMPANY SOUTHERN CALIFORNIA SECURITY CENTER, INC.	77.76				Negotiable
339543	22-MAY-13	T AND S LARSEN MAINTENANCE	400.00	28-MAY-13	400.00		Reconciled
339544	22-MAY-13	TAYLOR WOODROW HOMES	29.93				Voided
339545	22-MAY-13	TESCO CONTROLS INC	698.00	28-MAY-13	698.00		Reconciled
339546	22-MAY-13	TESTAMERICA LABORATORIES, INC	192.15	28-MAY-13	192.15		Reconciled
339547	22-MAY-13	THE GAS COMPANY	4,471.20	30-MAY-13	4,471.20		Reconciled
339548	22-MAY-13	THE GITTELMAN GROUP	1,157.46	29-MAY-13	1,157.46		Reconciled
339549	22-MAY-13	THE NEW HOME COMPANY	104.49				Negotiable
339550	22-MAY-13	TIC-OFFICE PROPERTIES	15.00	30-MAY-13	15.00		Reconciled
339551	22-MAY-13	TIC-SPECTRUM OFFICE	374.38	30-MAY-13	374.38		Reconciled

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 25
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339552		22-MAY-13	TOTAL TELCO SPECIALISTS INC		4,110.00			Negotiable
339553		22-MAY-13	TROPICAL PLAZA NURSERY INC		27,246.18	28-MAY-13	27,246.18	Reconciled
339554		22-MAY-13	TRUGREEN LANDCARE LLC		42,440.00	28-MAY-13	42,440.00	Reconciled
339555		22-MAY-13	TSAO, ELSIE		51.44			Negotiable
339556		22-MAY-13	UNISAN PRODUCTS		826.45	28-MAY-13	826.45	Reconciled
339557		22-MAY-13	UNITED PARCEL SERVICE INC		50.45	28-MAY-13	50.45	Reconciled
339558		22-MAY-13	URBAN WATER INSTITUTE INC		1,250.00			Negotiable
339559		22-MAY-13	VERIZON CALIFORNIA INC		485.10	30-MAY-13	485.10	Reconciled
339560		22-MAY-13	VILLA SIENNA APTS		199.50	30-MAY-13	199.50	Reconciled
339561		22-MAY-13	WATERLINE TECHNOLOGIES INC		2,780.00	29-MAY-13	2,780.00	Reconciled
339562		22-MAY-13	WECK LABORATORIES INC		515.00	28-MAY-13	515.00	Reconciled
339563		22-MAY-13	YSI INCORPORATED		367.20	28-MAY-13	367.20	Reconciled
339564		23-MAY-13	Alexander Murphy		313.00			Negotiable
339565		23-MAY-13	Franklin Soto		15.38	28-MAY-13	15.38	Reconciled
339566		23-MAY-13	Joan Gronck		190.71	28-MAY-13	190.71	Reconciled
339567		23-MAY-13	John Tetterer		99.42	29-MAY-13	99.42	Reconciled
339568		23-MAY-13	Kelly Welch		91.18	29-MAY-13	91.18	Reconciled
339569		23-MAY-13	Kenneth Erwin		15.00			Negotiable
339570		23-MAY-13	Leslie Bonkowski		160.71	28-MAY-13	160.71	Reconciled
339571		23-MAY-13	Martin Howell		300.00	29-MAY-13	300.00	Reconciled
339572		23-MAY-13	Paul Cook		29.67			Negotiable
339573		23-MAY-13	Richard Mori		17.52			Negotiable
339574		23-MAY-13	Thomas Bonkowski		27.69	28-MAY-13	27.69	Reconciled
339575		23-MAY-13	Wayne Posey		340.00			Negotiable
339576		23-MAY-13	Wayne Wright		361.37	24-MAY-13	361.37	Reconciled
339577		29-MAY-13	Douglas Reinhart	HOME	2,019.87			Negotiable
339578		29-MAY-13	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	7,850.00			Negotiable
339579		29-MAY-13	ADT SECURITY SERVICES INC		321.00			Negotiable
339580		29-MAY-13	AKM CONSULTING ENGINEERS, INC.		36,889.00			Negotiable
339581		29-MAY-13	ANDERSONPENNA PARTNERS, INC		15,370.00			Negotiable
339582		29-MAY-13	APPLIED INDUSTRIAL TECHNOLOGIES - CA LLC		1,702.38			Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 26
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339583		29-MAY-13	ASHFORD, WALT		361.52			Negotiable
339584		29-MAY-13	AT&T		185.36			Negotiable
339585		29-MAY-13	ATHENS SERVICES		896.56			Negotiable
339586		29-MAY-13	BADGER METER INC		51,564.60			Negotiable
339587		29-MAY-13	BRENNTAG PACIFIC INC		16,127.08			Negotiable

339588	29-MAY-13	BUSH & ASSOCIATES INC	1,114.00	Negotiable
339589	29-MAY-13	CALIFORNIA BARRICADE INC	4,075.04	Negotiable
339590	29-MAY-13	CALTROL INC	722.28	Negotiable
339591	29-MAY-13	COASTAL TRAFFIC SYSTEMS, INC	510.00	Negotiable
339592	29-MAY-13	COCA-COLA REFRESHMENTS USA, INC.	130.12	Negotiable
339593	29-MAY-13	CONEYBEARE INC	26,712.76	Negotiable
339594	29-MAY-13	CORELOGIC INC	42.00	Negotiable
339595	29-MAY-13	COX COMMUNICATIONS	1,077.43	Negotiable
339596	29-MAY-13	DEE JASPAR & ASSOCIATES, INC.	3,873.28	Negotiable
339597	29-MAY-13	EAGLE GRAPHICS INC	370.40	Negotiable
339598	29-MAY-13	EAST ORANGE COUNTY WATER DISTRICT	1,276.12	Negotiable
339599	29-MAY-13	ENVIRONMENTAL EXPRESS INC	786.24	Negotiable
339600	29-MAY-13	ENVIRONMENTAL RESOURCE ASSOCIATES	388.11	Negotiable
339601	29-MAY-13	EXPRESSAIR	70.00	Negotiable
339602	29-MAY-13	FARRELL & ASSOCIATES	208.87	Negotiable
339603	29-MAY-13	FEDEX	132.41	Negotiable
339604	29-MAY-13	FIRE EXTINGUISHING SAFETY & SERVICE	573.57	Negotiable
339605	29-MAY-13	FISERV	502.00	Negotiable
339606	29-MAY-13	FISHER SCIENTIFIC COMPANY LLC	953.10	Negotiable
339607	29-MAY-13	GLOBALSTAR INC	169.01	Negotiable
339608	29-MAY-13	GRAINGER	4,729.73	Negotiable
339609	29-MAY-13	GRAYBAR ELECTRIC COMPANY	2,993.76	Negotiable
339610	29-MAY-13	HACH COMPANY	725.39	Negotiable
339611	29-MAY-13	HARMSWORTH ASSOCIATES	5,455.00	Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 27
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339612		29-MAY-13	HEALTH SCIENCE ASSOCIATES, INC.		4,658.50			Negotiable
339613		29-MAY-13	HERTZ EQUIPMENT RENTAL		581.04			Negotiable
339614		29-MAY-13	HILL BROTHERS CHEMICAL COMPANY		5,937.80			Negotiable
339615		29-MAY-13	HOME DEPOT USA INC		577.02			Negotiable
339616		29-MAY-13	HUNSAKER & ASSOCIATES IRVINE		2,616.00			Negotiable
339617		29-MAY-13	HYDRO-SCAPE PRODUCTS INC		383.25			Negotiable
339618		29-MAY-13	IDENTICARD SYSTEMS WORLDWIDE INC		1,023.89			Negotiable
339619		29-MAY-13	IDEXX DISTRIBUTION, INC		250.56			Negotiable
339620		29-MAY-13	INDUSTRIAL NETWORKING SOLUTIONS		417.54			Negotiable
339621		29-MAY-13	IRVINE CHAMBER OF COMMERCE		1,440.00			Negotiable
339622		29-MAY-13	IRVINE PIPE & SUPPLY INC		498.87			Negotiable
339623		29-MAY-13	IRWD-PETTY CASH CUSTODIAN		1,415.44			Negotiable
339624		29-MAY-13	ISLE INC		18,000.00			Negotiable
339625		29-MAY-13	J. COLON COATINGS, INC.		70,680.00			Negotiable
339626		29-MAY-13	JOHN G. ALEVIZOS D.O. INC.		685.84			Negotiable
339627		29-MAY-13	KERN COUNTY TREASURER TAX COLLECTOR		40.00			Negotiable
339628		29-MAY-13	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES		650.00			Negotiable
339629		29-MAY-13	LAGUNA BEACH COUNTY WATER DISTRICT		2,053.16			Negotiable
339630		29-MAY-13	LEWIS OPERATING CORP		2,100.00			Negotiable
339631		29-MAY-13	IGC GEOTECHNICAL, INC.		2,161.20			Negotiable
339632		29-MAY-13	MAILFINANCE INC		3,310.36			Negotiable
339633		29-MAY-13	MALCOLM PIRNIE INC		56,214.45			Negotiable
339634		29-MAY-13	MC MASTER CARR		579.93			Negotiable

SUPPLY CO

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Report Date: 03-JUN-2013 08:40
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar) Page: 28
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339635		29-MAY-13	MERCHANTS LANDSCAPE SERVICES INC		1,837.22			Negotiable
339636		29-MAY-13	MISCOWATER		3,050.54			Negotiable
339637		29-MAY-13	MOTION INDUSTRIES INC		2,632.47			Negotiable
339638		29-MAY-13	NATIONAL READY MIXED CONCRETE CO		1,749.26			Negotiable
339639		29-MAY-13	NEWPORT WINDOW MAINTENANCE INC		2,314.00			Negotiable
339640		29-MAY-13	NINYO & MOORE		1,111.25			Negotiable
339641		29-MAY-13	O'HAREN GOVERNMENT RELATIONS		6,530.80			Negotiable
339642		29-MAY-13	OLIN CORPORATION		2,872.29			Negotiable
339643		29-MAY-13	ONESOURCE		3,299.26			Negotiable
339644		29-MAY-13	DISTRIBUTORS LLC PASCAL & LUDWIG CONSTRUCTORS		18,531.85			Negotiable
339645		29-MAY-13	PASCAL & LUDWIG CONSTRUCTORS		548.15			Negotiable
339646		29-MAY-13	PATTEN SYSTEMS INC		2,879.39			Negotiable
339647		29-MAY-13	PAULUS ENGINEERING INC		92,919.78			Negotiable
339648		29-MAY-13	PENCO ENGINEERING INC		5,822.00			Negotiable
339649		29-MAY-13	POLLARDWATER.COM		88.41			Negotiable
339650		29-MAY-13	POWER DESIGN		6,236.13			Negotiable
339651		29-MAY-13	PRAXAIR		1,662.87			Negotiable
339652		29-MAY-13	DISTRIBUTION INC PROBOLSKY RESEARCH LLC		25,000.00			Negotiable
339653		29-MAY-13	R & R INDUSTRIAL SERVICES INC		1,496.15			Negotiable
339654		29-MAY-13	RF CONSULTING		2,075.00			Negotiable
339655		29-MAY-13	SANTA ANA BLUE PRINT		210.96			Negotiable
339656		29-MAY-13	SECURTEC DISTRICT PATROL INC		5,400.00			Negotiable
339657		29-MAY-13	SOUTH WEST PUMP & DRILLING INC		58,192.25			Negotiable
339658		29-MAY-13	SOUTHERN CALIFORNIA EDISON COMPANY		314,443.47			Negotiable
339659		29-MAY-13	SPECTRUM LLC PACIFIC		135.63			Negotiable
339660		29-MAY-13	STUDDENT, GEORGE		53.04			Negotiable

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Report Date: 03-JUN-2013 08:40
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar) Page: 29
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339661		29-MAY-13	SWAINS ELECTRIC MOTOR SERVICE		3,590.74			Negotiable
339662		29-MAY-13	TAYLOR MORRISON		29.93			Negotiable
339663		29-MAY-13	TETRA TECH, INC		40,625.37			Negotiable
339664		29-MAY-13	THE FURMAN GROUP		10,050.00			Negotiable
339665		29-MAY-13	THE MARLIN COMPANY		5,452.18			Negotiable
339666		29-MAY-13	THYSSENKRUPP ELEVATOR		212.45			Negotiable
339667		29-MAY-13	TROPICAL PLAZA NURSERY INC		1,498.93			Negotiable
339668		29-MAY-13	TRUCPARCO		146.67			Negotiable
339669		29-MAY-13	TRUGREEN LANDCARE LLC		13,992.00			Negotiable
339670		29-MAY-13	ULTRA SCIENTIFIC		1,662.51			Negotiable
339671		29-MAY-13	URS CORPORATION		10,750.00			Negotiable
339672		29-MAY-13	US BANK NAT'L ASSOCIATION NORTH DAKOTA		90,919.24			Negotiable
339673		29-MAY-13	VERIZON CALIFORNIA INC		90.16			Negotiable
339674		29-MAY-13	VWR INTERNATIONAL, LLC		269.23			Negotiable
339675		29-MAY-13	WATER ENVIRONMENT RESEARCH FOUNDATION		7,470.00			Negotiable
339676		29-MAY-13	WAXIE'S		520.87			Negotiable

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
339677		29-MAY-13	ENTERPRISES, INC WECK LABORATORIES INC		678.50			Negotiable
339678		29-MAY-13	WELLS SUPPLY COMPANY		4,580.80			Negotiable
339679		29-MAY-13	WEST COAST SAND & GRAVEL INC.		891.80			Negotiable
339680		29-MAY-13	WESTERN AV		1,470.36			Negotiable
339681		29-MAY-13	WESTERN WEATHER GROUP INC		2,660.00			Negotiable
339682		29-MAY-13	YORKE ENGINEERING LLC		5,181.50			Negotiable
339683		29-MAY-13	Brian Bystrom		225.00			Negotiable
339684		29-MAY-13	Christine Compton		379.28			Negotiable
339685		29-MAY-13	Fiona Sanchez		66.63			Negotiable
339686		29-MAY-13	Malcolm Cortez		17.52			Negotiable
339687		29-MAY-13	Mark Nelson		512.34			Negotiable
339688		31-MAY-13	Roberta Sitzler	HOME	1,425.48	30-MAY-13	1,425.48	Reconciled
339689		31-MAY-13	UNITED STATES POSTLOS OFFICE	ANGELES	1,480.00			Negotiable

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 Account: Checking AP and PR Page: 30
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
339690		30-MAY-13	PRE-PAID LEGAL SERVICES INC	ADA	1,869.15			Negotiable
339691		30-MAY-13	HARTFORD LIFE AND ATLANTA ACCIDENT INSURANCE COMPANY		238.47			Negotiable
339692		30-MAY-13	AFLAC	COLUMBUS	9,098.34			Negotiable
339693		30-MAY-13	COLONIAL LIFE & ACCIDENT INSURANCE CO.	COLUMBIA	2,366.52			Negotiable
339694		30-MAY-13	CLEARINGHOUSE	PHOENIX	528.45			Negotiable
339695		30-MAY-13	INTERNAL REVENUE SERVICE	FRESNO	25.00			Negotiable
339696		30-MAY-13	IRWD EMPLOYEE ASSOCIATION	IRVINE	460.00			Negotiable
339697		30-MAY-13	PERS LONG TERM CARE	PASADENA 2	1,003.81			Negotiable
339698		31-MAY-13	SOUTH COAST AIR QUALITY MANAGEMENTBAR 2 DISTRICT	DIAMOND	682.32			Negotiable
339699		31-MAY-13	KINGS COUNTY TAX COLLECTOR	PURCHASE_P AY	27,001.10			Negotiable
339700		31-MAY-13	KINGS COUNTY TAX COLLECTOR	PURCHASE_P AY	1,350.03			Negotiable
Payment Document Subtotal:					7,555,368.43		5,896,716.93	

Payment Document : IRWD Wire

9920		06-MAY-13	CALPERS	SACRAMENTO	360,548.39			Negotiable
9921		06-MAY-13	YORK INSURANCE SERVICES GROUP INC - CA	PAY	5,494.82			Negotiable
9922		14-MAY-13	YORK INSURANCE SERVICES GROUP INC - CA	PAY	11,803.42			Negotiable
9923		20-MAY-13	U.S. BANK NATIONALST. LOUIS ASSOCIATION		9,199.28			Negotiable
9924		20-MAY-13	INTERNAL REVENUE SERVICE	FRESNO	141,468.22			Negotiable
9925		20-MAY-13	FRANCHISE TAX BOARD	SACRAMENTO	39,000.20			Negotiable
9926		20-MAY-13	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO	10,467.13			Negotiable
9927		20-MAY-13	WILLIAMS, TWYLA	PARKER	658.62			Negotiable

IRWD Ledger
 BANK: Bank of America N.A. Branch : Los Angeles
 Bank Account Currency: USD (US Dollar)
 Payment Type: All

Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 Account: Checking AP and PR Page: 31
 Payment Currency: USD (US Dollar)
 Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD Wire								
9928		20-MAY-13	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR	500.17			Negotiable
9929		20-MAY-13	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO	1,991.98			Negotiable
9930		20-MAY-13	EMPLOYEE BENEFIT	PAY	9,585.63			Negotiable

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
9931	20-MAY-13	SPECIALIST, INC	GREAT WEST	DENVER	87,821.69			Negotiable
9932	20-MAY-13	CALPERS	SACRAMENTO		81,469.92			Negotiable
9933	20-MAY-13	INTERNAL REVENUE SERVICE	FRESNO		143,447.97			Negotiable
9934	20-MAY-13	FRANCHISE TAX BOARD	SACRAMENTO		39,396.63			Negotiable
9935	20-MAY-13	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO		10,458.86			Negotiable
9936	20-MAY-13	WILLIAMS, TWYLA	PARKER		658.62			Negotiable
9937	20-MAY-13	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR		500.17			Negotiable
9938	20-MAY-13	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO		1,991.98			Negotiable
9939	20-MAY-13	EMPLOYEE BENEFIT SPECIALIST, INC	PAY		10,002.29			Negotiable
9940	20-MAY-13	GREAT WEST	DENVER		86,389.21			Negotiable
9941	20-MAY-13	CALPERS	SACRAMENTO		82,359.92			Negotiable
9942	20-MAY-13	SUMITOMO MITSUI BANKING CORPORAION	NEW YORK		7,401.53			Negotiable
9943	20-MAY-13	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK		5,251.56			Negotiable
9944	21-MAY-13	MUNICIPAL WATER DISTRICT OF ORANGEVALLEY COUNTY	FOUNTAIN		1,646,714.20			Negotiable
9945	21-MAY-13	YORK INSURANCE SERVICES GROUP INC - CA	PAY		7,134.50			Negotiable
9946	22-MAY-13	CITIGROUP GLOBAL MARKETS INC.	NEW YORK		1,588,847.84			Negotiable
9947	22-MAY-13	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK		13,581.53			Negotiable
9948	22-MAY-13	SUMITOMO MITSUI BANKING CORPORAION	NEW YORK		2,410.03			Negotiable

IRWD Ledger Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 32
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)
 Payment Type: All Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD Wire								
9949	22-MAY-13	U.S. BANK NATIONALPAY ASSOCIATION			9,823.97			Negotiable
9950	22-MAY-13	BANK OF AMERICA	SAN FRANCISCO		10,623.76			Negotiable
9951	29-MAY-13	BANK OF AMERICA	SAN FRANCISCO		295.00			Negotiable
9952	29-MAY-13	YORK INSURANCE SERVICES GROUP INC - CA	PAY		5,587.66			Negotiable
9953	30-MAY-13	INTERNAL REVENUE SERVICE	FRESNO		149,106.27			Negotiable
9954	30-MAY-13	FRANCHISE TAX BOARD	SACRAMENTO		42,179.88			Negotiable
9955	30-MAY-13	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO		10,741.93			Negotiable
9956	30-MAY-13	WILLIAMS, TWYLA	PARKER		658.62			Negotiable
9957	30-MAY-13	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR		500.17			Negotiable
9958	30-MAY-13	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO		1,991.98			Negotiable
9959	30-MAY-13	EMPLOYEE BENEFIT SPECIALIST, INC	PAY		9,585.63			Negotiable
9960	30-MAY-13	J.R. FILANC CONSTRUCTION COMPANY INC.	ESCONDIDO		658,447.37			Negotiable
9961	30-MAY-13	GREAT WEST	DENVER		85,692.12			Negotiable
9962	30-MAY-13	CALPERS	SACRAMENTO		82,223.89			Negotiable
9963	31-MAY-13	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK		1,458.33			Negotiable
9964	31-MAY-13	BANK OF NEW YORK MELLON TRUST COMPANY NA			7,583.33			Negotiable
9965	31-MAY-13	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK		2,324.43			Negotiable

IRWD Ledger Payment Document Subtotal: 5,485,380.65
 Payment Register For 01-MAY-13 To 31-MAY-13 Report Date: 03-JUN-2013 08:40
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 33
 Bank Account Currency: USD (US Dollar) Payment Currency: USD (US Dollar)

Payment Type: All


Display Supplier Address: No

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Bank Account Subtotal :					13,040,749.08		5,896,716.93	
Report Count : 860			Report Total:		13,040,749.08		5,896,716.93	

***End of Report ***

June 24, 2013

Prepared and Submitted by: Various

Approved by: Paul Cook 

CONSENT CALENDAR

STRATEGIC MEASURES DASHBOARD

SUMMARY:

Provided as Exhibits “A”, “B”, and “C” are the Strategic Measures Dashboard and informational items for Board review.

Please note staff is presenting the information in a different format this month in an effort to reflect all “gauges” in a consistent manner. The dot reflects the target goal, while the shaded area reflects actual performance.

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE STRATEGIC MEASURES DASHBOARD AND INFORMATION ITEMS.

LIST OF EXHIBITS:

Exhibit “A” – Strategic Measures Dashboard

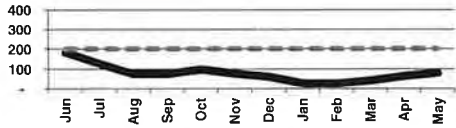
Exhibit “B” – Dyer Road Wellfield Status

Exhibit “C” – Reservoir Data

May 2013

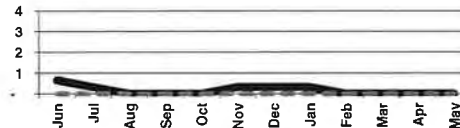
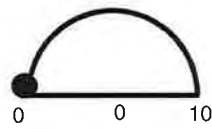
Reliability-Potable/Nonpotable

Target <= 200 customer hours out of service this month



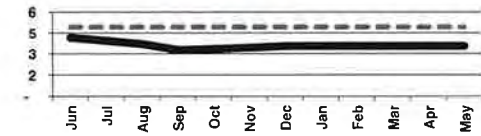
Sewer Spills

Target = 0 Spills this month



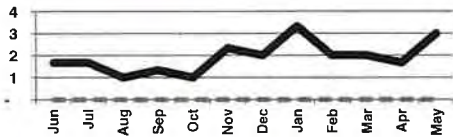
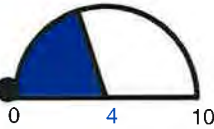
OCSD CORF Flows

Target <=4.95 MGD CORF flow to OCSD this month



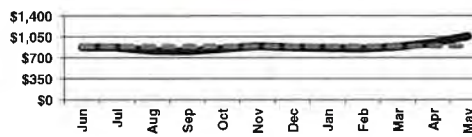
OSHA Recordables

Target = 0 reportable accidents this month



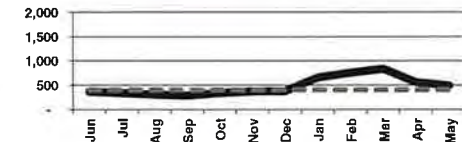
Water System Cost--Potable

Target <= \$893/af delivered this month



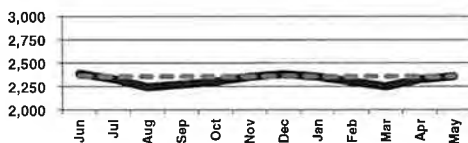
Water System Cost--Nonpotable

Target <= \$412/af delivered this month



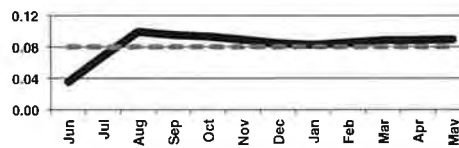
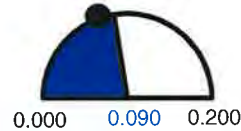
Wastewater Cost

Target <= \$2,358/MG processed this month



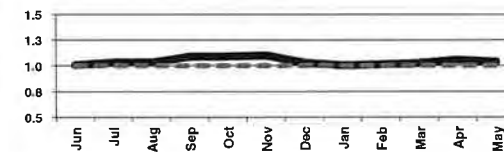
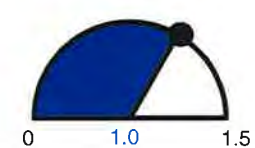
MWRP Energy Cost per kWh

Target <=0.080 cost per kWh this month



Real Property Performance

Target >= 1.0 (net income/goal) last month



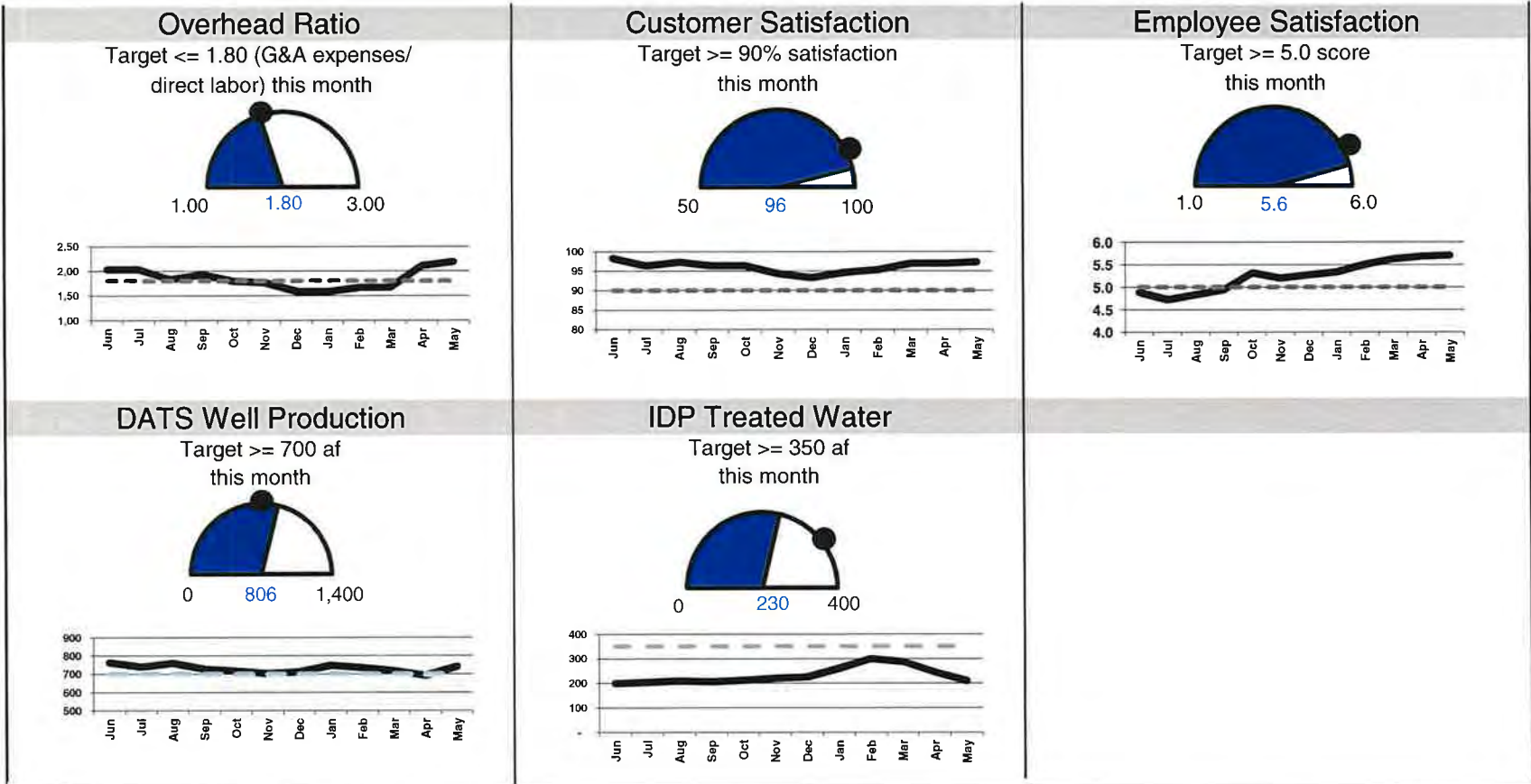
● =Target; Blue=Actual
00.00 Figure for Current Month

----- Target shown on trend graph
———— 3-month rolling average

Note: New Format

**IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES DASHBOARD**

May 2013



● =Target; **Blue=Actual**
00.00 Figure for Current Month

----- Target shown on trend graph
———— 3-month rolling average

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Reliability-Potable/Nonpotable

MONTHLY STATUS REPORT

Metric Owner: Water Ops

Definition of Measure:

The relative magnitude of system outages due to failures or scheduled maintenance for Potable and Non Potable Water.

Method:

Summation of the time in hours any part of the system was out of service times the number of customers affected by the given outage during the month.

Data Collection

Data was derived from the CSR database for customer based reports of "no water" and from the work order database for scheduled maintenance requiring the shut down of water service during repairs.

Explanation of Variance

1. None

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	66.30	200.00	<i>Thru:</i> May 2013
July 2012	62.80	200.00	<i>Goal:</i> 200.00
August 2012	96.30	200.00	
September 2012	68.70	200.00	
October 2012	130.00	200.00	
November 2012	34.10	200.00	
December 2012	20.80	200.00	
January 2013	29.50	200.00	
February 2013	32.70	200.00	
March 2013	64.20	200.00	
April 2013	97.90	200.00	
May 2013	77.70	200.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Sewer Spills

MONTHLY STATUS REPORT

Metric Owner: Gregory Springman

Collection System Manager

Definition of Measure:

Number of sewer overflows of any quantity, regardless of cause, in IRWD's sanitary sewer collection system. This does not include spills from private sewers within IRWD's service area. IRWD has no control over private spills and is not responsible for them. However, it should be noted that IRWD will assist the County Health Care Agency in responding to and cleaning up private spills in the interest of the community.

Method:

Total number of IRWD sewer spills

Data Collection

Data is obtained from the California State Water Boards CIWQS data base for reporting SSO's.

Explanation of Variance

1. November, 2012 - Irvine, blockage caused by grease in a 8-in VCP sewer main. Volume estimated at 2,200 gals SSO with 1,000 gals of wastewater contained and recovered.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	0	0	<i>Thru:</i> May 2013
July 2012	0	0	<i>Goal:</i> 0
August 2012	0	0	
September 2012	0	0	
October 2012	0	0	
November 2012	1.00	0	
December 2012	0	0	
January 2013	0	0	
February 2013	0	0	
March 2013	0	0	
April 2013	0	0	
May 2013	0	0	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

OCSD CORF Flows

MONTHLY STATUS REPORT

Metric Owner: Wayne Posey Director of Wastewater Operations

Definition of Measure:

Estimated CORF flow for current FY. CORF flow ownership as of the end of FY 2009/2010 was 8.62 MGD.

Method:

IRWD's CORF flow is derived by using the actual Main Street Flume Meter flow and subtracting the MWRP biosolid discharge flow and all non Revenue Area 14 (IRWD) flows tributary to the Main Street Flume meter/MWRP and adding in the San Joaquin Hills Planned Community flow and flow discharges from the Gas Recovery System (Formerly Laidlaw) for the FY four calendar months with the highest flow totals multiplied by three, averaging the result thereof with the same result of the same calculation for the preceding two fiscal years and adding in the current IBC transfer flow.

Note: All of the Newport Coast flows with the exception of the San Joaquin Hills Planned Community and Gas Recovery System flow are excluded from IRWD's CORF flow calculation. The OCSD's 1988 Downcoast Area Agreement only requires for IRWD to provide local wastewater collection service and requires OCSD to provide wastewater regional collection, transmission, treatment and disposal for that area.

Data Collection

The OCSD's Monthly Gallonage Flow Summary Report provides the actual flows used in calculating IRWD's CORF flow. This includes the Main Street Flume Meter actual monthly flow. All non Revenue Area 14 (IRWD) flows that are tributary to the Main Street Flume Meter is adjusted every year based on the results of OCSD's Flow Verification Study. The San Joaquin Hills Planned Community flow is adjusted every year based on the results of IRWD's Flow Verification Study. The Gas Recovery System flow is the actual monthly meter flow. The IBC transfer flow is adjusted every five years based on the results of OCSD's Flow Verification Study.

Explanation of Variance

1. None

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	4.53	4.95	<i>Thru:</i> May 2013
July 2012	3.33	4.95	<i>Goal:</i> 4.95
August 2012	3.27	4.95	
September 2012	3.26	4.95	
October 2012	3.54	4.95	
November 2012	3.55	4.95	
December 2012	3.55	4.95	
January 2013	3.55	4.95	
February 2013	3.55	4.95	
March 2013	3.55	4.95	
April 2013	3.55	4.95	
May 2013	3.55	4.95	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

OSHA Recordables

MONTHLY STATUS REPORT

Metric Owner: Ken Erwin

District Safety & Security Manager

Definition of Measure:

OSHA Recordables are a monthly measure of injuries and illnesses that occurred and must be entered on the OSHA 300 (Log of Work Related Injuries and Illnesses), in conformance with OSHA requirements. This measure is standardized not only in the water/wastewater industry, but throughout industries nationwide.

Method:

OSHA Recordables = Number of OSHA Recordable cases occurring during the subject month.

Data Collection

All injuries/illnesses and near-misses are reported to the District Safety & Security Manager immediately when they occur. All are investigated and cases meeting the recordable definition are logged. This measure simply reports the number of accidents whose occurrence date is within the calendar month.

Explanation of Variance

1. Instrumentation Technician irritated eye by contact from material on desk.
2. Temporary Water Maintenance Technician I lacerated and hairline fractured (R) middle finger while moving a 30" sewer manhole
3. Purchasing coordinator developed pain in (R) thumb from repetitive use of computer mouse.
4. Laboratory Analyst incurred gastrointestinal distress believed to be from lab exposure.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	1.00	0	<i>Thru:</i> May 2013
July 2012	2.00	0	<i>Goal:</i> 0
August 2012	0	0	
September 2012	2.00	0	
October 2012	1.00	0	
November 2012	4.00	0	
December 2012	1.00	0	
January 2013	5.00	0	
February 2013	0	0	
March 2013	1.00	0	
April 2013	4.00	0	
May 2013	4.00	0	

IRVINE RANCH WATER DISTRICT
 STRATEGIC MEASURES

Water System Cost--Potable

MONTHLY STATUS REPORT

Metric Owner: Jessica Craig Accountant

Definition of Measure:

Total cost of potable water delivered to IRWD's customers this month, on a unit basis (\$/acre-foot). These monthly costs can vary greatly due to variation in water sales and power cost billing cycles. Thus, monthly expenses do not match up with their corresponding water sales.

Method:

Sum of all potable water costs accrued this month divided by the quantity of potable water sold this month.

Data Collection

Potable water costs collected from current month general ledger. This cost includes labor, power, distribution, and other costs. The quantity of water sold is collected from the Water Usage Variance Report, which summarizes metered water sales. Wide fluctuations in this measure may occur due to the billing delays for such expenses as electrical power (ie, bills are not paid in the same month as the water is sold). In order to track this item on a monthly basis, the labor included for the current month is based on the budget.

Explanation of Variance

1. The budget anticipated more water being pumped and less being imported in the month of May but Water Operations staff use May and June to maximize the blend between groundwater and imported water. The primary driver for the variance is the additional imported water purchased in May. 1,461 acre feet of additional imported water was purchased and pumped water fell below budget by 867 acre feet.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	893.00	824.00	<i>Thru:</i> May 2013
July 2012	836.00	776.00	<i>Goal:</i> 893.00
August 2012	726.00	812.00	
September 2012	866.00	766.00	
October 2012	960.00	920.00	
November 2012	849.00	808.00	
December 2012	813.00	914.00	
January 2013	916.00	855.00	
February 2013	816.00	893.00	
March 2013	916.00	854.00	
April 2013	1,110.00	935.00	
May 2013	1,152.00	893.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Water System Cost--Nonpotable

MONTHLY STATUS REPORT

Metric Owner: Jessica Craig Accountant

Definition of Measure:

Total cost of nonpotable water delivered to IRWD's customer this month, on a unit basis (\$/acre-foot). These monthly costs can vary greatly due to variation in water sales and source water.

Method:

Sum of all nonpotable water costs accrued this month divided by the quantity of nonpotable water sold this month.

Data Collection

Nonpotable water costs collected from current month general ledger. This cost includes labor, power, distribution, and other costs related to tertiary treatment and reclaimed water distribution. The quantity of water sold is collected from the Water Usage Variance Report, which summarizes metered water sales. Wide fluctuations in this measure may occur due to the billing delays for such expenses as electrical power (ie, bills are not paid in the same month as the water is sold). In order to track this item on a monthly basis, the labor included for the current month is based on the budget.

Explanation of Variance

1. The cost of nonpotable water exceeded the target in the month of May. The primary drivers are energy (73K), chemicals (113K) and permits fees (48K). The MWRP Phase II construction work is requiring additional treatment (chemicals and energy) because the Ultra Violet Light Disinfectant is not in production yet.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	346.00	472.00	<i>Thru:</i> May 2013
July 2012	279.00	319.00	<i>Goal:</i> 412.00
August 2012	314.00	339.00	
September 2012	297.00	321.00	
October 2012	428.00	454.00	
November 2012	420.00	448.00	
December 2012	313.00	475.00	
January 2013	1,256.00	1,281.00	
February 2013	715.00	1,022.00	
March 2013	546.00	964.00	
April 2013	429.00	499.00	
May 2013	526.00	412.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Wastewater Cost

MONTHLY STATUS REPORT

Metric Owner: Wayne Posey

Director of Wastewater Operations

Definition of Measure:

Total cost of collection and treatment (primary, secondary, and solids disposal) of wastewater, on a unit basis (\$/million gallons) for this month.

Method:

(MWRP cost of collections(G/L #530) + MWRP cost of treatment(G/L #551,552,565) + OCSD cost(G/L #535,555) + SMWD cost(G/L #531,556)) divided by the total sewage flows emanating from OCSD District #14 (Includes MWRP flow + OCSD flow + SMWD flow)

Data Collection

Data used for this measure are collected from the general ledger and from Orange County Sanitation District (OCSD) and Santa Margarita Water District (SMWD) staff. Costs and flows from OCSD District #7 are not included in the calculation. In order to track this item on a monthly basis, the labor included for the current month is based on the budget.

Explanation of Variance

1. None

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	2,194.00	2,491.00	<i>Thru:</i> May 2013
July 2012	2,297.00	2,435.00	<i>Goal:</i> 2,358.00
August 2012	2,250.00	2,346.00	
September 2012	2,268.00	2,333.00	
October 2012	2,392.00	2,409.00	
November 2012	2,409.00	2,438.00	
December 2012	2,353.00	2,452.00	
January 2013	2,300.00	2,217.00	
February 2013	2,263.00	2,228.00	
March 2013	2,191.00	2,229.00	
April 2013	2,531.00	2,323.00	
May 2013	2,356.00	2,358.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

MWRP Energy Cost per kWh

MONTHLY STATUS REPORT

Metric Owner: Wayne Posey Director of Wastewater Operations

Definition of Measure:

Actual MWRP Cost per kWh used at MWRP with new generating facility.

Method:

MWRP cost per kWh is calculated by the monthly total energy purchased from imported SCE electricity, purchased natural gas for the generators from Coral Energy, and SCG natural gas transportation charge divided by the total monthly kWh generated and imported from SCE. We then add in actual maintenance costs, including g/a.

Data Collection

Data collected from actual monthly SCE, Coral Energy and SCG Invoices. Total kWh is collected from the two generator kWh meters and SCE main electric meter.

Explanation of Variance

1. Energy costs at MWRP have consistently been \$0.089 per kWh.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	.11	.08	<i>Thru:</i> May 2013
July 2012	.10	.08	<i>Goal:</i> .08
August 2012	.09	.08	
September 2012	.09	.08	
October 2012	.09	.08	
November 2012	.08	.08	
December 2012	.08	.08	
January 2013	.09	.08	
February 2013	.09	.08	
March 2013	.09	.08	
April 2013	.09	.08	
May 2013	.09	.08	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Real Property Performance

MONTHLY STATUS REPORT

Metric Owner: Finance

Debt and Investment Analyst

Definition of Measure:

This is a monthly measure of performance by IRWD's various enterprise activities, including residential and commercial real estate, Strawberry Farms Golf Course, and wireless communications leases.

Method:

Monthly Enterprise Return = Actual Net Income/Budgeted Net Income x 100

Data Collection

The various enterprise activities generate revenues and expenses at different frequencies through the year. Except for the real estate projects, the enterprise projects are primarily revenue generating activities with relatively little associated expenses. The measure reflects a comparison between the actual and budgeted net income of the various projects on a monthly basis.

Explanation of Variance

1. The May measure is on budget.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	1.03	1.00	<i>Thru:</i> May 2013
July 2012	1.07	1.00	<i>Goal:</i> 1.00
August 2012	1.00	1.00	
September 2012	1.20	1.00	
October 2012	1.08	1.00	
November 2012	1.03	1.00	
December 2012	.98	1.00	
January 2013	1.01	1.00	
February 2013	1.06	1.00	
March 2013	1.01	1.00	
April 2013	1.11	1.00	
May 2013	1.00	1.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Overhead Ratio

MONTHLY STATUS REPORT

Metric Owner: Jessica Craig

Accountant

Definition of Measure:

Overhead Ratio is a measure of general and administrative (G&A) overhead expenses compared to direct labor expenses.

Method:

Ratio of total G&A expenses to total direct labor (including regular and overtime wages).

Data Collection

G&A expenses are summarized from the general ledger and include all costs incurred that are not directly accounted to mission-critical work (charged to g/l #792). Direct labor expenses are the hourly staff charges accounted to mission-critical work (generally charged to expense codes #110 and #120). Benefits are considered G&A, not direct labor expenses.

Explanation of Variance

1. Information not available at time of reporting.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	2.10	1.80	<i>Thru:</i> May 2013
July 2012	2.00	1.80	<i>Goal:</i> 1.80
August 2012	1.40	1.80	
September 2012	2.40	1.80	
October 2012	1.60	1.80	
November 2012	1.30	1.80	
December 2012	1.88	1.80	
January 2013	1.57	1.80	
February 2013	1.55	1.80	
March 2013	1.91	1.80	
April 2013	1.80	1.80	
May 2013	Not available	1.80	

IRVINE RANCH WATER DISTRICT
 STRATEGIC MEASURES

Customer Satisfaction

MONTHLY STATUS REPORT

Metric Owner: Gina Jackson

Customer Service Manager

Definition of Measure:

Customer Satisfaction is measured by IRWD's Customer Satisfaction Index. The index is measured by sending surveys to a statistically-significant, random selection of customers that have called IRWD for some type of service. Services range from answering questions about water conservation or billing to repairing a sewer blockage in the street. The surveys allow the customer to rate IRWD's response to their request in eight categories. Each category is rated from 1 to 5, with 1 indicating the highest level of satisfaction. A total score of 100 indicates the highest level of satisfaction in all eight categories. The scores of all responses in the subject month are a weighted average for the monthly index figure.

Method:

Data Collection

Surveys are mailed at the end of each work week for the customer requests completed that week. The monthly index reflects the surveys received within the subject month.

Explanation of Variance

1. Total Overall Satisfaction =96%
 Satisfaction =91%
 Timely = 93%
 Phone = 98%
 Field Contact = 100%

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	100.00	90.00	<i>Thru:</i> May 2013
July 2012	93.00	90.00	<i>Goal:</i> 90.00
August 2012	99.00	90.00	
September 2012	97.00	90.00	
October 2012	93.00	90.00	
November 2012	93.00	90.00	
December 2012	94.00	90.00	
January 2013	97.00	90.00	
February 2013	95.00	90.00	
March 2013	99.00	90.00	
April 2013	97.00	90.00	
May 2013	96.00	90.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

Employee Satisfaction

MONTHLY STATUS REPORT

Metric Owner: Gretchen Maswadeh Human Resources Manager

Definition of Measure:
 Level of employee satisfaction with employment at IRWD.

Method:
 Average of all scores on surveys for performance evaluations presented this month

Data Collection
 A survey is sent to each employee receiving a performance evaluation this month. The survey simply asks the employee to rate his/her overall employment satisfaction on a scale of 1 to 6 (1 being very dissatisfied and 6 being very satisfied). The ratings are compiled and averaged by Human Resources.

Explanation of Variance
 1. 7 surveys were returned of 14 surveys sent (50%). 6 of 14 respondents (86%) rated satisfaction as 5 or 6 on a scale of 1 to 6. In the 12 month period ending May 2013, 97 surveys have been returned of 295 surveys sent (33%). 83 of 97 respondents (86%) rated satisfaction as 5 or 6 on a scale of 1 to 6. 12 month average rating is 5.38%

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	4.67	5.00	<i>Thru:</i> May 2013
July 2012	4.50	5.00	<i>Goal:</i> 5.00
August 2012	5.33	5.00	
September 2012	5.00	5.00	
October 2012	5.64	5.00	
November 2012	4.98	5.00	
December 2012	5.20	5.00	
January 2013	5.83	5.00	
February 2013	5.50	5.00	
March 2013	5.57	5.00	
April 2013	6.00	5.00	
May 2013	5.57	5.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

DATS Well Production

MONTHLY STATUS REPORT

Metric Owner: Tom Roberts

Operations Manager

Definition of Measure:

Number of acre-feet of water produced by Dyer Road wells C-8 and C-9 to supply water to the Deep Aquifer Treatment System (DATS).

Method:

Summation of production from wells C-8 and C-9.

Data Collection

Data collected from meters at wells.

Explanation of Variance

1. DATS is capable of producing 806 AF in May mainly because the system had no failures.

MONTHLY DATA

<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	802.00	700.00	<i>Thru:</i> May 2013
July 2012	733.00	700.00	<i>Goal:</i> 700.00
August 2012	745.00	700.00	
September 2012	703.00	700.00	
October 2012	704.00	700.00	
November 2012	702.00	700.00	
December 2012	732.00	700.00	
January 2013	811.00	700.00	
February 2013	660.00	700.00	
March 2013	682.00	700.00	
April 2013	736.00	700.00	
May 2013	806.00	700.00	

IRVINE RANCH WATER DISTRICT
STRATEGIC MEASURES

IDP Treated Water

MONTHLY STATUS REPORT

Metric Owner: Tom Roberts Operations Manager

Definition of Measure:

Number of acre-feet of treated water produced by the Irvine Desalter Project (IDP).

Method:

Difference between final effluent volume and discharge to storm drain volume.

Data Collection

Data collected from final effluent and discharge to storm drain meters.

Explanation of Variance

1. Produced water by the IDP is under target for March, April and May. Operations will be able to achieve 350 as soon as Engineering completes the rehabilitation of the wells that feed the plant.

MONTHLY DATA

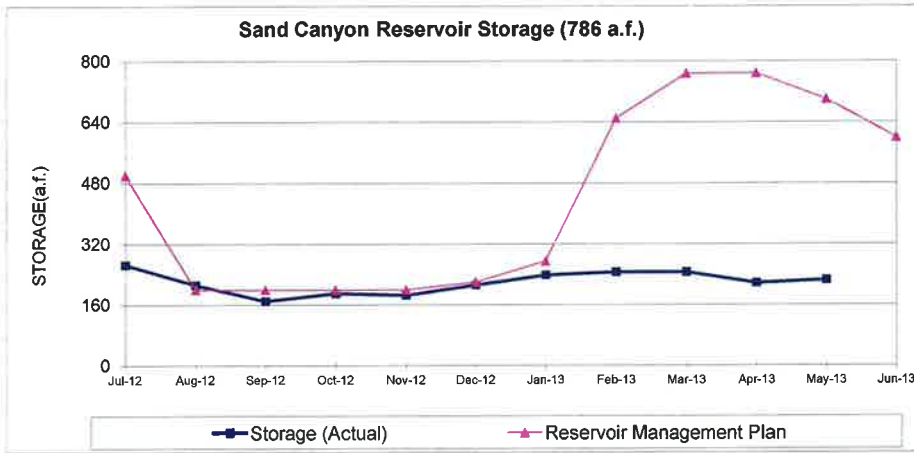
<u>Month</u>	<u>Value</u>	<u>Goal</u>	<i>From:</i> June 2012
June 2012	235.00	350.00	<i>Thru:</i> May 2013
July 2012	200.00	350.00	<i>Goal:</i> 350.00
August 2012	196.00	350.00	
September 2012	225.00	350.00	
October 2012	218.00	350.00	
November 2012	221.00	350.00	
December 2012	239.00	350.00	
January 2013	324.00	350.00	
February 2013	336.00	350.00	
March 2013	206.00	350.00	
April 2013	197.00	350.00	
May 2013	230.00	350.00	

EXHIBIT "B"

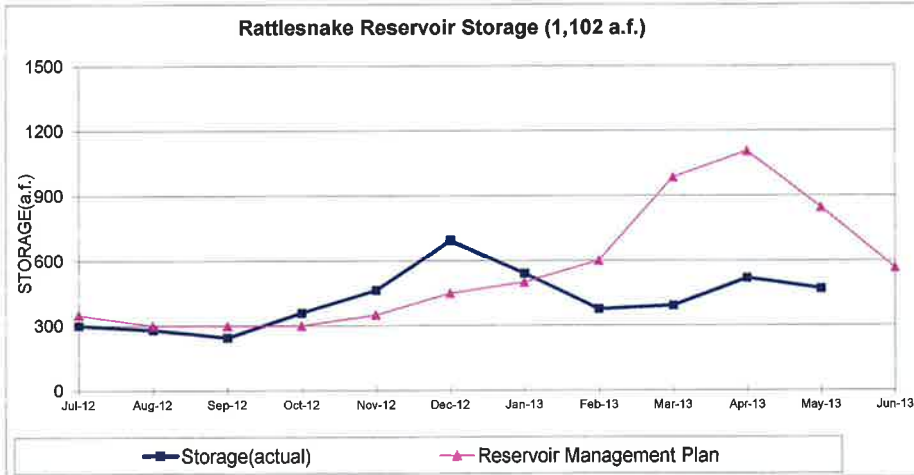
DYER ROAD WELL FIELD STATUS							May-2013
Well Number	Production Mo./YTD	Ref. Point Elevation	Depth to Water 5/31/2013	Water Level-MSL	Depth of Bowls	Bowl Setting-MSL	Feet of Water Above Intake
1	74.7 AF 1,401.9 AF	34	N/A	N/A	270	-236	N/A
2	0.0 AF 78.2 AF	37	85	-49	270	-234	185
			Static				
3	0.0 AF 1.2 AF	55	93	-38	215	-160	122
			Static				
4	139.1 AF 2,217.6 AF	38	141	-103	216	-178	75
			Pumping				
5	68.4 AF 1,221.3 AF	48	272	-224	290	-242	18
			Pumping				
6	34.8 AF 1,302.5 AF	43	138	-95	250	-207	112
			Pumping				
7	3.3 AF 685.6 AF	40	235	-195	290	-250	55
			Pumping				
C-8 DATS	453.8 AF 4,571.0 AF	37	135	-98	305	-268	170
			Pumping				
C-9 DATS	351.9 AF 3,536.4 AF	23	136	-113	305	-282	169
			Pumping				
10	402.8 AF 3,882.5 AF	47	167	-120	250	-203	83
			Pumping				
11	60.8 AF 697.5 AF	40	189	-149	300	-260	111
			Pumping				
12	203.4 AF 2,126.5 AF	51	169	-118	300	-249	131
			Pumping				
13	4.9 AF 664.5 AF	40	204	-164	300	-260	96
			Pumping				
14	80.7 AF 1,592.5 AF	47	186	-139	311	-264	125
			Pumping				
15	401.2 AF 4,029.0 AF	44	168	-124	300	-256	132
			Pumping				
16	26.1 AF 732.7 AF	47	231	-184	280	-233	49
			Pumping				
17	182.0 AF 3,088.8 AF	52	186	-135	250	-199	64
			Pumping				
18	121.0 AF 1,469.0 AF	45	223	-178	300	-255	77
			Pumping				
Clear production:	1,803.2 AF for the month						
FYTD:	25,191.3 AF						
DATS production:	805.7 AF for the month						
FYTD:	8,107.4 AF						

EXHIBIT "C"

RESERVOIR DATA FY 12-13



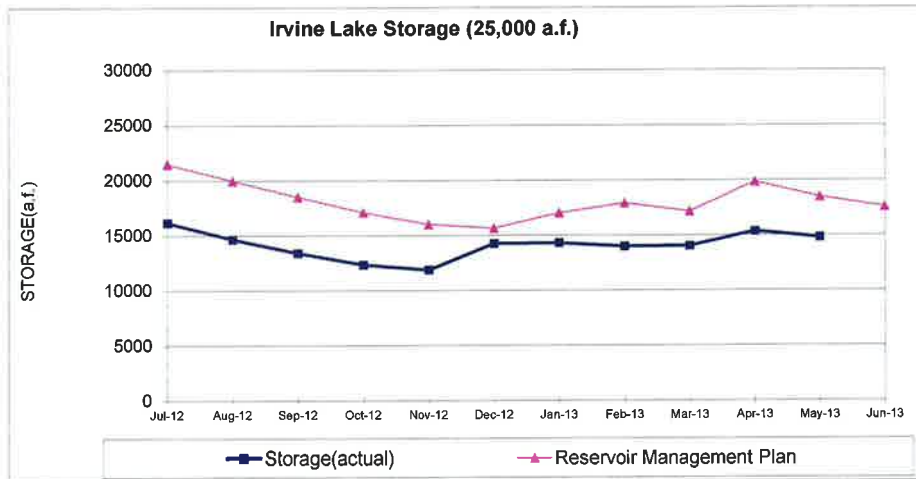
Sand Canyon Reservoir storage is below normal due to light rain.



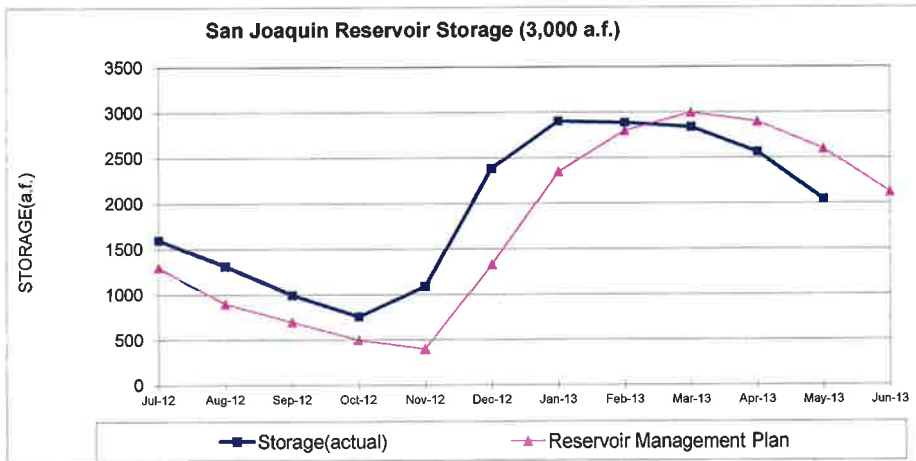
Rattlesnake Reservoir storage is below normal due to light rain.

EXHIBIT "C"

RESERVOIR DATA FY 12-13



Irvine Lake storage is below planned level due to light rain.



San Joaquin Reservoir storage is on track.

PS
June 24, 2013
Prepared by: R. Thatcher/M. Hoolihan
Submitted by: K. Burton
Approved by: Paul Cook

CONSENT CALENDAR

QUITCLAIM OF REAL PROPERTY
GRAYBEARD TOO, LLC
SEWER PIPELINE EASEMENT PER TR. 15105
NEWPORT COAST

SUMMARY:

Graybeard Too, LLC (Graybeard) is building a custom home in Newport Coast on three parcels consolidated into Parcel 1 of Lot Line Adjustment No. LL 2013-002. Graybeard has requested that IRWD quitclaim those portions of existing sewer pipeline easements that bisect the property. The sewer pipeline within said easements has already been relocated and a new easement granted. Staff recommends that the Board grant this request.

BACKGROUND

Graybeard is building a custom home in Newport Coast within Parcel 1 of Lot Line Adjustment No. LL 2013-002. Parcel 1 is a consolidation of three parcels owned by Graybeard. There is an existing 20 foot-wide sewer pipeline easement lying within said parcel that was dedicated to IRWD per the map of Tract No. 15105 filed in Book 727, Pages 36 through 50 of Miscellaneous Maps, and per the Grant of Easement recorded June 30, 1997 as Instrument No. 19970302980 of Official Records, both of Records of Orange County. Graybeard has requested that IRWD quitclaim those portions of the easements that lie within its property. The sewer pipeline has already been relocated into Parcel 2 of said lot line adjustment and a replacement easement has been granted to IRWD. Staff has reviewed the request and concurs that the easements can be quitclaimed. The Resolution authorizing the quitclaim is attached as Exhibit "A", the Quitclaim Deed is attached as Exhibit "B", and a map showing the location of the existing easements and quitclaim area is attached as Exhibit "C".

FISCAL IMPACT:

None.

ENVIRONMENTAL COMPLIANCE:

This project is not subject to the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15061 (b) (3), in that CEQA applies only to projects that may result in a direct physical change in the environment or reasonably foreseeable indirect physical change in the environment.

COMMITTEE REVIEW:

Quitclaims are not routinely taken to Committee prior to submittal for Board approval.

rt quitclaim Graybeard

Consent Calendar: Quitclaim of Real Property Graybeard Too, LLC Sewer Pipeline Easement
Per Tr. 15105 Newport Coast
June 24, 2013
Page 2

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2013 - _____

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT
APPROVING EXECUTION OF THE QUITCLAIM DEED TO
GRAYBEARD TOO, LLC

LIST OF EXHIBITS:

EXHIBIT "A" – Resolution
EXHIBIT "B" – Quitclaim Deed
EXHIBIT "C" – Location Map

EXHIBIT "A"

RESOLUTION NO. 2013 - _____

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT
APPROVING EXECUTION OF THE QUITCLAIM DEED TO
GRAYBEARD TOO, LLC

WHEREAS, Graybeard Too, LLC ("Graybeard") has requested that the Irvine Ranch Water District ("IRWD") Board approve the quitclaim of a portion of the existing easement for sewer and access purposes dedicated to IRWD on the map of Tract No. 15105 filed in Book 727, Pages 36 through 50 of Miscellaneous Maps, and the easement for sewer purposes recorded June 30, 1997 as Instrument No. 19970302980 of Official Records, both in Records of Orange County, California lying within Parcel 1 of Lot Line Adjustment No. LL 2013-002; and

WHEREAS, the purpose of the quitclaim is because the sewer pipeline within said easements was relocated by Graybeard for construction of a custom home; and

WHEREAS, Graybeard granted IRWD a new easement over the relocated sewer pipeline; and

WHEREAS, staff has reviewed and confirmed that the easements herein referred are no longer needed and can be quitclaimed; and

WHEREAS, the proposed quitclaim has been presented to this Board of Directors, copy of which is attached hereto as Exhibit "B".

NOW, THEREFORE, BE IT RESOLVED, the Quitclaim Deed attached hereto as Exhibit "B" to Graybeard Too, L.L.C., a Washington limited liability company, herein described and hereby is approved and execution by the District's officers is authorized.

ADOPTED, SIGNED and APPROVED this 24th day of June 2013.

President, IRVINE RANCH WATER
DISTRICT and of the Board of Directors
thereof

Secretary, IRVINE RANCH WATER
DISTRICT and of the Board of Directors
thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
IRWD Legal Counsel

By _____

EXHIBIT "B"

**RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:**

Graybeard Too, LLC
C/O Weeks Nelson
462 Stevens Ave., suite 310
Solana Beach, CA 92075
Attn: Gregory K. Nelson

ASSESSOR PARCEL NO(S):

473-082-59 & 60

(Space Above This Line For Recorder's Use)

IRWD Doc. No. E _____
IRWD Res.No. _____

DOCUMENTARY TRANSFER TAX \$ consideration less than \$100
_____ Computed on the consideration or value of property conveyed; OR
_____ Computed on the consideration or value less liens or encumbrances
remaining at time of sale.

Signature or Declarant or Agent determining tax – Firm Name

EASEMENT QUITCLAIM DEED

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, IRVINE RANCH WATER DISTRICT, a California Water District organized under and existing pursuant to Section 34000 *et seq.* of the California Water Code, does hereby REMISE, RELEASE, AND FOREVER QUITCLAIM to GRAYBEARD TOO, LLC, a Washington limited liability company, or the current owner of record,

all RIGHT, TITLE and INTEREST in the real property located in the City of Newport Beach, County of Orange, State of California, , as more particularly described on Exhibit "A, attached hereto and by this reference mad a part hereof.

The rights hereby quitclaimed are not necessary or useful in the performance of the duties of said Irvine Ranch Water District.

Dated: _____, 2013

IRVINE RANCH WATER DISTRICT,
a California Water District

By: _____
Name: Douglas J. Reinhart
Title: President

By: _____
Name: Leslie Bonkowski
Title: District Secretary

MAIL TAX STATEMENTS TO THE ABOVE ADDRESS

STATE OF CALIFORNIA)
)
COUNTY OF ORANGE)

On _____, 2013, before me, _____, a Notary Public in and for said State, personally appeared Douglas J. Reinhart and Leslie Bonkowski, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (SEAL)
Notary Public in and for said State

EXHIBIT "A"

**QUITCLAIM OF SEWER PIPELINE EASEMENTS
TO GRAYBEARD TOO, LLC**

LEGAL DESCRIPTION

That certain parcel of land situated in the City of Newport Beach, County of Orange, State of California being those portions of that certain easement for sewer pipeline and access purposes dedicated per the map of Tract No. 15105 filed in Book 727, Pages 36 through 50 of Miscellaneous Maps and the Grant of Easement for sewer pipeline purposes recorded June 30, 1997 as Instrument No. 19970302980 of Official Records, lying within Parcel 1 of Lot Line Adjustment No. LL 2013-002 recorded _____, 2013 as Instrument No. 2013_____, of said Official Records, all in the Office of the County Recorder of said County being more particularly described as follows:

SUBJECT TO: Covenants, conditions, reservations, restrictions, rights-of-way, and easements of record, if any.

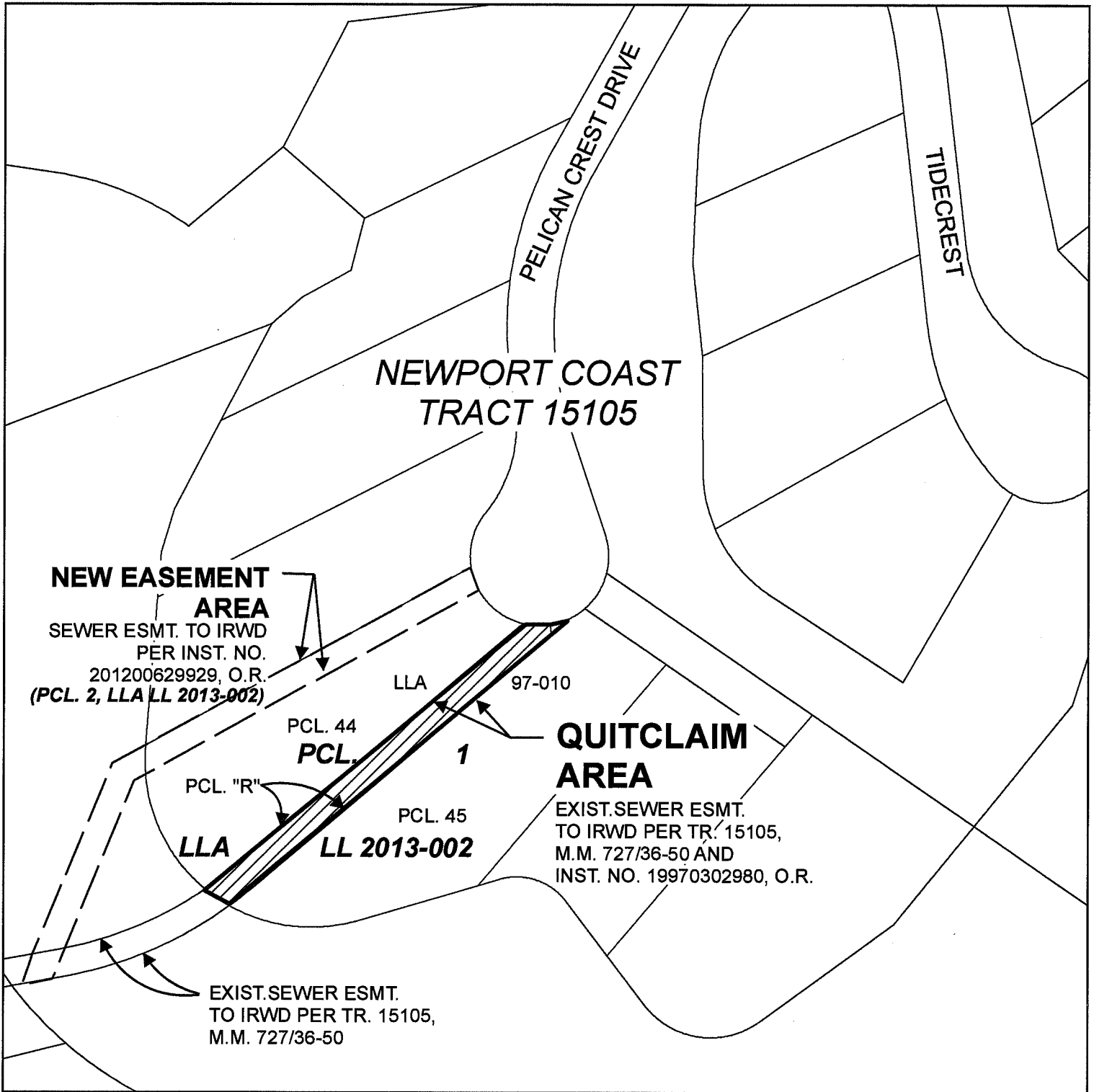
Prepared by me or under my direction:

Dated: June 10, 2013

Gregory P. Heiertz, R.C.E. 33084
License expires June 30, 2014



EXHIBIT "C" LOCATION MAP



QUITCLAIM OF SEWER PIPELINE EASEMENTS TO GRAYBEARD TOO, LLC



June 24, 2013
Prepared by: A. Murphy/M. Cortez
Submitted by: K. Burton *(K.B.)*
Approved by: Paul Cook *(P.C.)*

CONSENT CALENDAR

INITIAL DISINFECTION FACILITY CHLORINE INJECTION LINE REPLACEMENT EXPENDITURE AUTHORIZATION

SUMMARY:

The Initial Disinfection Facility (IDF) Chlorine Injection Line Replacement project will replace the existing CPVC chlorine injection line with a new Hastelloy C276 pipeline. The District initiated a major design change that will significantly shorten the chlorine injection line and lower construction costs for the project by approximately \$320,000. Variance No. 1 is required to revise the contract documents to reflect this design change. Though the shorter length of the injection line will eliminate the need to pre-purchase the Hastelloy C276 pipe, the Hastelloy valves and one electric actuator will need to be pre-purchased to avoid the extended lead times of up to 16 weeks. Staff recommends that the Board approve an Expenditure Authorization for Project 11669 in the amount of \$152,300.

BACKGROUND:

In 1997, the IDF was constructed as part of the Dyer Road Well Field (DRWF) Disinfection Facilities and Well 16 project. The IDF provides initial disinfection with chlorine gas for water leaving the DRWF before it reaches the Primary Disinfection Facility (PDF) where ammonia and chlorine are injected to produce a chloramine residual. Chlorine gas is mixed with water from Well 16 and or Well 10 in the chlorine room of the IDF facility to create a chlorine solution. The solution is then pumped through a 4-inch CPVC pipe within an 8-inch ductile iron containment pipe that runs approximately 900 feet from the IDF to a chlorine injection manhole located near the intersection of Susan Street and Warner Avenue. A site map is shown in Exhibit "A".

IDF has been out of service since November 26, 2012 due to a series of leaks and other failures of the existing 4-inch schedule 80 CPVC chlorine solution line. The District retained Tetra Tech in February 2013 to design the replacement chlorine solution injection line at IDF. The original design concept was to replace the existing CPVC pipeline with 4-inch Hastelloy C-276 pipe due to its successful use at the PDF. At the review of the 75% draft improvement plans, staff suggested a significant design alternative which included the relocation of the chlorine solution injection point to a new manhole in the IDF parking lot, modification of an existing 16-inch water main to bring water from Well 10 back to the new IDF injection point, and construction of a new 24-inch steel water main segment to convey the chlorinated water from IDF to a new connection point on the existing 24-inch water main just downstream of the existing chlorine injection manhole in Susan Street near Warner Avenue. This alternative eliminates approximately 850 linear feet of the 4-inch Hastelloy chlorine injection line with an estimated cost savings of \$320,000 for the alternative design (as shown in Exhibit "B"). Relocating the chemical line to outside of the public right-of-way will also allow for a safer work environment for operating and maintaining this system.

The Engineering and Operations Committee approved a variance on June 18, 2013 with Tetra Tech in the amount of \$34,000 to modify the plans. Completion of the contract documents is anticipated at the end of July. Based on preliminary scheduling for the new design option, the IDF may be back in service by the end of February 2014.

Pre-Purchase of Hastelloy Valves and Electric Actuator:

Staff brought an item to the April 2013 Engineering and Operations Committee recommending approval of an Expenditure Authorization to fund the pre-purchase of 900 feet of 4-inch Hastelloy pipe. Since the redesign substantially reduces the length of 4-inch Hastelloy pipe required, staff does not intend to pre-purchase the pipe since suppliers will likely have the required 50 feet in stock at the time of construction. The 24-inch steel pipeline is expected to have an acceptable delivery lead time of six weeks, so this pipe will not be pre-purchased.

Staff still recommends pre-purchasing the required Hastelloy valves and electric valve actuator because these items are not typically kept in stock by suppliers. The valves may have a 16-week delivery lead time, and a lead time of up to 12-weeks for the electric actuator is expected. Staff obtained quotes from multiple suppliers for the Hastelloy valves and electric actuator. Nine valves are required. The estimated total cost for the valves and actuator is approximately \$91,000 as shown in Exhibit "C".

FISCAL IMPACTS:

Project 11669 (4285) is included in the FY 2012-13 Capital Budget. Staff requests approval of an Expenditure Authorization in the amount of \$152,300 as shown in the table below and in Exhibit "D".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11669 (4285)	\$1,117,300	\$ -0-	\$1,117,300	\$83,000	\$152,300	\$235,300

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations Title 14, Chapter 3, Article 7, Section 15302, which states that replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced including but not limited to (b): replacement of a commercial structure with a new structure of substantially the same size, purpose and capacity; and (c) replacement of or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$152,300 FOR THE INITIAL DISINFECTION FACILITY CHLORINE INJECTION LINE REPLACEMENT, PROJECT 11669 (4285).

LIST OF EXHIBITS:

- Exhibit "A" – Location Map
- Exhibit "B" – Construction Cost Comparison of Design Alternatives
- Exhibit "C" – Quote Summary of Hastelloy Valves and Electric Actuator
- Exhibit "D" – Expenditure Authorization

EXHIBIT A: INITIAL DISINFECTION FACILITY LOCATION MAP

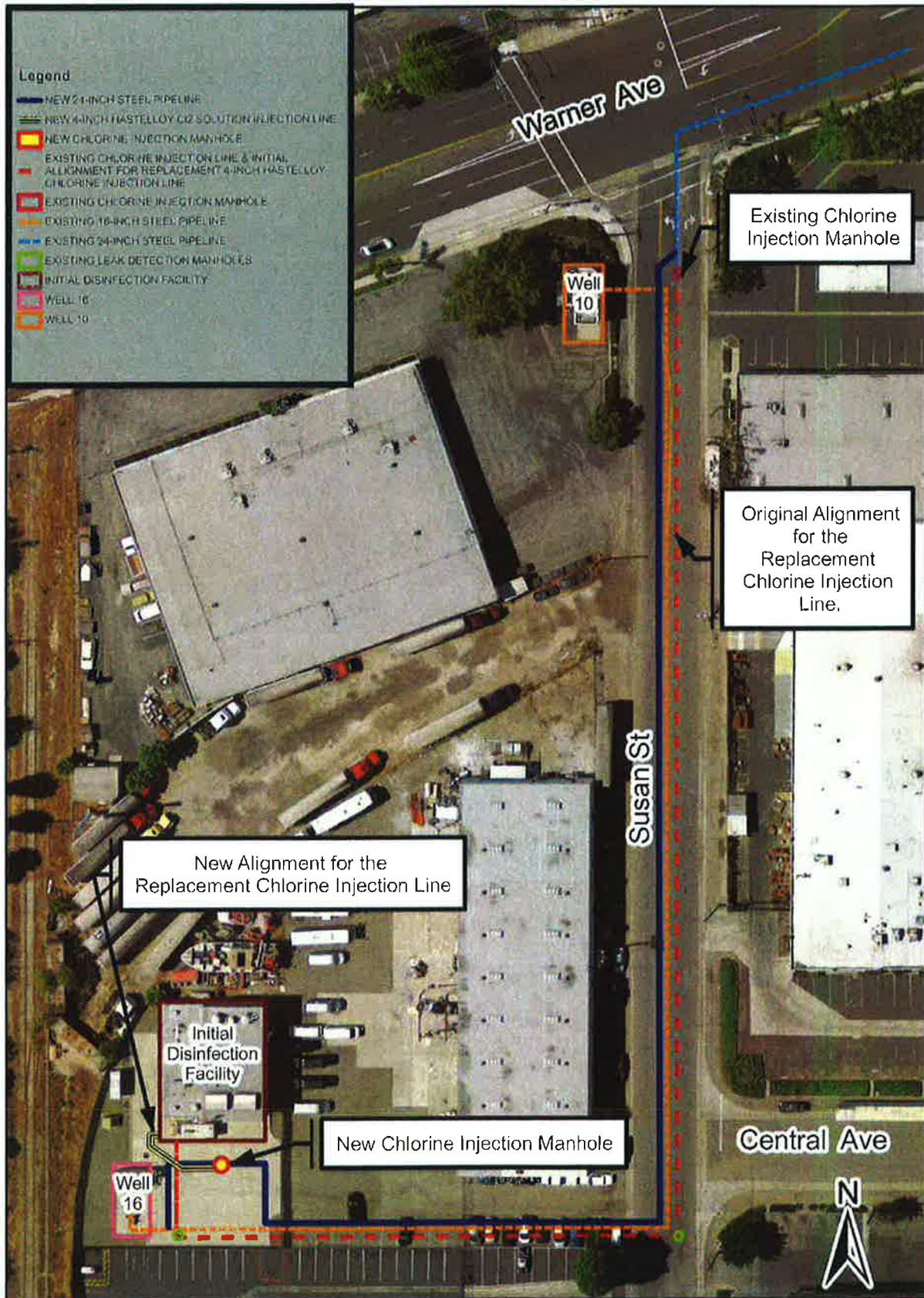


EXHIBIT "B": Construction Cost Comparison of Design Alternatives

IRVINE RANCH WATER DISTRICT IDF CHLORINE INJECTION LINE REPLACEMENT

Date: 6-3-2013

Design	Total Construction Cost Estimate
Original Design: 1. Replace 900 LF of 4-inch CPVC pipe with 4-inch Hastelloy C 276 pipe within the existing 8-inch DIP containment pipe	\$1,100,000
Alternative Design: 1. Modify existing 16-inch pipeline to bring water from well 10 back to the IDF facility. 2. Construct a new chlorine injection manhole in the parking lot of the IDF facility. 3. Construct a new 24" pipeline to take raw water from wells 10, and 16 from the 16-inch pipeline in the IDF parking lot to the new chlorine manhole and injection point. 4. Construct a new 4-inch Hastelloy C276 injection line and new 8-inch steel containment pipe. 5. Construct a new 24-inch steel pipeline to carry treated water from the new injection manhole to a new connection point on the existing 24-inch pipeline near the existing chlorine injection manhole.	\$780,000
Estimated Construction Cost Savings	\$320,000
<i>Source: Tetra Tech Estimate of Probable Construction Costs</i>	

Exhibit "C"

Quote Summary of Hastelloy Valves and Electric Actuator

IRVINE RANCH WATER DISTRICT IDF CHLORINE INJECTION LINE REPLACEMENT

Date: 6-3-2013

Supplier Name & Contact	Ball Valves \$ ea.	Check Valve \$/ft	Limitorque OX Electric Actuator for 4" ball valve	Total Quote Price
Petro Valve-Shawn Wright Supplier of valves 855-539-8837 shawn@petrovalve.com	1" Ball Valves (Apollo Valve): \$1,850 in stock 4" Ball Valves (Ladish Valve): \$16,762.00 in stock	4" Check Valve- (Kitz): \$16,762.00 in stock		Valves: \$70,616.00 (without tax)
Consumers Pipe- Bob Gerbasi/Brian Lancaster 213-761-3466 Bgerbasi@ConsumersPipe.com	1" Ball Valves (Warren Valve): \$1,571.43 1 week 4" Ball Valves (Warren Valve): \$13,250.00 2 weeks	4" Check Valve- (Kitz Valve): \$21,175.00 9-10 months		Valves: \$74,284.72 (includes tax, tax= \$5,502.57)
Integrated Process Technologies			\$4,159.00	Actuator: \$4159 (tax: \$332.72)
Contingency for Shipping costs				\$10,000.00
TOTAL				\$91,000.00
Quantities used for quoting:	1" Ball Valves Threaded: 5 Class 300 4" Ball Valves Flanged: 3 Class 150	4" Check Valve: 1 Class 150	120V Actuator for 4" ball valve: 1	

EXHIBIT "D"

IRVINE RANCH WATER DIST

Expenditure Authorization

Project Name: IDF CHLORINE INJECTION LINE REPLACEMENT
EPMS Project No: 11669 **EA No:** 2
Oracle Project No: 4285
Project Manager: CORTEZ, MALCOLM
Project Engineer: MURPHY, ALEXANDER
Request Date: June 3, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$83,000
This Request:	\$152,300
Total EA Requests:	\$235,300
Previously Approved Budget:	\$1,117,300
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$1,117,300
Budget Remaining After This EA	\$882,000

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	0	20,000	20,000	0	20,000	20,000	1/13	5/13
ENGINEERING DESIGN - OUTSIDE	0	56,000	56,000	0	56,000	56,000	1/13	5/13
DESIGN STAFF FIELD SUPPORT	0	1,000	1,000	0	1,000	1,000	1/13	5/13
ENGINEERING - CA&I IRWD	0	0	0	0	20,000	20,000	6/13	9/13
ENGINEERING - CA&I OUTSIDE	0	0	0	0	10,000	10,000	6/13	9/13
CONSTRUCTION FIELD SUPPORT	0	0	0	0	5,000	5,000	6/13	9/13
CONSTRUCTION	145,000	0	145,000	0	950,000	950,000	6/13	9/13
LEGAL	0	2,000	2,000	0	2,000	2,000	1/13	1/14
Contingency - 5.00% Subtotal	\$7,300	\$4,000	\$11,300	\$0	\$53,300	\$53,300		
Subtotal (Direct Costs)	\$152,300	\$83,000	\$235,300	\$0	\$1,117,300	\$1,117,300		
Estimated G/A - 180.00% of direct labor*	\$0	\$37,800	\$37,800	\$0	\$82,800	\$82,800		
Total	\$152,300	\$120,800	\$273,100	\$0	\$1,200,100	\$1,200,100		
Direct Labor	\$0	\$21,000	\$21,000	\$0	\$46,000	\$46,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Alex Murphy AC (M) 6/5/13

Department Director:

Louis L. Buntara 6/6/13

Finance:

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$1,225,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

DL
June 24, 2013
Prepared by: K. Lew/M. Cortez
Submitted by: K. Burton *(K.B.)*
Approved by: Paul Cook */ [Signature]*

CONSENT CALENDAR

PLANNING AREA 51 HERITAGE FIELDS
EXPENDITURE AUTHORIZATION ALLOCATION ADJUSTMENTS

SUMMARY:

A portion of the land owned by Heritage Fields El Toro, LLC (Heritage Fields), the developer for the Great Park Neighborhoods, was originally included in both Improvement Districts (IDs) 112/212 and IDs 150/250. In early 2013, the Board approved the de-annexation of this portion of land from IDs 150/250 and to remain in IDs 112/212. As a result, IRWD projects in this area that were created before the de-annexation need to be adjusted to be part of IDs 112/212. Staff recommends that Expenditure Authorizations for several active Heritage Fields projects be adjusted to IDs 112/212.

BACKGROUND:

Heritage Fields began developing the Great Park Neighborhoods in 2012. Originally, a portion of the land owned by Heritage Fields was included in both IDs 112/212 and in IDs 150/250. Accordingly, IRWD capital projects in Heritage Fields were created with an ID split of 90% to ID 112/212 and 10% to IDs 150/250. In early 2013, the Board approved the de-annexation of a portion of land from IDs 150/250 so that the land would remain in IDs 112/212. As a result, IRWD projects in this area that were created before the de-annexation need to be adjusted to be part of IDs 112/212. Staff is requesting that Expenditure Authorizations for the following projects be adjusted:

Project 11660 (3977) – PA 51 Trabuco Road DW Facilities
Project 21660 (3980) – PA 51 Trabuco Road Sewer Facilities
Project 31660 (3983) – PA 51 Trabuco Road RW Facilities

FISCAL IMPACTS:

Approval of no-cost Expenditure Authorizations for Projects 11660 (3977), 21660 (3980), and 31660 (3983) is requested to update the allocation to IDs 112/212.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD APPROVE EXPENDITURE AUTHORIZATIONS FOR PROJECTS 11660 (3977), 21660 (3980), AND 31660 (3983) TO UPDATE THE ALLOCATION TO IMPROVEMENT DISTRICTS 112/212.


LIST OF EXHIBITS:

Exhibit "A" – Expenditure Authorizations

June 24, 2013

Prepared by: J. Smyth/ M. Cortez

Submitted by: K. Burton

Approved by: Paul Cook 

CONSENT CALENDAR

SANTIAGO CREEK DAM OUTLET TOWER SEISMIC EVALUATION BUDGET INCREASE, EXPENDITURE AUTHORIZATION, AND CONSULTANT SELECTION

SUMMARY:

The State of California Division of Safety of Dams (DSOD) requested IRWD perform a seismic analysis of three components of the Santiago Creek dam: foundation alluvium for liquefaction, Terrace Fault, and the outlet tower. The foundation alluvium and Terrace Fault studies are complete. Staff received proposals from three consultants for the outlet tower seismic evaluation. Staff recommends that the Board:

- Authorize a budget increase in the amount of \$17,600 for Project 30331;
- Approve an Expenditure Authorization in the amount of \$90,700 for Project 30331; and
- Authorize the General Manager to execute a Professional Services Agreement with URS Corporation in the amount of \$59,000 for Phase 1 of the Santiago Creek Dam Outlet Tower Seismic Evaluation.

BACKGROUND:

In 2008, the DSOD requested IRWD perform a seismic analysis of three components of the Santiago Creek dam: foundation alluvium for liquefaction, Terrace Fault, and the outlet tower. The foundation alluvium and Terrace Fault studies were completed in November 2011 and March 2012, respectively, and were sent to the DSOD for review. The foundation alluvium study, completed by Geopentech, concluded that the foundation alluvium is not liquefiable. The DSOD agreed with the conclusion and did not require further investigation. The Terrace Fault study, completed by URS Corporation, concluded that the Terrace Fault is inactive. The DSOD provided a letter that confirmed their agreement that the fault is inactive. In the letter, the DSOD also discussed the final investigation phase to determine the operability of the outlet works after a major earthquake. The DSOD stated IRWD can either perform a seismic evaluation of the tower to demonstrate it is structurally adequate under a major earthquake event or provide a means to prevent the outlet works from being blocked in the event of a tower failure.

Staff prepared a scope of work for the outlet tower seismic evaluation and received concurrence from Serrano Water District (SWD) and the DSOD. The scope of work is divided into three phases. Phase 1 includes a seismic hazard analysis and a structural evaluation to determine the potential failure mode of the outlet tower. Phase 2 includes a drawdown capability study and, if needed, conceptual outlet tower improvement alternatives. If tower improvements are needed, final design of the improvements will be completed in Phase 3.

Consultant Selection:

Staff transmitted a request for proposal to seven consultants on February 22, 2013. Of the seven, Genterra Consultants, URS, Kleinfelder, and Cho Design Associates, attended the pre-proposal meeting. Genterra, URS, and Kleinfelder submitted proposals. Staff evaluated the proposals based on the consultant's team, project approach, and relevant experience. SWD also provided input on the consultant selection process and agreed with the recommended consultant. Staff recommends that Phase 1 of the Santiago Creek Dam Outlet Tower Seismic Evaluation be awarded to URS in the amount of \$59,000. The Consultant Selection Evaluation Matrix is attached as Exhibit "A". SWD staff will also present the recommendation to its Board of Directors for approval. URS's proposal is attached as Exhibit "B".

FISCAL IMPACTS:

In accordance with the February 6, 1928 Agreement between the Irvine Company, Carpenter Irrigation District, and Serrano Irrigation District, the December 21, 1970 Agreement between the Carpenter Irrigation District and the Irvine Company, and the February 19, 1971 Agreement between the Irvine Company and IRWD, both IRWD and SWD are responsible for 50% of URS's fee.

Project 30331 (1813) is included in the FY 2013-14 Capital Budget. Staff requests a budget increase and an Expenditure Authorization to fund the Phase 1 Santiago Creek Dam Outlet Tower Seismic Evaluation as shown in the table below and in Exhibit "C".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
30331 (1813)	\$133,100	\$17,600	\$150,700	\$60,000	\$90,700	\$150,700

ENVIRONMENTAL COMPLIANCE:

This activity is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15306 which provides exclusion for projects involving basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

Consent Calendar: Santiago Creek Dam Outlet Tower Seismic Evaluation Budget Increase,
Expenditure Authorization, and Consultant Selection

June 24, 2013

Page 3

RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE IN THE AMOUNT OF \$17,600, FROM \$133,100 TO \$150,700, FOR PROJECT 30331 (1813); APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$90,700; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH URS CORPORATION IN THE AMOUNT OF \$59,000 FOR PHASE 1 OF THE SANTIAGO CREEK DAM OUTLET TOWER SEISMIC EVALUATION, PROJECT 30331 (1813).

LIST OF EXHIBITS:

Exhibit "A" – Consultant Selection Evaluation Matrix

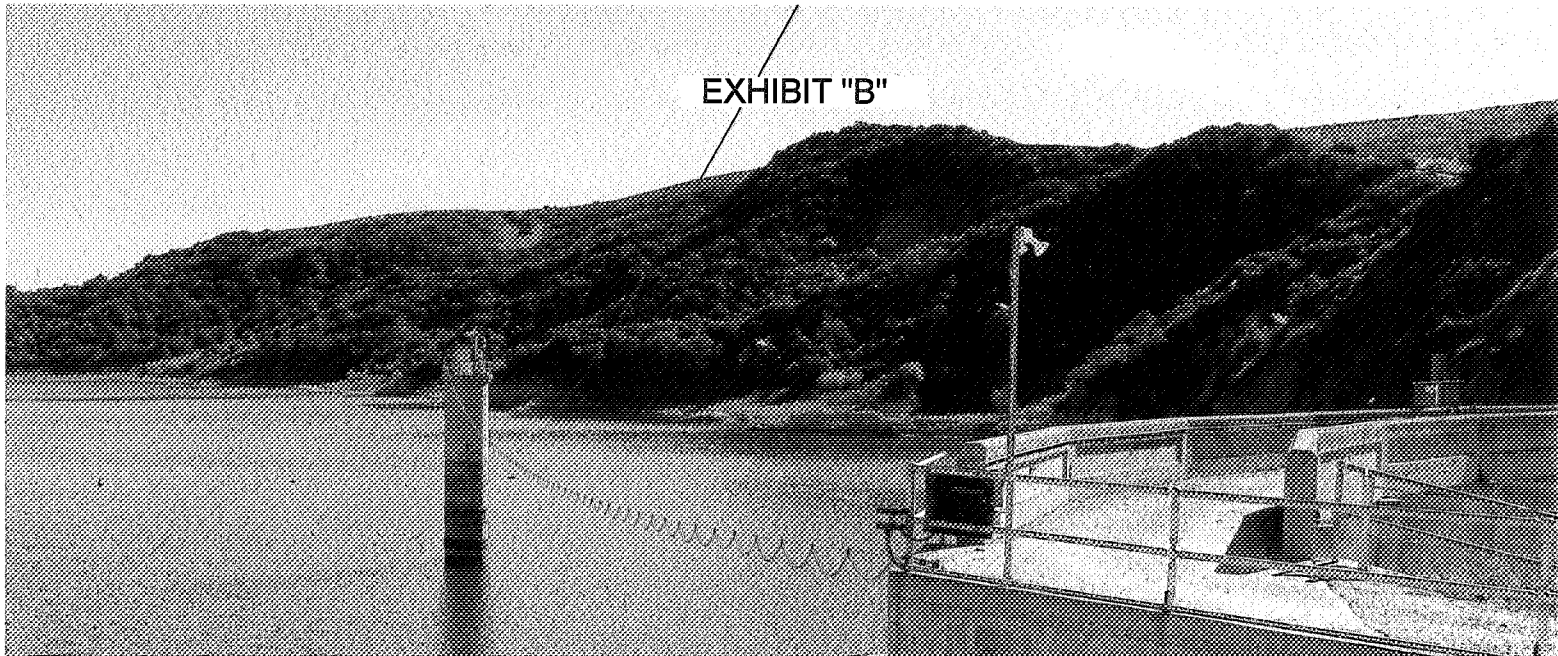
Exhibit "B" – URS Corporation Phase 1 Proposal

Exhibit "C" – Expenditure Authorization

EXHIBIT "A"
STRUCTURAL ENGINEERING CONSULTANT SELECTION MATRIX
SANTIAGO CREEK DAM OUTLET TOWER SEISMIC EVALUATION
PROJECT 30331

Item		Weights	Kleinfelder	URS	Genterra
A	<u>TECHNICAL APPROACH (50%)</u>				
1	Project Understanding	40%	2	1	3
2	Scope of Work/Responsiveness to RFP	30%	2	1	3
3	Working Relationship with DSOD	20%	3	2	1
4	Man Hour Estimates	10%	2	1	3
	Weighted Score (Technical Approach)		2.2	1.2	2.6
B	<u>EXPERIENCE (50%)</u>				
1	Project Team	60%	1	2	3
	Project Manager		Endi Zhai	Bryan Paine	Joe Kulikowski
	Structural Engineer		Simon Wong	Michaele Monaghan	Wilbert Cho
	Project Engineer		Zia Zafir	Paul Somerville	Soma Balachandran
2	Similar Projects	40%	2	1	3
	Weighted Score (Experience)		1.4	1.6	3
	COMBINED WEIGHTED SCORE		1.8	1.4	2.8
C	<u>OTHER (Yes/No)</u>				
1	Schedule		Y	Y	Y
2	Professional Liability Insurance		Y	Y	Y
3	General Liability Insurance		Y	Y	Y
4	Conflict of Interest		N	N	N
D	MANHOURS				
	Phase 1: Seismic Hazard Analysis		62	48	66
	Phase 1: Tower Failure Mechanism		274	242	66
	Phase 1: Project Mgmt/Reports		142	251	322
	<i>Total Labor Hours</i>		478	541	454*
	COSTS				
	Phase 1: Sismic Hazard Analysis		\$ 12,070	\$ 5,920	\$ 18,907
	Phase 1: Tower Failure Mechanism		\$ 56,610	\$ 22,520	\$ 34,802
	Phase 1: Project Mgmt/Reports		\$ 28,610	\$ 30,560	\$ 91,753
	<i>Total Cost</i>		\$ 97,290	\$ 59,000	\$ 145,462
	Average Cost/hour		\$ 204	\$ 109	\$ 320
	FINAL RANKING		2	1	3
	FORCED RANKINGS:				
	1 - Best 3 - Weakest				
	2 - Average				
	*Does not include subconsultant hours				

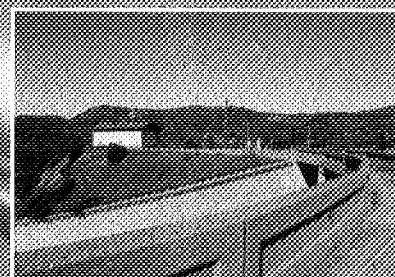
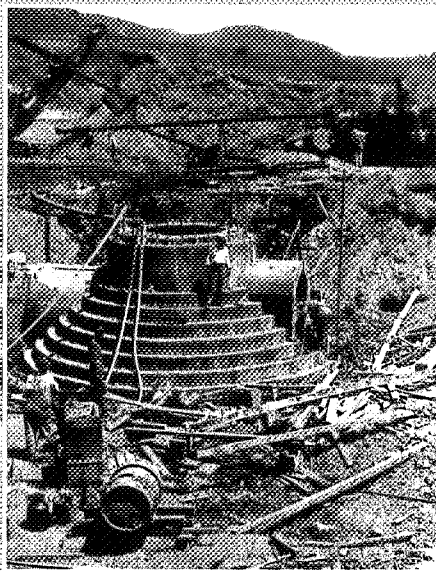
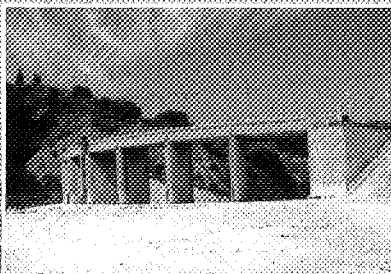
EXHIBIT "B"



PROPOSAL FOR

SANTIAGO CREEK DAM OUTLET TOWER

SEISMIC EVALUATION STRUCTURAL ENGINEERING SERVICES



Prepared for

Irvine Ranch Water District

March 20, 2013

URS

2020 East First Street, Suite 400
Santa Ana, California 92705



March 20, 2013

Mr. Jeff Smyth, PE, Project Manager
Irvine Ranch Water District
Engineering Department
15600 Sand Canyon Avenue
Irvine, CA 92618

Subject: Request for Proposal (RFP) Santiago Creek Dam Outlet Tower Seismic Evaluation—Structural Engineering Services

Dear Mr. Smyth:

URS Corporation (URS) is pleased to submit our proposal to provide structural engineering services for the Santiago Creek Dam Outlet Tower Seismic Evaluation. We have carefully studied your project plans and supporting documentation and have a full understanding of the project constraints and limitations. As a result, we have selected a team that can deliver a successful project.

Team Members with Direct Relevant Experience

Project Manager: **Bryan Paine, P.E.**, located in the URS Santa Ana Office has a long standing working relationship with IRWD and recently completed the design on IRWD's Syphon Reservoir.

Seismologist: **Paul Somerville, PhD.**, is an expert in the field of ground motion for the design and analysis of dams and seismic hazards and is located in the URS Los Angeles Office.

Geotechnical and Dam Engineering: **Michael Luebbbers, G.E., P.E.**, located in the URS Santa Ana Office has provided geotechnical investigations and recommendation on this specific dam and is currently managing the IRWD Dams Monitoring on-call contract.

Structural Analysis: **Michaele Monaghan, PE**, and **Mourad Attala, PhD, PE, SE**. Both Mrs. Monaghan and Mr. Attala have extensive experience in the structural design of dam tower outlets and spillways and are located in the URS Oakland Office.

The team's previous experience includes planning, design, and successful completion of the following direct relevant projects:

- Intake Tower Structural Analysis and Design for San Andreas Lake Outlet Structures located in Golden Gate National Recreation Area south of San Francisco;

URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
Tel: 714.835.6886
Fax: 714.667.7147
www.urscorp.com

- Intake Structure Seismic Evaluation for Success Lake Dam Intake Structure located east of Porterville, California;
- Lake Perris Outlet Tower Seismic Analysis, Perris California, Riverside County;
- Ortega Dam Preliminary Engineering Analysis for the Santa Margarita Water District; and
- Irvine Ranch Water District, Syphon Reservoir Interim Facilities


Our breadth of experience throughout California providing similar services in highly active seismic zones provides IRWD with a team that will meet your needs.

URS will manage and implement the project from our Santa Ana office with our Los Angeles and Oakland offices providing specialty expertise.

Please contact Bryan Paine, PE with any questions, comments, or requests at (714) 433-7652 or via email at bryan.paine@urs.com. Thank you for your consideration. We look forward to the opportunity to partner with the Irvine Ranch Water District to deliver an outstanding project.

Sincerely,

URS Corporation



Bryan Paine, PE

Project Manager

URS Corporation Americas



Tariq Hussain

Vice President

URS Corporation Americas

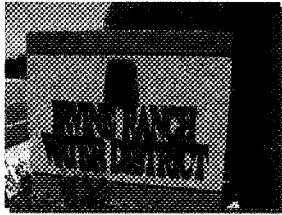
TABLE OF CONTENTS

1	PROJECT UNDERSTANDING / SCOPE OF SERVICES.....	1
1.1	PROJECT UNDERSTANDING & APPROACH.....	1
1.2	PROJECT APPROACH.....	2
1.3	DETAILED PHASED SCOPE OF WORK	4
2	PROJECT TEAM / ORGANIZATION CHART (SANTA ANA).....	11
2.1	KEY TEAM MEMBERS AND QUALIFICATIONS	11
2.2	ORGANIZATION CHART	14
3	PROJECT EXPERIENCE / PAST PERFORMANCE	15
4	PROJECT SCHEDULE	19
5	BUDGET	21
6	JOINT VENTURE.....	22
7	CONFLICT OF INTEREST.....	23
8	INSURANCE	24
9	CONTRACT	26

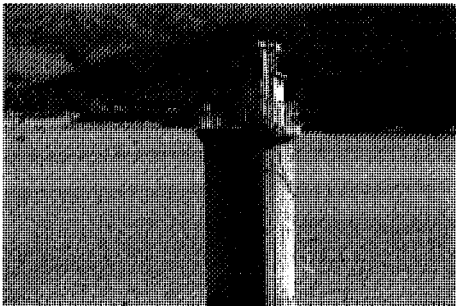
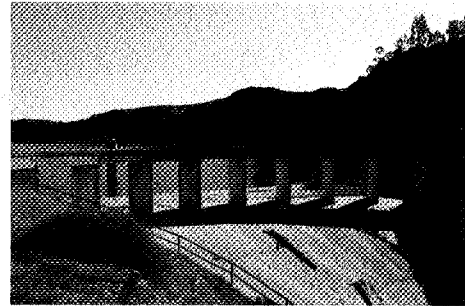
1 PROJECT UNDERSTANDING / SCOPE OF SERVICES

1.1 PROJECT UNDERSTANDING & APPROACH

1.1.1 Project Overview



The Irvine Ranch Water District (IWRD) and the Serrano Water District (SWD) jointly operate Irvine Lake and the Santiago Creek Dam that serves a critical water supply reservoir for significant portions of Villa Park, small portion of the City of Orange and the City of Irvine. Over the course of several years, IWRD and SWD have been working the Division of Safety of Dams (DSOD) to evaluate differing structural elements of the existing Santiago Creek Dam, including the evaluation of the right abutment for presence of an active fault line, liquefaction potential of the alluvium beneath the dam, and to evaluate the seismic performance of the existing outlet tower. The first two issues have been evaluated and reported back to DSOD, and have agreed with the recommended findings. The last issue to be reviewed is the existing outlet tower, of which DSOD has required a seismic evaluation of the facility. The requested seismic evaluation is to determine the external stability of the structural, internal structural integrity during a seismic event and ultimately determine the potential failure mode under a major earthquake event. The primary interest of DSOD is to ensure there is adequate drawdown capacity to drain the lake after a seismic failure of the existing tower.



The Santiago Creek Dam is a rolled earth fill embankment completed in 1932 and certified by the DSOD. The DSOD identifier for the dam is Dan No. 75-000. The dam is located in Orange County, California, and impounds the 25,000 ac-ft. Irvine Lake Reservoir along Serrano Creek, a tributary to the Santa Ana River. The dam crest is at a nominal elevation of 810-feet and has a height of 136-feet and a crest length of 1,425-feet.

The outlet works for the dam consist of a tower, conduit and control house. The outlet tower is 135-feet high and has an interior diameter of 8-feet and an exterior diameter of 11-feet. The tower contains eight intakes located at 10-foot intervals from centerline Elevation 680 to 750. There are two butterfly valves at elevations 730 and 750 and the remaining six valves are slide gates. The lower four slide gates (Elevations 680, 690, 700, & 710) are below the reservoir silt line and are no longer functional. The intake at Elevation 710 has been raised using a snorkel to elevation 735.

An outlet conduit at the base of the outlet tower is 60-inches in diameter and 592-feet long consisting of welded steel pipe. The outlet runs beneath the dam to a bifurcation at the toe of the dam where a 36-inch diameter main pipe and 30-inch diameter diverter pipe. Releases through the outlet works conduit can be controlled by the main valve located in the Control House, directly downstream of the pipe bifurcation at the toe of the dam. The main pipe supplies water to IWRD and SWD customers. In the event of an emergency drawdown, the diverter valve, which is normally kept closed, can be opened and releases can be made through the diverter pipe, which discharges into the streambed immediately downstream of the Control House.

In general terms, URS will prepare a literature search of available information to gain a full understanding the existing structure and site constraints including subsurface information. Upon the completion of the literature search, URS will work in tandem the structurally evaluate the potential failure modes of the existing tower and existing outlet pipe while developing lake drawdown models and developing alternative scenarios, The final drawdown scenario will be based on the outcome of the outlet failure mode and predicted damages to the existing outlet pipeline to determine the emergency discharge capabilities of the outlet works system following an earthquake.

The last deliverable associated with this project will be the alternatives analysis on what measures could be employed to retrofit the existing outlet tower and discharge pipe to be seismically resistant. The retrofit may include internal reinforcement of the outlet tower through mechanical means for internal stability, foundation modifications to better resist overturning or other means such as overall external reinforcement measures.

Due to the overall value of the water in storage and the vital need for domestic purposes, it is goal of the design team to develop seismic alternatives that can be implemented in a wet environment. Replacement alternatives if warranted, will also be investigated as part of the this overall effort.

The following scope of services provides a detailed breakdown of the aforementioned project tasks identifying specific activities and design efforts.

1.2 PROJECT APPROACH

The scope of work for this project will be implemented in a two-phased approach. The first phase will include preparation of a deterministic seismic hazard analysis, which will be used to determine the failure mechanism of the existing outlet tower and to develop retrofit alternatives. The second phase will utilize the failure information (if a failure of the tower is anticipated) to develop two tower retrofit alternatives. Also, a drawdown capability study will be prepared to evaluate the how long it would take to drain Irvine Lake after a damaging seismic event in which the existing tower fails. It is anticipated that URS and IRWD/SWD will work collaborative as a team with the exchange of information and interim reviews of potential project solutions, specifically in areas of lake

operations, potential site access constraints, water quality limitations, and preferred alternatives during the development process.

Work will consist of, but no be limited to, the following tasks outlined below.

Task 1: Project Management

URS will conduct effective project management that adheres to the scope, schedule, and budget; provide efficient and frequent communication with IRWD and other project stakeholders; and implement the URS Quality Management System in order to provide effective quality assurance/quality control. The scope of services for Project Management includes the following items:

1. Preparation of Project Status Reports – URS will prepare weekly project status reports for IRWD’s management team. The weekly status reports will consist of a brief, one to two paragraph e-mail summarizing work activities completed the previous week along with activities planned for the upcoming week. URS’ management team will maintain strong lines of communication with IRWD via email and telephone. URS will copy IRWD staff on all emails to and from agencies and other project stakeholders.
2. Meetings and Workshops – URS will schedule and lead meetings with IRWD’s team to ensure that all design, operational and maintenance issues are being addressed. URS will provide agendas of upcoming project coordination meetings five working days in advance of the meeting and prepare meeting minutes and action items within five working days subsequent to the meetings. These efforts are intended to ensure that all technical issues are being addressed and that the project remains on schedule. For the purposes of budgeting, four (4) meetings are anticipated for each phase of this project. Meetings will include:

Meeting/Workshops Phase 1 Seismic Hazard Analysis and Tower Failure	Description
Project Kick-off Meeting	One (1) two-hour meeting
Present the 75% draft report and discuss IRWD/SWD comments	One (1) two-hour workshop
Present the 90% draft report and discuss IRWD/SWD comments and outstanding item resolution	One (1) two-hour workshop
Present the 100% report	One (1) two-hour workshop

Meeting/Workshops Phase 2 Tower Improvements	Description
Project Kick-off Meeting	One (1) two-hour meeting
Present the 75% draft report and discuss IRWD/SWD comments	One (1) two-hour workshop
Present the 90% draft report and discuss IRWD/SWD comments and outstanding item resolution	One (1) two-hour workshop
Present the 100% report	One (1) two-hour workshop

3. Quality Assurance/Quality Control – URS will implement our Quality Management System (QMS) throughout the project to ensure consistent quality control. The QMS system is based on the ISO 9001 standard and is required on all of our projects. Per this system, each project deliverable will undergo an independent technical review and a detail checking review, and construction documents will undergo a constructability review. The independent technical review will be provided by a technical expert in the related field, who has not been involved in preparation of the deliverables. The detail checking review focuses on a review of grammar, spelling, notes, construction call-outs, construction coordinates, plans and specification coordination, and discipline coordination. URS will provide IRWD with review comment disposition forms, redlines, redline back-checks, and QMS forms upon request.

1.3 DETAILED PHASED SCOPE OF WORK

The evaluation is to be completed with a phased approach. The first phase will determine the potential failure mode of the outlet tower. If the first phase determines the outlet tower fails in a seismic event in such a way as to restrict the ability to drain the reservoir, the second phase will determine the drawdown capability considering the failure mode and recommend conceptual tower improvements. If outlet tower improvements are required to maintain the ability to drain the reservoir, a third phase would design the improvements and provide construction phase services during the installation.

Phase 1

1.3.1 Seismic Hazard Analysis

Our proposed work scope is based on DSOD requirements as expressed in Fraser and Howard (2002).

We will seek information that describes the site conditions of the tower foundations. Specifically, we will seek information that can be used to estimate V_{s30} ; the shear wave velocity time-averaged over the top 30 meters of the foundation. We will also use available information to estimate $Z_{1.0}$; the depth to a shear wave velocity of 1km/sec, and $Z_{2.5}$; the depth to a shear wave velocity of 2.5 km/sec.

We will identify all of the fault sources that have the potential to contribute to the deterministic MCE, which will be based on the median plus one standard deviation ground motion level. The MCE will be based on the source that generates the largest ground motion at the site.

We will use the 2008 UCERF2 earthquake source model (Field et al., 2008) and the 2008 NGA ground motion prediction equations (Abrahamson et al., 2008).

We will prepare a draft memorandum that documents the methodology used, the fault characterization that is developed, and the results of the DSHA.

1.3.2 Tower Failure Mechanism

Perform a structural evaluation to determine the potential failure mode of the outlet tower. The analysis will include, but not be limited to:

- Development of a structural model using a structural modeling and analysis program. The model will be based on the outlet tower structural plans dated December 1930 provided by IRWD/SWD. Hydrodynamic forces will also be considered as they may be a factor.
- Evaluate the allowable bearing capacity and modulus of subgrade reaction of subsurface materials supporting the existing outlet tower foundation and unit weight of sediments adjacent to the outlet tower.
 - This investigation will be a desktop study based on the existing documents including “Report for Seismic Stability Evaluation of Santiago Creek Dam,” prepared by Woodward-Clyde Consultants, dated June 11, 1979. References listed in this document including the geotechnical investigation and construction-monitoring reports will also be reviewed.
 - In order to evaluate the allowable bearing capacity and modulus of subgrade reaction of subsurface materials, we will also review geotechnical reports for Eastern Transportation Corridor and the existing landfill on the left abutment above the outlet tower.
 - We will estimate the unit weight of the sediments adjacent to the tower based on a review of the available information for similar materials.
- Analysis of the model due to seismic loading. The seismic loading that will be applied to the structural model will be from the DSHA.
- Utilization of the program to generate bending moment and shear diagrams due to the applied seismic loading on the outlet tower.
- Check elements along the height of the outlet tower to assess the adequacy with respect to the seismic demand as well as evaluation for overturning and lateral movement.
- Evaluation and interpretation of results.

- Determination of the failure mode on the ability to drawdown the reservoir.
- Reporting of the results in a format acceptable to the DSOD, stamped and signed by a registered structural engineer.
 - To accomplish this task, URS will utilize the SAP 2000 Finite Element Modeling (FEM) software by CSI, Inc. This state of the art software is well established and used by the DSOD as well. A linear elastic model of the existing tower will be modeled as a 2-D stick model consisting of multiple beam elements. The beam elements will be created using the Section Modeler module of SAP 2000 to accurately develop section properties representative of the existing tower geometry and materials. Each section developed in Section Modeler will have a unique moment interaction diagram to be used for evaluating existing tower capacity.

Hydrodynamic loading of the tower will be developed utilizing Chopra's method for evaluating hydrodynamic added masses. Water elevation for calculating added masses will be set at the dam spillway elevation of 790. Because the tower is "wet", added masses for both inside and outside of the tower will be calculated. Additionally, added masses will be developed for the valves and applied to the appropriate locations in the model. Since the tower is embedded in silt up to approximately the lower third of its height, the silt will be modelled as added mass based on Chopra's method as well.

The model foundation will be fixed in all directions and rotations. This boundary condition will generate the most conservative moment and shear demands that the tower may experience at the base. Additionally, a rotational stability analysis will be conducted to evaluate the tower for rocking stability separate from the FEM. This analysis will be done in accordance with US Army Core of Engineers (USACE) EM 1110-2-2400 "Structural Design and Evaluation of Outlet Works", Appendix E.

Seismic evaluation of the tower will also be conducted in accordance with EM 1110-2-2400. Under this evaluation, the existing Santiago Creek Dam Tower will be analysed for performance under a site specific Maximum Credible Earthquake (MCE) using the DSHA developed in the previous task. Loading for the FEM will consist of response spectra in two directions horizontally and vertically produced based on the DSHA. The EM used specifically targets common failure modes experienced by tower structures of this type.

Once the primary failure mode of the tower is assessed, the results will be used to determine the drawdown capacity of the reservoir will be develop to determine overall drain time, operational mechanism requirements and review restricted discharge capacity issues.

Results of the tower analysis will be presented in a report utilizing Microsoft Word and will include a summary of failure modes checked and results for each, stability analysis results for

both sliding and rotational stability, moment and shear capacity and demand comparisons for typical tower sections, and drawdown results.

The following outline will be used to prepare the Santiago Creek Dam Tower Seismic Analysis Report:

- Cover Sheet
- Engineering Certification Sheet
- Table of Contents
- Executive Summary
- Introduction
 - Project Background
 - Tower Description
 - Analysis Objectives
- Seismic Hazard Analysis
- Structural Evaluation Criteria
 - References, Codes and Regulations
 - Static Loading
 - Seismic Loading
 - Load Combinations
 - Factors of Safety
- Structural Properties
 - Material and Structural Properties
 - Section Properties
- Structural Analysis
 - Model Components and Boundary Conditions
 - Seismic Loading Input
 - Hydrodynamic Loading Evaluation
- Structural Analysis Results
 - Demand and Capacity Evaluation
 - Failure Mode Analysis
 - Stability Analysis
- Drawdown Analysis
- Conclusions and References



Estimated Cost Breakdown of Total Fee
 Irvine Ranch Water District
 Santiago Creek Dam Outlet Tower Seismic Evaluation
 March 20, 2013

Task No.	Task Description	URS Labor Hours							TOTAL HOURS	TOTAL LABOR	Direct Costs / Materials ¹	TOTAL	
		PIC / Principal Engineering Seismologist	Principal Engineer / Scientist	Senior Project Engineer / Scientist	Project Manager	Project Engineer / Scientist	Staff Engineer / Scientist	CAD/GIS Technician					Admin / Repro
		\$210	\$160	\$130	\$125	\$110	\$85	\$80					\$60
Phase 1													
1.	Project Status Updates				2				2	\$250		\$250	
2.	Meetings and Presentations (4 Meetings)		4	20	12				38	\$4,860	\$400	\$5,260	
3.	Perform Seismic Hazard Analysis	4		12		32			48	\$5,920		\$5,920	
4.	Perform Tower Failure Mechanism Analysis		2	40			200		242	\$22,520		\$22,520	
5.	Prepare 75% Draft Report (10 Copies)	1	10	60	2	4	40		118	\$13,760	\$100	\$13,860	
6.	Prepare 90% Draft Report (10 Copies)	1	6	30	2	4	16		60	\$7,180	\$100	\$7,280	
7.	Prepare Final 100% Report (12 Copies)	1	4	10	2	4	10		33	\$3,810	\$100	\$3,910	
TOTAL PHASE 1		7	26	172	20	44	266	4	541	\$58,300	\$700	\$59,000	

Notes & Assumptions:

1.) Direct Costs / Materials include costs such as mileage to meetings/site, courier fees, and document reproduction costs.

EXHIBIT "C"

IRVINE RANCH WATER DIST

Expenditure Authorization

Project Name: IRVINE LAKE SEISMIC STABILITY STUDY
EPMS Project No: 30331 **EA No:** 2
Oracle Project No: 1813
Project Manager: CORTEZ, MALCOLM
Project Engineer: SMYTH, JEFFREY
Request Date: June 10, 2013

ID Split: Regional Reclaimed Water Splits (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	2.3	CAPITAL FUND
212	14.3	BONDS YET TO BE SOLD**
213	5.2	BONDS YET TO BE SOLD**
215	.8	CAPITAL FUND
221	14.3	BONDS YET TO BE SOLD**
230	10.4	BONDS YET TO BE SOLD**
240	8.4	BONDS YET TO BE SOLD**
250	34.4	BONDS YET TO BE SOLD**
261	9.9	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$60,000
This Request:	\$90,700
Total EA Requests:	\$150,700
Previously Approved Budget:	\$133,100
Budget Adjustment Requested this EA:	\$17,600
Updated Budget:	\$150,700
Budget Remaining After This EA	\$0

Comments: This project may be required as a result of the DSOD file review for Irvine Lake Dam. Seismic review of the dam and outlet tower.

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	15,000	20,000	35,000	15,000	20,000	35,000	1/09	6/14
ENGINEERING - PLANNING OUTSIDE	66,500	33,500	100,000	0	100,000	100,000	1/09	6/14
LEGAL	1,000	1,000	2,000	1,000	1,000	2,000	1/09	6/14
Contingency - 10.00% Subtotal	\$8,200	\$5,500	\$13,700	\$1,600	\$12,100	\$13,700		
Subtotal (Direct Costs)	\$90,700	\$60,000	\$150,700	\$17,600	\$133,100	\$150,700		
Estimated G/A - 180.00% of direct labor*	\$26,000	\$37,000	\$63,000	\$26,000	\$37,000	\$63,000		
Total	\$116,700	\$97,000	\$213,700	\$43,600	\$170,100	\$213,700		
Direct Labor	\$15,000	\$20,000	\$35,000	\$15,000	\$20,000	\$35,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____  _____ 6/10/13

Department Director: _____  _____ 6/11/13

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$218,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

June 24, 2013
 Prepared by: B. Meserjian/M. Hoolihan
 Submitted by: K. Burton
 Approved by: Paul Cook

CONSENT CALENDAR

FISCAL YEAR 2013-14 EXPENDITURE AUTHORIZATIONS

SUMMARY:

Staff recommends that the Board approve Expenditure Authorizations (EAs) for the annual Engineering Planning Study Reserves, Orange County Sanitation District (OCSD) Capital Outlay Revolving Fund (CORF), OCSD Solids Handling, Raise Manholes to Grade, Health Department Fees, and On-Site and Off-Site Recycled Water Conversions in the total amount of \$4,059,300.

BACKGROUND:

Included in the FY 2013-14 Capital Budget are the annual projects listed below. Staff requests approval of the attached EAs (as provided in Exhibit "A") for these projects:

EPMS Project No.	Oracle Project No.	FY 2013-14 Project Title	Total Budget	EA Request
11055	1780	Engineering Planning Reserve Study (Water)	\$198,000	\$99,000
21055	1350	Engineering Planning Reserve Study (Sewer)	\$171,600	\$85,800
31055	1575	Engineering Planning Reserve Study (Recycled)	\$176,000	\$88,000
20114	1543	OCSD/ CORF (OCSD CORF 13/14)	\$1,877,000	\$1,877,000
20811	1400	OCSD Solids Handling	\$1,264,000	\$1,264,000
20946	4572	Raise Manholes to Grade 13/14	\$165,000	\$165,000
30400	4463	Health Department Fees for 13/14	\$84,700	\$84,700
30399	4464	Recycled Water Conversions, Off-site 13/14	\$145,800	\$145,800
30398	4465	Recycled Water Conversions, On-site 13/14	\$250,000	\$250,000
<i>Grand Total</i>			<i>\$4,332,100</i>	<i>\$4,059,300</i>

Summarized below are detailed project descriptions:

- Engineering Planning Reserve Studies (11055, 21055, and 31055) reflect the typical 50% initial authorization of funds. Staff requests authorization of all budgeted funds for the other projects as their purpose is clearly defined and allows a minimum of staff discretion. For the FY 2013-14 the annual "Water Supply Assessment" and "Municipal Water District of Orange County/Orange County Water District Capital Facility Coordination" projects have been combined with the Engineering Planning Reserve Study projects.
- The total FY 2013-14 OCSD CORF (20114) expenditures are estimated at \$1,877,000. Of the total amount, approximately \$377,800 will be paid in FY 2014-15. OCSD

typically provides three to four invoices for CORF in the current fiscal year, and the remaining invoice is received in the following fiscal year.

- OCSD Solids Handling (20811) accounts for IRWD leasing solids handling capacity at OCSD.
- Raise Manholes to Grade (20946) allocates funds to raise manholes to grade during various City street rehabilitation projects that are constructed throughout the year.
- Health Department fees (30400) are for review and inspection of dual plumbing and other recycled water projects.
- Recycled Water Conversion projects (30399 and 30398) provide funding for anticipated recycled water retrofit projects (on-site and off-site work) for the upcoming fiscal year.

Other annual projects are included in the FY 2013-14 Capital Budget where the expenditure authorizations are with the General Manager's authority. These include projects that allocate budget for geographic information system (GIS) support applications, hydraulic modeling, Great Park Sub-area Master Plan (SAMP) Update coordination, recycled water site inspection and testing software, and automation equipment replacement.

FISCAL IMPACTS:

Projects 11055 (1780), 21055 (1350), 31055 (1575), 20114 (1543), 20811 (1400), 20946 (4572), 30400 (4463), 30399 (4464), and 30398 (4465) are included in the FY 2013-14 Capital Budget for the total budgeted amount of \$4,332,100.

ENVIRONMENTAL COMPLIANCE:

Planning Reserve Projects 11055, 21055, and 31055 are exempt as each is considered a planning study, and a ministerial decision under Sections 2150 and 21080 of the Public Resources Code, respectively. IRWD is not the lead agency for Project 20114 (OCSD CORF) and for Project 20811 (OCSD Solids Handling). The recommended action for Projects 30399 and 30398 (Recycled Water Conversions) does not constitute "approval" under Section 15252 of the CEQA Guidelines because it does not commit IRWD to a specific course of action; however, in conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, the appropriate environmental evaluation will be conducted when "meaningful information" becomes available.

The Raise Manhole to Grade Project 20946 is exempt from CEQA as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15302 C, which provides exemption for projects that involve replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD APPROVE EXPENDITURE AUTHORIZATIONS FOR FY 2013-14 IN THE AMOUNT OF \$99,000 FOR ENGINEERING PLANNING STUDY RESERVE (WATER), PROJECT 11055 (1780); \$85,800 FOR ENGINEERING PLANNING STUDY RESERVE (SEWER), PROJECT 21055 (1350); \$88,000 FOR ENGINEERING PLANNING STUDY RESERVE (RECYCLED), PROJECT 31055 (1575); \$1,877,000 FOR OCSD CORF, PROJECT 20114 (1543); \$1,264,000 FOR OCSD SOLIDS HANDLING, PROJECT 20811 (1400); \$165,000 FOR RAISE MANHOLES TO GRADE 13/14, PROJECT 20946 (4572); \$84,700 FOR HEALTH DEPARTMENT FEES, PROJECT 30400 (4463); \$145,800 FOR RECYCLED CONVERSIONS OFF-SITE, PROJECT 30399 (4464); \$250,000 FOR RECYCLED CONVERSIONS ON-SITE, PROJECT 30398 (4465).

LIST OF EXHIBITS:

Exhibit "A" – Expenditure Authorizations

EXHIBIT "A"

IRVINE RANCH WATER DIST

Expenditure Authorization

Project Name: ENG PLANNING STUDY RESERVE 13/14
EPMS Project No: 11055 **EA No:** 1
Oracle Project No: 1780
Project Manager: HOOLIHAN, MICHAEL
Project Engineer: AKIYOSHI, ERIC
Request Date: June 11, 2013

ID Split: Regional DW w/LAWD w/ Enhance (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
112	1.0	BONDS YET TO BE SOLD**
113	1.2	BONDS YET TO BE SOLD**
115	1.7	CAPITAL FUND
121	3.5	BONDS YET TO BE SOLD**
130	2.7	BONDS YET TO BE SOLD**
135	4.4	PREVIOUSLY SOLD BONDS
140	.9	BONDS YET TO BE SOLD**
150	7.1	BONDS YET TO BE SOLD**
153	.8	BONDS YET TO BE SOLD**
154	.3	BONDS YET TO BE SOLD**
161	1.8	BONDS YET TO BE SOLD**
182	.7	BONDS YET TO BE SOLD**
184	.6	BONDS YET TO BE SOLD**
186	.2	BONDS YET TO BE SOLD**
188	.2	BONDS YET TO BE SOLD**
199	72.9	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$99,000
Total EA Requests:	\$99,000
Previously Approved Budget:	\$198,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$198,000
Budget Remaining After This EA	\$99,000

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	40,000	0	40,000	0	80,000	80,000	7/13	6/14
ENGINEERING - PLANNING OUTSIDE	50,000	0	50,000	0	100,000	100,000	7/13	6/14
Contingency - 10.00% Subtotal	\$9,000	\$0	\$9,000	\$0	\$18,000	\$18,000		
Subtotal (Direct Costs)	\$99,000	\$0	\$99,000	\$0	\$198,000	\$198,000		
Estimated G/A - 170.00% of direct labor*	\$68,000	\$0	\$68,000	\$0	\$136,000	\$136,000		
Total	\$167,000	\$0	\$167,000	\$0	\$334,000	\$334,000		
Direct Labor	\$40,000	\$0	\$40,000	\$0	\$80,000	\$80,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____ *[Signature]* _____ 6/11/13
Department Director: _____ *[Signature]* _____ 6/12/13
Finance: _____ *[Signature]* _____ 6/27/13
Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$341,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: ENG PLANNING STUDY RESERVE 13/14
EPMS Project No: 21055 **EA No:** 1
Oracle Project No: 1350
Project Manager: HOOLIHAN, MICHAEL
Project Engineer: AKIYOSHI, ERIC
Request Date: June 11, 2013

ID Split: Regional Sewer w/LAWD w/ Enhance (11/08)
Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	2.2	CAPITAL FUND
212	.9	BONDS YET TO BE SOLD**
213	1.3	BONDS YET TO BE SOLD**
215	2.1	CAPITAL FUND
221	4.4	BONDS YET TO BE SOLD**
230	2.9	BONDS YET TO BE SOLD**
235	3.8	PREVIOUSLY SOLD BONDS
240	.8	BONDS YET TO BE SOLD**
250	6.8	BONDS YET TO BE SOLD**
253	.3	BONDS YET TO BE SOLD**
261	1.8	BONDS YET TO BE SOLD**
282	.5	BONDS YET TO BE SOLD**
284	.5	BONDS YET TO BE SOLD**
286	.1	BONDS YET TO BE SOLD**
288	.1	BONDS YET TO BE SOLD**
299	71.5	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$85,800
Total EA Requests:	\$85,800
Previously Approved Budget:	\$171,600
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$171,600
Budget Remaining After This EA	\$85,800

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	38,000	0	38,000	0	76,000	76,000	7/13	6/14
ENGINEERING - PLANNING OUTSIDE	40,000	0	40,000	0	80,000	80,000	7/13	6/14
Contingency - 10.00% Subtotal	\$7,800	\$0	\$7,800	\$0	\$15,600	\$15,600		
Subtotal (Direct Costs)	\$85,800	\$0	\$85,800	\$0	\$171,600	\$171,600		
Estimated G/A - 170.00% of direct labor*	\$64,600	\$0	\$64,600	\$0	\$129,200	\$129,200		
Total	\$150,400	\$0	\$150,400	\$0	\$300,800	\$300,800		
Direct Labor	\$38,000	\$0	\$38,000	\$0	\$76,000	\$76,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$307,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated into this authorization. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: ENG PLANNING STUDY RESERVE 13/14
EPMS Project No: 31055 **EA No:** 1
Oracle Project No: 1575
Project Manager: HOOLIHAN, MICHAEL
Project Engineer: AKIYOSHI, ERIC
Request Date: June 11, 2013

ID Split: Regional RW w/LAWD w/ Enhance (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	.7	CAPITAL FUND
212	4.3	BONDS YET TO BE SOLD**
213	1.6	BONDS YET TO BE SOLD**
215	.2	CAPITAL FUND
221	4.3	BONDS YET TO BE SOLD**
230	3.2	BONDS YET TO BE SOLD**
235	2.6	PREVIOUSLY SOLD BONDS
240	2.5	BONDS YET TO BE SOLD**
250	10.3	BONDS YET TO BE SOLD**
261	3.0	BONDS YET TO BE SOLD**
299	67.3	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$88,000
Total EA Requests:	\$88,000
Previously Approved Budget:	\$176,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$176,000
Budget Remaining After This EA	\$88,000

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	30,000	0	30,000	0	60,000	60,000	7/13	6/14
ENGINEERING - PLANNING OUTSIDE	50,000	0	50,000	0	100,000	100,000	7/13	6/14
Contingency - 10.00% Subtotal	\$8,000	\$0	\$8,000	\$0	\$16,000	\$16,000		
Subtotal (Direct Costs)	\$88,000	\$0	\$88,000	\$0	\$176,000	\$176,000		
Estimated G/A - 170.00% of direct labor*	\$51,000	\$0	\$51,000	\$0	\$102,000	\$102,000		
Total	\$139,000	\$0	\$139,000	\$0	\$278,000	\$278,000		
Direct Labor	\$30,000	\$0	\$30,000	\$0	\$60,000	\$60,000		


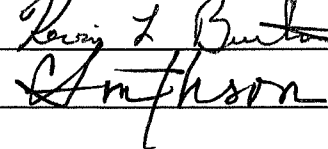
*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Department Director:

Finance:

Board/General Manager:

6/11/13
 6/12/13
 6/17/13

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$284,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference into this authorization. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: OCSD CORF 13/14
 EPMS Project No: 20114 EA No: 1
 Oracle Project No: 1543
 Project Manager: HOOLIHAN, MICHAEL
 Project Engineer: AKIYOSHI, ERIC
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	49.9	REPLACEMENT FUND**
211	2.2	CAPITAL FUND
212	1.1	BONDS YET TO BE SOLD**
213	3.3	BONDS YET TO BE SOLD**
221	10.5	BONDS YET TO BE SOLD**
230	7.1	BONDS YET TO BE SOLD**
250	18.7	BONDS YET TO BE SOLD**
261	4.4	BONDS YET TO BE SOLD**
282	1.1	BONDS YET TO BE SOLD**
284	1.7	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$1,877,000
Total EA Requests:	\$1,877,000
Previously Approved Budget:	\$1,877,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$1,877,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	1,877,000	0	1,877,000	0	1,877,000	1,877,000	7/13	9/14
Contingency - % Subtotal	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal (Direct Costs)	\$1,877,000	\$0	\$1,877,000	\$0	\$1,877,000	\$1,877,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$1,877,000	\$0	\$1,877,000	\$0	\$1,877,000	\$1,877,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: [Signature] 6/11/13
 Department Director: [Signature] 6/12/13
 Finance: [Signature] 6/17/13
 Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$1,915,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. IRWD's official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: OCSD SOLIDS HANDLING 13/14
 EPMS Project No: 20811 EA No: 1
 Oracle Project No: 1400
 Project Manager: HOOLIHAN, MICHAEL
 Project Engineer: AKIYOSHI, ERIC
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	49.9	REPLACEMENT FUND**
211	2.2	CAPITAL FUND
212	1.1	BONDS YET TO BE SOLD**
213	3.3	BONDS YET TO BE SOLD**
221	10.5	BONDS YET TO BE SOLD**
230	7.1	BONDS YET TO BE SOLD**
250	18.7	BONDS YET TO BE SOLD**
261	4.4	BONDS YET TO BE SOLD**
282	1.1	BONDS YET TO BE SOLD**
284	1.7	BONDS YET TO BE SOLD**
Total	100.0%	

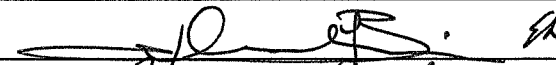
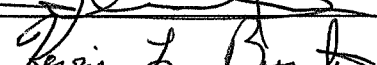
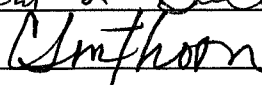
Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$1,264,000
Total EA Requests:	\$1,264,000
Previously Approved Budget:	\$1,264,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$1,264,000
Budget Remaining After This EA	\$0

Comments: Costs based on April 2009 Carollo study, "OCSD Billing of IRWD Biosolids." Splits are same as CORF splits

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	1,264,000	0	1,264,000	0	1,264,000	1,264,000	7/13	6/14
Contingency - % Subtotal	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal (Direct Costs)	\$1,264,000	\$0	\$1,264,000	\$0	\$1,264,000	\$1,264,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$1,264,000	\$0	\$1,264,000	\$0	\$1,264,000	\$1,264,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:  6/11/13
 Department Director:  6/12/13
 Finance:  6/17/13
 Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$1,290,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference to official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.15

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: RAISE MANHOLES TO GRADE 13/14
EPMS Project No: 20946 **EA No:** 1
Oracle Project No: 4572
Project Manager: CORTEZ, MALCOLM
Project Engineer: LEW, KELLY
Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No. **Allocation %** **Source of Funds**

210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$165,000
Total EA Requests:	\$165,000
Previously Approved Budget:	\$165,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$165,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	150,000	0	150,000	0	150,000	150,000	7/13	6/14
Contingency - 10.00% Subtotal	\$15,000	\$0	\$15,000	\$0	\$15,000	\$15,000		
Subtotal (Direct Costs)	\$165,000	\$0	\$165,000	\$0	\$165,000	\$165,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$165,000	\$0	\$165,000	\$0	\$165,000	\$165,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____ *[Signature]* 6/11/13
Department Director: _____ *[Signature]* 6/12/13
Finance: _____ *[Signature]* 6/17/13
Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$169,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporate official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: HEALTH DEPT FEES FOR 13/14
 EPMS Project No: 30400 EA No: 1
 Oracle Project No: 4463
 Project Manager: TETTEMER, JOHN
 Project Engineer: HARRIS, ALEX
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No. Allocation % Source of Funds

ID No.	Allocation %	Source of Funds
211	1.9	CAPITAL FUND
212	15.7	BONDS YET TO BE SOLD**
213	5.5	BONDS YET TO BE SOLD**
221	14.7	BONDS YET TO BE SOLD**
230	8.7	BONDS YET TO BE SOLD**
235	6.4	BONDS YET TO BE SOLD**
240	7.7	BONDS YET TO BE SOLD**
250	25.6	BONDS YET TO BE SOLD**
261	9.6	BONDS YET TO BE SOLD**
290	4.2	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$84,700
Total EA Requests:	\$84,700
Previously Approved Budget:	\$84,700
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$84,700
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - CA&I IRWD	11,000	0	11,000	0	11,000	11,000	7/13	6/14
ENGINEERING - CA&I OUTSIDE	66,000	0	66,000	0	66,000	66,000	7/13	6/14
Contingency - 10.00% Subtotal	\$7,700	\$0	\$7,700	\$0	\$7,700	\$7,700		
Subtotal (Direct Costs)	\$84,700	\$0	\$84,700	\$0	\$84,700	\$84,700		
Estimated G/A - 170.00% of direct labor*	\$18,700	\$0	\$18,700	\$0	\$18,700	\$18,700		
Total	\$103,400	\$0	\$103,400	\$0	\$103,400	\$103,400		
Direct Labor	\$11,000	\$0	\$11,000	\$0	\$11,000	\$11,000		

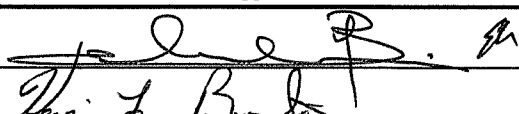
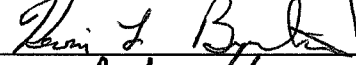
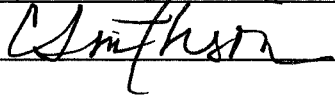
*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Department Director:

Finance:

Board/General Manager:

 6/11/13
 6/12/13
 6/17/13

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$106,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This expenditure is made under Treasury Regulation Section 1.151 of official intent to reimburse costs of the above-captioned project.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: RW CONVERSION FOR OFF-SITE 13/14
EPMS Project No: 30399 **EA No:** 1
Oracle Project No: 4464
Project Manager: TETTEMER, JOHN
Project Engineer: HERR, GREGORY
Request Date: June 11, 2013

ID Split: Reclaimed Water Conversion w/ LAWD (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	50.0	REPLACEMENT FUND**
211	1.0	CAPITAL FUND
212	7.8	BONDS YET TO BE SOLD**
213	2.8	BONDS YET TO BE SOLD**
221	7.3	BONDS YET TO BE SOLD**
230	6.5	BONDS YET TO BE SOLD**
235	3.2	PREVIOUSLY SOLD BONDS
240	3.8	BONDS YET TO BE SOLD**
250	12.8	BONDS YET TO BE SOLD**
261	4.8	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$145,800
Total EA Requests:	\$145,800
Previously Approved Budget:	\$145,800
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$145,800
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	5,000	0	5,000	0	5,000	5,000	7/13	6/14
ENGINEERING DESIGN - OUTSIDE	5,000	0	5,000	0	5,000	5,000	7/13	6/14
DESIGN STAFF FIELD SUPPORT	5,000	0	5,000	0	5,000	5,000	7/13	6/14
ENGINEERING - CA&I IRWD	10,000	0	10,000	0	10,000	10,000	7/13	6/14
ENGINEERING - CA&I OUTSIDE	0	0	0	0	0	0	7/13	6/14
CONSTRUCTION FIELD SUPPORT	5,000	0	5,000	0	5,000	5,000	7/13	6/14
CONSTRUCTION	100,000	0	100,000	0	100,000	100,000	7/13	6/14
LEGAL	2,500	0	2,500	0	2,500	2,500	7/13	6/14
Contingency - 10.00% Subtotal	\$13,300	\$0	\$13,300	\$0	\$13,300	\$13,300		
Subtotal (Direct Costs)	\$145,800	\$0	\$145,800	\$0	\$145,800	\$145,800		
Estimated G/A - 170.00% of direct labor*	\$42,500	\$0	\$42,500	\$0	\$42,500	\$42,500		
Total	\$188,300	\$0	\$188,300	\$0	\$188,300	\$188,300		
Direct Labor	\$25,000	\$0	\$25,000	\$0	\$25,000	\$25,000		

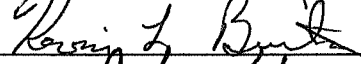
*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:



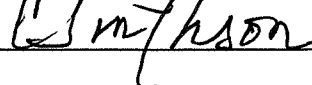
6/11/13

Department Director:



6/12/13

Finance:



6/17/13

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$193,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated into this authorization. No official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: RW CONVERSION GRANTS FOR ON-SITE 13/14
 EPMS Project No: 30398 EA No: 1
 Oracle Project No: 4465
 Project Manager: TETTEMER, JOHN
 Project Engineer: HERR, GREGORY
 Request Date: June 11, 2013

ID Split: Reclaimed Water Conversion w/ LAWD (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	50.0	REPLACEMENT FUND**
211	1.0	CAPITAL FUND
212	7.8	BONDS YET TO BE SOLD**
213	2.8	BONDS YET TO BE SOLD**
221	7.3	BONDS YET TO BE SOLD**
230	6.5	BONDS YET TO BE SOLD**
235	3.2	PREVIOUSLY SOLD BONDS
240	3.8	BONDS YET TO BE SOLD**
250	12.8	BONDS YET TO BE SOLD**
261	4.8	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$250,000
Total EA Requests:	\$250,000
Previously Approved Budget:	\$250,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$250,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	10,000	0	10,000	0	10,000	10,000	7/13	6/14
ENGINEERING DESIGN - IRWD	10,000	0	10,000	0	10,000	10,000	7/13	6/14
ENGINEERING DESIGN - OUTSIDE	27,000	0	27,000	0	27,000	27,000	7/13	6/14
ENGINEERING - CA&I IRWD	10,000	0	10,000	0	10,000	10,000	7/13	6/14
CONSTRUCTION	191,000	0	191,000	0	191,000	191,000	7/13	6/14
LEGAL	2,000	0	2,000	0	2,000	2,000	7/13	6/14
Contingency - % Subtotal	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal (Direct Costs)	\$250,000	\$0	\$250,000	\$0	\$250,000	\$250,000		
Estimated G/A - 170.00% of direct labor*	\$51,000	\$0	\$51,000	\$0	\$51,000	\$51,000		
Total	\$301,000	\$0	\$301,000	\$0	\$301,000	\$301,000		
Direct Labor	\$30,000	\$0	\$30,000	\$0	\$30,000	\$30,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$308,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. No official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

June 24, 2013

Prepared by: W. Posey

Submitted by: P. Shields

Approved by: Paul Cook

Handwritten initials 'WJ' and 'PS' in a circle, and a signature 'P. Cook' below it.

CONSENT CALENDAR

WASTEWATER OPERATIONS FISCAL YEAR 2013-14 EXPENDITURE AUTHORIZATIONS

SUMMARY:

Staff recommends the Board approve Expenditure Authorizations for the following annual Wastewater Operations projects that were approved in the Fiscal Year (FY) 2013-14 Capital Budget:

- Project 11677 (4421) for \$400,000, Project 21144 (4431) for \$350,000 and Project 30395 (4424) for \$350,000 for Mechanical and Electrical System Modifications;
- Project 20958 (4574) for Sewer General System Modifications for \$275,000;
- Project 20913 (4437) for MWRP General System Modifications for \$264,000;
- Project 21009 (4419) for \$210,000 for LAWRP General System Modifications; and
- Project 21052 (4573) for \$44,000 for Chiquita General System Modifications.

BACKGROUND:

The following annual Wastewater Operations projects are included in the approved FY 2013-14 Capital Budget:

Mechanical and Electrical System Modifications:

These projects consist of performing unforeseen mechanical and electrical system modifications within the domestic, sewer and recycled water systems throughout FY 2013-14.

Sewer General System Modifications:

This project consists of performing unforeseen system modifications within the collections system during FY 2013-14, including repair and rehabilitation of severely deteriorated manhole structures.

MWRP General System Modifications:

This project consists of performing unforeseen system modifications within the Michelson Water Recycling Plant during FY 2013-14.

LAWRP General System Modifications:

This project consists of performing unforeseen system modifications within the Los Alisos Water Recycling Plant FY 2013-14.

Chiquita General System Modifications:

This project provides funding for the District's annual prorated share of Santa Margarita Water District's Chiquita System Capital Replacement/Maintenance costs per the "Agreement Between Irvine Ranch Water District and Santa Margarita Water District Regarding Collection, Treatment and Disposal of Wastewater to the Chiquita System and El Toro Trunk Sewer System", dated February 27, 1989.

FISCAL IMPACTS:

These projects are included in the approved FY 2013-14 Capital Budget. The Expenditure Authorizations are provided as Exhibit "A". Projects 11677 (4421), 21144 (4431), 30395 (4424), 20958 (4574), 20913 (4437), 21009 (4419) and 21052 (4573) are funded by the Replacement Fund.

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11677 (4421)	\$ 400,000	\$0	\$ 400,000	\$0	\$ 400,000	\$ 400,000
21144 (4431)	\$ 350,000	\$0	\$ 350,000	\$0	\$ 350,000	\$ 350,000
30395 (4424)	\$ 350,000	\$0	\$ 350,000	\$0	\$ 350,000	\$ 350,000
20958 (4574)	\$ 275,000	\$0	\$ 275,000	\$0	\$ 275,000	\$ 275,000
20913 (4437)	\$ 264,000	\$0	\$ 264,000	\$0	\$ 264,000	\$ 264,000
21009 (4419)	\$ 210,000	\$0	\$ 210,000	\$0	\$ 210,000	\$ 210,000
21052 (4573)	\$ 44,000	\$0	\$ 44,000	\$0	\$ 44,000	\$ 44,000
TOTAL	\$1,893,000	\$0	\$1,893,000	\$0	\$1,893,000	\$1,893,000

ENVIRONMENTAL COMPLIANCE:

Project 21052 (4573) consists of ministerial activities that are statutorily exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15268. The remaining activities consist of minor repairs and rehabilitation that are categorically exempt from CEQA as authorized under Sections 15301 and 15302.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD APPROVE EXPENDITURE AUTHORIZATIONS FOR PROJECT 11677 (4421) FOR \$400,000; PROJECT 21144 (4431) FOR \$350,000; PROJECT 30395 (4424) FOR \$350,000; PROJECT 20958 (4574) FOR \$275,000; PROJECT 20913 (4437) FOR \$264,000; PROJECT 21009 (4419) FOR \$210,000 AND PROJECT 21052 (4573) FOR \$44,000.

LIST OF EXHIBITS:

Exhibit "A" – Expenditure Authorizations

IRVINE RANCH WATER DISTRICT

EXHIBIT "A"

Expenditure Authorization

Project Name: MECH & ELEC SYS MODS - DW 13/14
 EPMS Project No: 11677 EA No: 1
 Oracle Project No: 4421
 Project Manager: POSEY, WAYNE
 Project Engineer: FIKE, CHRISTOPHER
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$400,000
Total EA Requests:	\$400,000
Previously Approved Budget:	\$400,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$400,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	363,600	0	363,600	0	363,600	363,600	7/13	6/14
Contingency - 10.00% Subtotal	\$36,400	\$0	\$36,400	\$0	\$36,400	\$36,400		
Subtotal (Direct Costs)	\$400,000	\$0	\$400,000	\$0	\$400,000	\$400,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$400,000	\$0	\$400,000	\$0	\$400,000	\$400,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Department Director:

Finance:

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$408,000. The above captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

EXHIBIT "A-1"

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: MECH & ELEC SYS MODS - SEWER 13/14
EPMS Project No: 21144 **EA No:** 1
Oracle Project No: 4431
Project Manager: POSEY, WAYNE
Project Engineer: FIKE, CHRISTOPHER
Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No. Allocation % Source of Funds

210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$350,000
Total EA Requests:	\$350,000
Previously Approved Budget:	\$350,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$350,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	318,200	0	318,200	0	318,200	318,200	7/13	6/14
Contingency - 10.00% Subtotal	\$31,800	\$0	\$31,800	\$0	\$31,800	\$31,800		
Subtotal (Direct Costs)	\$350,000	\$0	\$350,000	\$0	\$350,000	\$350,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$350,000	\$0	\$350,000	\$0	\$350,000	\$350,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

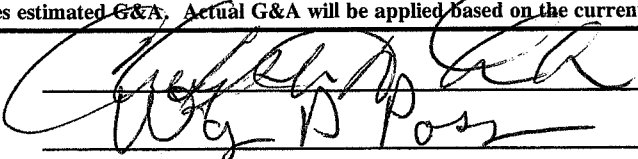
*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Department Director:

Finance:

Board/General Manager:


 06.12.13
 6/12/13

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$357,000. The above captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

EXHIBIT "A-2"

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: MECH & ELEC SYS MODS - RW 13/14
 EPMS Project No: 30395 EA No: 1
 Oracle Project No: 4424
 Project Manager: POSEY, WAYNE
 Project Engineer: FIKE, CHRISTOPHER
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$350,000
Total EA Requests:	\$350,000
Previously Approved Budget:	\$350,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$350,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	318,200	0	318,200	0	318,200	318,200	7/13	6/14
Contingency - 10.00% Subtotal	\$31,800	\$0	\$31,800	\$0	\$31,800	\$31,800		
Subtotal (Direct Costs)	\$350,000	\$0	\$350,000	\$0	\$350,000	\$350,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$350,000	\$0	\$350,000	\$0	\$350,000	\$350,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$357,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

EXHIBIT "A-3"

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: SEWER GEN SYS MODS 13/14
 EPMS Project No: 20958 EA No: 1
 Oracle Project No: 4574
 Project Manager: POSEY, WAYNE
 Project Engineer: SPRINGMAN, GREGORY
 Request Date: June 12, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$275,000
Total EA Requests:	\$275,000
Previously Approved Budget:	\$275,000
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$275,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	250,000	0	250,000	0	250,000	250,000	7/13	6/14
Contingency - 10.00% Subtotal	\$25,000	\$0	\$25,000	\$0	\$25,000	\$25,000		
Subtotal (Direct Costs)	\$275,000	\$0	\$275,000	\$0	\$275,000	\$275,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$275,000	\$0	\$275,000	\$0	\$275,000	\$275,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Department Director:

Finance:

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$281,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

EXHIBIT "A-4"

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: MWRP GEN SYS MODS 13/14
EPMS Project No: 20913 **EA No:** 1
Oracle Project No: 4437
Project Manager: POSEY, WAYNE
Project Engineer: GINGRAS, MARK
Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	<u>\$264,000</u>
Total EA Requests:	\$264,000
Previously Approved Budget:	\$264,000
Budget Adjustment Requested this EA:	<u>\$0</u>
Updated Budget:	\$264,000
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION	240,000	0	240,000	0	240,000	240,000	7/13	6/14
Contingency - 10.00% Subtotal	\$24,000	\$0	\$24,000	\$0	\$24,000	\$24,000		
Subtotal (Direct Costs)	\$264,000	\$0	\$264,000	\$0	\$264,000	\$264,000		
Estimated G/A - 170.00% of direct labor*	\$0	\$0	\$0	\$0	\$0	\$0		
Total	\$264,000	\$0	\$264,000	\$0	\$264,000	\$264,000		
Direct Labor	\$0	\$0	\$0	\$0	\$0	\$0		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Mark B. Gungor

6/12/13

Department Director:

W. D. P.

6/12/13

Finance:

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$270,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

EXHIBIT "A-5"

June 24, 2013

Prepared by: P. Sheilds

Submitted by: P. Sheilds

Approved by: Paul Cook 

CONSENT CALENDAR

WATER OPERATIONS FISCAL YEAR 2013-14 EXPENDITURE AUTHORIZATIONS

SUMMARY:

Staff recommends the Board approve Expenditure Authorizations for the following annual Water Operations projects that were approved in the Fiscal Year (FY) 2013-14 Capital Budget:

- Project 11579 (1282) for \$294,100 for Residential 5/8" by 3/4" and 3/4" Meter Replacements;
- Project 11584 (1295) for \$650,100, Project 31584 (1333) for \$206,800 and Project 21584 (1491) for \$200,200 for the Service Line, Valve and Main Replacements;
- Project 11583 (1300) for \$203,500 for CSR Meter Replacements;
- Project 11581 (1292) for \$170,500 and Project 31581 (1415) for \$170,500 for Raise System Valves;
- Project 11580 (1277) for \$91,700 and Project 30364 (1011) for \$120,500 for the 1" and 2" Meter Replacements; and
- Project 11582 (1285) for \$135,300 for the General System Modifications

Additionally, staff recommends that the Board authorize the addition of Project 10391 (1241) to the Fiscal Year 2013-14 Capital Budget in the amount of \$424,900 to fund both the Deep Aquifer Treatment System (DATS) and the Well 77 lease payments.

BACKGROUND:

The following annual Water Operations projects are included in the approved FY 2013-14 Capital Budget:

Residential 5/8" by 3/4" and 3/4" Meter Replacements:

The project consists of replacing existing residential meters on a 17-year cycle. Replacement of the older meters that begin to under-register water usage results in increased revenue and reduces the number of meters replaced through the Customer Service Request System. Approximately 4,200 meters are planned for replacement during FY 2013-14.

Service Line, Valve and Main Replacements:

The project consists of replacing damaged or broken water service lines, valves and mains in both the domestic and recycled water systems and sewer lines and mains during FY 2013-14. An average of 200 service lines and 100 valves are replaced annually.

Meter Replacements Requested through Customer Service:

The project consists of replacing damaged or broken meters that are flagged through the Customer Service Request System. The meters typically require replacement due to mechanical failure or difficulties reading as a result of a scratched or cloudy register glass.

Raise System Valves:

The project consists of raising system valve cans and boxes to grade following roadway paving projects that are completed.

1-inch and 2-inch Meter Replacements:

The project consists of replacing 1-inch meters on an 18-year cycle and 1½-inch and 2-inch meters on a 15-year cycle. Replacement of the older meters that begin to under register water usage results in increased revenue and reduces the number of meters replaced through the Customer Service Request System.

General System Modifications

This project consists of performing unforeseen domestic water distribution system modifications.

The following annual Water Operation project is to be added to the FY 2013-14 Capital Budget:

DATS and Well 77 Lease:

The project provides funding for the DATS lease payment to the City of Santa Ana and the Well 77 lease payment to the Irvine Unified School District. The project has no funding authorization restrictions because the purpose is clearly defined, and the specified lease agreement payments minimize staff discretion.

FISCAL IMPACTS:

Projects 10391 (1214), 11579 (1282), 11584 (1295), 31584 (1333), 21584 (1491), 11583 (1300), 11581 (1292), 31581 (1415), 11580 (1277) 30364 (1011) and 11582 (1285) are included in the approved FY 2013-14 Capital Budget. The Expenditure Authorizations are provided as Exhibit "A". Project 10391 (1214) is funded based on regional improvement district allocations, and Projects 11579 (1282), 11584 (1295), 31584 (1333), 21584 (1491), 11583 (1300), 11581 (1292), 31581 (1415), 11580 (1277) and 11582 (1285) will be funded by the replacement fund.

Consent Calendar: Water Operations Fiscal Year 2013-14 Expenditure Authorizations

June 24, 2013

Page 3

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
10391 (1214)	\$ 0	\$424,900	\$ 424,900	\$0	\$ 424,900	\$ 424,900
11579 (1282)	\$ 294,100	\$0	\$ 294,100	\$0	\$ 294,100	\$ 294,100
11584 (1295)	\$ 650,100	\$0	\$ 650,100	\$0	\$ 650,100	\$ 650,100
31584 (1333)	\$ 206,800	\$0	\$ 206,800	\$0	\$ 206,800	\$ 206,800
21584 (1491)	\$ 200,200	\$0	\$ 200,200	\$0	\$ 200,200	\$ 200,200
11583 (1300)	\$ 203,500	\$0	\$ 203,500	\$0	\$ 203,500	\$ 203,500
11581 (1292)	\$ 170,500	\$0	\$ 170,500	\$0	\$ 170,500	\$ 170,500
31581 (1415)	\$ 170,500	\$0	\$ 170,500	\$0	\$ 170,500	\$ 170,500
11580 (1277)	\$ 91,700	\$0	\$ 91,700	\$0	\$ 91,700	\$ 91,700
30364 (1011)	\$ 120,500	\$0	\$ 120,500	\$0	\$ 120,500	\$ 120,500
11582 (1285)	\$ 135,300	\$0	\$ 135,300	\$0	\$ 135,300	\$ 135,300
TOTAL	\$2,668,100	\$0	\$2,668,100	\$0	\$2,668,100	\$2,668,100

ENVIRONMENTAL COMPLIANCE:

Project 10391 (1214) is a ministerial project and not subject to the California Environmental Quality Act (CEQA) pursuant to Section 21080 of the Public Resources Code.

Projects 11579 (1282), 11584 (1295), 31584 (1333), 21584 (1491), 11583 (1300), 11581 (1292), 31581 (1415), 11580 (1277), 30364 (1011) and 11582 (1285) are categorically exempt from CEQA pursuant to the California Code of Regulations, Title 14, Chapter 3, Sections 15301 and 15302.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF PROJECT 10391 (1214) FOR \$424,900 TO THE FISCAL YEAR 2013-14 CAPITAL BUDGET AND APPROVE EXPENDITURE AUTHORIZATIONS FOR; PROJECT 11579 (1282) FOR \$294,100; PROJECT 11584 (1295) FOR \$650,100; PROJECT 31584 (1333) FOR \$206,800; PROJECT 21584 (1491) FOR \$200,200; PROJECT 11583 (1300) FOR \$203,500; PROJECT 11581 (1292) FOR \$170,500; PROJECT 31581 (1415) FOR \$170,500; PROJECT 11580 (1277) FOR \$91,700, PROJECT 30364 (1011) FOR \$120,500 AND PROJECT 11582 (1285) FOR \$135,300.

LIST OF EXHIBITS:

Exhibit "A" – Expenditure Authorizations

EXHIBIT "A"

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: RESIDENTIAL METER REPLACEMENT 13/14
 EPMS Project No: 11579 EA No: 1
 Oracle Project No: 1282
 Project Manager: ROBERTS, THOMAS
 Project Engineer: CROWE, DAVID
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$294,100
Total EA Requests:	\$294,100
Previously Approved Budget:	\$294,100
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$294,100
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	13,000	0	13,000	0	13,000	13,000	7/13	6/14
CONSTRUCTION	254,400	0	254,400	0	254,400	254,400	7/13	6/14
Contingency - 10.00% Subtotal	\$26,700	\$0	\$26,700	\$0	\$26,700	\$26,700		
Subtotal (Direct Costs)	\$294,100	\$0	\$294,100	\$0	\$294,100	\$294,100		
Estimated G/A - 170.00% of direct labor*	\$22,100	\$0	\$22,100	\$0	\$22,100	\$22,100		
Total	\$316,200	\$0	\$316,200	\$0	\$316,200	\$316,200		
Direct Labor	\$13,000	\$0	\$13,000	\$0	\$13,000	\$13,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

[Signature] 6-12-13

Department Director: _____

[Signature] 6/12/13

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$323,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: 1" TO 2" METER REPLACEMENT 13/14
 EPMS Project No: 11580 EA No: 1
 Oracle Project No: 1277
 Project Manager: ROBERTS, THOMAS
 Project Engineer: CROWE, DAVID
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$91,700
Total EA Requests:	\$91,700
Previously Approved Budget:	\$91,700
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$91,700
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	13,400	0	13,400	0	13,400	13,400	7/13	6/14
CONSTRUCTION	70,000	0	70,000	0	70,000	70,000	7/13	6/14
Contingency - 10.00% Subtotal	\$8,300	\$0	\$8,300	\$0	\$8,300	\$8,300		
Subtotal (Direct Costs)	\$91,700	\$0	\$91,700	\$0	\$91,700	\$91,700		
Estimated G/A - 170.00% of direct labor*	\$22,800	\$0	\$22,800	\$0	\$22,800	\$22,800		
Total	\$114,500	\$0	\$114,500	\$0	\$114,500	\$114,500		
Direct Labor	\$13,400	\$0	\$13,400	\$0	\$13,400	\$13,400		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$117,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. No official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: RAISE SYSTEM VALVES 13/14
 EPMS Project No: 11581 EA No: 1
 Oracle Project No: 1292
 Project Manager: ROBERTS, THOMAS
 Project Engineer: MOORE, RORY
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$170,500
Total EA Requests:	\$170,500
Previously Approved Budget:	\$170,500
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$170,500
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	5,000	0	5,000	0	5,000	5,000	7/13	6/14
CONSTRUCTION	150,000	0	150,000	0	150,000	150,000	7/13	6/14
Contingency - 10.00% Subtotal	\$15,500	\$0	\$15,500	\$0	\$15,500	\$15,500		
Subtotal (Direct Costs)	\$170,500	\$0	\$170,500	\$0	\$170,500	\$170,500		
Estimated G/A - 170.00% of direct labor*	\$8,500	\$0	\$8,500	\$0	\$8,500	\$8,500		
Total	\$179,000	\$0	\$179,000	\$0	\$179,000	\$179,000		
Direct Labor	\$5,000	\$0	\$5,000	\$0	\$5,000	\$5,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Tom Roberts

6-12-13

Department Director:

Patrick Shields

6/12/13

Finance:

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$183,000. Additional documents, if any, which are hereby incorporated by reference into this authorization. The intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: RAISE SYSTEM VALVES 13/14
EPMS Project No: 31581 **EA No:** 1
Oracle Project No: 1415
Project Manager: ROBERTS, THOMAS
Project Engineer: MOORE, RORY
Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No. Allocation % Source of Funds

210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$170,500
Total EA Requests:	\$170,500
Previously Approved Budget:	\$170,500
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$170,500
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	5,000	0	5,000	0	5,000	5,000	7/13	6/14
CONSTRUCTION	150,000	0	150,000	0	150,000	150,000	7/13	6/14
Contingency - 10.00% Subtotal	\$15,500	\$0	\$15,500	\$0	\$15,500	\$15,500		
Subtotal (Direct Costs)	\$170,500	\$0	\$170,500	\$0	\$170,500	\$170,500		
Estimated G/A - 170.00% of direct labor*	\$8,500	\$0	\$8,500	\$0	\$8,500	\$8,500		
Total	\$179,000	\$0	\$179,000	\$0	\$179,000	\$179,000		
Direct Labor	\$5,000	\$0	\$5,000	\$0	\$5,000	\$5,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

6-12-13

Department Director:

6/12/13

Finance:

Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$183,000. The above captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: GEN SYS MODS 13/14
 EPMS Project No: 11582 EA No: 1
 Oracle Project No: 1285
 Project Manager: ROBERTS, THOMAS
 Project Engineer: MOORE, RORY
 Request Date: June 11, 2013

ID Split: Regional DW w/LAWD w/ Enhance (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
112	1.0	BONDS YET TO BE SOLD**
113	1.2	BONDS YET TO BE SOLD**
115	1.7	CAPITAL FUND
121	3.5	BONDS YET TO BE SOLD**
130	2.7	BONDS YET TO BE SOLD**
135	4.4	PREVIOUSLY SOLD BONDS
140	.9	BONDS YET TO BE SOLD**
150	7.1	BONDS YET TO BE SOLD**
153	.8	BONDS YET TO BE SOLD**
154	.3	BONDS YET TO BE SOLD**
161	1.8	BONDS YET TO BE SOLD**
182	.7	BONDS YET TO BE SOLD**
184	.6	BONDS YET TO BE SOLD**
186	.2	BONDS YET TO BE SOLD**
188	.2	BONDS YET TO BE SOLD**
199	72.9	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$135,300
Total EA Requests:	\$135,300
Previously Approved Budget:	\$135,300
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$135,300
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - OUTSIDE	1,000	0	1,000	0	1,000	1,000	7/13	6/14
DESIGN STAFF FIELD SUPPORT	1,000	0	1,000	0	1,000	1,000	7/13	6/14
ENGINEERING - CA&I IRWD	1,000	0	1,000	0	1,000	1,000	7/13	6/14
CONSTRUCTION FIELD SUPPORT	20,000	0	20,000	0	20,000	20,000	7/13	6/14
CONSTRUCTION	100,000	0	100,000	0	100,000	100,000	7/13	6/14
Contingency - 10.00% Subtotal	\$12,300	\$0	\$12,300	\$0	\$12,300	\$12,300		
Subtotal (Direct Costs)	\$135,300	\$0	\$135,300	\$0	\$135,300	\$135,300		
Estimated G/A - 170.00% of direct labor*	\$37,400	\$0	\$37,400	\$0	\$37,400	\$37,400		
Total	\$172,700	\$0	\$172,700	\$0	\$172,700	\$172,700		
Direct Labor	\$22,000	\$0	\$22,000	\$0	\$22,000	\$22,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$177,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. It is the intent of IRWD to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: GEN SYS MODS 13/14
 EPMS Project No: 31582 EA No: 1
 Oracle Project No: 1406
 Project Manager: ROBERTS, THOMAS
 Project Engineer: MOORE, RORY
 Request Date: June 11, 2013

ID Split: Regional RW w/LAWD w/ Enhance (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	.7	CAPITAL FUND
212	4.3	BONDS YET TO BE SOLD**
213	1.6	BONDS YET TO BE SOLD**
215	.2	CAPITAL FUND
221	4.3	BONDS YET TO BE SOLD**
230	3.2	BONDS YET TO BE SOLD**
235	2.6	PREVIOUSLY SOLD BONDS
240	2.5	BONDS YET TO BE SOLD**
250	10.3	BONDS YET TO BE SOLD**
261	3.0	BONDS YET TO BE SOLD**
299	67.3	CAPITAL FUND ENHANCEMENT**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$58,300
Total EA Requests:	\$58,300
Previously Approved Budget:	\$58,300
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$58,300
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - OUTSIDE	1,000	0	1,000	0	1,000	1,000	7/13	6/14
DESIGN STAFF FIELD SUPPORT	1,000	0	1,000	0	1,000	1,000	7/13	6/14
ENGINEERING - CA&I IRWD	1,000	0	1,000	0	1,000	1,000	7/13	6/14
CONSTRUCTION FIELD SUPPORT	10,000	0	10,000	0	10,000	10,000	7/13	6/14
CONSTRUCTION	40,000	0	40,000	0	40,000	40,000	7/13	6/14
Contingency - 10.00% Subtotal	\$5,300	\$0	\$5,300	\$0	\$5,300	\$5,300		
Subtotal (Direct Costs)	\$58,300	\$0	\$58,300	\$0	\$58,300	\$58,300		
Estimated G/A - 170.00% of direct labor*	\$20,400	\$0	\$20,400	\$0	\$20,400	\$20,400		
Total	\$78,700	\$0	\$78,700	\$0	\$78,700	\$78,700		
Direct Labor	\$12,000	\$0	\$12,000	\$0	\$12,000	\$12,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: *Tom Roberts* 6-12-13

Department Director: *Patricia Shields* 6/12/13

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$8' additional documents, if any, which are hereby incorporated into the project is made under Treasury Regulation Section 1.150

to be further described in the attached staff report and official intent to reimburse costs of the above-captioned

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: CSR METER REPLACEMENT 13/14
EPMS Project No: 11583 **EA No:** 1
Oracle Project No: 1300
Project Manager: ROBERTS, THOMAS
Project Engineer: CROWE, DAVID
Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	<u>\$203,500</u>
Total EA Requests:	\$203,500
Previously Approved Budget:	\$203,500
Budget Adjustment Requested this EA:	<u>\$0</u>
Updated Budget:	\$203,500
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	5,000	0	5,000	0	5,000	5,000	7/13	6/14
CONSTRUCTION	180,000	0	180,000	0	180,000	180,000	7/13	6/14
Contingency - 10.00% Subtotal	\$18,500	\$0	\$18,500	\$0	\$18,500	\$18,500		
Subtotal (Direct Costs)	\$203,500	\$0	\$203,500	\$0	\$203,500	\$203,500		
Estimated G/A - 170.00% of direct labor*	\$8,500	\$0	\$8,500	\$0	\$8,500	\$8,500		
Total	\$212,000	\$0	\$212,000	\$0	\$212,000	\$212,000		
Direct Labor	\$5,000	\$0	\$5,000	\$0	\$5,000	\$5,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$217,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: CSR METER REPLACEMENT 13/14
 EPMS Project No: 31583 EA No: 1
 Oracle Project No: 1357
 Project Manager: ROBERTS, THOMAS
 Project Engineer: CROWE, DAVID
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$51,700
Total EA Requests:	\$51,700
Previously Approved Budget:	\$51,700
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$51,700
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	2,000	0	2,000	0	2,000	2,000	7/13	6/14
CONSTRUCTION	45,000	0	45,000	0	45,000	45,000	7/13	6/14
Contingency - 10.00% Subtotal	\$4,700	\$0	\$4,700	\$0	\$4,700	\$4,700		
Subtotal (Direct Costs)	\$51,700	\$0	\$51,700	\$0	\$51,700	\$51,700		
Estimated G/A - 170.00% of direct labor*	\$3,400	\$0	\$3,400	\$0	\$3,400	\$3,400		
Total	\$55,100	\$0	\$55,100	\$0	\$55,100	\$55,100		
Direct Labor	\$2,000	\$0	\$2,000	\$0	\$2,000	\$2,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$57,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. The intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: SERVICE LINE, VALVE & MAIN REPLACEMENT 13/14
EPMS Project No: 11584 **EA No:** 1
Oracle Project No: 1295
Project Manager: ROBERTS, THOMAS
Project Engineer: MOORE, RORY
Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$650,100
Total EA Requests:	\$650,100
Previously Approved Budget:	\$650,100
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$650,100
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	10,000	0	10,000	0	10,000	10,000	7/13	6/14
CONSTRUCTION	581,000	0	581,000	0	581,000	581,000	7/13	6/14
Contingency - 10.00% Subtotal	\$59,100	\$0	\$59,100	\$0	\$59,100	\$59,100		
Subtotal (Direct Costs)	\$650,100	\$0	\$650,100	\$0	\$650,100	\$650,100		
Estimated G/A - 170.00% of direct labor*	\$17,000	\$0	\$17,000	\$0	\$17,000	\$17,000		
Total	\$667,100	\$0	\$667,100	\$0	\$667,100	\$667,100		
Direct Labor	\$10,000	\$0	\$10,000	\$0	\$10,000	\$10,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$681,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. IRWD has no intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: SERVICE LINE & MAIN REPLACEMENT 13/14
 EPMS Project No: 21584 EA No: 1
 Oracle Project No: 1491
 Project Manager: ROBERTS, THOMAS
 Project Engineer: MOORE, RORY
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$200,200
Total EA Requests:	\$200,200
Previously Approved Budget:	\$200,200
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$200,200
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	10,000	0	10,000	0	10,000	10,000	7/13	6/14
CONSTRUCTION	172,000	0	172,000	0	172,000	172,000	7/13	6/14
Contingency - 10.00% Subtotal	\$18,200	\$0	\$18,200	\$0	\$18,200	\$18,200		
Subtotal (Direct Costs)	\$200,200	\$0	\$200,200	\$0	\$200,200	\$200,200		
Estimated G/A - 170.00% of direct labor*	\$17,000	\$0	\$17,000	\$0	\$17,000	\$17,000		
Total	\$217,200	\$0	\$217,200	\$0	\$217,200	\$217,200		
Direct Labor	\$10,000	\$0	\$10,000	\$0	\$10,000	\$10,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$222,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. IRWD hereby certifies that the project is made under Treasury Regulation Section 1.150-2.

IRVINE RANCH WATER DISTRICT

Expenditure Authorization

Project Name: SERVICE LINE, VALVE & MAIN REPLACEMENT 13/14
 EPMS Project No: 31584 EA No: 1
 Oracle Project No: 1333
 Project Manager: ROBERTS, THOMAS
 Project Engineer: MOORE, RORY
 Request Date: June 11, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
210	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$206,800
Total EA Requests:	\$206,800
Previously Approved Budget:	\$206,800
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$206,800
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
CONSTRUCTION FIELD SUPPORT	10,000	0	10,000	0	10,000	10,000	7/13	6/14
CONSTRUCTION	178,000	0	178,000	0	178,000	178,000	7/13	6/14
Contingency - 10.00% Subtotal	\$18,800	\$0	\$18,800	\$0	\$18,800	\$18,800		
Subtotal (Direct Costs)	\$206,800	\$0	\$206,800	\$0	\$206,800	\$206,800		
Estimated G/A - 170.00% of direct labor*	\$17,000	\$0	\$17,000	\$0	\$17,000	\$17,000		
Total	\$223,800	\$0	\$223,800	\$0	\$223,800	\$223,800		
Direct Labor	\$10,000	\$0	\$10,000	\$0	\$10,000	\$10,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: _____

Department Director: _____

Finance: _____

Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$229,000. The above captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. IRWD has no intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

DB
June 24, 2013
Prepared by: S. Malloy
Submitted by: K. Burton *KRB*
Approved by: Paul Cook *PC*

CONSENT CALENDAR

MICHELSON WATER RECYCLING PLANT PHASE 2 EXPANSION AND FLOOD PROTECTION IMPROVEMENTS VARIANCES

SUMMARY:

The Michelson Water Recycling Plant (MWRP) Phase 2 Expansion and Flood Protection Improvements are currently being constructed by J. R. Filanc Construction Company (Filanc). Additional effort is needed by the various consultants working on the project to complete specific tasks. Staff recommends that the Board:

- Authorize the General Manager to execute Variance No. 3, in the amount of \$115,600, with EI&C Engineering, Inc. for engineering support services related to start-up activities for the MWRP Phase 2 Expansion; and
- Authorize the General Manager to execute Variance No. 4, in the amount of \$22,800, with Borchard Surveying and Mapping for supplemental survey services for the MWRP Phase 2 and Flood Protection Improvements.

BACKGROUND:

Construction of the MWRP Phase 2 Expansion and Flood Protection Improvements project was awarded to J.R. Filanc Construction Company (Filanc) in July 2009 in the amount of \$87,479,450. This project will expand the recycled water production capacity of MWRP to 28 million gallons per day and protect MWRP from flooding of San Diego Creek. A Project Overview Diagram of the MWRP Phase 2 Expansion is attached as Exhibit "A".

Variance No. 3 with EI&C Engineering, Inc:

EI&C Engineering, Inc. (EI&C) has been providing as-needed engineering support services related to start-up activities for the MWRP Phase 2 Expansion since 2012. Due to heavy staff workload associated with other IRWD projects, the services of EI&C were required to review submittals related to the instrumentation and start-up activities of MWRP Phase 2 Expansion. As start-ups of various treatment facilities were scheduled, it became necessary to have EI&C dedicated to the Phase 2 Expansion so that staff could concentrate on other IRWD projects. EI&C has been valuable in the review of various testing protocols, scheduling of testing, and the testing of these facilities. They have performed these services for the headworks and primary sedimentation facilities. EI&C is required to perform these services for start-up of the remaining facilities, such as primary effluent pump station, membrane bioreactors, and flow equalization basins. Variance No. 3 with EI&C, in the amount of \$115,600, is attached as Exhibit "B".

Variance No. 4 with Borchard Surveying and Mapping:

Borchard Surveying and Mapping (Borchard) has been providing as-needed surveying services since 2009 verifying elevations of installed structures and setting stakes for various project

elements. Variance No. 4 is due to several revisions of the MWRP curb and gutter as well as final paving and the realignment of Riparian View along the floodwall. These services were not included in the original scope of work. Borchard has provided excellent service and has been very responsive to IRWD needs, often being on-site within hours of IRWD's requests. Variance No. 4 with Borchard, in the amount of \$22,800, is attached as Exhibit "C".

FISCAL IMPACTS:

The MWRP Phase 2 Expansion and Flood Protection Improvements, Projects 20214 (1599), 20542 (1150), 30214 (1706), and 30542 (1118), are included in the FY 2012-13 Capital Budget. The existing budgets and Expenditure Authorizations are sufficient to fund the variances.

ENVIRONMENTAL COMPLIANCE:

The Michelson Water Recycling Plant Phase 2 Expansion and Flood Protection Improvements, Projects 20214, 20542, 30214, and 30542 are subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, an Environmental Impact Report, SCH # 2005051174, was certified by the lead agency on February 27, 2006.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 3, IN THE AMOUNT OF \$115,600, WITH EI&C ENGINEERING, INC. FOR ENGINEERING SUPPORT SERVICES RELATED TO START-UP ACTIVITIES FOR THE MWRP PHASE 2 EXPANSION, PROJECTS 20214 (1599) AND 30214 (1706), AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 4, IN THE AMOUNT OF \$22,800, WITH BORCHARD SURVEYING AND MAPPING FOR SUPPLEMENTAL SURVEY SERVICES FOR THE MWRP PHASE 2 AND FLOOD PROTECTION IMPROVEMENTS, PROJECTS 20214 (1599), 20542 (1150), 30214 (1706), AND 30542 (1118).

LIST OF EXHIBITS:

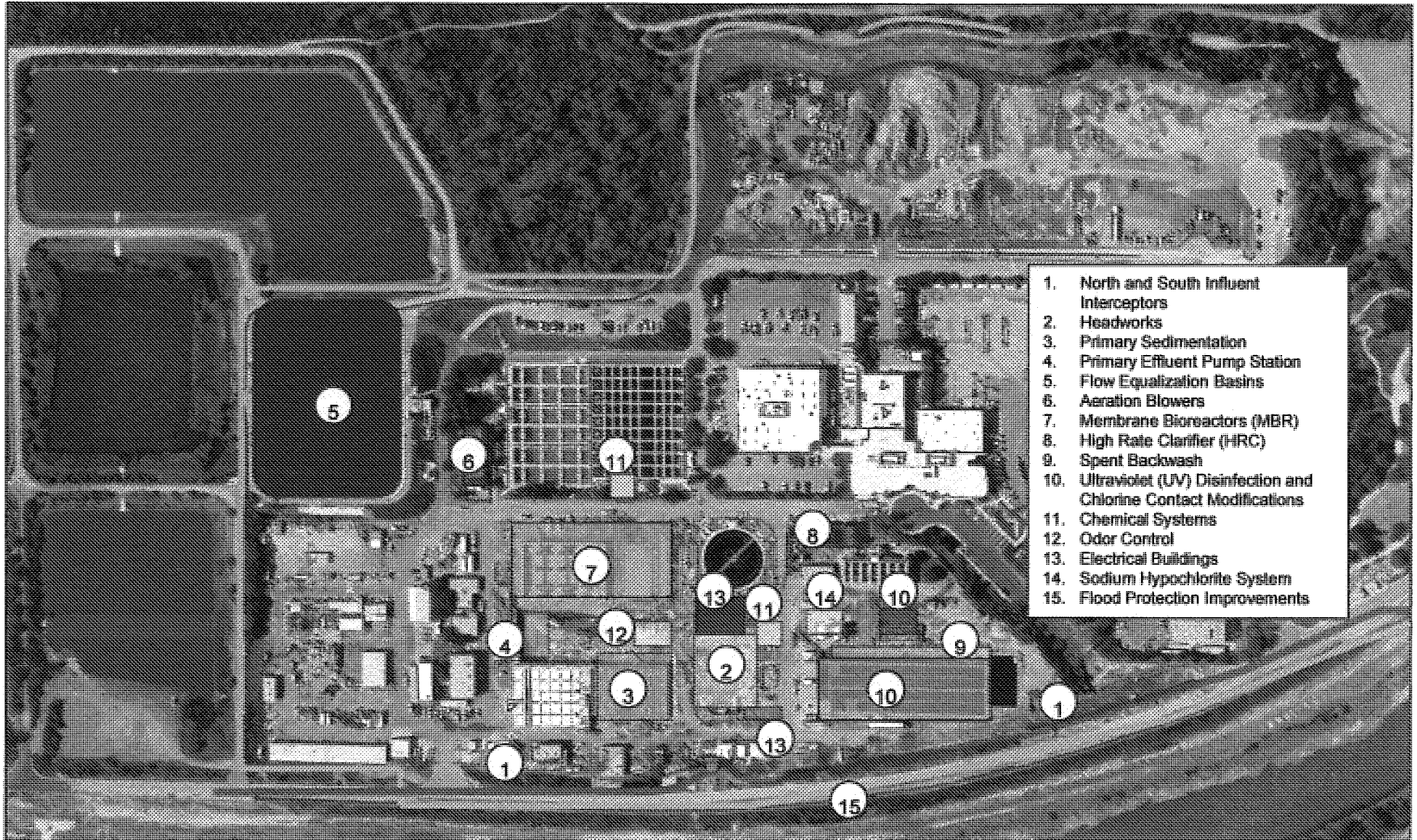
Exhibit "A" – Overview of Phase 2 Expansion

Exhibit "B" – Variance No. 3 – EI&C Engineering, Inc.

Exhibit "C" – Variance No. 4 – Borchard Surveying and Mapping



Overview of MWRP Phase 2 Expansion



1. North and South Influent Interceptors
2. Headworks
3. Primary Sedimentation
4. Primary Effluent Pump Station
5. Flow Equalization Basins
6. Aeration Blowers
7. Membrane Bioreactors (MBR)
8. High Rate Clarifier (HRC)
9. Spent Backwash
10. Ultraviolet (UV) Disinfection and Chlorine Contact Modifications
11. Chemical Systems
12. Odor Control
13. Electrical Buildings
14. Sodium Hypochlorite System
15. Flood Protection Improvements

EXHIBIT "B"
IRVINE DISTRICT
PROFESSIONAL SERVICES VARIANCE

Project Title: On-Call Professional Services Agreement for Electrical and Automation Support Services
For Start-up of Michelson Water Reclamation Plant Phase II.
 Project No.: 1599 Date: _____
 Purchase Order No.: 502535 Variance No.: 3

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) _____

Description of Variance (attach any back-up material):
Letter Proposal Attached.

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Principal Engineer	1156	\$100				\$115,600
Total \$ =						\$115,600

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
1040.2	MWRP Phase II related on call services	April 2013	+ 8 mos	Nov 2013

Required Approval Determination:

Total Original Contract <u>\$ 152,000</u> Previous Variances <u>\$ 60,000</u> This Variance <u>\$ 115,600</u> Total Sum of Variances <u>\$ 175,600</u> New Contract Amount <u>\$ 327,600</u> Percentage of Total Variances to Original Contract <u>54</u> %	<input type="checkbox"/> General Manager: Single Variance less than or equal to \$30,000. <input type="checkbox"/> Committee: Single Variance greater than \$30,000, and less than or equal to \$60,000. <input type="checkbox"/> Board: Single Variance greater than \$60,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$60,000, or 30% of the original contract, whichever is higher.
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ENGINEER/CONSULTANT: EI&C Engineering Inc.
 Company Name

IRVINE RANCH/WATER DISTRICT

Laura M Thomas
 Project Engineer/Manager

June 7, 2013
 Date

Stacy L. Burk
 Department Director

6/13/13
 Date

Laura M Thomas
 Engineer's/Consultant's Management

June 7, 2013
 Date

General Manager/Comm./Board

Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: On-Call Professional Services by EI&C Engineering Inc.

Project No.: 1617 & 1599 Project Manager: Dave Mazzarella

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	To support the MWRP Biosolids Project			\$30,000
2	To support the MWRP Biosolids Project			\$30,000
3	To support the MWRP Phase II Startup			\$115,600

June 7, 2013

Irvine Ranch Water District
Attn: David Mazarella
15600 Sand Canyon Avenue
Irvine, CA 92618-3101

Re: Variance 3 Rev 1 for On-Call Professional Services Agreement for start-up support the
Michelson Water Recycling Plant Phase 2 Expansion Project

Dear Mr. Mazarella,

EI&C Engineering Inc. is pleased to provide Irvine Ranch Water District with the attached proposal for On-Call Professional Services. These services would be provided by Laura Thomas who would act as owner's representative during start-up of the MWRP Phase 2 Expansion Project. Primary responsibilities will include witnessing of operational readiness tests and functional acceptance tests as well as meeting attendance and schedule evaluation. Other additional duties at the direction of IRWD will be included.

The budget for this variance is a not-to-exceed \$115,600. The attached Exhibit A shows the calculation for budget determination. EI&C Engineering Inc. meets the IRWD insurance requirements for Professional Liability, General Liability and Workman's Compensation.

If you have any questions please contact me at either 714-334-8912 or lthomas@eiceinc.com.

Sincerely,



Laura Thomas
CEO, Principal Engineer

Enclosure

Exhibit A – Budget Determination

**Professional Services for
Support of Start-up Services for MWRP Phase 2 Expansion
EI&C Engineering Inc.**

Project Schedule Expansion	8 Months
Estimate of Hours	1156
Hourly Rate	\$100 per hour
Total Not to Exceed Budget	\$115,600

Exhibit "C"

IRVINE RANCH WATER DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: MICHELSON WATER RECLAMATION PLANT - PHASE 2 EXPANSION File No.: _____
 Date: 5/22/13
 Variance No.: 4
 Project No.: 20542, 30542 Project No. 20542
 Purchase Order No.: 50972

Originator: IRWD [] ENGINEER/CONSULTANT [] Other (Explain) _____

Description of Variance (attach any back-up material):
SUPPLEMENTAL FIELD SURVEYING, OFFICE PROCESSING & CALCULATIONS
TECHNICAL SUPPORT & ADMINISTRATION

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
2-MAN SURVEY CREW	96	\$215/HR				\$20,640 ⁰⁰
OFFICE SURVEY TECH	16	\$110/HR				\$1,760 ⁰⁰
ADMINISTRATION	8	\$100/HR				\$800 ⁰⁰
Total \$ =						\$22,200⁰⁰

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
	SURVEY & SUPPORT		0 CALENDAR DAYS	0 CALENDAR DAYS
	FIELD & OFFICE			

Required Approval Determination:

Total Original Contract <u>\$187,740⁰⁰</u> Previous Variances \$ <u>46,362⁵⁰</u> This Variance \$ <u>22,880⁰⁰</u> Total Sum of Variances <u>\$69,242⁵⁰</u> New Contract Amount <u>\$256,982⁵⁰</u>	<input type="checkbox"/> General Manager: Single Variance less than or equal to \$30,000. <input type="checkbox"/> Committee: Single Variance greater than \$30,000, and less than or equal to \$60,000. <input type="checkbox"/> Board: Single Variance greater than \$60,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$60,000, or 30% of the original contract, whichever is higher.
Percentage of Total Variances to Original Contract <u>36</u> %	

ENGINEER/CONSULTANT: BORCHARD SURVEYING IRVINE RANCH WATER DISTRICT

Company Name F. MAPPING, INC. Date 5/22/13
 Project Engineer/Manager [Signature] Date 5/22/13
 Department Director [Signature] Date 6/13/13
 Engineer's/Consultant's Management [Signature] Date _____
 General Manager/Comm./Board _____ Date _____

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: MICHELEDN WATER RECLAMATION PLANIT
PHASE 2 EXPALISION

Project No.: 20542, 30542 Project Manager: BILLY STEWART

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	SUPPLEMENTAL FIELD & OFFICE SURVEYING SERVICE	1/28/11	3/14/11	\$ 23,522 ⁵⁰
2	"	3/25/11	4/7/11	\$ 11,052 ⁵⁰
3	"	6/9/11	6/17/11	\$ 11,187 ⁵⁰
4	"	5/22/13		\$ 22,880 ⁰⁰



May 22, 2013

Mr. Billy Stewart, P.E.
Irvine Ranch Water District
15600 Sand Canyon Ave.
Irvine, Ca. 92619

Subject: Request for Variance No. 4 – Supplemental field & office surveying services in support of the verification of the mwrp paving and grading & Riparain Road re-alignment project.

Mr. Stewart,

The purpose of this letter is for Borchard Surveying & Mapping, Inc. to request Variance No. 4 due to the need to provide supplemental field surveying & office calculations support of the verification of the mwrp paving and grading project and the Riparian Road re-alignment project, IRWD project Nos. 30214 & 20214 located in the City of Irvine, Orange County, California. This request is in addition to the scope & budget presented in the agreement between IRWD & Borchard Surveying & Mapping, Inc. dated October 13, 2009 which was the basis for the original purchase order No.122035 which has been changed to currently being 504796.

Our firm was requested to provide verification of the mwrp paving and grading project & Riparain Road re-alignment project.

Please contact me to discuss this variance if you should have any questions.

Thank you for your business!

Respectfully,

Greg Borchard, President
Borchard Surveying & Mapping, Inc.

A handwritten signature in black ink that reads 'Greg Borchard'. The signature is written in a cursive style and is positioned below the typed name and title.

RB
June 24, 2013
Prepared by: R. Bennett/I. Moeder
Submitted by: K. Burton (KLB)
Approved by: Paul Cook / *[Signature]*

CONSENT CALENDAR

AGREEMENT FOR RELOCATION OF THE
MICHELSON PARK PLACE SEWER LIFT STATION

SUMMARY:

Staff requests that the Board authorize the General Manager to execute an Agreement for Relocation of the Michelson Park Place Sewer Lift Station, subject to non-substantial changes, confirming the mutual understandings of IRWD and LBA IV-PPI, LLC, a Delaware limited liability company (LBA) regarding the construction of a new sewer lift station to replace the current lift station that is surrounded by LBA's Park Place property.

BACKGROUND:

IRWD acquired the existing Michelson Park Place Sewer Lift Station from the Orange County Sanitation District in 2003. The facility consists of connecting sewers, an above ground pump building, electrical supply lines and other appurtenances. The existing lift station is located in Irvine, north of Michelson Drive between Carlson Avenue and Riparian View and is completely surrounded by LBA's Park Place property. The existing facility site, utility easements and construction of the lift station were accomplished pursuant to an agreement dated December 12, 1990, between LBA's predecessor in interest, Crow Winthrop Development Limited Partnership, and IRWD's predecessor in interest, County Sanitation District No. 7 of Orange County (the 1990 Agreement).

LBA is in the process of developing the Park Place property and has decided to exercise its right reserved in the 1990 Agreement to relocate the existing facilities at their sole expense. The proposed site for the new lift station is located at the north-east corner of the Park Place property, approximately 180 feet from the existing location. The location of the existing and proposed facilities is shown in Exhibit "A".

As part of the agreement, LBA will convey the new site, lift station, utility, and access easements in exchange for IRWD quitclaiming the existing site, lift station, utility and access easements. LBA is also responsible for paying all costs associated with designing and constructing the new facilities, dismantling the existing facilities, and an IRWD administrative fee equal to 10% of the construction cost. Stantec is currently contracted by LBA to design the new lift station and provide engineering support during construction. Stantec has prepared the preliminary design, which includes replacing the existing lift station with a new lift station that is to IRWD's standards.

An agreement for relocation of the Michelson Park Place Sewer Lift Station acknowledging the mutual understandings of the project, including the quitclaiming of the existing facilities, has been prepared and is attached as Exhibit "B". The agreement was reviewed by IRWD legal counsel. After construction of the new lift station and related facilities and the subsequent

dismantling of the existing lift station and related facilities, staff will request from the Board authorization to quitclaim the existing lift station site and easements.

FISCAL IMPACTS:

LBA, at its sole cost and expense, will be responsible for the design and construction of the new sewer lift station as well as abandoning and removing the existing sewer lift station. In addition, LBA will pay an administrative fee to IRWD equal to 10% of the construction cost. IRWD will be responsible for operating and maintaining the new facility upon completion and acceptance.

ENVIRONMENTAL COMPLIANCE:

To the extent review under the California Environmental Quality Act (CEQA) is triggered, LBA will, at its sole cost and expense, include the construction of the new facilities and abandonment of the existing facilities in the CEQA documentation prepared for LBA's project necessitating the relocation of the existing facilities. LBA shall be responsible, at its sole cost and expense, for implementing any mitigation measures as may be required under such documentation.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

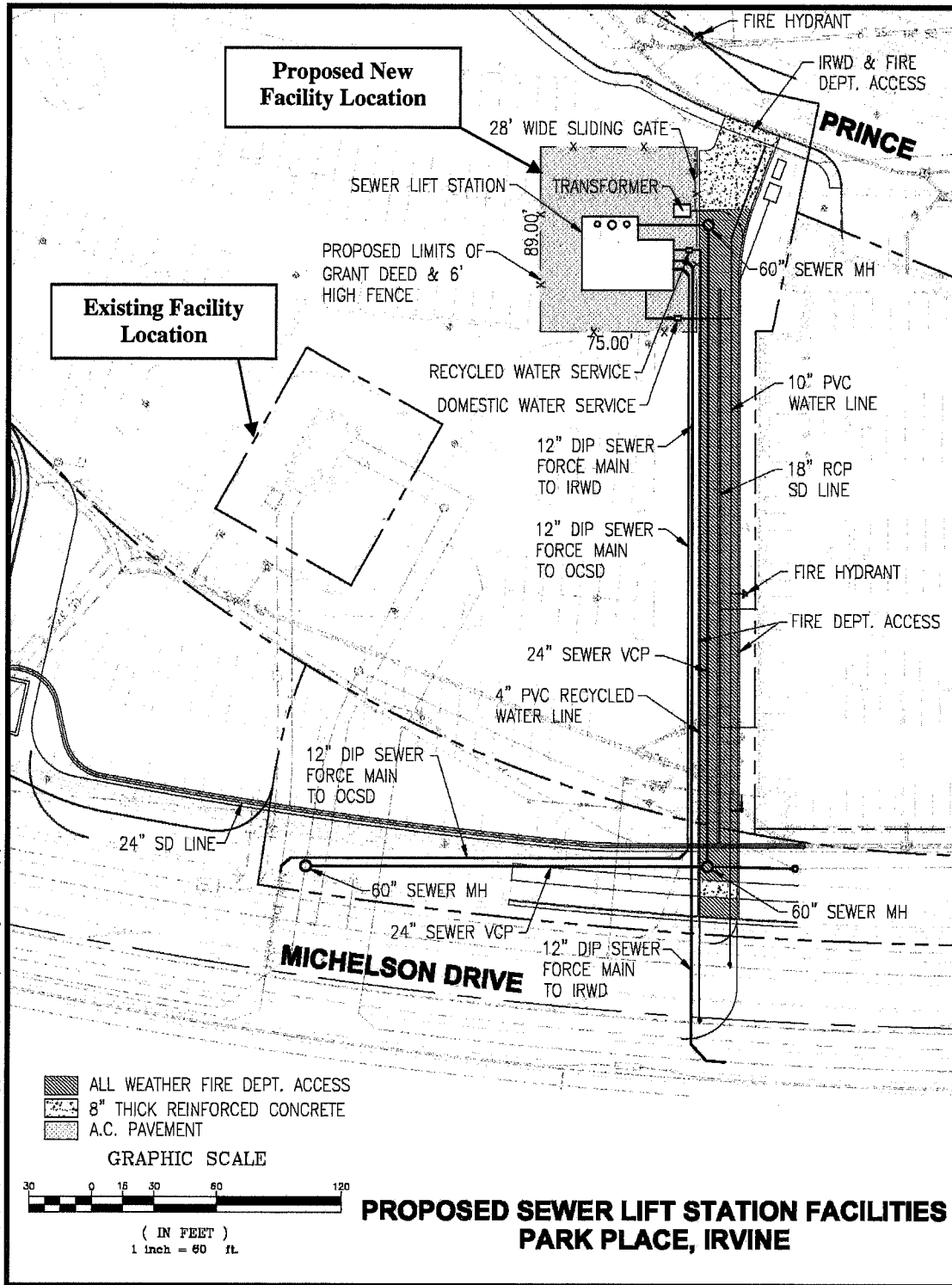
THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE THE AGREEMENT FOR RELOCATION OF THE MICHELSON PARK PLACE SEWER LIFT STATION AND THE SUBSEQUENT DISMANTLING AND QUITCLAIMING OF THE EXISTING SITE AND PIPELINE EASEMENTS TO LBA IV-PPI, LLC, SUBJECT TO NON-SUBSTANTIAL CHANGES AND AT LBA'S SOLE COST AND EXPENSE.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – Agreement for Relocation of the Michelson Park Place Sewer Lift Station

**Exhibit A
Location Map**



DRAWING: c:\projects\2042351340\drawing\exhibit_a\files\3513410-px7031.dwg PLOTTED: 4/1/2013 3:17 PM BY: Beuchet, Brad

EXHIBIT "B"

AGREEMENT FOR RELOCATION OF MICHELSON PARK PLACE SEWER LIFT STATION

THIS AGREEMENT FOR RELOCATION OF MICHELSON PARK PLACE SEWER LIFT STATION ("**Agreement**") is made this ____ day of _____, 2013, by and between LBA IV- PPI, LLC, a Delaware limited liability company ("**DEVELOPER**") and IRVINE RANCH WATER DISTRICT, a California water district formed under and existing pursuant to Section 34000 *et seq.* of the California Water Code ("**IRWD**").

RECITALS:

WHEREAS, DEVELOPER owns real property north of Michelson Drive and east of Jamboree Road in the City of Irvine, known as "Park Place;" and

WHEREAS, IRWD owns and operates a sewer lift station with connecting sewers and electrical supply lines and other connections and appurtenances (the Existing Facilities, as defined below) on a parcel owned by IRWD (the Existing Site, as defined below) surrounded by DEVELOPER's Park Place property, with easements between the Existing Site providing for connecting sewers, domestic water line, and access to Michelson Drive (the Existing Easements, as defined below); and

WHEREAS, the dedication of the Existing Site and Existing Easements and the construction of the lift station were accomplished pursuant to an agreement dated as of December 12, 1990, between DEVELOPER's predecessor in interest, Crow Winthrop Development Limited Partnership, and IRWD's predecessor in interest, County Sanitation District No. 7 of Orange County (the "**1990 Agreement**"); and

WHEREAS, to accommodate DEVELOPER's plans to utilize a portion of its Park Place property, DEVELOPER wishes to exercise its right, reserved in Section 8.3 of the 1990 Agreement, to relocate the Existing Facilities, the Existing Site and the Existing Easements to an alternative location within Park Place, at DEVELOPER's expense; and

WHEREAS, this Agreement is intended by the parties to be the agreement for relocation contemplated in such provision of the 1990 Agreement;

AGREEMENT:

Section 1. Definitions.

- 1.1 "Acceptance Date" is defined in paragraph 4.1
- 1.2 "Construction Contract" is defined in paragraph 3.1.
- 1.3 "Contractor" is defined in paragraph 3.1.
- 1.4 "Existing Easements" means, collectively, (i) the easements for gravity line sewage transmission and main force line sewage transmission purposes and temporary staging area purposes described in Exhibit A attached to the Easement Grant Deed recorded on March 7, 1996, as Instrument No. 1996-0112328, of Official Records of the County of Orange; (ii) the easement for sewer force main purposes described in Exhibit A and depicted in Exhibit B attached to the Grant of Easement recorded on May 7, 1992, as Instrument No. 92-0302373, of Official Records of the County of Orange; and (iii) the

gravity sewer easement reserved and described in Exhibit D-2 attached to the Dedication Grant Deed recorded on March 7, 1996, as Instrument No. 19960112329, of Official Records of the County of Orange.

1.5 "Existing Facilities" means the existing sewer lift station and connecting sewers, sewer force mains, domestic water line, recycled water line, electrical supply connection, telemetry together with all appurtenances to any of such facilities, as depicted in EXHIBIT 1 attached hereto and incorporated herein by this reference.

1.6 "Existing Site" means the parcel described in Exhibit A attached to the Dedication Grant Deed recorded on March 7, 1996, as Instrument No. 19960112329, of Official Records of the County of Orange.

1.7 "New Facilities" means the relocated sewer lift station and connecting sewers, sewer force mains, domestic water line, recycled water line, electrical supply connection, telemetry together with all appurtenances to any of such facilities, as depicted in concept in EXHIBIT 2 attached hereto and incorporated herein by this reference.

1.8 "New Easement Areas" means the areas described and depicted in EXHIBIT 3 attached hereto and incorporated herein by this reference.

1.9 "New Site" means the area described and depicted in EXHIBIT 4 attached hereto and incorporated herein by this reference.

1.10 "Plans" is defined in paragraph 2.1.

1.11 "Property" means, collectively, the New Site, New Facilities, and New Easement Areas.

1.12 "Relocation Conveyance Documents" is defined in paragraph 5.1.

1.13 "Schedule" is defined in paragraph 2.1.

Section 2. Preparation and Review of Plans and Schedules.

2.1 DEVELOPER shall, at its sole cost and expense, cause to be prepared all necessary engineering plans, specifications and cost estimates (collectively, the "Plans") for constructing and installing the New Facilities on the New Site and New Easement Area and for the cessation of use and the proper abandonment, removal and disposal of the Existing Facilities. IRWD hereby approves DEVELOPER's selection of Stantec as the design professional firm and the scope of the design professional's work as set forth on Exhibit 6 attached hereto to the extent not inconsistent with the terms and provisions of this Agreement; which scope of work is agreed to be conceptual in keeping with the conceptual nature of Exhibit 2 and shall be modified or supplemented from time to time as agreed upon by DEVELOPER and IRWD. DEVELOPER shall obtain IRWD's prior written approval of DEVELOPER's selection of any replacement of the design professional firm. The New Facilities will be designed to IRWD standards (which standard is exemplified by the mechanical, electrical, and control systems contained in IRWD's University Lift Station), and shall include odor control technology equal to IRWD's existing standard (i.e., Bio-Magic) and space within the New Facility to accommodate future upgrade by IRWD to technology such as ozone injection (at IRWD's sole cost and expense); provided, however, the New Facility shall contain no greater than the square feet of the Existing Facility and the bathroom may need to be removed to accommodate such additional technology. The New Facilities shall include

connections to both the existing IRWD force main and the existing Orange County Sanitation District force main in a reasonably direct alignment crossing Michelson Drive, taking into consideration existing utility conflicts; provided, however, three (3) of the four (4) proposed lines can connect into the existing lines outside of the roadway of Michelson Drive and only one (1) of the lines will need to be re-routed to the main line in Michelson Drive. An easement agreement acceptable to IRWD must be recorded for all utility lines outside of the public right-of-way. A schedule (the "**Schedule**") for the construction of the New Facilities is attached hereto as **Exhibit 7**, which includes an estimated schedule for the timing of the cessation of the use of the Existing Facilities and the commencement of the use of the New Facilities while maintaining continuous sewer service, without interruption except as permitted by IRWD.

2.2 DEVELOPER shall cause the Plans and any amendments to the Schedule to be submitted to IRWD for its review and approval at 50%, 90% and 100% completion thereof. IRWD will return the Plans and the Schedule with comments and modifications to be implemented to the Plans and/or the Schedule, as applicable. IRWD will use its best efforts to make such return within fifteen (15) business days after the delivery thereof to IRWD; provided, however, such Plans and any amendments to the Schedule shall be deemed approved to the extent IRWD fails to approve or return such documents within thirty (30) days after the delivery thereof to IRWD. The foregoing process shall also apply to any re-submission of the Plans or the Schedule following any comments and modifications. At the time of the initial submittal, DEVELOPER shall deposit with IRWD the sum of \$75,000 to cover the cost of IRWD's review of the Plans and Schedule.

2.3 To the extent review under the California Environmental Quality Act (CEQA) is triggered, DEVELOPER will, at its sole cost and expense, include the construction of the New Facilities and abandonment of the Existing Facilities in the CEQA documentation prepared for DEVELOPER's project necessitating the relocation of the Existing Facilities. DEVELOPER shall be responsible, at its sole cost and expense, for implementing any mitigation measures as may be required under such documentation.

2.4 DEVELOPER shall, at its sole cost and expense, be responsible for obtaining and complying with all necessary permits and approvals related to the work to be performed under this Agreement, including without limitation, City of Irvine's Encroachment Permit and the South Coast Air Quality Management District's Permit to Operate.

2.5 IRWD agrees to cooperate with DEVELOPER, at DEVELOPER's cost, in DEVELOPER'S efforts to obtain necessary approvals from the City and other agencies and to comply with CEQA, including contributing information to and signing any applications or reports required by such agencies.

2.6 DEVELOPER shall have the right to terminate this Agreement at any time prior to the commencement of construction of the New Facilities, in which event IRWD shall return to DEVELOPER any unused portion of the \$75,000 deposit noted above and this Agreement shall be deemed terminated and of no force or effect and the 1990 Agreement shall continue in full force and effect in its entirety without modification.

Section 3. Construction.

3.1 After IRWD has approved the Plans and the Schedule, DEVELOPER shall, at its sole cost and expense, enter into a contract (the "**Construction Contract**") with a licensed contractor (the "**Contractor**") to furnish and install the New Facilities, including without limitation testing, startup and providing operation and maintenance manuals and other manufacturer information to IRWD, and

abandon, remove and dispose of the Existing Facilities in accordance with the Plans and the Schedule. DEVELOPER shall obtain IRWD's prior written approval of DEVELOPER's selection of the Contractor, who shall be a contractor on IRWD's selected bidder list. IRWD agrees to cooperate with DEVELOPER and the Contractor in the construction and installation of the New Facilities and shall perform such actions as are identified in the Schedule to be performed by IRWD within the time period(s) for the performance of such actions as may be set forth in the Schedule.

3.2 The New Facilities shall be constructed using such means and methods as will protect the Existing Facilities in place during construction and maintain the Existing Facilities in continuous service until the New Facilities, including all tie-ins to IRWD's sewer system, are placed in operation. DEVELOPER agrees to require the Contractor to protect the Existing Facilities in place and to keep the Existing Facilities fully operational during the construction and startup and testing of the New Facilities. DEVELOPER also agrees to require the Contractor to provide and maintain continuous all-weather access by IRWD to the Existing Facilities from the public right-of-way until the New Facilities are in operation. All equipment, materials, and supplies to be incorporated in the New Facilities shall be new, not used or salvaged.

3.3 IRWD may enter the New Site and New Easement Area prior to the execution and recordation of the Relocation Conveyance Documents for the purpose of inspecting the construction and installation of the New Facilities. IRWD shall inspect the construction of the New Facilities as it deems necessary to assure compliance with the Plans, including shop drawing review and/or material inspection. IRWD shall notify DEVELOPER promptly of any portion of the work that appears not to conform to the Plans, but this obligation shall not limit DEVELOPER'S obligation to cause the Contractor to correct any deficiencies in such work prior to the Acceptance Date (defined below). DEVELOPER will promptly notify the Contractor of any nonconformity and shall require the Contractor to make the necessary corrections to cause the applicable portion of the work to conform to the Plans.

3.4 The Construction Contract shall require that the Contractor obtain and maintain in effect at all times during the performance of the work public liability insurance and such other insurance as DEVELOPER may require, all in the amounts and forms and issued by insurance carriers as DEVELOPER generally requires for projects similar to the work to be performed pursuant to the Construction Contract. DEVELOPER hereby agrees to require the Contractor to procure and maintain, among other coverages, Commercial General Liability Insurance with a combined single limit for bodily injury and property damage of not less than \$5,000,000. DEVELOPER shall further require that the Contractor name IRWD as additional Insured on all insurance policies that DEVELOPER requires the Contractor to maintain under the Construction Contract. As evidence of such insurance coverage, prior to commencing construction, DEVELOPER will provide IRWD with an endorsement to the applicable insurance policy(ies) naming IRWD, its officers and employees as additional insureds thereunder.

3.5 DEVELOPER shall require the Contractor to furnish performance, labor and materials bonds, issued by a bonding company rated not less than "AA," as security for the performance of the Contractor's obligations under the Construction Contract. DEVELOPER shall further require that the Contractor name IRWD as a beneficiary under all such bonds. On the acceptance of the New Facilities by IRWD, the Contractor shall be permitted to substitute for the bonds described above a warranty bond to secure the Contractor's performance during the warranty period set forth in the Construction Contract, in an amount equal to ten percent (10%) of the performance bond described above.

3.6 The Construction Contract shall require the Contractor to comply with all statutes, regulations, ordinances, permits and other requirements applicable to the work.

3.7 DEVELOPER will, at its sole cost and expense, be responsible for installation of any architectural treatments and screening of the New Facilities and any installation and maintenance of any landscaping outside the property line of the New Site, as DEVELOPER shall elect or as may be required by any CEQA mitigation or permit conditions.

3.8 Prior to the commencement of construction of the New Facilities, DEVELOPER shall pay to IRWD an administrative charge in the amount of ten percent (10%) of the awarded amount of the Construction Contract, agreed by the parties to cover IRWD's administrative costs and the cost of IRWD inspection and associated technical costs and staff time. The amount of the deposit made by DEVELOPER pursuant to Section 2.2 shall be credited toward the payment required under this Section.

Section 4. Acceptance; Bill of Sale; Warranties; Indemnification.

4.1 DEVELOPER shall notify IRWD in writing when the New Facilities are complete, and within five (5) business days after such notification DEVELOPER and IRWD shall make a joint inspection of the New Facilities. The Construction Contract will require that the Contractor perform such corrective work as may be required to cause the New Facilities to substantially conform to the Plans. DEVELOPER shall provide IRWD with a summary of the cost of construction of the New Facilities and deliver a bill of sale to IRWD on or before the acceptance of the New Facilities. IRWD agrees to accept the New Facilities on the completion of the New Facilities including any corrective work and start-up/testing as described above and shall execute and deliver to DEVELOPER, no later than ten (10) business days of the completion thereof, a notice of such acceptance which shall set forth the date on which IRWD accepts the New Facilities. Effective on the execution and delivery of the notice of such acceptance (the "Acceptance Date"), the New Facilities shall become the sole property of IRWD.

4.2 Prior to the Acceptance Date, DEVELOPER will cause the Contractor to furnish IRWD with as-built plans in the both AUTOCAD and PDF electronic file format and operation and maintenance manuals and other manufacturer information for the New Facilities in PDF electronic file format on separate compact discs.

4.3 DEVELOPER agrees to include in the Construction Contract a warranty on the part of the Contractor that the New Facilities shall be free from defects in workmanship and materials for a period of one (1) year following the Acceptance Date. The Construction Contract shall include a "third-party beneficiary" clause under which IRWD shall have the right to enforce such warranty and any longer warranties provided by manufacturers of equipment and components incorporated in the New Facilities. Following the Acceptance Date, IRWD agrees to look solely to the warranty and its rights under the Construction Contract, and not to DEVELOPER, for any issues relating to the New Facilities.

4.4 DEVELOPER further agrees to include in the Construction Contract an obligation on the part of the Contractor to indemnify, defend and hold IRWD, its officers, employees, representatives and agents harmless from and against losses, claims, damages, liabilities, costs and expenses (including reasonable attorneys' fees) arising out of or in connection with the negligence or willful misconduct of the Contractor, its employees, representatives and agents in the construction and installation of the New Facilities, except to the extent of any such losses, claims, damages, liabilities, costs and expenses arising out of or in connection with the active negligence or willful misconduct of an indemnified party.

4.5 DEVELOPER shall indemnify, defend and hold IRWD, its officers, employees, representatives and agents harmless from any losses, claims, damages, liabilities, costs and expenses (including reasonable attorneys' fees) arising from personal injuries occurring during the construction of the New Facilities or abandonment, removal or disposal of the Existing Facilities as a result of any activities performed by or on behalf of DEVELOPER, except to the extent of any such losses, claims, damages, liabilities, costs and expenses arising out of or in connection with the active negligence or willful misconduct of an indemnified party. Upon the Acceptance Date, the foregoing indemnity shall terminate and have no further force or effect except to the extent of any liability thereunder arising prior to such Acceptance Date with respect to the New Facilities or abandonment, removal or disposal of the Existing Facilities.

4.6 Notwithstanding anything herein to the contrary, no party shall be entitled to recover any punitive, consequential or speculative damages pursuant to any rights granted hereunder.

Section 5. Conveyance of New Site and New Easements; Quitclaim of Existing Site and Existing Easements.

5.1 Within thirty (30) days after the Acceptance Date, DEVELOPER and IRWD shall execute, acknowledge and cause to be recorded in the Official Records of the County the following documents (the "Relocation Conveyance Documents"): (i) a grant deed in the form of **EXHIBIT 4** granting the New Site to IRWD; (ii) grant of easement in the form of **EXHIBIT 3** granting to IRWD non-exclusive easements in, under, over and across the New Easement Areas; and (iii) a quitclaim deed(s) in the form of **EXHIBIT 5** attached hereto and incorporated herein by this reference, quitclaiming to DEVELOPER all of IRWD's right, title and interest in and to the Existing Site and the Existing Easements.

5.2 The quitclaim deed(s) shall be recorded concurrently with the grant deed and the grant of easement.

5.3 As a material inducement for IRWD to consummate the transactions contemplated by this Agreement, DEVELOPER hereby covenants and agrees that (a) DEVELOPER has or prior to the Acceptance Date will have fully investigated the Existing Site and Existing Easements and all matters pertaining thereto to DEVELOPER's satisfaction; (b) DEVELOPER, in entering into this Agreement and in accepting the Existing Site and Existing Easements, is relying entirely on its own investigation of the Existing Site and Existing Easements based on its extensive experience in and knowledge of California real property; (c) DEVELOPER is, or prior to the Acceptance Date will be, aware of all zoning regulations, other governmental requirements, site and physical conditions, building code requirements, land use regulations and all other matters affecting the use, condition, construction, operation, maintenance, use and enjoyment of the Existing Site and Existing Easements; and (d) DEVELOPER shall accept the Existing Site and Existing Easements in an "as-is" condition on the date hereof as of the Acceptance Date.

Notwithstanding anything to the contrary herein, however, nothing in this Agreement, nor any Relocation Conveyance Document for the conveyance of any of the Existing Site or Existing Easements is intended to, nor shall be construed to, transfer to DEVELOPER or its successors or assigns, or to relieve IRWD, of any responsibility or liability IRWD now has, has had, or comes to have with respect to human health or the environment relating to IRWD's or County Sanitation District No. 7's ("District 7") use of the Existing Site or Existing Easements, including but not limited to responsibility or liability relating to hazardous or toxic substances or materials (as such terms as those used in this sentence are defined by statute, ordinance, case law, government regulations or other provision of the law) that were caused to become located upon or under the Existing Site or Existing Easements because of IRWD's or District 7's

use of or activities upon the Existing Site or Existing Easements. Furthermore, DEVELOPER reserves and may exercise any and all of its rights under law to bring any action, if necessary, to recover clean-up costs and penalties paid, if any, from IRWD or any others who are ultimately determined to have responsibility for said toxic or hazardous materials that were caused to become located upon or under the Existing Site or Existing Easements because of IRWD's or District 7's use of or activities upon the Existing Site or Existing Easements. Notwithstanding the foregoing, DEVELOPER shall be and remain liable for any hazardous or toxic substances or materials that are caused to become located upon or under the Existing Site or Existing Easements because of DEVELOPER's use of or activities upon such land.

5.4 As a material inducement for DEVELOPER to consummate the transactions contemplated by this Agreement, IRWD hereby covenants and agrees that (a) IRWD has or prior to the Acceptance Date will have fully investigated the New Site and New Easement Areas and all matters pertaining thereto to IRWD's satisfaction; (b) IRWD, in entering into this Agreement and in accepting the New Site and New Easement Areas, is relying entirely on its own investigation of the New Site and New Easement Areas based on its extensive experience in and knowledge of California real property; (c) IRWD is, or prior to the Acceptance Date will be, aware of all zoning regulations, other governmental requirements, site and physical conditions, building code requirements, land use regulations and all other matters affecting the use, condition, construction, operation, maintenance, use and enjoyment of the New Site and New Easement Areas; and (d) IRWD shall accept the New Site and New Easement Areas in an "as-is" condition on the date hereof as of the Acceptance Date. DEVELOPER agrees to deliver to IRWD all documents and information in DEVELOPER's possession or control relating to the New Site and New Easement Areas, including but not limited to any environmental impact reports and any soils reports that have been prepared by DEVELOPER and/or its consultants, which are reasonably requested by IRWD to assist in IRWD's investigation and review under clause (c) above.

Notwithstanding anything to the contrary herein, however, nothing in this Agreement, nor any Relocation Conveyance Document for the conveyance of any of the New Site and New Easement Areas is intended to, nor shall be construed to, transfer to IRWD or its successors or assigns, or to relieve DEVELOPER, of any responsibility or liability DEVELOPER now has, has had, or comes to have with respect to human health or the environment relating to DEVELOPER's use of the New Site or New Easement Areas, including but not limited to responsibility or liability relating to hazardous or toxic substances or materials (as such terms as those used in this sentence are defined by statute, ordinance, case law, government regulations or other provision of the law) that were caused to become located upon or under the New Site or New Easement Areas because of DEVELOPER'S use of or activities upon the New Site or New Easement Areas. Furthermore, IRWD reserves and may exercise any and all of its rights under law to bring any action, if necessary, to recover clean-up costs and penalties paid, if any, from DEVELOPER or any others who are ultimately determined to have responsibility for said toxic or hazardous materials that were caused to become located upon or under the New Site or New Easement Areas because of DEVELOPER's use of or activities upon the New Site or New Easement Areas. Notwithstanding the foregoing, IRWD shall be and remain liable for any hazardous or toxic substances or materials that are caused to become located upon or under the New Site and New Easement Areas because of IRWD's use of or activities upon such land.

Section 6. Waiver and Indemnity.

Subject to and without limiting the second paragraph of Section 5.4 hereof, IRWD, on behalf of itself, its successors, assigns and successors-in-interest, shall protect, defend, indemnify, and hold harmless, and hereby generally releases DEVELOPER, its partners, directors, officers, agents,

employees, subsidiaries, lenders, and affiliates and its and their successors and assigns from and against any and all liabilities, claims, demands, suits, judgments, causes of action, losses, costs, damages, injuries, penalties, enforcement actions, fines, taxes, remedial actions, removal and disposal costs, investigation and remediation costs and expenses (including, without limit, reasonable attorney fees, litigation, arbitration and administrative proceeding costs, expert and consultant fees and laboratory costs), sums paid in settlement of claims, whether direct or indirect, known or unknown, arising out of, related in any way to, or resulting from or in connection with, in whole or in part the operation, maintenance, or repair of the New Facilities and/or its use of the New Site and its use of the New Easement Areas. In connection with its general release above IRWD, on behalf of itself, its successors, assigns and successors-in-interest and such other persons and entities, waives the benefit of California civil Code section 1542, which provides as follows:

A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor.

Initials of IRWD

Section 7. Maintenance Obligations.

Following the Acceptance Date, IRWD, at its own cost and expense, shall keep and maintain the New Facilities and all related improvements constructed on the New Site up to their original installation standard, and IRWD covenants to perform promptly and diligently all work and repairs thereupon in a good and workmanlike manner, and in accordance with all applicable governmental laws and regulations. IRWD, at its own cost and expense, shall also promptly repair any damage it, or its agents, employees or contractors, cause to Developer's property at any time.

Section 8. Further Assurances.

Each of the parties shall execute and deliver all additional papers, documents and other assurances, and shall do all acts and things reasonably necessary in connection with the performance of their obligations hereunder to carry out the intent of this Agreement.

Section 9. Interpretation.

Each party has received independent legal advice from its attorneys with respect to the advisability of entering into this Agreement and the meaning of its provisions. This Agreement shall not be construed against any party preparing it, but shall be construed as if both of the parties prepared it. Heading used in this Agreement are for convenience and shall not be used in construing the Agreement.

Section 10. Assignment; Successors and Assigns; No Third Party Beneficiaries.

IRWD shall not assign its rights or delegate its obligations hereunder to any person or entity other than a governmental entity providing sewer service that includes Park Place in its jurisdictional boundary, without the prior written consent of DEVELOPER in each instance, which

consent DEVELOPER may withhold in its sole and absolute discretion. In the event DEVELOPER conveys all or a portion of the property encompassing or adjacent to the Existing Site or the New Site, DEVELOPER may elect to either (i) assign its rights and obligations under Sections 2 through 7, inclusive, to such new owner or (ii) retain such rights and obligations through the construction of such New Facilities. This Agreement shall be binding upon and shall inure to the benefit of each of the parties, and each of their respective successors, assigns, trustees or receivers. All the covenants contained in this Agreement are for the express benefit of each and all such parties. This Agreement is not intended to benefit any third parties.

Section 11. Severability.

Should any provision of this Agreement be held invalid or illegal, such invalidity or illegality shall not invalidate the whole of this Agreement, but, rather, the Agreement shall be construed as if it did not contain the invalid or illegal part, and the rights and obligations of the parties shall be construed and enforced accordingly, unless that provision declared to be invalid or illegal is so material that its omission deprives any party of the basic benefit of their bargain or renders the remainder of this Agreement meaningless.

Section 12. Governing Law.

This Agreement shall be construed and enforced pursuant to the laws of the State of California. Any action or proceeding brought to enforce this Agreement, or related to this Agreement, shall be brought in Orange County, California, notwithstanding Code of Civil Procedure Section 394.

Section 13. No Waiver.

No waiver by DEVELOPER or IRWD of a breach of any of the terms, covenants, or conditions of this Agreement by the other shall be construed or held to be a waiver of any succeeding or preceding breach of the same or any other term, covenant or condition contained herein. No waiver of any default by DEVELOPER or IRWD hereunder shall be implied from any omission by the other to take any action on account of such default if such default persists or is repeated and no express waiver shall affect a default other than as specified in such waiver. The consent or approval by either party to or of any act by the other requiring the first party's consent or approval shall not be deemed to waive or render unnecessary the consenting party's consent or approval to or of any subsequent similar acts by the other party.

Section 14. Amendments.

Except as provided in this Agreement, this Agreement may be amended or supplemented only by a written agreement between the parties.

Section 15. Entire Agreement.

Each party represents, warrants and agree that no promise or agreement not expressed herein has been made to them, that this Agreement contains the entire agreement among the parties, that this Agreement supersedes any and all prior agreements or understandings among the parties unless otherwise provided herein, and that in executing this Agreement, each is relying solely on its own judgment and knowledge and no signatory is relying on any statement or representation made by any

other signatory or its representatives concerning the subject matter, basis or effect of this Agreement other than as set forth herein.

Notwithstanding the foregoing, and consistent with Section 9.19 of the 1990 Agreement, all rights and obligations of the parties under the following Sections from the 1990 Agreement shall survive in their entirety, are incorporated by reference herein, and apply to the New Facilities, New Site and New Easement Areas: Article 4 (Waiver and Indemnity), Section 5.8 (Pump Facility Capacity, Article 6 (Maintenance Obligations), Article 7 (Sewer Connection Fees), Article 8 (Reservation of Rights), and Article 9 (General Provisions) (except Sections 9.14, 9.16, and 9.19, which shall not survive). Upon the Acceptance Date, Article 4 (Waiver and Indemnity) and Article 6 (Maintenance Obligations) of the 1990 Agreement shall terminate and have no further force or effect except to the extent of any liability thereunder arising prior to such Acceptance Date with respect to the Existing Facilities.

Section 16. Attorneys' Fees.

If any party to this Agreement is required to initiate or defend any action or proceeding, the prevailing party in such action or proceeding, in addition to any other relief which may be granted, whether legal or equitable, shall be entitled to reasonable attorneys' fees. Attorneys' fees shall include attorneys' fees on any appeal, and in addition a party entitled to attorneys' fees shall be entitled to all other reasonable costs for investigating such action, taking depositions and discovery and all other necessary costs the court allows which are incurred in such litigation. The term "prevailing party" as used in this Section shall include, without limitation, any party who is made a defendant in litigation in which damages or other relief, or both, is sought against such party and a final judgment or dismissal or decree is entered in such litigation in favor of such party defendant.

Section 17. Notices.

All notices that may or are required to be given pursuant to this Agreement shall be deemed sufficiently given if in writing and if either served personally upon the recipient or mailed by certified or registered mail to:

If to DEVELOPER:

LBA IV-- PPI, LLC
c/o LBA Realty
3333 Michelson Drive, Suite 350
Irvine, California 92612
Attn: Project Manager

If to IRWD:

Irvine Ranch Water District
15600 Sand Canyon Ave.
P.O. Box 57000
Irvine, CA 92619-7000
Attn: General Manager

Section 18. Relationship of Parties.

DEVELOPER and IRWD expressly acknowledge and agree that they are not joint venturers, partners or agents of each other and do not have fiduciary duties with respect to one another in any manner whatsoever. Nothing in this Agreement is intended or shall be construed to create a joint venture, partnership, agency, or fiduciary relationship between DEVELOPER and IRWD.

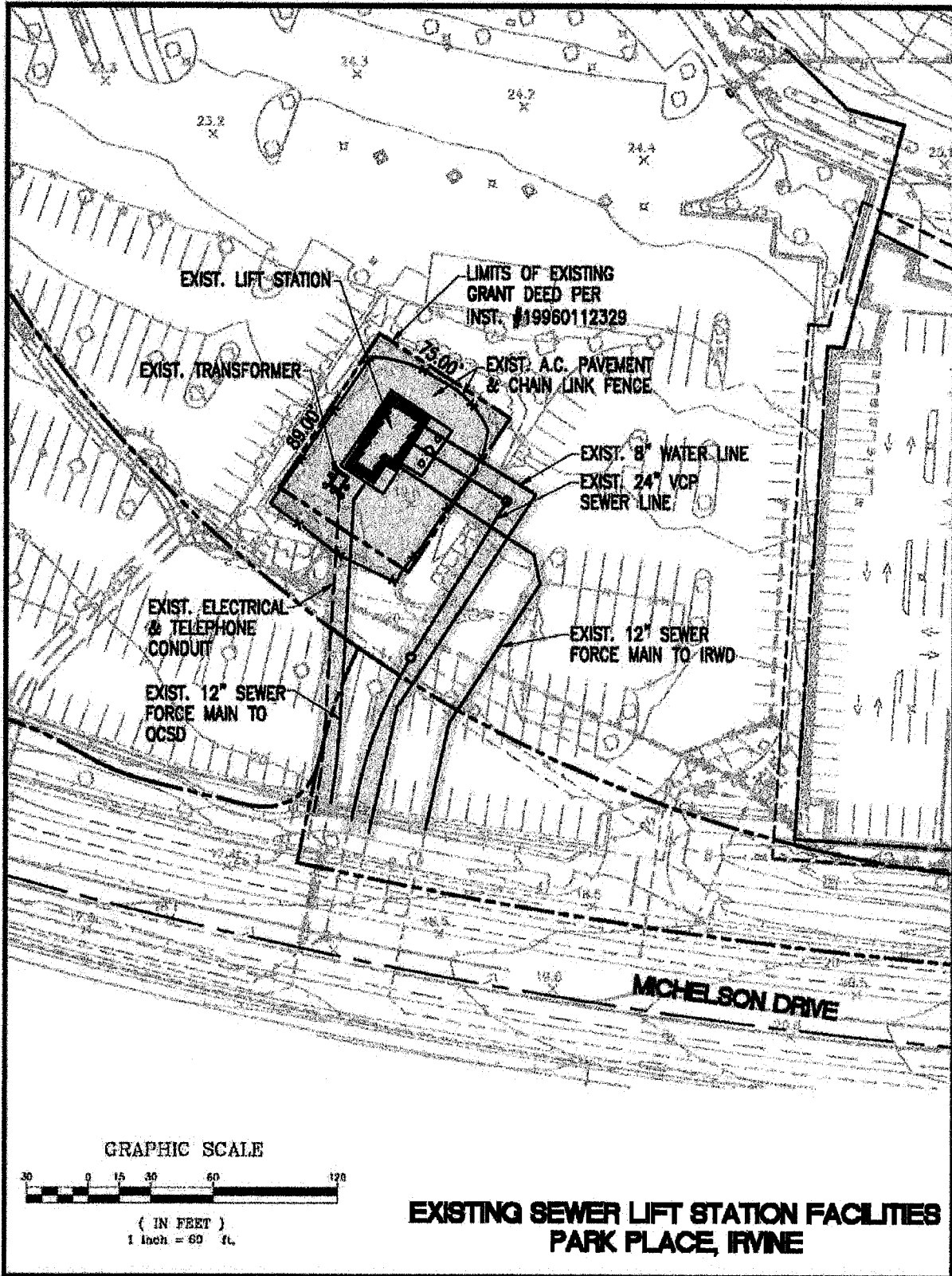
[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have executed this Agreement on the date first hereinabove written.

<u>IRWD</u>	<u>DEVELOPER</u>
<p>IRVINE RANCH WATER DISTRICT, a California water district</p> <p>By: _____ Paul Cook General Manager</p>	<p>LBA IV-PPI, LLC, a Delaware limited liability company</p> <p>By: LBA REIT IV, LLC, a Delaware limited liability company its Sole Member and Manager</p> <p>By: LBA Realty Fund IV, L.P., a Delaware limited partnership, its Manager</p> <p>By: LBA Management Company IV, LLC, a Delaware limited liability company its General Partner</p> <p>By: LBA Realty LLC, a Delaware limited liability company its Manager</p> <p>By: LBA Inc., a California corporation its Managing Member</p> <p>By: _____ Name: _____ Title: _____</p>

EXHIBIT 1

[Depiction of the Existing Facilities to be Relocated (Section 1.5)]



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EXHIBIT 2

[Depiction of the New Facilities (Section 1.7)]

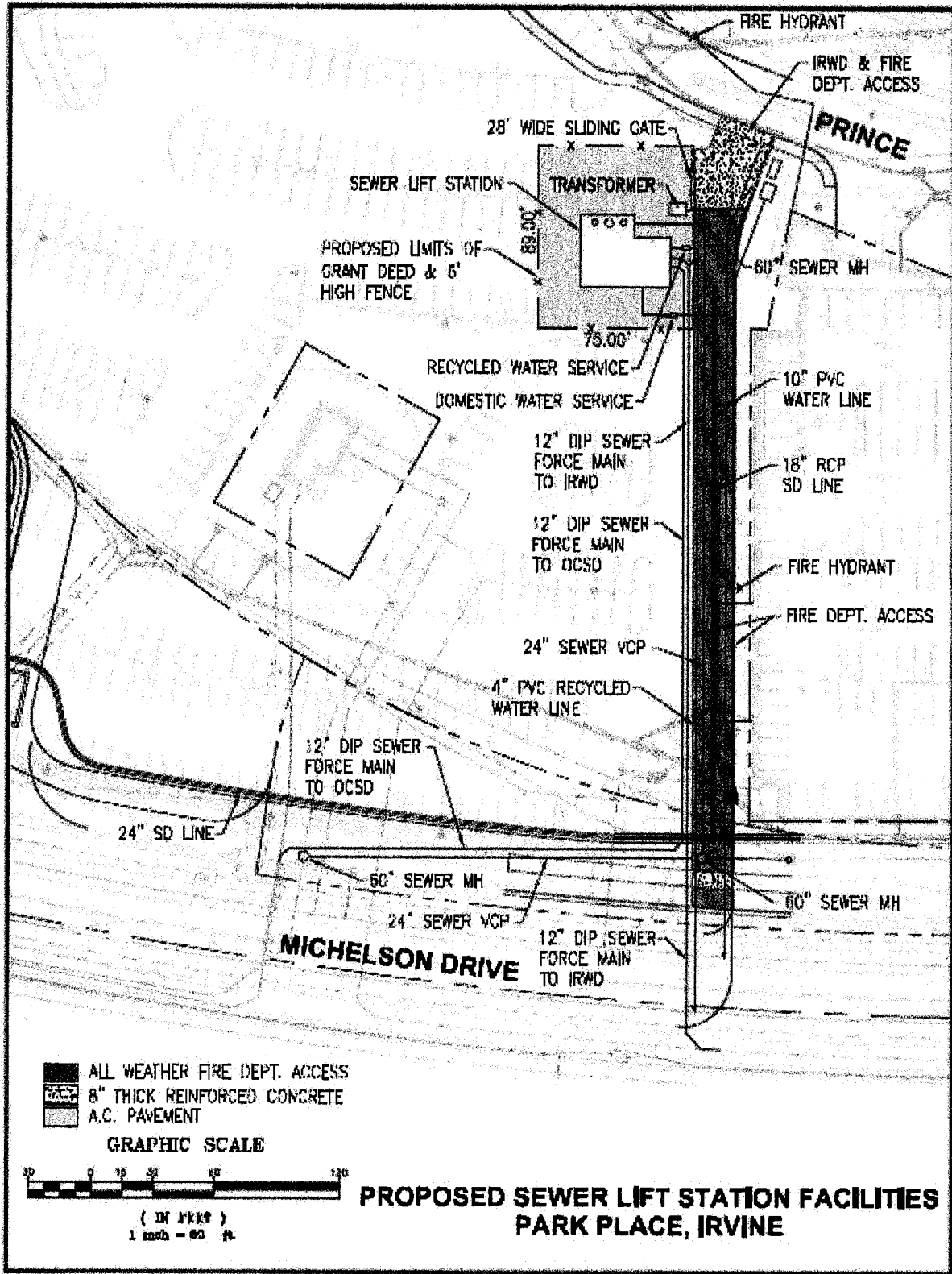


EXHIBIT 3

[Form of Grant of Easement, with Description and Depiction
of the New Easement Areas (Sections 1.8; 5.1(II))]

[See Attached]

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

Irvine Ranch Water District
15600 Sand Canyon Ave.
P.O. Box 57000
Irvine, CA 92619-7000
Attn: General Manager

APN: Portions of 445-211-43 and 445-211-52

[SPACE ABOVE FOR RECORDER'S USE ONLY]

EASEMENT GRANT DEED

THE UNDERSIGNED GRANTOR DECLARES AS FOLLOWS:

The undersigned declares that this Easement Grant Deed is exempt from Recording Fees pursuant to California Government Code Section 27383 and exempt from Documentary Transfer Tax pursuant to California Revenue and Taxation Code Section 11922.

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged LBA IV- PPI, LLC, a Delaware limited liability company ("**Grantor**") hereby grants to IRVINE RANCH WATER DISTRICT, a California water district formed under and existing pursuant to Section 34000 et seq. of the California Water Code ("**Grantee**"), the easement interests in real property in the City of Irvine, County of Orange, State of California, more particularly described on Exhibit A attached hereto and depicted on Exhibit B attached hereto and incorporated herein by reference ("**Easements**").

SUBJECT TO:

1. All matters of record;
2. All of the covenants, conditions, and restrictions of Grantee contained in that certain Agreement for Relocation of Michelson Park Place Sewer Lift Station dated _____, 20____, which expressly incorporates certain provisions of that certain Dedication Agreement dated December 12, 1990 ("**1990 Agreement**") between Grantor's predecessor in interest, Crow Winthrop Development Limited Partnership, and Grantee's predecessor in interest, County Sanitation District No. 7 of Orange County (collectively, "**Agreement**"), which are hereby incorporated by reference in this Easement Grant Deed. Such covenants, conditions, and restrictions include, but are not limited to, the following:

a. The reservation by Grantor under Paragraph 8.2 of the 1990 Agreement, for itself and its successors and assigns, of the right to relocate the Easements and any sewer pipelines that may be constructed therein, provided that such relocation and any adjustments to the New Facilities (as defined in the Agreement) shall be performed at the sole costs of the person requesting the changes. Paragraph 8.2 of the 1990 Agreement further provides that upon any relocation of the Easements, Grantee, for itself, its heirs, administrators, successors and assigns shall join in the execution of a correction easement agreement in recordable form that redefines the applicable Easement boundaries as then relocated from time to time and removes the easements no longer necessary for the functioning of the New Facilities because of such relocation.

b. The reservation by Grantor, for itself and its successors and assigns, of the right to relocate the Easements and all sewer pipelines may be constructed within the Easements in connection with Grantor's election to relocated the New Facilities, as provided in Agreement.

c. If (i) the Property (as defined in the Agreement) is not used for sewage pump facility purposes for a period of longer than one (1) year, and/or (ii) if Grantee is in breach of, or otherwise fails to comply with any of the covenants, conditions, and restrictions set forth in the Agreement, including without limitation the covenants, conditions and restrictions contained in Paragraph 2 of this Easement Grant Deed, Grantor, in addition to whatever remedies it may have in the Agreement, at law or in equity, shall have the right, but not the obligation, to re-enter and take possession of the Property and all improvements thereon, or any part thereof, and to terminate and re-vest in Grantor the Property as conveyed to Grantee.

d. The easements, covenants, conditions and restrictions reserved and contained in the Agreement and in this Easement Grant Deed shall run with the land and shall burden the Property, Grantee, and all successors of Grantee to all or any portion of the Property, Grantee, and all successors or Grantee to all or any portion of the Property, for the benefit of that certain real property which is legally described on Exhibit C attached to this Easement Grant Deed and incorporated herein by reference ("**Benefitted Property**"), and Grantor, and all successors of Grantor to all or any part of the Benefitted Property, and all present and future owners of all or any portion of the Benefitted Property.

e. Grantee, at its own cost and expense, shall promptly repair any damage it or its agents, employees or contractors cause to the Benefitted Property by the exercise of its rights under this Easement Grant Deed.

[Signature Page Follows]

IN WITNESS WHEREOF, Grantor has executed this Easement Grant Deed as of the date set forth below.

<p>Dated: _____, 2013</p>	<p>LBA IV-PPI, LLC, a Delaware limited liability company</p> <p>By: LBA REIT IV, LLC, a Delaware limited liability company its Sole Member and Manager</p> <p>By: LBA Realty Fund IV, L.P., a Delaware limited partnership, its Manager</p> <p>By: LBA Management Company IV, LLC, a Delaware limited liability company its General Partner</p> <p>By: LBA Realty LLC, a Delaware limited liability company its Manager</p> <p>By: LBA Inc., a California corporation its Managing Member</p> <p>By: _____ Name: _____ Title: _____</p>
---------------------------	---

ACKNOWLEDGMENT

State of California)
County of _____)

On _____, before me, _____
(insert name of notary)

Notary Public, personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument and acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing
paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

CERTIFICATE OF ACCEPTANCE

[TO BE PROVIDED BY IRWD]

EXHIBIT 3-A

LEGAL DESCRIPTION OF THE EASEMENTS

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EXHIBIT "A"
LEGAL DESCRIPTION OF THE EASEMENTS

THOSE PORTIONS OF PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL, IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED MARCH 20, 2002 AS INSTRUMENT NO. 20020229144, AND PARCEL 3A OF LOT LINE ADJUSTMENT 530079-LL, IN SAID CITY OF IRVINE, RECORDED OCTOBER 3, 2011 AS INSTRUMENT NO. 2011000490030, BOTH OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

STRIP 1:

A STRIP OF LAND 28.00 FEET WIDE, THE CENTERLINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHERLY TERMINUS OF THAT CERTAIN COURSE HAVING A BEARING AND DISTANCE OF "NORTH 03°37'34" EAST, 241.99 FEET" IN THE EASTERLY LINE OF SAID PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL;

THENCE, ALONG SAID CERTAIN COURSE, NORTH 03°37'34" EAST, 241.99 FEET TO THE NORTHERLY TERMINUS OF SAID CERTAIN COURSE;

THENCE, NORTH 86°22'26" WEST, 17.83 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "A";

THENCE, CONTINUING NORTH 86°22'26" WEST, 3.50 FEET TO THE POINT OF BEGINNING;

THENCE, TRAVERSING THE INTERIOR OF SAID PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL AND SAID PARCEL 3A OF LOT LINE ADJUSTMENT 530079-LL, THE FOLLOWING COURSES:

SOUTH 03°37'34" WEST, 126.00 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "B";

CONTINUING SOUTH 03°37'34" WEST, 91.00 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "C";

CONTINUING SOUTH 03°37'34" WEST, 73.34 FEET TO THE SOUTHERLY LINE OF SAID PARCEL 3A OF LOT LINE ADJUSTMENT 530079-LL.

THE SIDELINES OF SAID STRIP SHALL BE LENGTHENED OR SHORTENED TO END AT SAID SOUTHERLY LINE OF PARCEL 3A OF LOT LINE ADJUSTMENT 530079-LL.

STRIP 2:

A STRIP OF LAND 21.00 FEET WIDE, THE CENTERLINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE HEREINABOVE DESCRIBED POINT "A";

EXHIBIT "A"
LEGAL DESCRIPTION OF THE EASEMENTS

THENCE, TRAVERSING THE INTERIOR OF SAID PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL, THE FOLLOWING COURSES:

NORTH 03°37'34" EAST, 25.46 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "D";

CONTINUING NORTH 03°37'34" EAST, 23.39 FEET.

STRIP 3:

A STRIP OF LAND 10.00 FEET WIDE, THE CENTERLINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE HEREINABOVE DESCRIBED POINT "B";

THENCE, SOUTH 86°22'26" EAST, 21.33 FEET TO SAID EASTERLY LINE OF PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL.

EXCEPTING THEREFROM THAT PORTION INCLUDED WITHIN SAID STRIP 1.

STRIP 4:

A STRIP OF LAND 10.00 FEET WIDE, THE CENTERLINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE HEREINABOVE DESCRIBED POINT "C";

THENCE, SOUTH 86°22'26" EAST, 21.33 FEET TO SAID EASTERLY LINE OF PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL.

EXCEPTING THEREFROM THAT PORTION INCLUDED WITHIN SAID STRIP 1.

STRIP 5:

A STRIP OF LAND 10.00 FEET WIDE, THE CENTERLINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE HEREINABOVE DESCRIBED POINT "D";

THENCE, NORTH 22°29'57" EAST, 62.35 FEET.

EXCEPTING THEREFROM THAT PORTION INCLUDED WITHIN SAID STRIP 2.

EXHIBIT "A"
LEGAL DESCRIPTION OF THE EASEMENTS

ALSO AS SHOWN ON EXHIBIT "B" ATTACHED HERETO AND HEREBY MADE A PART HEREOF.

SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RESERVATIONS, EASEMENTS, AND RIGHTS-OF-WAY OF RECORD, IF ANY.



PREPARED BY: STANTEC CONSULTING INC.
UNDER THE DIRECTION OF:

James O. Steines
JAMES O. STEINES, P.L.S. 6086

JUNE 6, 2013
J.N. 2042 351357

EXHIBIT 3-B

DEPICTION OF THE EASEMENTS

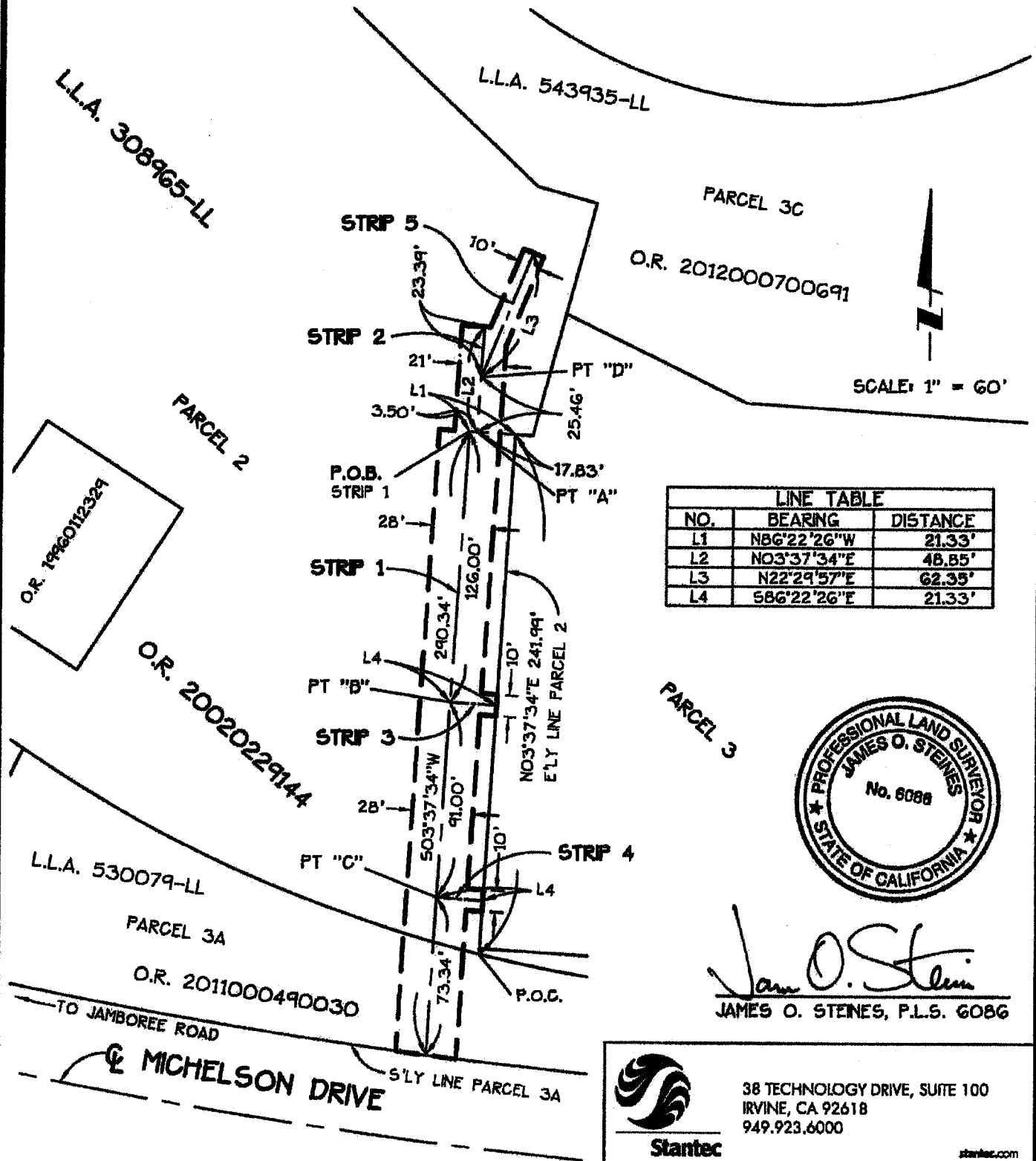
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EXHIBIT "B"

SHEET 1 OF 1

PORTIONS OF PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL, O.R. 20020229144,
AND PARCEL 3A OF LOT LINE ADJUSTMENT 530079-LL, O.R. 2011000490030,
IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA

DEPICTION OF THE EASEMENTS



LINE TABLE		
NO.	BEARING	DISTANCE
L1	N86°22'26"W	21.33'
L2	N03°37'34"E	48.85'
L3	N22°29'57"E	62.35'
L4	S86°22'26"E	21.33'



James O. Steines
JAMES O. STENES, P.L.S. 6086



38 TECHNOLOGY DRIVE, SUITE 100
IRVINE, CA 92618
949.923.6000

Stantec

stantec.com

EXHIBIT 3-C

LEGAL DESCRIPTION OF THE BENEFITTED PROPERTY

EXHIBIT "C"
LEGAL DESCRIPTION OF THE BENEFITTED PROPERTY

REAL PROPERTY IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA,
DESCRIBED AS FOLLOWS:

PROPERTY 1: (APN 445-211-13, 445-211-15, 445-211-16)

PARCEL 2A AND 3A, OF LOT LINE ADJUSTMENT NO. 531860-LL, IN THE CITY OF IRVINE,
COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED FEBRUARY 28, 2012 AS
INSTRUMENT NO. 2012000111167, OF OFFICIAL RECORDS.

PROPERTY 2: (APN 445-211-53)

PARCEL NO. 2, IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS
SHOWN ON LOT LINE ADJUSTMENT NO. 395681-LL, RECORDED MAY 19, 2006 AS
INSTRUMENT NO. 2006000339027 OF OFFICIAL RECORDS.

PROPERTY 3: (APN 445-211-54, 445-211-14, 445-211-45)

PARCEL 3A OF LOT LINE ADJUSTMENT NO. 530079-LL, IN THE CITY OF IRVINE, COUNTY
OF ORANGE, STATE OF CALIFORNIA, RECORDED OCTOBER 13, 2011 AS INSTRUMENT NO.
2011000490030 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID
COUNTY.

PROPERTY 4: (APN: 445-211-27, 445-211-43)

PARCEL NO. 2 OF LOT LINE ADJUSTMENT NO. 308965-LL, IN THE CITY OF IRVINE,
COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED MARCH 20, 2002 AS INSTRUMENT
NO. 20020229144, OF OFFICIAL RECORDS.

PROPERTY 5:

PARCEL A: (APN: 445-211-09, 445-211-10)

PARCEL 3 OF PARCEL MAP NO. 93-194, IN THE CITY OF IRVINE, COUNTY OF ORANGE,
STATE OF CALIFORNIA, FILED IN BOOK 282, PAGES 4-6 OF PARCEL MAPS IN THE OFFICE
OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL B: (APN: 445-211-37, 445-211-42)

PARCEL 3C OF LOT LINE ADJUSTMENT 543935-LL IN THE CITY OF IRVINE, COUNTY OF
ORANGE, STATE OF CALIFORNIA, RECORDED NOVEMBER 14, 2012 AS INSTRUMENT NO.
2012000700691, OFFICIAL RECORDS OF ORANGE COUNTY, CALIFORNIA.

PARCEL C: (APN: 445-211-17, 445-211-04)

PARCEL 2B OF LOT LINE ADJUSTMENT NO. 537303-LL, IN THE CITY OF IRVINE, COUNTY
OF ORANGE, STATE OF CALIFORNIA, RECORDED SEPTEMBER 17, 2012 AS INSTRUMENT NO.
2012000541410 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF
SAID COUNTY.

EXHIBIT "C"
LEGAL DESCRIPTION OF THE BENEFITTED PROPERTY

PROPERTY 6:

PARCEL 1C OF LOT LINE ADJUSTMENT 543935-LL, IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED NOVEMBER 14, 2012 AS INSTRUMENT NO. 2012000700691 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPTING THEREFROM PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL, IN SAID CITY OF IRVINE, RECORDED JULY 11, 2000 AS INSTRUMENT NO. 20000362543 OF OFFICIAL RECORDS, IN SAID OFFICE OF THE COUNTY RECORDER.

BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE HAVING A BEARING AND DISTANCE OF "NORTH 59°51'31" EAST, 159.44 FEET" IN THE SOUTHEASTERLY BOUNDARY OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL;

THENCE, ALONG THE BOUNDARY OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL AND PARCEL 1C OF LOT LINE ADJUSTMENT 543935-LL, THE FOLLOWING COURSES:

SOUTH 59°51'31" WEST, 159.44 FEET;
NORTH 30°08'29" WEST, 1.52 FEET;
SOUTH 59°51'31" WEST, 17.57 FEET;
NORTH 30°09'05" WEST, 14.02 FEET TO THE POINT OF BEGINNING;

THENCE, CONTINUING ALONG THE BOUNDARY OF SAID PARCEL 1C OF LOT LINE ADJUSTMENT 543935-LL, THE FOLLOWING COURSES:

SOUTH 59°49'16" WEST, 12.99 FEET;
SOUTH 30°10'44" EAST, 53.83 FEET;
SOUTH 59°49'16" WEST, 172.25 FEET;
NORTH 30°10'44" WEST, 268.71 FEET;
SOUTH 59°49'16" WEST, 36.25 FEET;
NORTH 30°10'44" WEST, 3.00 FEET;
SOUTH 59°49'16" WEST, 2.75 FEET;
NORTH 30°10'44" WEST, 25.65 FEET;
NORTH 59°49'16" EAST, 13.73 FEET;
NORTH 30°10'44" WEST, 43.83 FEET;
NORTH 59°50'22" EAST, 20.16 FEET;
NORTH 14°49'08" EAST, 34.97 FEET;
NORTH 59°49'16" EAST, 152.81 FEET;
SOUTH 30°10'44" EAST, 4.38 FEET TO THE MOST WESTERLY CORNER OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL;

THENCE, ALONG THE SOUTHWESTERLY BOUNDARY OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL, THE FOLLOWING COURSES:

SOUTH 30°09'05" EAST, 297.45 FEET;
NORTH 59°50'55" EAST, 12.97 FEET;
SOUTH 30°09'05" EAST, 10.24 TO THE POINT OF BEGINNING.

EXHIBIT 4

[Form of Grant Deed with Description and Depiction of the New Site (Sections 1.9; 5.1(i))]

[See Attached]

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

Irvine Ranch Water District
15600 Sand Canyon Ave.
P.O. Box 57000
Irvine, CA 92619-7000
Attn: General Manager

APN: Portion of 445-211-43

[SPACE ABOVE FOR RECORDER'S USE ONLY]

DEDICATION GRANT DEED

THE UNDERSIGNED GRANTOR DECLARES AS FOLLOWS:

The undersigned declares that this Dedication Grant Deed is exempt from Recording Fees pursuant to California Government Code Section 27383 and exempt from Documentary Transfer Tax pursuant to California Revenue and Taxation Code Section 11922.

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged LBA IV- PPI, LLC, a Delaware limited liability company ("**Grantor**") hereby grants to IRVINE RANCH WATER DISTRICT, a California water district formed under and existing pursuant to Section 34000 et seq. of the California Water Code ("**Grantee**"), certain real property located in the City of Irvine, County of Orange, State of California, more particularly described on Exhibit A attached hereto and depicted on Exhibit B attached hereto and incorporated herein by reference.

SUBJECT TO:

1. All matters of record.
2. All of the covenants, conditions, and restrictions of Grantee contained in that certain Agreement for Relocation of Michelson Park Place Sewer Lift Station dated _____, 20____, which expressly incorporates certain provisions of 1990 Agreement (collectively, "**Agreement**"), which are hereby incorporated by reference in this Dedication Grant Deed. Such covenants, conditions, and restrictions include, but are not limited to, the following:
 - a. The New Facilities (as defined in the Agreement) to be constructed by Grantor and maintained by Grantee on the Property, shall not exceed a height of thirty-two feet (32') above mean sea level at any time.
 - b. Grantee shall keep and maintain the New Facilities and all related improvements constructed on the Property up to their original installation standard, and shall perform promptly and diligently all work and repairs thereon in a good and workmanlike manner, and in accordance with all applicable governmental laws and regulations. Grantee, at its own cost and expense, shall also promptly repair any damage it or its agents, employees or contractors cause to the real property legally described on Exhibit B attached hereto and incorporated herein by reference (the "**Benefitted Property**") by the exercise of its rights under this Dedication Grant Deed.

c. The Property shall be used for the construction and operation of the New Facilities only, together with such uses as are incidental thereto. The Property shall not be used for any other purpose, including without limitation, the parking, storage, and/or maintenance of motor vehicles or other equipment outside of the Pump Facility unless the same is necessary for the emergency or scheduled maintenance and repair of the Pump Facility.

d. If (i) the Property (as defined in the Agreement) is not used for sewage pump facility purposes for a period of longer than one (1) year, and/or (ii) if Grantee is in breach of, or otherwise fails to comply with any of the covenants, conditions, and restrictions set forth in the Agreement, including without limitation the covenants, conditions and restrictions contained in this Paragraph 2 of this Dedication Grant Deed, Grantor, in addition to whatever remedies it may have in the Agreement, at law or in equity, shall have the right, but not the obligation, to re-enter and take possession of the Property and all improvements thereon, or any part thereof, and to terminate and re-vest in Grantor the Property as conveyed to Grantee.

e. The easements, covenants, conditions and restrictions reserved and contained in the Agreement and in this Dedication Grant Deed shall run with the land and shall burden the Property, Grantee, and all successors of Grantee to all or any portion of the Property, Grantee, and all successors or Grantee to all or any portion of the Property, for the benefit of the Benefitted Property, and Grantor, and all successors of Grantor to all or any part of the Benefitted Property, and all present and future owners of all or any portion of the Benefitted Property.

[Signature Page Follows]

IN WITNESS WHEREOF, Grantor has executed this Dedication Grant Deed as of the date set forth below.

<p>Dated: _____, 2013</p>	<p>LBA IV-PPI, LLC, a Delaware limited liability company</p> <p>By: LBA REIT IV, LLC, a Delaware limited liability company its Sole Member and Manager</p> <p>By: LBA Realty Fund IV, L.P., a Delaware limited partnership, its Manager</p> <p>By: LBA Management Company IV, LLC, a Delaware limited liability company its General Partner</p> <p>By: LBA Realty LLC, a Delaware limited liability company its Manager</p> <p>By: LBA Inc., a California corporation its Managing Member</p> <p>By: _____ Name: _____ Title: _____</p>
---------------------------	---

ACKNOWLEDGMENT

State of California)
County of _____)

On _____, before me, _____
(Insert name of notary)

Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument and acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing
paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

CERTIFICATE OF ACCEPTANCE

[TO BE PROVIDED BY IRWD]

EXHIBIT 4-A

LEGAL DESCRIPTION OF THE PROPERTY

971912.09/OC
226998-00003/6-6-13//mrf

EXHIBIT "A"
LEGAL DESCRIPTION OF THE PROPERTY

THAT PORTION OF PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL, IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED MARCH 20, 2002 AS INSTRUMENT NO. 20020229144 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHERLY TERMINUS OF THAT CERTAIN COURSE HAVING A BEARING AND DISTANCE OF "NORTH 03°37'34" EAST, 241.99 FEET" IN THE EASTERLY LINE OF SAID PARCEL 2;

THENCE, ALONG SAID CERTAIN COURSE, NORTH 03°37'34" EAST, 241.99 FEET TO THE NORTHERLY TERMINUS OF SAID CERTAIN COURSE;

THENCE, NORTH 86°22'26" WEST, 28.33 FEET TO THE POINT OF BEGINNING;

THENCE, TRAVERSING THE INTERIOR OF SAID PARCEL 2, THE FOLLOWING COURSES:

CONTINUING NORTH 86°22'26" WEST, 75.00 FEET;

NORTH 03°37'34" EAST, 89.00 FEET;

SOUTH 86°22'26" EAST, 75.00 FEET;

SOUTH 03°37'34" WEST, 89.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 6675 SQUARE FEET, MORE OR LESS.

ALSO AS SHOWN ON EXHIBIT "B" ATTACHED HERETO AND HEREBY MADE A PART HEREOF.

SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RESERVATIONS, EASEMENTS, AND RIGHTS-OF-WAY OF RECORD, IF ANY.



PREPARED BY: STANTEC CONSULTING INC.
UNDER THE DIRECTION OF:

James O. Steines
JAMES O. STEINES, P.L.S. 6086

JUNE 6, 2013
J.N. 2042 351357

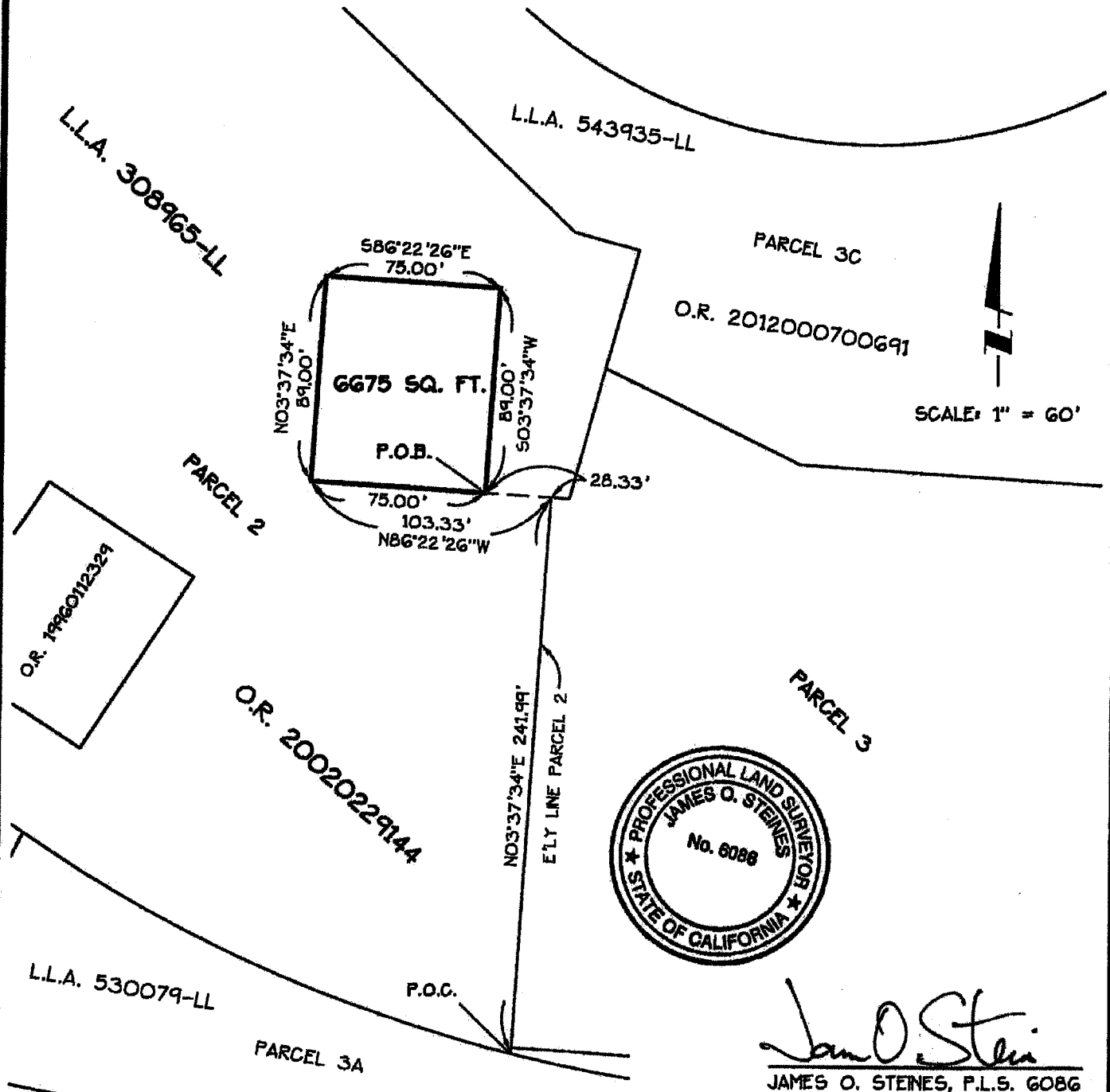
EXHIBIT 4-B

LEGAL DESCRIPTION OF THE BENEFITTED PROPERTY

EXHIBIT "B"

SHEET 1 OF 1


A PORTION OF PARCEL 2 OF LOT LINE ADJUSTMENT 308965-LL, O.R. 20020229144,
IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA
DEPICTION OF THE PROPERTY



James O. Steines
JAMES O. STEINES, P.L.S. 6086



TO JAMBOREE ROAD
MICHELSON DRIVE

 38 TECHNOLOGY DRIVE, SUITE 100
IRVINE, CA 92618
949.923.6000
stantec.com

V:\projects\2042351340\DRAWING\EXHIBIT_FILES\351340V-7301MX.dwg

J.N. 2042 351357 DATE: 6/6/13

EXHIBIT 4-C

LEGAL DESCRIPTION OF THE ADDITIONAL BENEFITTED PROPERTY

EXHIBIT "C"
LEGAL DESCRIPTION OF THE BENEFITTED PROPERTY

REAL PROPERTY IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA,
DESCRIBED AS FOLLOWS:

PROPERTY 1: (APN 445-211-13, 445-211-15, 445-211-16)

PARCEL 2A AND 3A, OF LOT LINE ADJUSTMENT NO. 531860-LL, IN THE CITY OF IRVINE,
COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED FEBRUARY 28, 2012 AS
INSTRUMENT NO. 2012000111167, OF OFFICIAL RECORDS.

PROPERTY 2: (APN 445-211-53)

PARCEL NO. 2, IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS
SHOWN ON LOT LINE ADJUSTMENT NO. 395681-LL, RECORDED MAY 19, 2006 AS
INSTRUMENT NO. 2006000339027 OF OFFICIAL RECORDS.

PROPERTY 3: (APN 445-211-54, 445-211-14, 445-211-45)

PARCEL 3A OF LOT LINE ADJUSTMENT NO. 530079-LL, IN THE CITY OF IRVINE, COUNTY
OF ORANGE, STATE OF CALIFORNIA, RECORDED OCTOBER 13, 2011 AS INSTRUMENT NO.
2011000490030 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID
COUNTY.

PROPERTY 4: (APN: 445-211-27, 445-211-43)

PARCEL NO. 2 OF LOT LINE ADJUSTMENT NO. 308965-LL, IN THE CITY OF IRVINE,
COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED MARCH 20, 2002 AS INSTRUMENT
NO. 20020229144, OF OFFICIAL RECORDS.

PROPERTY 5:

PARCEL A: (APN: 445-211-09, 445-211-10)

PARCEL 3 OF PARCEL MAP NO. 93-194, IN THE CITY OF IRVINE, COUNTY OF ORANGE,
STATE OF CALIFORNIA, FILED IN BOOK 282, PAGES 4-6 OF PARCEL MAPS IN THE OFFICE
OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL B: (APN: 445-211-37, 445-211-42)

PARCEL 3C OF LOT LINE ADJUSTMENT 543935-LL IN THE CITY OF IRVINE, COUNTY OF
ORANGE, STATE OF CALIFORNIA, RECORDED NOVEMBER 14, 2012 AS INSTRUMENT NO.
2012000700691, OFFICIAL RECORDS OF ORANGE COUNTY, CALIFORNIA.

PARCEL C: (APN: 445-211-17, 445-211-04)

PARCEL 2B OF LOT LINE ADJUSTMENT NO. 537303-LL, IN THE CITY OF IRVINE, COUNTY
OF ORANGE, STATE OF CALIFORNIA, RECORDED SEPTEMBER 17, 2012 AS INSTRUMENT NO.
2012000541410 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF
SAID COUNTY.

EXHIBIT "C"
LEGAL DESCRIPTION OF THE BENEFITTED PROPERTY

PROPERTY 6:

PARCEL 1C OF LOT LINE ADJUSTMENT 543935-LL, IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA, RECORDED NOVEMBER 14, 2012 AS INSTRUMENT NO. 2012000700691 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPTING THEREFROM PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL, IN SAID CITY OF IRVINE, RECORDED JULY 11, 2000 AS INSTRUMENT NO. 20000362543 OF OFFICIAL RECORDS, IN SAID OFFICE OF THE COUNTY RECORDER.

BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE HAVING A BEARING AND DISTANCE OF "NORTH 59°51'31" EAST, 159.44 FEET" IN THE SOUTHEASTERLY BOUNDARY OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL;

THENCE, ALONG THE BOUNDARY OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL AND PARCEL 1C OF LOT LINE ADJUSTMENT 543935-LL, THE FOLLOWING COURSES:

SOUTH 59°51'31" WEST, 159.44 FEET;
NORTH 30°08'29" WEST, 1.52 FEET;
SOUTH 59°51'31" WEST, 17.57 FEET;
NORTH 30°09'05" WEST, 14.02 FEET TO THE POINT OF BEGINNING;

THENCE, CONTINUING ALONG THE BOUNDARY OF SAID PARCEL 1C OF LOT LINE ADJUSTMENT 543935-LL, THE FOLLOWING COURSES:

SOUTH 59°49'16" WEST, 12.99 FEET;
SOUTH 30°10'44" EAST, 53.83 FEET;
SOUTH 59°49'16" WEST, 172.25 FEET;
NORTH 30°10'44" WEST, 268.71 FEET;
SOUTH 59°49'16" WEST, 36.25 FEET;
NORTH 30°10'44" WEST, 3.00 FEET;
SOUTH 59°49'16" WEST, 2.75 FEET;
NORTH 30°10'44" WEST, 25.65 FEET;
NORTH 59°49'16" EAST, 13.73 FEET;
NORTH 30°10'44" WEST, 43.83 FEET;
NORTH 59°50'22" EAST, 20.16 FEET;
NORTH 14°49'08" EAST, 34.97 FEET;
NORTH 59°49'16" EAST, 152.81 FEET;
SOUTH 30°10'44" EAST, 4.38 FEET TO THE MOST WESTERLY CORNER OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL;

THENCE, ALONG THE SOUTHWESTERLY BOUNDARY OF SAID PARCEL 1 OF LOT LINE ADJUSTMENT 44487-LL, THE FOLLOWING COURSES:

SOUTH 30°09'05" EAST, 297.45 FEET;
NORTH 59°50'55" EAST, 12.97 FEET;
SOUTH 30°09'05" EAST, 10.24 TO THE POINT OF BEGINNING.

EXHIBIT 5

[Form of Quitclaim Deed(s) (Section 5.1(iii))]

[See Attached]

**RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO
AND MAIL ALL TAX STATEMENTS TO:**

LBA IV- PPI, LLC
c/o LBA Realty
3333 Michelson Drive, Suite 350
Irvine, California 92612
Attn: Project Manager

(Space Above For Recorder's Use)

QUITCLAIM DEED

THE UNDERSIGNED GRANTOR DECLARES AS FOLLOWS:

The undersigned declares that this Quitclaim Deed is exempt from Recording Fees pursuant to California Government Code Section 27383 and exempt from Documentary Transfer Tax pursuant to California Revenue and Taxation Code Section 11922.

FOR VALUABLE CONSIDERATION, the receipt of which is hereby acknowledged, IRVINE RANCH WATER DISTRICT, a California water district formed under and existing pursuant to Section 34000 et seq. of the California Water Code, does hereby REMISE, RELEASE AND QUITCLAIM to LBA IV- PPI, LLC, a Delaware limited liability company, all of its right, title and interest, in and to that the following documents, including all real property associated therewith: (1) that certain Easement Grant Deed recorded in the official records of the Orange County Recorder ("**Official Records**") on March 7, 1996 as Instrument No. 19960112328 ("**Former Easement Grant Deed**") and (2) that certain Dedication Grant Deed recorded in the Official Records on March 7, 1996 as Instrument No. 19960112329 ("**Former Dedication Grant Deed**"). Concurrently with the recordation of this Quitclaim Deed, the parties hereto have caused to be recorded a new dedication grant deed and easement grant deed relating to relocated facilities, which shall replace the Former Easement Grant Deed and Former Dedication Grant Deed in their entirety.

IN WITNESS WHEREOF, this Quitclaim Deed has been executed this ____ day of _____, 2013.

IRVINE RANCH WATER DISTRICT,
a California water district

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

ACKNOWLEDGMENT

State of California)
County of _____)

On _____, before me, _____
(insert name of notary)

Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument and acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing
paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

EXHIBIT 6

Approved Scope of Work by Design Professional

[See Attached]

PROPOSED SCOPE OF WORK

Based on Stantec's understanding of the project, we have prepared the following scope of work:

1. GENERAL COORDINATION AND PROJECT ADMINISTRATION

Kick-off Meetings

Stantec will lead the kickoff "brainstorming" meeting with LBA's representative and IRVD. We will discuss the performance of IRVD's existing sewage lift station to determine if any major revisions to the design concept are required. We will briefly review our proposed scope of work and schedule.

Coordination and Project Management

Stantec's Project Manager will execute the project by efficiently initiating the project and taking a proactive role, coordinating all aspects of the work plan and subconsultant activities, providing deliverables on schedule, facilitating communications with LBA, IRVD and other agencies as necessary, and providing advisory services as needed.

2. DESIGN TECHNICAL MEMORANDUM (DTM)

Site Visit

Stantec's design team will visit the site to observe the existing conditions and obtain additional information. We will also visit the University Lift Station as IRVD has stated that this station should be the IRVD example.

Selection of Pumping Equipment

Stantec will perform a hydraulic analysis of the proposed and existing reaches of the sewage force main to develop a system curve. Pump performance curves and characteristics will be evaluated in detail to minimize potential operational and maintenance issues. Stantec will develop system head curves based on the maximum and minimum total dynamic head (TDH) required based on the range of hydraulic conditions. The system head curves will be overlaid onto the pump curve from the hydraulic modeling, and a design point will be determined for each pump. As part of our pumping equipment analysis, Stantec will study the merits of the installation of variable frequency drives (VFDs) and soft starters at this lift station. Lastly, we will include a discussion of this analysis and provide a graph of the curves in the DTM.

Develop Preliminary Site Plan Showing Location of all Existing and Proposed Facilities

Based on the survey data provided by separate contract, Stantec will develop a preliminary site plan showing the proposed layout of the new wet well/dry well, MCC and generator building, gravity sewer, force main alignment and tie-ins. The site plan will be developed based on the actual size of the proposed equipment, appurtenance, and structures. The site plan will show all existing facilities and constraints. The University Lift Station will be used as the IRVD-preferred design concept.

Prepare Estimate of Probable Construction Cost

Stantec will prepare a preliminary engineer's estimate of probable construction cost based on the selected pumps and proposed site plan.

Prepare Design Technical Memorandum

Stantec will prepare a concise design technical memorandum to document the design criteria, minimum standards and specific requirements to be included in the final design and construction documents. The DTM will also include the preliminary site plan and the proposed pump curves overlaid on the system curve.

Two Workshops to Present DTM to IRWD and LBA

Stantec will attend two meetings to present the DTM and obtain input from the stakeholders. Stantec will obtain concurrence with the preliminary design from IRWD and LBA before commencing final design.

3. FINAL DESIGN

Stantec will develop the final design and provide submittals at the 50%, 90%, and Final design stages. Workshops will be held after each of the design submittals to discuss the design and receive comments from IRWD. All comments provided by IRWD will be tabulated and formally acknowledged or addressed in each subsequent submittal.

Construction Plans

Using the site specific geotechnical report prepared by a separate contract, Stantec will prepare construction plans for the relocation of the Michelson Park Place Lift Station. The plans will include the construction of the proposed lift station and the abandonment of the existing lift station. All drawings will be prepared using the latest version of AutoCAD and shall conform to IRWD standards. Table 1 provides a preliminary list of the required drawings.

TABLE 1: Preliminary Construction Plan Index

Sheet	Dwg.	Description
1	G1	Title Sheet
2	G2	Sheet Index, Location Map and Legend
3	G3	General Notes, Basis of Bearing and Benchmark
4	G4	Abbreviations and Construction Notes
5	C1	Site Plan
6	C2	Grading Plan
7	C4	Yard Piping
8	C5	Civil Details
9	C6	Civil Details
10	M1	Pump Room Plan & Motor Room Plan
11	M2	Pump Room Section
12	M3	Pump Room Section
13	M4	Mechanical Details
14	M5	Mechanical Details
15	V1	Ventilation Plan and Details
16	P1	Plumbing Plan
17	P2	Plumbing Details
18	D1	Demolition Plan
19	D2	Demolition Plan
20	A1	Roof & Floor Plan
21	A2	Elevations
22	A3	Miscellaneous Schedules and Elevations

23	A4	Miscellaneous Details
24	S1	Foundation Plan and Floor Plan
25	S2	Motor Room Plan and Roof Framing Plan
26	S3	Sections
27	S4	Sections
28	S5	Sections and Details
29	S6	Sections and Details
30	S7	Typical Details and Notes
31	S8	Typical Details
32	S9	Typical Details
33	S10	Typical Details
34	E1	Standard Symbols & Abbreviations
35	E2	Electrical Site Plan
36	E3	Single Line Diagrams/Elevations
37	E4	Lift Station Power and Signal Plan
38	E5	Lift Station Building Light Plan
39	E6	Control Diagram 1
40	E7	Control Diagram 2
41	E8	Fixture and Panelboard Schedules
42	E9	Conduit Schedule
43	E10	Electrical Details
44	I1	P&ID Standard Symbols and Abbreviations
45	I2	P&ID Pump Station
46	I3	P&ID Generator
47	I4	RTU Control Diagram 1
48	I5	RTU Control Diagram 2
49	I6	RTU Control Diagram 3
50	I7	RTU Control Diagram 4
51	I8	RTU Control Diagram 5
52	I9	RTU Layout Diagram
53	I10	System Architecture

Contract Documents

Stantec will prepare Special Provisions and Technical Specifications with the 90% and Final submittals. The Technical Specifications will adhere to IRWD's standard specifications as much as possible. For specifications sections not included in IRWD's standards, Stantec will prepare the specifications in CSI format.

Since the Special Provisions will provide work site conditions, Stantec will prepare the Special Provisions in coordination with LBA, IRWD and the City of Irvine.

Engineer's Estimate of Probable Construction Costs

Stantec will prepare an updated and more refined engineer's estimate of probable construction cost with the 50%, 90% and Final submittals.

Noise Study

Once the 50% submittal has been reviewed by IRWD, Stantec's subconsultant, Wieland Acoustics, will perform a noise study consisting of the following tasks:

- We will obtain and review all available plans and documents pertaining to the project. Such plans and documents include, but are not limited to, environmental reports, site plans, grading plans, topographical maps, mechanical plans, and architectural drawings.
- We will identify the City of Irvine's standards for the operation of the project as they apply to existing and future noise-sensitive properties in the vicinity of the proposed lift station site.
- We will perform a site inspection to identify the location and geometry of the project site relative to the existing and future land uses in the area and to identify appropriate measurement locations.
- We will obtain ambient noise level measurements at the location of existing and future sensitive properties in the vicinity of the proposed lift station site to identify the noise sources and noise levels.
- We will compile and inventory the relevant mechanical characteristics of each equipment item to be used at the proposed lift station by reviewing the architectural and mechanical drawings, and equipment specifications.
- We will obtain 1/3-octave band noise measurements of similar equipment items at existing IRVD facilities in order to characterize the individual sources associated with the project.
- We will establish the sound power levels for each equipment item to be used at the proposed lift station by examination of the manufacturer's data, analysis of the equipment specifications, and/or actual measurements of similar equipment. Where there is a conflict between the manufacturer's noise data and the measured noise levels obtained of existing IRVD equipment, the higher noise level will be used in the analysis to provide a worst case design.
- We will work with the design team to develop a typical operating scenario for the project.
- We will construct a 3-D computer model to analyze and assess the impact of the noise levels that will be experienced at the nearby sensitive properties during typical project operation. This model will take into consideration the design of the lift station and any acoustical treatments (e.g., louvers, panels, barriers, etc.) that have been included in its design. The output of the computer model will be in the form of tabulated noise levels and noise contour maps. Only one design will be analyzed. Note: Noise generated by maintenance and construction activities will not be addressed in this study.
- We will assess the impact of the operational noise levels relative to the City's noise requirements.
- If significant impacts are assessed, the computer model described above will be revised to incorporate alternative mitigation measures, re-run as needed to produce a design that reduces the operational noise to a level that complies with the City's standards. The alternative mitigation measures to be considered in the analysis include, but are not limited to, building design, enclosures, baffles, barriers, lagging, silencers, etc.
- Based on the findings of the previous task, we will provide recommendations for the most viable noise control measures. This will include identifying specific hardware items, enclosure design requirements, noise barrier requirements, etc.
- We will prepare a draft report of findings that identifies the noise standards, estimated noise levels, impacts, and recommendations, and submit it to IRVD for review and comment.

- We will prepare a final report in which IRWD's comments and concerns are addressed.

Process Notice of Exemption

Stantec's subconsultant, CAA Planning (CAA), will prepare a Notice of Exemption (NOE) in compliance with the California Environmental Quality Act (CEQA) for the lift station relocation project. CAA will prepare the NOE and secure document signatures from IRWD. CAA will file and post the NOE with the Orange County Clerk-Recorder. Lastly, CAA will notify the State Clearing House.

Final Design Phase Project Meetings (10)

Stantec will lead meetings with IRWD and LBA for each design submittal, including the 50%, 90% and Final submittals. At the preview submittal meetings, Stantec will walk IRWD through the contents of the submittal providing explanations or clarifications for specific areas where IRWD's input or decision is to be made before moving on to the next phase. After IRWD's review, Stantec will attend a review meeting for them to explain their comments.

In addition, Stantec will attend approximately four (4) other project meetings to provide project updates, to investigate specific technical issues, such as ozone, or to discuss other project issues.

4. BID PHASE ASSISTANCE

Stantec shall provide bid phase assistance to LBA during the bidding of the project. Stantec services include:

- Answer Bidder Questions
- Preparation of Addenda
- Attend pre-bid meeting
- Review bids

5. ENGINEERING SERVICES DURING CONSTRUCTION

Stantec shall provide the following engineering services during construction:

- Attend Pre-Construction Conference
- Attend Field Meetings (as requested)
- Attend site visits (as requested)
- Respond to RFIs and RFCs (assume 20)
- Review shop drawings (assume 60 with 25 requiring resubmittals)
- Review change order requests (assume 4)
- Start-up assistance
- Assist Contractor during abandonment and demolition of the old lift station site (as requested)

Stantec shall provide the following engineering services after construction:

- Prepare Record Drawings

➤ Post-Construction Noise Monitoring

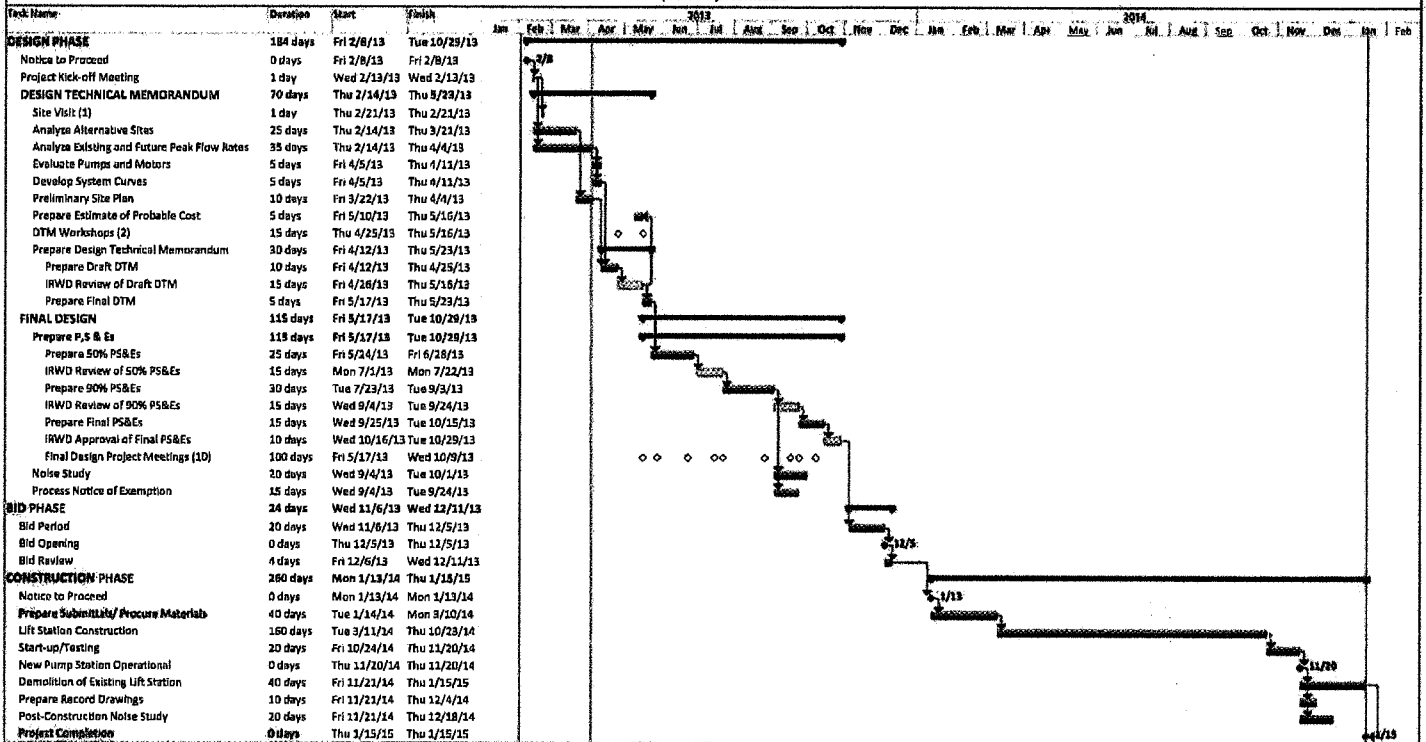
Wieland Acoustics will obtain measurements at the locations of existing and future noise-sensitive properties to confirm that the project complies with the City of Irvine noise ordinance standards. These measurements will be obtained after the Michelson Lift Station has been completed and is fully operational. A report of findings will be submitted to IRWD.

EXHIBIT 7

Approved Schedule

[See Attached]

LBA
Michelson Park Place Lift Station Relocation Project
Proposed Project Schedule




Project: Park_Place_Schedule_20 Date: Thu 4/4/13	Task	Summary	External Milestone	Inactive Summary	Manual Summary Setting	Finish-only
	Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Deadline
	Milestone	External Task	Inactive Milestone	Duration only	Start-only	Progress

June 24, 2013

Prepared by: H. Cho/M. Cortez

Submitted by: K. Burton

Approved by: Paul Cook 

ACTION CALENDAR

VAULT AND VAULT LID REPLACEMENT CONSTRUCTION AWARD

SUMMARY:

The Vault and Vault Lid Replacement Project will replace broken or heavy, unhinged vault lids at four valve vault sites and will replace three small valve and meter vaults with larger vaults throughout the IRWD service area. Staff recommends that the Board:

- Authorize a budget increase in the amount of \$188,100 for Project 11358;
- Approve an Expenditure Authorization in the amount of \$331,100 for Project 11358; and
- Authorize the General Manager to execute a construction contract with Paulus Engineering, Inc. in the amount of \$211,575 for the Vault and Vault Lid Replacement.

BACKGROUND:

Staff identified four vault lids that either have broken due to traffic running over them or are heavy and unhinged requiring a boom truck to lift the vault lids. These vault sites are located on Farwell Avenue, Gurley Street, Harvard Avenue and Barranca Parkway, and Culver Drive and Settlers in the City of Irvine. These vault lids will either be replaced with another traffic rated hinged vault lid or a manhole cover. Additionally, staff identified three valve and meter vaults that are too small for maintenance crews to safely work. These vault sites include the valve and meter vaults at the IRWD/Trabuco Canyon Water District interconnection on Santiago Canyon Road and the pressure relief valve vault on Silverado Canyon Road and Hazel Bell. These vaults will be replaced with larger four foot by six foot vaults. The locations of all seven vaults are shown in Exhibit "A".

Due to the location of these sites in the street right-of-way and the need to replace entire vaults with larger vaults, a design engineer was required to prepare design plans and specifications. This design project was awarded to ARCADIS-USA who completed the design plans and project manual in May 2013. The project went out to construction bid to a select bidders list of 16 contractors. On June 6, 2013, the bid opening was held with three contractors submitting bids. Paulus Engineering, Inc. was the apparent low bidder with a total construction bid amount of \$211,575. The engineer's estimate was \$240,000. Paulus Engineering, Inc. has worked on many construction projects for the District which were completed on time and within budget. The bid summary is attached as Exhibit "B".

FISCAL IMPACTS:

Project 11358 (1800) is included in the FY 2013-14 Capital Budget. The existing budget amount and Expenditure Authorizations were used to fund a previous vault lid replacement in FY 2012-13. Staff requests a budget increase and an Expenditure Authorization to fund the construction project as shown in the following table and in Exhibit "C".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11358 (1800)	\$297,600	\$188,100	\$485,700	\$154,600	\$331,100	\$485,700

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exemption for the project was filed on May 23, 2013.

COMMITTEE STATUS:

Construction awards are not routinely taken to Committee prior to submittal for Board approval.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE IN THE AMOUNT OF \$188,100, FROM \$297,600 TO \$485,700, FOR PROJECT 11358 (1800); APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$331,100 FOR PROJECT 11358 (1800); AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH PAULUS ENGINEERING, INC. IN THE AMOUNT OF \$211,575 FOR THE VAULT AND VAULT LID REPLACEMENT, PROJECT 11358 (1800).

LIST OF EXHIBITS:

- Exhibit "A" – Location Map
- Exhibit "B" – Bid Summary
- Exhibit "C" – Expenditure Authorization

EXHIBIT "A" Vault Lids Replacement Design Project

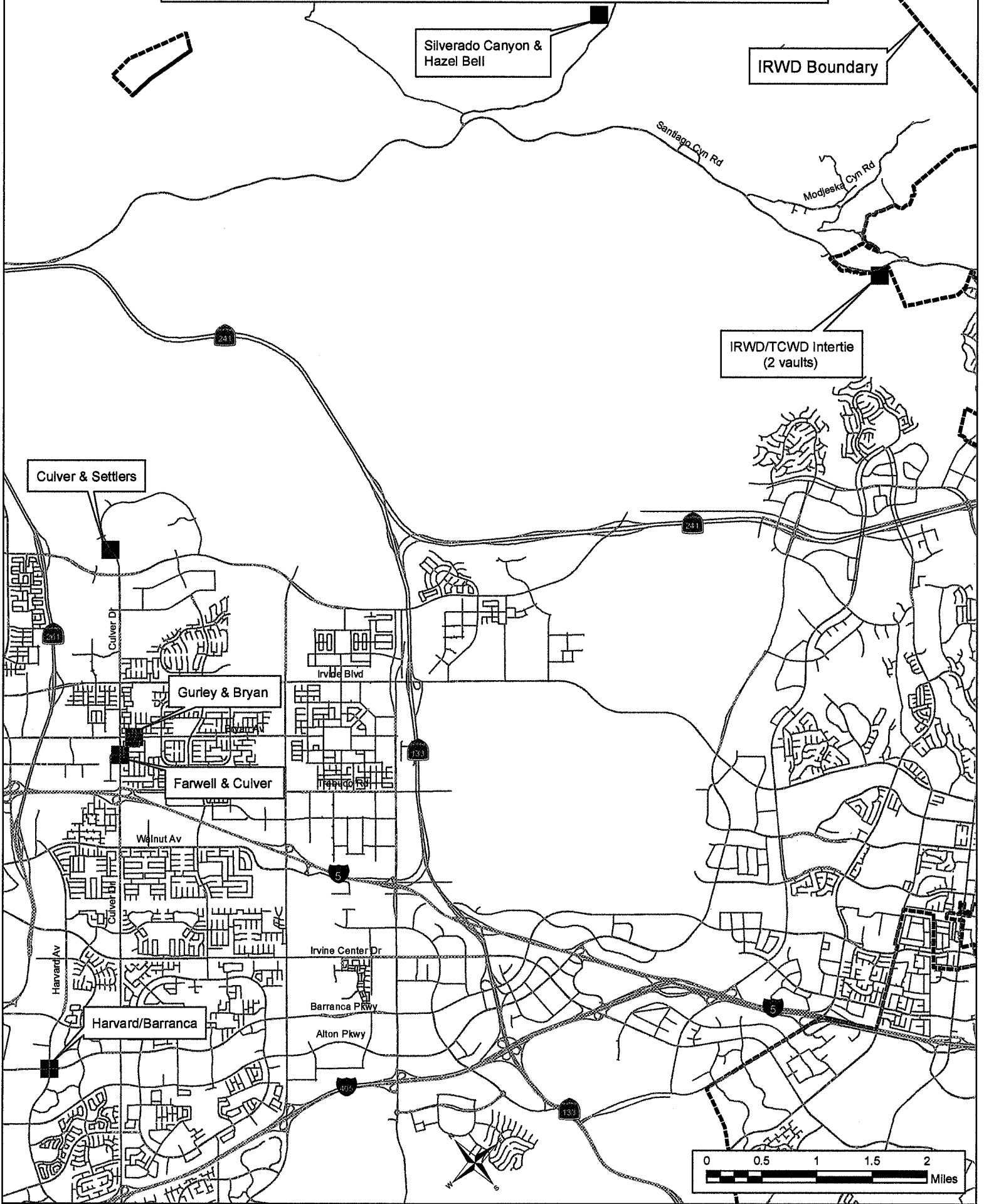


EXHIBIT "B"

Bid Opening: Thursday, June 6, 2013 @ 2:00 p.m.

Irvine Ranch Water District Bid Summary For
Valve Vault and Vault Lid Replacement Project
PR 11358 (1800)

Entered By: J.K. Irey

		Engineer's Estimate			1 Paulus Engineering Anaheim, CA		2 GCI Construction, Inc. Costa Mesa, CA		3 CCL Contracting, Inc. Escondido, CA		
Item No.	Description	Qty	Unit	Unit	Total	Unit	Total	Unit	Total	Unit	Total
				Price	Amount	Price	Amount	Price	Amount	Price	Amount
1	Mobilization, demobilization, and cleanup	1	LS	\$8,000.00	\$8,000.00	\$8,000.00	\$8,000.00	\$25,000.00	\$25,000.00	\$40,000.00	\$40,000.00
2	Remove and replace vault lid at 13501 Gurley Street in Irvine	1	LS	\$30,000.00	\$30,000.00	\$24,000.00	\$24,000.00	\$20,000.00	\$20,000.00	\$36,000.00	\$36,000.00
3	Remove and replace vault lid at 4000 Farwell Avenue in Irvine	1	LS	\$30,000.00	\$30,000.00	\$24,000.00	\$24,000.00	\$20,000.00	\$20,000.00	\$36,000.00	\$36,000.00
4	Remove and replace vault lid at 16392 Harvard Avenue in Irvine	1	LS	\$20,000.00	\$20,000.00	\$23,700.00	\$23,700.00	\$28,000.00	\$28,000.00	\$27,000.00	\$27,000.00
5	Remove and replace vault lid at 17800 Santiago Canyon Road in Silverado	1	LS	\$101,000.00	\$101,000.00	\$76,000.00	\$76,000.00	\$64,000.00	\$64,000.00	\$108,000.00	\$108,000.00
6	Remove and replace vault lid at 11555 Culver Drive in Irvine	1	LS	\$20,000.00	\$20,000.00	\$17,275.00	\$17,275.00	\$23,000.00	\$23,000.00	\$22,000.00	\$22,000.00
7	Remove and replace vault lid at 29391 Silverado Canyon Road in Silverado	1	LS	\$28,000.00	\$28,000.00	\$35,600.00	\$35,600.00	\$40,500.00	\$40,500.00	\$42,000.00	\$42,000.00
8	Record Drawings	1	LS	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
	Subtotal				\$240,000.00		\$211,575.00		\$223,500.00		\$314,000.00
	Adjustment (+ or -)				\$0.00		\$0.00		\$0.00		\$0.00
	TOTAL AMOUNT OF BID				\$240,000.00		\$211,575.00		\$223,500.00		\$314,000.00
						Item Delivery Dates:	Item Delivery Dates:	Item Delivery Dates:			
						Vault Lids: 35 days	Vault Lids: 8-12 weeks	Vault Lids: 6 weeks			
						Valve Vaults: 35 days	Valve Vaults: 8-12 weeks	Valve Vaults: 6 weeks			
						Manufacturers:	Manufacturers:	Manufacturers:			
						Vault Lids: USF	Vault Lids: J&R Concrete	Vault Lids: USF			
						Valve Vaults: J&R Concrete	Valve Vaults: J&R Concrete	Valve Vaults: USF			
						Subcontractors:	Subcontractors:	Subcontractors:			
						None Listed	Electrical: Smithson Electric	None Listed			
							AC Grind/Cap: Hardy & Harper				

IRVINE RANCH WATER DISTRICT Exhibit "C"

Expenditure Authorization

Project Name: DOMESTIC VAULT LID REHABILITATION
 EPMS Project No: 11358 EA No: 2
 Oracle Project No: 1800
 Project Manager: CORTEZ, MALCOLM
 Project Engineer: CHO, HARRY
 Request Date: June 12, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations

ID No. Allocation % Source of Funds

101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$154,600
This Request:	\$331,100
Total EA Requests:	\$485,700
Previously Approved Budget:	\$297,600
Budget Adjustment Requested this EA:	\$188,100
Updated Budget:	\$485,700
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	2,000	25,000	27,000	2,000	25,000	27,000	7/11	2/13
ENGINEERING DESIGN - OUTSIDE	32,000	45,000	77,000	32,000	45,000	77,000	7/11	2/13
DESIGN STAFF FIELD SUPPORT	(4,000)	5,000	1,000	(4,000)	5,000	1,000	7/11	2/13
ENGINEERING - CA&I IRWD	15,000	10,000	25,000	15,000	10,000	25,000	3/12	6/14
ENGINEERING - CA&I OUTSIDE	10,000	10,000	20,000	0	20,000	20,000	3/12	6/14
CONSTRUCTION FIELD SUPPORT	0	5,000	5,000	0	5,000	5,000	3/12	6/14
CONSTRUCTION	246,000	40,000	286,000	126,000	160,000	286,000	3/12	6/14
LEGAL	0	500	500	0	500	500	7/11	6/14
Contingency - 10.00% Subtotal	\$30,100	\$14,100	\$44,200	\$17,100	\$27,100	\$44,200		
Subtotal (Direct Costs)	\$331,100	\$154,600	\$485,700	\$188,100	\$297,600	\$485,700		
Estimated G/A - 170.00% of direct labor*	\$17,600	\$81,000	\$98,600	\$22,100	\$76,500	\$98,600		
Total	\$348,700	\$235,600	\$584,300	\$210,200	\$374,100	\$584,300		
Direct Labor	\$13,000	\$45,000	\$58,000	\$13,000	\$45,000	\$58,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.


EA Originator: Harry Cho 6/14/13
 Department Director: Kevin L. Burt 6/14/13
 Finance: Adam Hansen 6/17/13
 Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$596,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

June 24, 2013

Prepared by: J. McGehee/R. Mori

Submitted by: K. Burton

Approved by: Paul Cook 

ACTION CALENDAR

ORANGE PARK ACRES RESERVOIR DEMOLITION CONSTRUCTION AWARD

SUMMARY:

The Orange Park Acres (OPA) Reservoir Demolition Project will demolish and remove an existing one million gallon reservoir located on Calle Grande in the City of Orange. Staff recommends that the Board:

- Authorize a budget increase in the amount \$112,200, from \$275,000 to \$387,200 for the OPA Reservoir Demolition Project;
- Approve an Expenditure Authorization in the amount of \$387,200 for the Orange Park Acres Reservoir Demolition Project; and
- Authorize the General Manager to execute a construction contract with Schuler Engineering, Inc. in the amount of \$255,121 for the Orange Park Acres Reservoir Demolition Project.

BACKGROUND:

The project is located within the boundaries of the City of Orange on Calle Grande near Chapman Avenue. When this area was served by the former Orange Park Acres Mutual Water Company (OPAMWC), this area was supplied domestic water by a groundwater well on Gravier and a connection with the East Orange County Water District (EOCWD). After the area served by the OPAMWD was annexed into the IRWD service area, several infrastructure improvement projects were implemented to improve the reliability of the domestic water system. One of the significant infrastructure improvement projects was the OPA Domestic Water Transmission Main Project, which consisted of over 24,000 feet of pipeline installation, pressure reducing facilities, and general system improvements.

After completion of the OPA Transmission Main Project in October 2012, the one million gallon reservoir on Calle Grande was taken off-line and rendered obsolete as this area can be supplied with domestic water from the IRWD Zone 5 Santiago reservoir and a local groundwater well (OPA-1). The reservoir demolition project includes demolition and removal of the 134-foot diameter reinforced concrete reservoir, the EOCWD turnout, and all above and below grade appurtenances. The area will be backfilled and graded to facilitate future sale of the property. A Location Map is included as Exhibit "A".

Construction Award:

The project was advertised April 25, 2013 to a select list of nine contractors including Chino Grading, Gateway Pacific Contractors, Harbor Companies, Kennedy Pipeline Company, Leatherwood Construction, Pacific Hydrotech, Schuler Engineering, SS Mechanical, and Sukut

Construction. The bid opening was held May 21, 2013 with bids received from Leatherwood Construction and Schuler Engineering. Schuler was the apparent low bidder with a bid amount of \$255,121. Staff has reviewed Schuler's bid and has determined that the bid is responsive. Schuler has performed well on other District projects including the recently completed Bee Canyon Pump Station Relocation Project. The engineer's estimate, prepared by Stantec, was \$223,000. The Bid Summary is attached as Exhibit "B".

FISCAL IMPACTS:

Project 11416 (1337) is included in the FY 2012-13 Capital Budget. A budget increase and Expenditure Authorization to fund the construction and engineering support services are requested as shown in the table below and in Exhibit "C".

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11416 (1337)	\$275,000	\$112,200	\$387,200	\$0	\$387,200	\$387,200

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, a Mitigated Negative Declaration was adopted on August 9, 2010.

COMMITTEE STATUS:

Construction awards are not routinely taken to Committee prior to submittal to the Board.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE OF \$112,200, FROM \$275,000 TO \$387,200 FOR PROJECT 11416 (1337); APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$387,200 FOR PROJECT 11416 (1337); AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH SCHULER ENGINEERING, INC. IN THE AMOUNT OF \$255,121 FOR THE ORANGE PARK ACRES RESERVOIR DEMOLITION, PROJECT 11416 (1337).

LIST OF EXHIBITS:

- Exhibit "A" – Location Map
- Exhibit "B" – Bid Summary
- Exhibit "C" – Expenditure Authorization

EXHIBIT "A"



OPA Reservoir Demolition Project

EXHIBIT "B"

Bid Opening: May 21, 2013 @ 2:00 p.m.

Irvine Ranch Water District Bid Summary For
Orange Park Acres Reservoir Demolition
PR 11416 (1337)

Entered By: J.K. Irey

Item No.	Description	Qty	Unit	Engineer's Estimate		1 Schuler Engineering Corp. Corona, CA		2 Leatherwood Construction Fountain Valley, CA	
				Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
Schedule A									
1	Mobilization, demobilization & misc. work	1	LS	\$20,000.00	\$20,000.00	\$18,000.00	\$18,000.00	\$25,000.00	\$25,000.00
2	Traffic Control	1	LS	\$10,000.00	\$10,000.00	\$9,500.00	\$9,500.00	\$1,000.00	\$1,000.00
3	Demolition and removal, reservoir	1	LS	\$98,100.00	\$98,100.00	\$107,000.00	\$107,000.00	\$221,000.00	\$221,000.00
4	Remove and salvage IRWD appurtenances	1	LS	\$5,000.00	\$5,000.00	\$350.00	\$350.00	\$1,500.00	\$1,500.00
5	Earthwork, incl. hauling and fencing	1	LS	\$54,000.00	\$54,000.00	\$73,511.00	\$73,511.00	\$125,000.00	\$125,000.00
6	12-inch PVC Sch 80	285	LF	\$40.00	\$11,400.00	\$91.00	\$25,935.00	\$120.00	\$34,200.00
7	Post and chain gate	1	LS	\$2,500.00	\$2,500.00	\$1,600.00	\$1,600.00	\$3,000.00	\$3,000.00
8	Safety measures	1	LS	\$5,000.00	\$5,000.00	\$2,500.00	\$2,500.00	\$1,000.00	\$1,000.00
9	Temporary erosion control	1	LS	\$2,500.00	\$2,500.00	\$1,800.00	\$1,800.00	\$5,000.00	\$5,000.00
10	NPDES permit compliance	1	LS	\$0.00	\$0.00	\$625.00	\$625.00	\$0.00	\$0.00
11	Permit Allowance	1	LS	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
12	Final record drawings	1	LS	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Subtotal, Base Bid Items 1 thru 12					\$214,500.00		\$246,821.00		\$422,700.00
Schedule B									
1	Demolition and removal, EOCWD items	1	LS	\$6,500.00	\$6,500.00	\$2,800.00	\$2,800.00	\$17,000.00	\$17,000.00
2	Remove and salvage EOCWD appurtenances	1	LS	\$2,000.00	\$2,000.00	\$5,500.00	\$5,500.00	\$6,500.00	\$6,500.00
Subtotal, Base Bid Items 1 thru 2					\$8,500.00		\$8,300.00		\$23,500.00
Adjustment (+ or -)					\$0.00		\$0.00		-\$10,000.00
Total Amount of Bid					\$223,000.00		\$255,121.00		\$436,200.00
						<u>Item Delivery Dates:</u>		<u>Item Delivery Dates:</u>	
						PVC Pipe: 30 days		PVC Pipe: 14 days	
						<u>Manufacturers:</u>		<u>Manufacturers:</u>	
						None Stated		PCV Pipe: S&J/Pacific Plastics	
						<u>Subcontractors:</u>		<u>Subcontractors:</u>	
						Demolition: Kriley Exca-Breuk		Hydroseed: Marina Landscape	

IRVINE RANCH WATER DISTRI

Expenditure Authorization

Exhibit "C"

Project Name: OPA RESERVOIR DEMOLITION
 EPMS Project No: 11416 EA No: 1
 Oracle Project No: 1337
 Project Manager: MORI, RICHARD
 Project Engineer: MCGEHEE, JOSEPH
 Request Date: June 3, 2013

ID Split: Miscellaneous

Improvement District (ID) Allocations
ID No. Allocation % Source of Funds

101	100.0	REPLACEMENT FUND**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$387,200
Total EA Requests:	\$387,200
Previously Approved Budget:	\$275,000
Budget Adjustment Requested this EA:	\$112,200
Updated Budget:	\$387,200
Budget Remaining After This EA	\$0

Comments: Per OPA Agreement Section 4.8.2.9

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - CA&I IRWD	10,000	0	10,000	10,000	0	10,000	2/13	8/13
ENGINEERING - CA&I OUTSIDE	15,000	0	15,000	15,000	0	15,000	2/13	8/13
CONSTRUCTION FIELD SUPPORT	2,000	0	2,000	2,000	0	2,000	2/13	8/13
CONSTRUCTION	325,000	0	325,000	75,000	250,000	325,000	2/13	8/13
Contingency - 10.00% Subtotal	\$35,200	\$0	\$35,200	\$10,200	\$25,000	\$35,200		
Subtotal (Direct Costs)	\$387,200	\$0	\$387,200	\$112,200	\$275,000	\$387,200		
Estimated G/A - 180.00% of direct labor*	\$21,600	\$0	\$21,600	\$21,600	\$0	\$21,600		
Total	\$408,800	\$0	\$408,800	\$133,800	\$275,000	\$408,800		
Direct Labor	\$12,000	\$0	\$12,000	\$12,000	\$0	\$12,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator: RKM [Signature] 6/4/13
 Department Director: [Signature] 6/4/13
 Finance: [Signature]
 Board/General Manager: _____

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$417,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

086
June 24, 2013

Prepared by: E. Akiyoshi *EA* M. Hoolihan *MH*

Submitted by: K. Burton *KB*

Approved by: Paul Cook *PC*

ACTION CALENDAR

NON-POTABLE WATER SYSTEM HYDRAULIC MODEL CONSULTANT SELECTION

SUMMARY:

The 2013 Non-Potable Water System Hydraulic Model project will provide an important tool to more efficiently plan, manage, and operate the District's non-potable water distribution system. Staff evaluated proposals submitted by five consultants, and interviewed three consultants, for developing the hydraulic model and recommends that the Board:

- Approve an Expenditure Authorization in the amount of \$467,500 for Project 31384;
- Authorize the General Manager to execute a Professional Services Agreement with AKM Consulting Engineers, in the amount of \$299,640, for development of the hydraulic model.

BACKGROUND:

In the late 1990s the District developed a static hydraulic computer model. This model was an effective tool, but was developed primarily to support the preparation of the 1999 Water Resources Master Plan and to facilitate future development within IRWD.

The current model project will support future development, as well as allow IRWD to simulate different operating scenarios to improve efficiencies in the system operation. Current technology allows for Extended Period Simulations (EPS) to be developed and calibrated that will model system operations for various time periods including 24-hour simulations to verify pump station and tank operations to yearly simulations to optimize supply and seasonal storage operations. The proposed project consists of developing a District-wide EPS non-potable water system hydraulic model. Major components of the project include a calibrated, extended period simulation, existing system model and an "ultimate" (in 2035) system model. The model will include operating scenarios for peak summer demand operations and low winter demand operations during seasonal storage fill periods.

The hydraulic model will be used to more efficiently plan, manage, and operate the District's non-potable water infrastructure. Some of the uses include:

- Evaluating existing hydraulic capabilities of the District's distribution system and assist in optimizing operations;
- Providing solutions to operational challenges such as high and low pressures in peak and low demand periods;
- Optimizing water supply project infrastructure delivering new water supply projects to the distribution system;
- Analyzing impacts of future development (or redevelopment) on regional facilities; and

- In the future, the model can also be used to identify opportunities for energy savings through operational adjustments and perform water quality analysis as required.

Consultant Selection:

In May 2013, a Request for Proposal was issued to six consulting firms: AKM, Brown & Caldwell, Dudek and Associates, HDR, Inc., Carollo, and Stantec. Proposals were received from the following consultants: AKM, Brown & Caldwell, HDR, Carollo, and Stantec. Dudek cited workload issues as the reason for not submitting a proposal. The proposals were reviewed and ranked based on project understanding, technical approach, project team qualifications and experience, with the intent of interviewing the top two or three ranked consultants. The Consultant Evaluation Matrix is attached as Exhibit "A".

Based on the proposal evaluations, AKM, Carollo, and Stantec were selected for interviews. All three teams were given an opportunity to present its approach for model development, model calibration, and working with and training District staff on model usage. Staff recommends that the project be awarded to AKM for the following reasons:

- *Demonstrated understanding of the District's system and the project:* AKM demonstrated that they spent the time necessary during the proposal preparation period to develop a high degree of understanding of the District's non-potable water distribution system. AKM read a number of previously prepared sub-area master plans (SAMPs) and other planning documents in preparing its proposal and demonstrated a high degree of understanding of IRWD's non-potable water system and many of the District's upcoming challenges, including integration of the Syphon Reservoir and plans for the future expansion of the recycle water system.
- *Local Presence:* AKM's office and the entire project team are located within five miles of the District's office. The close proximity of their office will both support the partnering requirements and the many meetings anticipated by staff for coordination of the project. AKM's project managers, Zeki Kayiran and Diane Pay, demonstrated during both the proposal development and the interview that the project team is committed to the success of the project. Staff believes that AKM's man-hour estimates, which are over 600 hours more than the other two teams interviewed, are appropriate for the level of effort anticipated on this project.
- *Collaboration, training, and data collection:* The approach to collaboration, training, and data collection fit well with the needs and culture of the District and demonstrated how this can be accomplished with minimal impacts to the project schedule and budget. AKM suggested using training methods they currently employ in training their staff. Additionally, they demonstrated an understanding of the level of effort and interactions required to effectively train District staff. This approach has proven effective and beneficial to multiple IRWD departments on the previous hydraulic modeling project (e.g. the Potable Hydraulic Model Development project).

AKM's scope of work and fee are attached as Exhibit "B." The flow and pressure monitoring equipment required for the project will be directly procured by IRWD and the installation will be coordinated with the selected consultant.

FISCAL IMPACTS:

Project 31384 (1106) is included in the FY 2012-13 Capital Budget. An Expenditure Authorization is requested as shown in the table below and in Exhibit "C":

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
31384 (1106)	\$467,500	-0-	\$467,500	\$0	\$467,500	\$467,500

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15262 which provides exemption for planning studies.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD APPROVE AN EXPENDITURE AUTHORIZATION IN THE AMOUNT OF \$467,500 FOR PROJECT 31384 (1106) AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH AKM CONSULTING ENGINEERS, IN THE AMOUNT OF \$299,640, FOR DEVELOPMENT OF THE NON-POTABLE WATER SYSTEM HYDRAULIC MODEL, PROJECT 31384 (1106).

LIST OF EXHIBITS:

- Exhibit "A" – Consultant Evaluation Matrix
- Exhibit "B" – Scope of Work
- Exhibit "C" – Expenditure Authorization

EXHIBIT "A"

**CONSULTANT EVALUATION MATRIX
NON-POTABLE WATER SYSTEM HYDRAULIC MODEL**

Item	Description	Weights	AKM CONSULTING	STANTEC	CAROLLO	BROWN & CALDWELL	HDR					
A	TECHNICAL APPROACH	50%										
1	Overall Project Understanding	15%	3	1	4	2	5					
2	Model Development & Documentation	20%	2	3	1	4	5					
3	Calibration & Diurnal Curves	30%	2	3	1	4	5					
4	Analysis, Model Runs, and Report	15%	1	2	3	4	5					
5	Level of Effort	10%	1	5	3	4	2					
6	Partnering/Training	10%	1	2	5	3	4					
	Weighted Score (Technical Approach)		1.80	2.65	2.35	3.60	4.60					
B	QUALIFICATIONS AND EXPERIENCE	50%										
1	Project Manager/ Deputy Project Manager	30%	3	1	2	4	5					
			Zeki Kayiran, PE, MS, 38 yrs Exp	Robert Reid, PE, MBA, 24 yrs Exp	Inge Wiersema, PE, MS, 18 yrs Exp	Mike Savage, PE, MS, 39 yrs Exp Melissa Ingalebe, PE, MS, 15 yrs Exp	Jeroen Olthof, PE, MS, 17 yrs Exp					
2	Project Engineer/ Modeler/ Partner	30%	1	3	2	4	5					
			Diann Pay, PE, MS, 16 yrs Exp Jon Nitta, PE, BS, 12 yrs Exp	Jeff Dunn, PE, BS, 18 yrs Exp Dave Kershaw, PE, MS, 15 yrs Exp	Brian Brenhaug, PE, BS, 8 yrs Exp Bijan Sadeghi, PE, MS, 8 yrs Exp	S.Liechty, PE, MS, 26 yrs Exp A.Pirijanyan, PE, BS, 10 yrs Exp	Ricardo Vivas, PE, MBA, 24 yrs Exp Joel Engleson, Resume					
3	Locality of Project Team	15%	1	3	2	4	5					
4	Project Team Experience	20%	2	3	1	4	5					
5	Firm's Relevant Experience	5%	2	3	1	4	5					
	Weighted Score (Experience)		1.85	2.40	1.75	4.00	5.00					
	COMBINED WEIGHTED SCORE		1.83	2.53	2.05	3.80	4.80					
	Ranking of Consultants		1	3	2	4	5					
C	SCOPE OF WORK											
TASK			Task Hours	FEE	Task Hours	FEE	Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Project Management/ Meetings & Coordination		56	\$10,040	54	\$9,644	282	\$59,061	316	\$62,742	138	\$24,300
2	Partnering		32	\$4,800	80	\$12,848	40	\$6,808	54	\$8,017	80	\$13,100
3	Data Collection & Review		72	\$10,720	73	\$9,534	42	\$6,219	56	\$7,174	138	\$23,000
4	Documentation of Critical Facilities Attributes & Controls		88	\$12,460	73	\$10,218	156	\$25,257	136	\$15,550	108	\$16,800
5	Develop Hydraulic Model of Existing System		248	\$33,520	240	\$34,952	90	\$12,081	179	\$23,030	296	\$40,900
6	Development of Diurnal Curves		468	\$54,220	74	\$10,700	90	\$14,849	475	\$67,160	196	\$25,400
7	Allocation of System Demands		208	\$28,520	122	\$18,736	35	\$5,236	60	\$7,705	68	\$9,000
8	Model Calibration		288	\$36,120	108	\$16,818	164	\$26,340	422	\$53,660	208	\$30,600
9	Existing System Analysis		64	\$9,320	74	\$11,806	126	\$26,193	278	\$38,202	60	\$8,800
10	Develop Hydraulic Model of Future System		80	\$11,720	92	\$12,024	112	\$16,838	149	\$16,501	144	\$22,000
11	Future System Analysis		84	\$11,820	72	\$11,306	98	\$16,119	232	\$31,667	80	\$10,800
12	Operational Analysis of Possible System Modifications		332	\$48,520	172	\$26,190	136	\$22,291	108	\$14,175	136	\$20,000
13	Water Resources Master Plan Update		84	\$12,460	104	\$18,418	64	\$10,257	299	\$37,992	106	\$15,100
14	Training/Deliverables		120	\$15,400	122	\$18,394	162	\$27,241	94	\$12,561	241	\$48,500
	TOTAL ENGINEERING SERVICES, FEE (Does Not Include Optional Items)		2,224	\$299,640	1,460	\$221,588	1,587	\$274,790	2,868	\$398,136	1,999	\$308,300
15	Optional Items (Equipment Cost)			\$146,342		\$483,566		\$50,545		\$178,158		\$112,650
		Avg \$/hr		\$135		\$152		\$172		\$139		\$154
D	OTHER											
	Miscellaneous Items											
	Multiplier		2.54		-		3.25		3		3.08	

EXHIBIT "B"



AKM Consulting Engineers

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Water
Resources

Infrastructure

Construction
Management

June 14, 2013

Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618

Attention: Mr. Michael J. Hoolihan, P.E., Principal Engineer
Master Planning and Technical Services

Subject: Proposal for Non-Potable Water System Hydraulic Model

Dear Mr. Hoolihan:

In response to your request for proposal dated April 17, 2013 and Addendum 1 dated May 9, 2013, AKM Consulting Engineers is pleased to submit this proposal to provide engineering services for the development of a calibrated existing non-potable water system hydraulic model, and a hydraulic model of the ultimate system.

Based upon our review of the scope of work, the April 24, 2013 pre-proposal meeting, discussions with Irvine Ranch Water District (IRWD) staff, review of information that was made available, and our experience with similar projects, we have assembled a Project Team with extensive experience and expertise in preparing well calibrated hydraulic models to undertake this project and complete it within a reasonable schedule.

The proposed project team will be under the direction of **Mr. Zeki Kayiran, P.E.** who has over 40 years of water resources engineering and management expertise. He has been responsible for the completion of 32 water and recycled/non-potable water master plans. **Ms. Diann Pay, P.E.**, who has 17 years of water resources engineering experience with AKM, and has been responsible for successful completion of seventeen (17) water and six (6) recycled water master plans, will be the Project Engineer. **Mr. John Loague, P.E.**, an AKM Principal with 28 years of responsible water resources engineering experience, will serve as QA/QC Manager. **Mr. Jon Nitta, P.E.**, an Associate with AKM for eleven (11) years, and **Ms. Serpil Kara, E.I.T.**, an Associate Engineer with AKM for nine (9) years, will be responsible for hydraulic modeling and analysis. Mr. Nitta and Ms. Kara have extensive working knowledge of the InfoWater software, having prepared and updated the water system models for the West Basin Municipal Water District, and the Cities of Monterey Park, Seal Beach, Ontario, Port Hueneme, Manhattan Beach, Whittier, Arcadia, San Clemente, Corona, San Juan Capistrano, Glendora, Inglewood, and El Segundo. **Mr. Steve Patterson**, a Construction Manager/Inspector with AKM for five (5) years, has over 21 years of water, recycled water, and wastewater infrastructure construction, operation, maintenance and design experience. He will be an integral part of the field data collection effort, including installation of flow measuring devices at selected meters, working with IRWD staff at permit required meter locations, installation and retrieval of pressure data loggers, equipment

maintenance, and downloading the data for use by staff in model calibration. He will also be responsible for field flow testing, if deemed necessary.

This project team has been responsible for the successful development of numerous comprehensive **calibrated domestic water and non-potable water system models and master plans** for a number of municipal and special district agencies in Southern California. These include the West Basin Municipal Water District (10 models – 2009), Cities of Monterey Park (2012), Ontario (2012; *Recycled Water Model 2012*), Seal Beach (2003, 2012 Update), Port Hueneme (2011), Manhattan Beach (2010), Corona (Water 2005 and *Recycled Water 2010*), Arcadia (2001, 2008 Update), Whittier (2008), San Clemente (1994, 2006 Update; *Recycled Water 1995, 2007 Update*), San Juan Capistrano (1999, 2004 Update; *Non-domestic Water 2000, 2006 Update*), Glendora (1994, 2004 Update), Inglewood (2004), El Segundo (2005), Torrance (1994) and Tustin (1991); as well as South Montebello Irrigation District (1998), Montebello Land and Water Company (1996), and the former Tri-Cities Municipal Water District (1998). AKM maintains the models for the Cities of El Segundo, San Clemente, Seal Beach, Corona, Ontario, Port Hueneme, South Montebello Irrigation District, and West Basin Municipal Water District, and conducts as needed special studies. The project team has also been responsible for evaluating existing pump stations, wells, reservoirs, treatment facilities, and SCADA systems; preparing preliminary design reports; final plans, specifications, estimates; and construction support services for numerous booster pumping facilities, wells, reservoirs, and treatment facilities.

The members of our project team have personally served as the engineer-in-responsible-charge for these model development and master plan projects. Combined as a group, we offer the Irvine Ranch Water District a superb team that will provide full efficiency and attention to all elements of project detail, as well as providing technical and managerial depth ensuring the successful development of well calibrated non-potable water system models, and a planning studies to update three chapters of IRWD's Water Resources Master Plan.

There are no conflicts of interest prohibited by law that would prevent AKM Consulting Engineers from performing this work for the Irvine Ranch Water District.

AKM Consulting Engineers does not propose any modifications to the standard terms and conditions of IRWD's professional services agreement.

We appreciate the opportunity to submit our proposal and look forward to being of service to Irvine Ranch Water District on this most important project. Should you have any questions regarding our proposal or require any additional information, please do not hesitate to contact the undersigned or Ms. Diann Pay.

Very truly yours,

AKM Consulting Engineers



Zeki Kayiran, P.E.
Principal

1.1 Project Understanding**PREVIOUS STUDIES****Water Resources Master Plan**

Irvine Ranch Water District's (IRWD) existing Water Resources Master Plan (WRMP) was prepared in 1999. Chapter 3 of the WRMP (Future Water Requirements) described the historical potable and non-potable water demands by category; developed six (6) potable and three (3) non-potable maximum day demand curves; and estimated the future potable, reclaimed water, and untreated water demands through 2025. The service area population was estimated to increase from 259,800 to 384,230 by 2025. Total water demands (potable and non-potable) were projected to increase from 86,550 acre feet in FY 2000 to 127,490 acre feet by 2025. Chapter 8 (Distribution System Analysis) evaluated the then existing and ultimate recycled water systems under maximum day demand conditions in 7-day extended period simulations, and intermediate periods with static peak hour demands for analysis of pressures and velocities. Chapter 10 provided estimated costs for implementing the capital improvement projects recommended by the WRMP, and described how these projects would be funded. The Capital Improvement Program totaled \$172 million for the potable water system and \$109 million for the non-potable water system.

Urban Water Management Plan 2010

IRWD's 2010 Urban Water Management Plan was published in June 2011. IRWD's baseline per capita water use is estimated at 213 gallons per capita per day (gpcd) and its individual 2020 target is set at 170 gpcd. The District is participating in the Municipal Water District of Orange County's (MWDOC) Regional Alliance in which the 2020 target is set at 157 gpcd. IRWD's non-potable supply estimate included recycled water from Michelson Water Reclamation Plant (MWRP) and Los Alisos Water Reclamation Plant (LAWRP) (37,335 AFY), untreated imported water (24,262 AFY), native water (4000 AFY), and non-potable ground water (3898 AFY) for a total ultimate supply capability of 69,495 AFY.

Syphon Reservoir System Integration Study

This study, completed in 2011, evaluated fill and drain alternatives for converting Syphon Reservoir to a seasonal storage reservoir, which would allow full utilization of the recycled water produced by IRWD at the Michelson Water Reclamation Plant (32,446 AFY), and minimize dependence on imported untreated water for non-potable use. The study utilized the Seasonal Storage Mass Balance Model created by IRWD for the non-potable water system, developed non-potable water demands by planning area and pressure zone in 5-year increments, and evaluated nine (9) alternatives for fill and drain conditions. It recommended Alternative 2C, which included a Zone A to Syphon Reservoir Pump Station at the northwest corner of Irvine Boulevard and Jeffrey Road for filling Syphon Reservoir, and Syphon Reservoir/Zone A to Zone B and Syphon Reservoir to Zone C Pump Stations at the same site for draining the reservoir during high demand periods. This study is based upon expanding the Syphon Reservoir storage capacity to 4,534 acre-feet by increasing the spillway crest elevation from about 360 feet to 456 feet, providing a high water level elevation of 455 feet and a low operational pool elevation of 350 feet. The diurnal demand factors utilized in this study were based on the three curves included in the WRMP, which were developed for **maximum day demands**, and were used in 24-hour extended period analyses with the average (fill-drain), maximum (drain), and minimum (fill) demand periods. The study provided capital improvement project recommendations for incorporating the Syphon Reservoir into the recycled water system operation.

The scope of work for the Non-Potable Water System Hydraulic Model (Task 12.3) includes incorporating the recommended facilities into the calibrated models, evaluating the existing and future system performance during the fill and drain scenarios, and verifying the need for additional system improvements. As described in our approach to completing the scope of work, we will conduct an in depth evaluation of the study, including the recommended pump stations. Based on limited analysis with the currently available information, the Zone A to Syphon Reservoir Pump Station cannot provide the desired flow when the static lift is low (high Zone A Reservoir and low Syphon Reservoir level) with the pump station recommended. Similarly, the Syphon to Zone B Pump Station cannot utilize the proposed Syphon Reservoir when its water level is higher than 395 to 415 feet, and would have to pump from Zone A to Zone B. If these limitations have not been accounted for in the analyses, the recommendations will likely be different for these two pump stations, and an extended period simulation for a year may be necessary to refine the facility recommendations.

Regional Zone B and Zone C Recycled Water System Analysis

This study, completed in December 2012, evaluated the Zone B and Zone C systems in order to determine the most feasible supply to the Zone B system generally north and east of the I-5 Freeway, and the timing of the Zone A to B and Zone A to C Booster Pump Stations. The recommendations of the study would then be used to update the PA 40, PA 1 & 2, and the PA 30 and 51 Great Park/Great Park Neighborhoods SAMPS.

The Zone B supply alternatives were needed to be evaluated because the previously planned Zone B pipeline on Sand Canyon Avenue between Laguna Canyon Road and Marine Way was cancelled due to financial and scheduling conflicts with the Sand Canyon Grade Separation project. The study also evaluated the upgrades to the IIC East Zone A to B Booster Pump Station recommended by the PA 40 SAMP. The goals of the study were to provide hydraulic connectivity between the southerly and northerly Zone B service areas, and prevent the Sand Canyon Avenue Zone C to B PRV from being a primary supply to the Zone B service area.

The studies were conducted with the assumption that there would be no supply from the Los Alisos Water Reclamation Plant or the Lake Forest Zone B to IRWD Zone C PRV in order to maximize the use of recycled water produced at the MWRP.

This study formulated and evaluated nine (9) alternatives for serving Zone B from the north, and recommended Alternative A-1, which included a 20-inch diameter pipeline along Irvine Boulevard between Jeffrey Road and Sand Canyon Avenue; a 20-inch diameter pipeline starting at the IIC East Zone A to B Booster Pump Station and continuing along Laguna Canyon Road, Technology Drive and across the OCTA railroad right of way, the I-5 Freeway and 133 Transportation Corridor to Marine Way, and a 16-inch diameter pipeline along Marine Way to O-Street; as well as adding a fifth pump at the IIC East Zone A to B Booster Pump Station to provide the necessary firm capacity. According to the study, the Zone C to B PRV at Sand Canyon Avenue and Irvine Boulevard (RPR097) will open when the Zone A to B pumps are not operated due to time of use restrictions between 1 PM and 5 PM, and allow up to 1980 gpm from Zone C to Zone B. The system pressures exceed 45 psi in PA 40 and the PA 51 and PA 30 service areas.

The Zone C system was analyzed for the ultimate maximum day demands with the recommended improvements to Zone B, with flows to Zone B from Zone C only when the Zone B pumps were stopped for TOU, and all demands to the Great Park being supplied from Zone C. The study recommended the Zone A to C Booster Pump Station with a firm capacity of 8,540 gpm at the northwest corner of Irvine Boulevard and Jeffrey Road to replace the untreated water demands, and render the existing Orchard Hills Zone A to C Booster Pump Station capacity adequate.

SUB AREA MASTER PLANS

IRWD completed 22 Sub Area Master Plans (SAMPS), and the Santiago County Water District Integration Study since the completion of the 1999 WRMP, to plan the facilities needed to support the development in these areas, as well as the regional facilities towards constructing the ultimate system.

SIGNIFICANT CHANGES SINCE THE 1999 WRMP

Significant changes have taken place in the non-potable water system since the completion of the WRMP. These include the planning, design, and future construction of the Baker Water Treatment Plant, which will treat native runoff tributary to Irvine Lake and imported untreated water through the Santiago Lateral, Baker Aqueduct, and portions of the Irvine Lake Pipeline; conversion of the portion of Irvine Lake Pipeline south of Rattlesnake Reservoir to recycled water use; conversion of San Joaquin Reservoir to recycled water service; expansion of treatment capacity at Michelson Water Reclamation Plant to 28 mgd; and construction of numerous system improvements to maximize the beneficial use of recycled and untreated water.

EXISTING SYSTEM

IRWD's non-potable water service area encompasses the City of Irvine, and portions of the Cities of Lake Forest, Newport Beach, and Tustin. Between September 2011 and September 2012, the existing system provided an average of 22.77 mgd (24,658 acre-feet) of recycled water through 4,984 active meters, and 1.59 mgd (1,745 acre-feet) of untreated water through 90 active meters.

IRWD's non-potable water system consists of 11 main pressure zones and several sub-zones with reduced pressures and six (6) coastal pressure zones. The major facilities include the following:

- 180 miles of 12-inch and larger pipelines, 76 miles of 8-inch and 10-inch pipelines, 65 miles of 6-inch, 136 miles of 4-inch, and 1.6 miles of smaller pipelines
- 12 storage tanks
- 1 untreated/native water storage reservoir (Irvine Lake)
- 3 seasonal storage reservoirs (Sand Canyon, Rattlesnake, and San Joaquin)
- 18 active booster pump stations
- 4 wells [ET-1 (PAP), ET-2, Well 78, and Well 72]
- Imported water and native water supply through the Irvine Lake Pipeline and Baker Pipeline
- 41 pressure regulating stations
- 2 water reclamation plants (MWRP, LAWRP)

The transmission and distribution piping materials includes PVC (54%), ACP (23%), and others, including steel cylinder pipe, cement mortar lined pipe, cement mortar lined and coated pipe, ductile iron pipe.

SOURCES OF SUPPLY

IRWD's sources of non-potable water supply include recycled water, untreated water from Municipal Water District of Orange County (MWDOC), native water tributary to Irvine Lake, and groundwater.

Recycled Water – IRWD owns and operates two water reclamation plants: The Michelson Water Reclamation Plant (MWRP) and the Los Alisos Water Reclamation Plant (LAWRP).

The Michelson Water Reclamation Plant is the primary source of supply to the recycled water system. The Phase 2 expansion project will increase its recycled water production capacity to 28 mgd (32,486 AFY). The increase in capacity will allow IRWD to use the wastewater tributary to the Harvard Avenue Trunk Sewer (HATS) currently diverted to the Orange County Sanitation District (OCSD) for treatment. IRWD will utilize the production of the MWRP to not only avoid OCSD treatment charges, but also because of the better recycled water quality.

Recycled water produced at the MWRP is conveyed to the Zone A system through the MWRP Effluent Pump Station No.2. The Effluent Pump Station No.1, which pumped to Sand Canyon Reservoir, is no longer used due to concerns with the condition of the force main. The Sand Canyon Reservoir (water levels of 165 to 190 feet) is filled through the Zone A system (high water level of 330 feet), and has to be drained back to the MWRP for subsequent pumping when needed, which results in significant loss of energy. IRWD currently utilizes the San Joaquin, Rattlesnake, and Sand Canyon Reservoirs as seasonal storage facilities to maximize the use of recycled water produced at the facility. In order to make full use of the recycled water produced at the MWRP with the ultimate demands, additional seasonal storage of 4,534 AF will be necessary. This storage may be provided at the Syphon Reservoir if adequate grant funding can be secured through the 2010 Water Resources Development Act.

MWRP effluent is also conveyed to the wet well of LAWRP for subsequent pumping into the Lake Forest/Irvine systems as needed. IRWD will implement a pump station project, which will pump MWRP production into the suction pipe of the pump station at the LAWRP to avoid the loss of head resulting from discharge into the wet well.

The Los Alisos Water Reclamation Plant has a recycled water production capacity of 5.5 mgd. Because of the high ammonia levels in the treated water, IRWD has to blend this source by first conveying it to the San Joaquin Reservoir through the Zone B system. IRWD is considering shutting down production of recycled water at LAWRP during 8 months of low demand periods.

Untreated Water and Native Water - Imported untreated water is purchased from the Metropolitan Water District of Southern California (MWD)/ MWDOC through MWD's Lower Feeder and Santiago Lateral. The imported water can be delivered to Irvine Lake, or taken from a turnout on the Santiago Lateral. Irvine Lake also captures an average of 5,000 acre-feet of runoff (native water), which can be used as a source of supply to the non-potable system through the Irvine Lake Pipeline north of Rattlesnake Reservoir, or as raw water to the Baker Filtration Plant.

Groundwater - IRWD owns four (4) non-potable groundwater wells. Wells ET-1, ET-2, and 78 are part of the El Toro Groundwater Remediation Project. Well ET-1 has on-site treatment (Principal Aquifer Treatment Plant, or PAP), which treats the well production for TCE (7-8 ppb). The effluent, (950 gpm) is pumped into the Zone A system. Well ET-2, located at Culver and Irvine Center Drive, produces about 860 gpm of groundwater with TCE concentration of approximately 1.5 ppb, which is conveyed into the Zone A system. Well 78, located at Culver Drive and Warner Avenue, produces an average flow of 370 gpm, with TCE level of approximately 1.5 ppb, which is also pumped into the Zone A system. Well 72, is located at the south end of the Wickshire Lane cul-de-sac. It has an approximate capacity of 900 gpm, and is used to supplement supplies into the Zone A System.

NON-POTABLE WATER DEMANDS

IRWD delivered a total of 26,403 AF of non-potable water during the 12-month period between September 2011 and September 2012. IRWD has created a Mass Balance Spreadsheet that documents the estimated non-potable water demands by month through 2025, which is the expected full development of the non-potable water service area. The results of the estimates are documented in the Syphon Reservoir System Integration Study. This study also developed a table that documents the existing demands (23,276 AFY) and future demands in 5-year increments by planning area and pressure zone. The demands increase to 28,225 AFY in 2015, 30,874 AFY in 2020, and to 32,446 AFY in 2025. Demands increase in every planning area in Zone A, Zone D, and the Coastal Zones; but decrease in several planning areas in Zones B and C, reflecting the development of the current agricultural areas.

PURPOSE

The primary goals of this project are:

- Develop two distinct hydraulic models of IRWD's non-potable water system:
 1. Existing system model, including the recycled and untreated water systems representing current conditions and operations
 2. Ultimate system model representing build-out conditions (2035) and predicted operations
- Calibrate the developed existing system model to accurately represent the system's hydraulic capabilities
- Conduct system analyses and identify system deficiencies
- Identify future improvements to the distribution system and supply sources to optimize system operation and the supply portfolio
- Update appropriate sections of Chapter 3, Future Water Requirements, incorporating the non-potable diurnal curves developed as part of the study; Chapter 8, Distribution System Analysis, and Chapter 10, Estimated Capital Costs sections of IRWD's Water Resources Master Plan document
- Work with IRWD staff throughout project so that methodologies and model development are fully understood by IRWD staff. Transfer information related to model development and system analysis to IRWD staff so that they are able to update and run the models in the future.

1.2 Scope of Work

A calibrated hydraulic model of the non-potable water system is an essential tool for IRWD for analyzing the existing system conditions; planning for future expansions and facility replacements; updating existing SAMPS and preparing new ones; and evaluating options, including seasonal storage, to formulate the most feasible supply portfolio. The hydraulic model has to be based upon the best information available, and be well documented so that it can be updated as changes occur in the system, land use planning, and sources of supply.

AKM's approach to hydraulic modeling and water resources planning assignments involve several basic procedures which ensure that the finished product is used for accomplishing the agency's goals. In order to provide this, the project has to be staffed with professionals with expertise in not only water system modeling, but also with deep insight into all elements that make up a non-potable water system.

The Irvine Ranch Water District has developed a very detailed scope of work consisting of 14 tasks, which we acknowledge in its entirety. In this section, we provide our approach to completing the Project's scope of work.

TASK 1: PROJECT MANAGEMENT / MEETINGS & COORDINATION

Project management activities will be tailored to ensure obtaining the necessary information in a timely manner, fully understanding the operation of and developing the necessary insight into all elements of the non-potable water system, completing the project within schedule and budget, providing continuous communication between AKM and IRWD, and implementation of our quality assurance/quality control (QA/QC) program. They will include:

- Project kickoff meeting
- Bi-weekly status reports (email)
- Two monthly meetings, with prepared agendas and follow-up meeting minutes
- Interviews of IRWD staff to obtain accurate information on system operation
- Coordination of field work for equipment (data logger and flow metering) installation, quality control, and removal
- Monthly billing statements with list of all tasks, budgets, percent complete, and hours charged to each task
- Updated project schedule in MS Project

TASK 2: PARTNERING

The Irvine Ranch Water District desires to have a staff engineer become well experienced in developing the model, calibrating it for the existing conditions, analyzing the existing system, developing the ultimate system and conducting analyses of the ultimate system, and modifying the model in the future and conducting analyses as needed. We propose to have the assigned IRWD staff engineer work for two days, or preferably more, every week with AKM staff at AKM's office so that he/she participates in the development of all elements of the calibrated model, conducting analyses, and participating in documenting the resources used in developing the models. We have office space with hardware and software, which we will make available to the IRWD staff engineer throughout the duration of the project.

AKM will engage in a partnering relationship with IRWD throughout the project. Our Project Team will be available continuously to work with the designated IRWD staff engineer at AKM's office or at IRWD facilities, whichever is more convenient to IRWD and efficient for performance of the work. The AKM office is located at:

AKM Consulting Engineers
553 Wald, Irvine, CA 92618

which is approximately 4 miles from IRWD's Sand Canyon Headquarters.

As part of partnering, we propose to have the IRWD staff engineer work for a day, or preferably more, every week with AKM staff at AKM's office so that he/she participates in the development of all elements of the calibrated model and analyses. We have office space with hardware and software which we will make available to the IRWD staff engineer throughout the duration of the project.

The IRWD staff engineer would participate in the following tasks: completion of the GIS; creation of the geometric model from GIS; preparation of data; inputting data into the model, including linking the existing demands from billing data to the meters/nodes; work with AKM staff in the field instrument calibration and installation effort; downloading the data from pressure data loggers and flow metering equipment; analysis of collected data in developing diurnal use curves for individual customers as well as pressure zones for low, average, and high use demand periods; model calibration; formulation of field testing protocols and flow testing; further refinement of the model; existing system analyses; special studies including Regional Zone B and C Analysis, Syphon Reservoir Integration, conversion of the northerly portion of the ILP to recycled water service, service to the Baker Treatment Plant, and any others developed during the study; creation of the ultimate system models of the untreated and recycled water systems and ultimate system analyses. This will allow the IRWD engineer ample opportunity to ask questions, provide comments and recommendations,

and ultimately develop models and model manuals that can be efficiently utilized by the entire organization for updating the models and utilizing them in analyses.

Previous Partnering Experience

AKM's previous partnering experience includes training of Garden Grove Sanitary District (GGSD) staff in the use of a calibrated sanitary sewer system model developed by AKM. AKM initially completed the calibrated hydraulic model of the 310 mile long system in 2005. Since then, AKM has maintained the model for GGSD and updated it with new information as it has become available. AKM prepared GGSD's System Evaluation and Capacity Assurance Plan (SECAP) in 2005 and its updates in 2006, 2007, 2009, and 2012.

In February 2012, AKM prepared a Sewer Model Manual and a Sewer Model Tutorial document for GGSD. The model manual provided a description of how the model was developed. It includes tables detailing all input information, a description of all base files utilized in developing the model, description of peaking formulas utilized, a brief description of the calibration process, tables detailing the organization of the model (queries, query sets, scenarios, and datasets), and tables describing the meaning of notes added to the model. The model tutorials document provided step by step instructions on how to use the model to perform certain analyses requested by GGSD staff. Shortly after submitting the model manual and model tutorials document, AKM conducted several hands on model training sessions with GGSD staff. Based on discussions during the training sessions and follow up recommendations by GGSD staff, the hydraulic model and associated documents were updated and customized to make it more user-friendly and easier to update in the future. GGSD staff has begun using the updated model to run analyses in-house. AKM continues to be available to GGSD on an "as-needed" basis, meeting with staff as necessary to assist in modeling assignments.

AKM prepared the Model Manual for West Basin Municipal Water District's eight (8) recycled water systems and two (2) brine disposal systems, which is included as Appendix H to the Capital Implementation Master Plan for Recycled Water Systems, completed in 2009. AKM had an on-call services contract with West Basin where we worked with their staff to either provide input files to other consultants, or conducted analyses for special studies.

We maintain the water/recycled system models for several agencies, and have trained their staffs in the use of the models.

PHASE I - EXISTING MODEL DEVELOPMENT

Our general approach to the water model development and analysis assignment is illustrated in the flow chart on the following page. Specific steps that will be taken are described below:

TASK 3: DATA COLLECTION AND REVIEW

The first step of the project will be to meet with IRWD staff to determine what information is available and can be used in developing the calibrated hydraulic model. At a minimum, the following information is expected to be collected:

- SAMP reports, maps, and hydraulic models for future development areas
- Non-potable water system atlas maps
- GIS files / base data - Non-potable water geodatabase, parcels, streets, contours, service boundaries, land use
- Orthophotography
- As-built and design drawings for facilities - treatment facilities, booster pump stations, reservoirs, wells, pressure reducing stations, flow control stations, turnouts
- Pump curves (certified test curves if available) for all booster pump stations and well pumps
- Efficiency tests for all existing booster pumps and well pumps
- Groundwater level information at the wells
- Facility control settings for various operating conditions (normal, summer, winter, etc.)
- Production and purchase records including turnout data

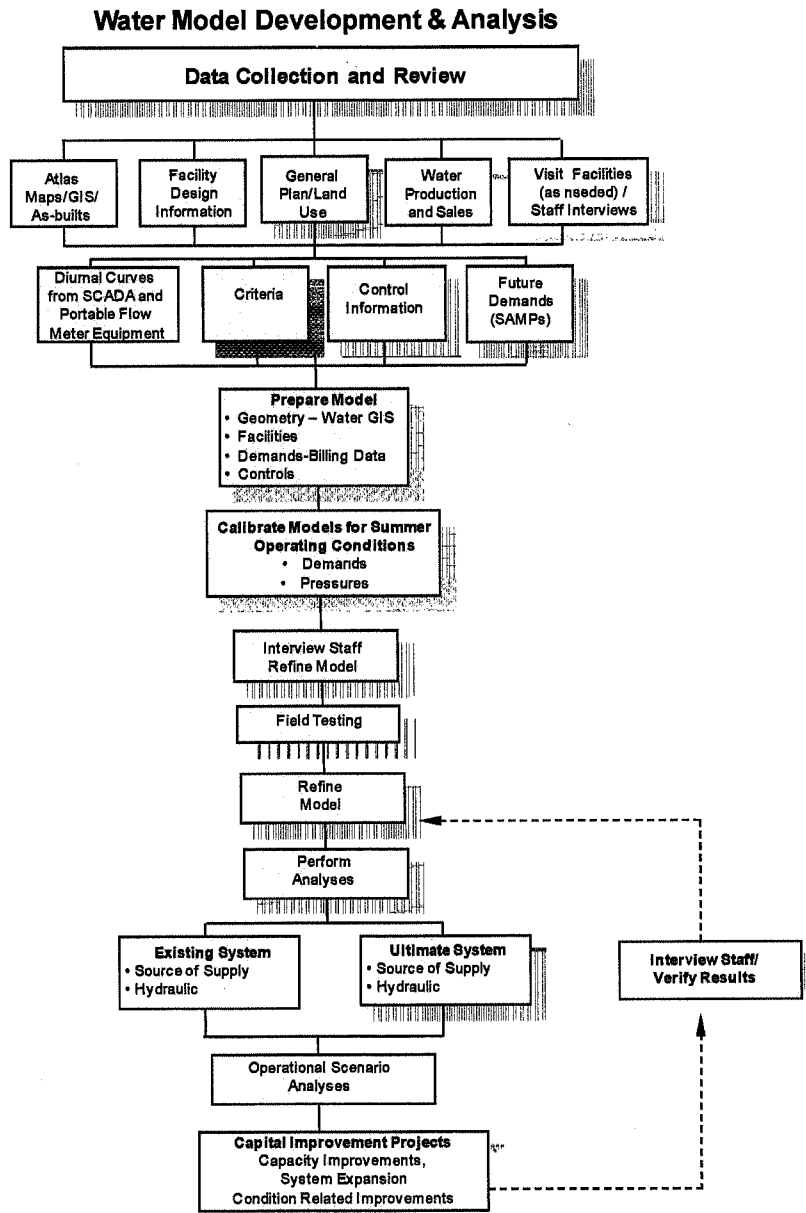
- Previous studies related to non-potable water system
- Other as-built plans, as needed
- SCADA data
- Land use information - existing and future
- Mass Balance Model

IRWD has made some of this data available during the proposal preparation stage.

TASK 4: DOCUMENTATION OF CRITICAL FACILITIES ATTRIBUTES AND CONTROLS

A well organized data collection binder and/or electronic files will be compiled, documenting critical facility attributes and control information necessary for the development of the hydraulic model. This information will be submitted along with the 50 percent model submittal and will include the following at a minimum:

- Elevation data for critical facilities collected from as-built plans, converted to a common datum
- Pump station information - pump type, pump curves, design flow and head, efficiency tests, instrumentation, maintenance records
- Well information - pump type, pump curves, design flow and head, efficiency tests, instrumentation, maintenance records
- Pressure regulating station information - number of valves, valve sizes, valve settings, instrumentation
- Reservoir information - high water level, volume, dimensions, instrumentation
- Filtration facilities – Instrumentation, design flow
- Control settings for all pertinent facilities



TASK 5: DEVELOP HYDRAULIC MODEL OF EXISTING NON-POTABLE WATER SYSTEM

Preparation of Computer Model

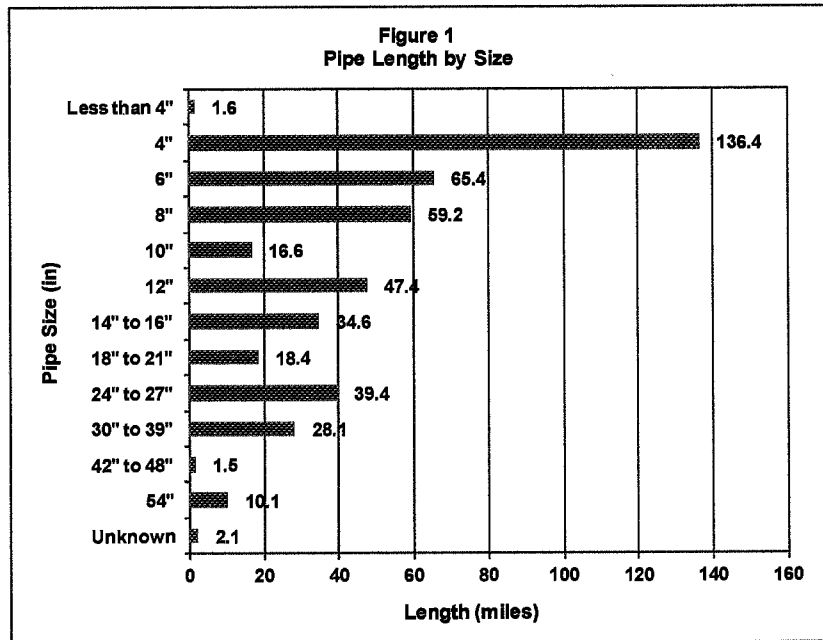
We will use Innowyze's InfoWater software to create a new calibrated non-potable water system hydraulic model, based on IRWD's current non-potable water GIS data. Creating the hydraulic model will involve the development of system geometry, demands, supply points, facility information, and controls.

One of the first steps we take when creating a hydraulic model is to develop a hydraulic schematic of the system. This helps us develop insight into the components of the system, which in turn aids in preparing the hydraulic model. A preliminary hydraulic schematic for IRWD's non-potable water system is included as Exhibit A in the Appendix to our proposal. This schematic will be revised as the project progresses and more is learned about the system through model development, interview with system operators, and field investigations. It will be included in the project documentation and provided to IRWD in electronic form for future use.

Geometry

We have reviewed IRWD's existing non-potable water GIS, which will be used as the basis for the geometry of the hydraulic model. The non-potable water GIS consists of approximately 460 miles of pipe owned by IRWD. As shown on Figure 1, thirty percent of the pipes are 4-inches in diameter (136 miles). It is proposed that the computer model include all pipes 4-inches and larger (excluding meter connections, service laterals, and private lines that do not loop the system), pump stations, wells, reservoirs, interconnections, pressure regulating stations, and treatment facilities.

Modeling information for each pipe will include identification numbers, service zone identification, diameter, length, and roughness. Model nodes will be located to represent points of intersection, ends of pipes, changes in diameter or material, and/or locations where supply or demands are applied to the system. Modeling information associated with each node will include identification numbers, service zone identification, demand, user type and elevation. The elevations will be extracted from IRWD's digital contour information.



System Geometry Verification

We will first evaluate the geometry of the non-potable water system by reviewing the existing GIS shapefiles, atlas maps, as built plans, inventory lists, SCADA information and other relevant data. We will set up a series of meetings with IRWD's planning, operations, and SCADA staff to clarify discrepancies between the various sources of data. All questions and resolutions will be documented for IRWD's records.

We will evaluate the connectivity of the pipe network, zone by zone. With the help of IRWD operations staff, we will identify and document all zone breaks. We will verify that the zones are isolated by zone valves, pressure reducing valves, and/or pump stations. We will adjust the GIS shapefiles, as necessary and will create a zone classification for each pipe in the GIS that will be based on hydraulic connectivity and geographical location.

System Skeletonization

We will skeletonize the non-potable system to reduce the number of pipes in the hydraulic model, which will help to minimize the processing time when running the model. The skeletonization process is one in which the number of features, such as pipes in a water system, are reduced based upon certain criteria. We propose to use the pipe diameter, material, year of installation, and zone to join pipe segments (aggregation process). The pipe diameter, material, and year of installation are attributes that typically affect the pipe's roughness coefficient. We therefore want to join pipes based on these attributes to make it easier to adjust roughness coefficients in the model. Following the aggregation process, the pipes will be split at additional locations such as pressure regulating

stations, booster pumps, well pumps, and/or fittings. Model nodes will be created at all crosses, tees, dead-ends, and whenever there is a change in any of the pipe characteristics (i.e. change in size, material, or year of installation). Elements that will not be included in the model are blow offs, system valves (unless it is a closed valve), backflow devices, and bottom drains. Where there are not sufficient customer services, we will include the service tees so that demands can be linked to the pipe at the correct locations.

Unique identifications (IDs) will be assigned to each model pipe and node. The IDs may be based on certain criteria such as IRWD's atlas sheet grids and a sequential number that skips by 5's or 10's. This method allows a modeler to have a general idea of where a pipe or node is located within the system/model. It also allows for future elements to be added to the model following the same ID system used to create the model.

The steps of skeletonization described above will be conducted in the GIS software. The skeletonized system will then be imported into the hydraulic modeling software for preparation of the final model.

Demands and Peaking Factors

We will analyze the existing non-potable water system's purchase and production (supply) data for the last 3 years to establish the existing system low demand period, average day, maximum month, maximum week, and maximum day demands and peaking factors. If peak hour demands are available from SCADA, we will use it, and compare it to peak hour factors we will develop from the diurnal curves that we will create from SCADA data during the study.

If total amount of water consumed for unmetered uses, such as flushing the system can be quantified, we will subtract this value from the average purchase and production values when determining the average day demand.

Facilities

We will obtain all facility (well, pump station, reservoir, pressure regulating station, treatment plant, turnout, filtration facility, and interconnection) information from IRWD. We will model each facility based upon as-built construction drawings and the existing operating conditions. We will enter pump curves into the model based on the latest field performance tests. At least five points will be input for each pump curve. Most recent water well data will be reviewed to set the ground water levels in the model.

Operational Controls and Settings

We will obtain facility controls and settings from IRWD staff and SCADA information. After an initial review of facility control/settings information, we will interview IRWD operations staff to develop further insight into the operation of the system and to discuss any operational problems that the system may experience.

If operational controls and settings change during different times of the year, such as corresponding to filling of the seasonal storage facilities during the low demand periods, and drawing from them during high demand periods, we will set up separate control sets in the model to reflect the various operational conditions. If any wells or pump stations are operated on TOU schedules to reduce the electric power costs, we will model them on time of use schedules per review of the SCADA data and information from IRWD staff.

TASK 6: DEVELOPMENT OF DIURNAL CURVES

We will develop a short-term and long-term monitoring program to capture daily, monthly, and seasonal variations in agricultural and non-agricultural water demands. Per the RFP, we have assumed the following subtasks:

Task 6.1 Short-term Monitoring

The short-term monitoring program will include IRWD's top 25 largest non-agricultural users based on consumption. The non-agricultural users include commercial customers using recycled water for toilets and industrial customers using recycled water for industrial purposes. The top 25 active non-agricultural users (based on 2011-2012 water use billing data) are shown in Table 1.

We propose to conduct short-term flow monitoring of the ten (10) largest non-agricultural meters (five at a time), which include commercial customers using recycled water for toilets and industrial customers using recycled water for industrial purposes. The top 10 active non-agricultural users (based on 2011-2012 water use billing data) are shown in Table 1.

The short-term monitoring duration is proposed to be approximately 3 weeks. We do not expect that the diurnal patterns will vary seasonally for these non-agricultural recycled water users. We propose to utilize Meter Master Model 100EL flow recorders for the short term flow recording. We will program the recorders to collect record data every 15 seconds to precisely define water use through each meter. AKM staff will install the Meter Masters on accessible IRWD flow meters, and we will accompany the IRWD staff but not install them where the meters are in permit required confined spaces. Similarly, we will retrieve them and download the data for subsequent use in the models.

We proposed to use five of the forty Meter Master flow recorders for this purpose. We expect to utilize them during the first two months of the project, while the remaining 35 Meter Masters are being used for long term monitoring. We will then use these five Meter Masters as part of the long term flow recording effort as groups of five are removed, data downloaded, and recharged

Table 1
Top 10 Non-Agricultural Recycled Water Users

No.	Meter Type	Owner/User Name	Use Description	Street No	Street Name	City	Acres	Min use (gpm)	Min Factor	Ave use (gpm)	Max use (gpm)	Max Factor	
1	Comm/RW - T	GAS RECOVERY SYSTEMS		20662	NEWPORT COAST DR	NB	0	50	0.7	70	89	1.3	
2	Ind/RW - Bldg	TIERRA VERDE IND	Nonhazardous Waste Disposal (at Great Park)	7913	MARINE WAY	IR	0.05	23	0.8	29	35	1.2	
3	Comm/RW - T	JOHN HANCOCK LIFE INSURANCE CO		3161	MICHELSON	IR	0	4	0.4	11	31	2.8	
4	Comm/RW - T	SCHOLLE		19500	JAMBOREE	IR	0	5	0.7	7	11	1.5	
5	Comm/RW - T	THE CAPITAL GROUP COMPANIES		6470	OAK CANYON	IR	0	4	0.5	7	18	2.4	
6	Comm/RW - T	2040 MAIN, LLC 2040MA		2040	MAIN	IR	0	4	0.7	6	11	1.8	
7	Comm/RW - T	2050 MAIN STREET LLC		2050	MAIN	IR	0	1	0.2	6	9	1.6	
8	Comm/RW - T	KILROY REALTY LP		2211	MICHELSON	IR	0	3	0.7	5	7	1.6	
9	Comm/RW - T	LBA IV PPII OFFICE LLC		3121	MICHELSON	IR	0	3	0.8	5	6	1.4	
10	Ind/RW - Bldg	ROBERTSON'S READY MIX	Concrete Producer	16081	CONSTRUCTION CIR W	IR	0	2	0.5	4	8	1.8	
<i>Notes:</i>										Total	150		
<i>Comm/RW - T = Commercial/Recycled Water - Toilets</i>													
<i>Ind/RW - Bldg = Industrial/Reclaimed Water - Building (Industrial Purposes)</i>													

Task 6.2 Long-term Monitoring

We propose to conduct long term flow monitoring at the Irvine Lake Pipeline flow meter, ILP to Zone A, and ILP to Zone B turnouts; three (3) untreated water customers (TIC Agricultural), fifteen (15) recycled water agricultural customers, seventeen (17) recycled water irrigation customer meters (total of 35 meters). The proposed agricultural users, shown in Table 2, include farms (orchards and row crops) and nurseries. The landscape irrigation users, shown in Table 3 include golf courses, parks, schools, freeway landscaping, and homeowner association irrigation in order to develop use patterns for large users, as well as patterns that can be applied to similar customers.

Based upon review of the past year's water use records, we anticipate the long-term monitoring duration to be one year to capture the changes in water use patterns due to seasonal variations, planting/growing/harvesting schedules, and severe weather impacts such as Santa Ana winds or frost conditions. We also propose to meet with the large agricultural customers to develop insight into changes in their use patterns during Santa Ana and frost conditions, especially if these conditions are not experienced during the flow recording period. These long term meters cover nearly 79 percent of the untreated water use (1.23 mgd), and nearly 28 percent of the recycled water use (4,236 gpm). We can capture the balance of the untreated water use pattern by monitoring the ILP flow meter, and separating out the 76 percent that will be captured through the long term flow recording effort.

Table 2
Selected 15 Agricultural Recycled Water Users

No.	Meter Type	Owner/User Name	Use Description	Street No	Street Name	City	Acres	Min use (gpm)	Min Factor	Ave use (gpm)	Max use (gpm)	Max Factor
1	Agg Irr - UW	TIC-AGRICULTURAL DIV	Orchard	0	AVO 205 STA 293+75	IR	0	119	0.4	333	625	1.9
2	Agg Irr - UW	TIC-AGRICULTURAL DIV	Orchard	0	STATION 258+90	IR	0	75	0.3	280	479	1.7
3	Agg Irr - UW	TIC-AGRICULTURAL DIV	Orchard	0	GUN CL LAT R195+20	IR	0	81	0.3	241	425	1.8
4	Ag Irr - RW	TIC-AGRICULTURAL DIV	Nursery	0	HINES NURSERY J26-8	IR	437	150	0.4	423	814	1.9
5	Ag Irr - RW	TIC-AGRICULTURAL DIV		0	A-206-211	IR	0	72	0.3	270	537	2.0
6	Ag Irr - RW	ORANGE COUNTY GREAT PARK CORP	Housing Area	314	S 15TH	IR	0	96	0.4	244	398	1.8
7	Ag Irr - RW	TIC-AGRICULTURAL DIV		0	PORTOLA PKWY	IR	0	24	0.1	205	391	1.9
8	Ag Irr - RW	TIC-AGRICULTURAL DIV	Row Crops	12621	JEFFREY-FIELD 301 #1	IR	0	29	0.2	141	302	2.1
9	Ag Irr - RW	TIC-AGRICULTURAL DIV	Row Crops	6550	TRABUCO	IR	0	0	0.0	134	267	2.0
10	Ag Irr - RW	TIC-AGRICULTURAL DIV	Orchard	0	RATT RESV L9+61	IR	0	76	0.6	129	218	1.7
11	Ag Irr - RW	TIC-AGRICULTURAL DIV	Orchard	0	J64+70 EL GARDENS	IR	0	56	0.4	128	268	2.1
12	Ag Irr - RW	SO COAST FIELD STATION	Row Crops	0	UC FIELD STATION	IR	0	57	0.5	115	245	2.1
13	Ag Irr - RW	PINNACLE FARMS, LLC.	Row Crops	0	BARRANCA PKWY & ALTON	IR	0	23	0.2	104	291	2.8
14	Ag Irr - RW	PINNACLE FARMS	Row Crops	0	MUIRLANDS & ALTON	IR	0	0	0.0	102	295	2.9
15	Ag Irr - RW	ORANGE COUNTY PRODUCE		0	MUIRLANDS & ALTON	IR	0	0	0.0	80	162	2.0
										Total	2,928	
<i>Notes:</i>												
<i>Ag Irrig - UW = Agricultural Irrigation, Untreated Water System</i>												
<i>Ag - UW - SAC = Agricultural, Untreated Water System, Santiago Aqueduct</i>												
<i>Ag Irrig - RW = Agricultural Irrigation, Recycled Water System</i>												

We have considered two options for long term flow recording. One option is to purchase 35 Meter Master Model 100EL flow recorders and install them on the selected meters, and purchase five (5) and utilize them in short term monitoring and in exchanging the installed units for recharging. Because these meters have large uses, it would be appropriate to set the Meter Master units to record flow every 60 seconds, which allows the use of the units for about three months prior to recharge. This will allow removal of five of the units, downloading the data, recharging them, and then exchanging the next batch until all units are recharged in approximately three month intervals.

Because the rental cost will exceed the purchase cost of these units over a 1-year period, we propose renting these units with option to purchase them at zero cost when the rental cost equals the purchase cost. At that time, Brainard and Company will provide new units to IRWD. One advantage of using Meter Master Flow Recorders is their ability to record very low flows, as observed during the flow recording effort for the potable water system. Another advantage is that IRWD can continue using the equipment to gather additional data in the future.

When we install and remove each unit, we will keep a log of the meter readings, and compare the total use to that recorded by the Meter Masters. This will provide us with information on how much water may not be measured by the customer meters, and possibly explain some of the unaccounted for water.

Table 3
Selected 17 Landscape Irrigation Recycled Water Users

No.	Meter Type	Owner/User Name	Use Description	Street No	Street Name	City	Acres	Min use (gpm)	Min Factor	Ave use (gpm)	Max use (gpm)	Max Factor
1	Ls Irr - RW	UNIVERSITY OF CA IRVINE	University - UCI	1000	UNIVERSITY & MESA	IR	280	131	0.4	317	600	1.9
2	Ls Irr - RW	TUSTIN RANCH GOLF CLUB	Golf Course - Tustin Ranch	2391	IRVINE BLVD	TU	156.93	103	0.4	263	493	1.9
3	Ls Irr - RW	TIC-RESORT PROPERTIES	Golf Course - Oak Creek	5557	IRVINE CENTER DR	IR	179	0	0.0	237	500	2.1
4	Ls Irr - RW	STRAWBERRY FARMS GOLF CLUB	Golf Course - Strawberry Farms	5336	UNIVERSITY	IR	113.57	30	0.1	220	613	2.8
5	Ls Irr - RW	TIC-RESORT PROPERTIES	Golf Course Area - Pelican Hill	22643	PELICAN HILL RD S	NB	194.9	29	0.1	211	423	2.0
6	Ls Irr - RW	AMERICAN GOLF CORP	Golf Course	0	CULVER	IR	155.92	42	0.2	181	369	2.0
7	Ls Irr - RW	TIC-RESORT PROPERTIES	Golf Course	23154	NEWPORT COAST DR	NB	173.06	48	0.3	168	346	2.1
8	Ls Irr - RW	SHADY CANYON GOLF CLUB	Golf Course - Shady Canyon	12	COPPER CREEK	IR	180	0	0.0	163	412	2.5
9	Ls Irr - RW	COUNTY OF ORANGE	Regional Park - Mason Park	0	CULVER & UNIVERSITY	IR	99.58	32	0.2	133	245	1.8
10	Ls Irr - RW	SADDLEBACK COMM COLLEGE DIST	Irvine Valley College	5500	IRVINE CENTER DR	IR	39.18	0	0.0	65	171	2.7
11	Ls Irr - RW	UNIVERSITY OF CA IRVINE	University Housing Area	62600	ARROYO DR	IR	19.3	8	0.2	40	74	1.9
12	Ls Irr - RW	IRVINE UNIFIED SCHOOL DISTRICT	University High School	4771	CAMPUS DR	IR	17.36	7	0.2	35	68	2.0
13	Ls Irr - RW	CITY OF IRVINE	Heritage Park	0	WALNUT	R	30.51	13	0.4	34	69	2.0
14	Ls Irr - RW	CALTRANS DISTRICT 12	Median Irrigation	23605	BAKE PKWY	R	8.12	2	0.1	28	65	2.3
15	Ls Irr - RW	VILLAGE PARK COMM ASSN	HOA Irrigation	0	YALE & MICHELSON	IR	11.99	1	0.0	23	40	1.7
16	Ls Irr - RW	CALTRANS DISTRICT 12	Freeway Irrigation	0	YALE & MICHELSON	R	17.1	0	0.0	23	84	3.7
17	Ls Irr - RW	IRVINE UNIFIED SCHOOL DISTRICT	Sierra Vista Middle School	2	LIBERTY STREET	IR	14.19	3	0.1	21	48	2.3
<i>Notes:</i>										Total	2,161	
<i>Ls Irr - RW = Landscape Irrigation - Recycled Water</i>												

Another option for long-term flow recording may be to utilize automatic meter reading (AMR) on the selected 35 long term meters. Most of the IRWD's meters are Series "W" Sensus Turbo Meters. Sensus has discontinued the production of the Series "W" meters, and now manufactures the Omni Turbo meters, which are the replacements meters for IRWD. The Omni Turbo meters are equipped for AMR application. A radio unit would have to be installed, and the meters can be drive-by radio read, or touch read. The meters can also be set up for network reading, but a radio path study would have to be completed to ascertain that this is possible. It may be possible to set this program up for drive-by reading, which would download data from each meter without the need to remove equipment for recharging. The disadvantage of this option is that a decision would have to be made in a very short period of time to implement it, and it may be necessary to change many Series "W" meters with Omni Turbo Meters.

Diurnal Flow Patterns

We will develop diurnal flow patterns for each of the users selected for short-term or long-term monitoring, based on the monitoring results as well as analyses of billing data. Each of the users monitored will be assigned a unique demand and a specific diurnal curve in the hydraulic model. We will develop low demand, average demand, high demand and maximum day demand curves, as well as seasonal demand curves for each. The locations of the user meters included in Table 1 through 3 are shown graphically on Exhibit B in the Appendix. We will utilize this information in refining the zone demand curves, as described under Task 7.

Equipment Rental/Purchase Costs

For proposal purposes, we have assumed that specific use patterns will be developed for 10 non-agricultural recycled water users (short-term), 12 agricultural recycled water users (long-term), 17 irrigation recycled water users (long-term), three (3) agricultural untreated water users (long term), the Irvine Lake Pipeline Meter (long term); and the ILP to Zone A and Zone B meters (long term) utilizing Meter Master Model 100EL Flow Recorders. We have assumed that each of the users listed in the billing data represents one meter. In order to cover the short term (10) and long term (35) flow monitoring work, we planned on purchasing 40 Meter Master Model 100EL flow recorders, which IRWD will own.

TASK 7: ALLOCATION OF SYSTEM DEMANDS**Pressure Zone Diurnal Curves**

If historical SCADA data is available, we will retrieve SCADA data for a low, an average, and a high demand period for developing diurnal demand curves by zone. Some of the smaller closed zones may be combined with adjacent open zones. We will collect reservoir levels; well flows, groundwater levels and start/stop times; booster pump flows and start/stop times; imported water flows and delivery pressures, pressure reducing station flows and settings, and any system pressures.

We currently estimate developing diurnal demand curves for ten (10) zones: Zone A, Zone B North, Zone B South, Zone D Coastal, Zone G Coastal, Zone C, Zone D, Lake Forest Zone C, Lake Forest Zone D, and Lake Forest Zone E.

Once these curves are developed, we will segregate the diurnal curves developed for the large users and groups of users; and develop diurnal curves which will be applied to the remainder of the zone, after considering specific characteristics of each.

In addition to the diurnal curves for the zones, we will model the operation of the MWRP based upon recycled water flow delivered to the flow equalization basins and the effluent pump (MSP-2) flow records. We will model the flow delivered to the LAWRP from the Zone B system, the wet well, and effluent pump stations at the LAWRP.

Allocation of Demands

We propose to use one or more years of actual water use data collected from meter readings or billing information to compute and distribute the non-potable water system demands in the hydraulic model.

IRWD has already developed a water meter shapefile that contains a unique meter ID that can be used to link billing data records to the GIS map. Per recent billing records, there are approximately 4,894 active recycled water meters and 90 active untreated water meters. The total number of active non-potable water meters is therefore about 4,984. Upon linking the billing data to the water meter shapefile, it was found that the records for 537 meters (~11 percent) could not be linked to the map. This accounted for 15 percent of the total non-potable water use. It will be important to resolve this issue so that as much of the recycled water use can be linked to the GIS and used in allocating demands to the hydraulic model. It is our understanding that IRWD is in the process of completing this work.

Linking the water billing data to the water meter shapefile will allow us to use the meter data to obtain a very accurate spatial distribution of demands. Meter consumption data will be adjusted to match the established existing low period, average day and maximum day demands.

Theissen polygons will be created around established demand nodes, similarly to what is shown on Figure 2, which was created for IRWD's potable water system model. IRWD's "LU_Areas" shapefile will be used as the basis for the Theissen polygons. The polygons within the "LU_Areas" shapefile will be cut up into smaller Theissen polygons around defined demand nodes. All model nodes are not necessarily considered demand nodes. Nodes that do not have demands are typically those that are located near system facilities (wells, reservoirs, pump stations, pressure regulating stations) or along major transmissions lines that don't have service lateral connections. Some nodes are also excluded when there are a cluster of nodes located in one area, such as an intersection. This prevents an immense number of Theissen polygons to be created.

The demands located within each Theissen polygon will be assigned to the associated model node. This allocation method will inherently account for all high water users at their actual locations. It will most closely represent the current water use, and will be the most appropriate data to use for model calibration after incorporating unaccounted for water. High water users will be segregated out and placed at the actual meter location in order to properly represent their demands and diurnal use pattern in the model.

TASK 8: MODEL CALIBRATION

Task 8.1 Recycled Water System Calibration

Field Data and SCADA Data Collection

We propose to calibrate the model for a 24-hour period by collecting field pressure measurements and SCADA data (pump flows and pressures; reservoir levels; well flows, discharge pressures and groundwater levels; pressure reducing station flows; and import connection flows and pressures) for a 2-week time period during the high and low demand periods, which represent the periods when the system may be stressed the most.

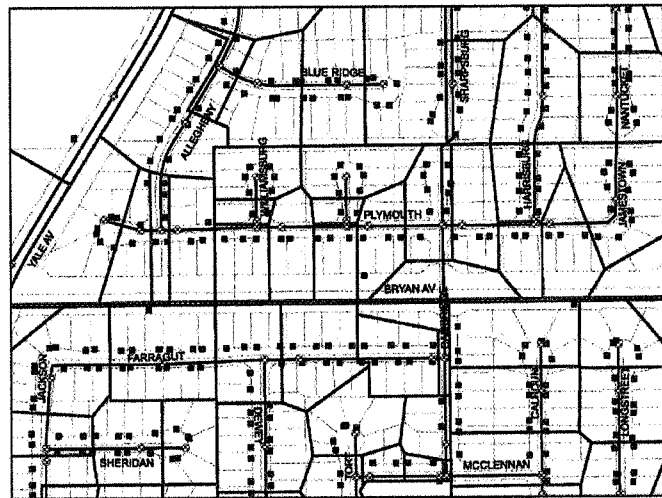
IRWD recently changed its SCADA software to Wonderware system. Currently, not all of the non-potable facilities have been incorporated into the Wonderware System but IRWD staff continues to work on integrating more of the facilities. For proposal purposes, we have assumed that the following information will be available on the SCADA system for all active non-potable facilities and can be provided electronically in a database format:

- Pump Stations: suction and discharge pressure, flow, pump start and stop times, speed if operated by a VFD
- Reservoirs: level and calculated flow
- Wells: level, flow and discharge pressure, and pump speed if operated by a VFD
- Filtration facilities: flow, upstream and downstream pressures

As we review the SCADA information, we will document SCADA existence at each facility and include the documentation within the data collection binder.

The system pressure data will be collected by installing data loggers to selected system components such as air-vacs and blow offs, throughout the system. We may need to install data loggers on customer meters if other facilities are not available.

Figure 2
Example of Theissen Polygons



The system pressure data will be collected by installing data loggers to selected system components such as air-vacs and blow offs, throughout the system. We may need to install data loggers on customer meters if other facilities are not available. This will require including the meter lateral and associated facilities in the model for calibration purposes. We currently anticipate the need for 49 data loggers to cover the entire system adequately, as shown in Table 4. Additionally, we have planned to purchase level loggers for the four (4) open reservoirs (San Joaquin, Sand Canyon, Rattlesnake, and Syphon), three (3) strap on meters for pressure reducing stations, and three (3) more pressure data loggers to record pressures at the pressure reducing stations

We will install the data loggers and flow meters with assistance from IRWD staff. AKM will direct and oversee the field calibration process. The proposed locations of the data loggers are shown on Exhibit C in the Appendix to our proposal.

Pressure Data Logger Estimate	
Zone Designation	Number of Data Loggers
A	10
B	14
C (Tustin/Irvine)	5
C (Coastal)	2
C (Lake Forest)	2
D (Shady Canyon/Turtle Ridge)	2
D (Coastal)	3
D (Lake Forest)	5
E (Coastal)	3
G (Coastal)	3
Total	49

We plan to review the field data collection program with IRWD immediately following award, and order the data loggers and strap on meters so that we can capture the high demand period data during August and September. Depending on weather conditions, we will record data from 4 to 8 weeks. We will download the data, review and verify its reasonableness, and use it in summer calibration. We will install the data loggers and strap on meters again in January to collect data for winter calibration.

Model Adjustments

Diurnal curves will be developed from the collected field data and SCADA data. Individual curves will be developed for large water users. We will input the pump operational settings, as well as the initial conditions of facilities (reservoir levels pump and well on-off status) in the model. We will adjust the model demands to the demand experienced by the system during the calibration period (determined from SCADA data and long/short term flow recorders). We will run the model and compare the results to the SCADA data and field measured pressures. We will also compare the model's demands and reservoir levels to the SCADA data collected. If the model results are close to the field measurements (no more than 5 percent deviation in pressure regulating station flows, booster station flows, well flows, and tank levels (to within 1 foot), the model will be deemed calibrated. Otherwise, we will determine the causes of the differences, make adjustments to the model, and re-run it until it closely matches the field conditions. The pipe roughness coefficients (C values) will be the last variable adjusted in the model to reach calibration. Through an iterative process, the system calibration will be refined. Model versus field data graphs for each site will be developed to ensure accuracy within a 5 percent deviation.

Field Flow Testing and Untreated Water System Calibration

We will review the calibration results and available facilities, and determine if it would be feasible to conduct field testing to refine the friction factors, and further refine the calibration. We will discuss possible scenarios with IRWD staff, and decide if further field testing should be performed. If deemed feasible, we will establish a field testing protocol for various portions of the system. Ideally, long reaches of the pipes will be isolated and flows and pressures recorded along the pipe. This would be conducted with various flows, including the maximum flow that can be generated. Because recycled water cannot be discharged where it can reach the waters of the state, in-system flow testing would be necessary. This will be most feasible for the Irvine Lake Pipeline and possibly Baker Pipeline. The limited number of customers on these pipelines can either be isolated during the field testing period, or their meters can be equipped with Meter Masters to define the flow rates in the various reaches of these pipelines, and their friction factors can be determined accurately. AKM performed calibration of the San Diego County Water Authority's 69-inch diameter Escondido Crossover Pipeline as well as the two 48-inch diameter First Aqueduct Pipelines. Because the northerly portion of the ILP has ample head to convey flows to the system and flows are delivered through PRVs, testing may not be necessary. However, if a portion is planned to

be used to convey untreated/native water to Baker Pipeline, we can test both of these facilities to determine their capacities if this has not already been done in conjunction with the design of the Baker Treatment Plant.

If portions of the recycled water system can be isolated, a similar procedure can be used to conduct field testing. We will work with IRWD's Engineering and Operations staff to identify reaches where such testing can be performed. We do not anticipate utilizing strap-on meters as their accuracy for such testing is not adequate. The results of these tests will assist in refining the calibration of portions of the hydraulic model.

Schedule

We propose to install flow recording equipment as soon as possible, and install the pressure data loggers in August 2013 in order to capture a high water use period during August and September. To accomplish this, we have identified the recommended pressure data loggers and Meter Master Locations. Immediately upon selection, we would like to obtain meter information from IRWD, and convey it to Brainard and Company to start the process, in order to ascertain receiving the equipment by the end of July, and installation at the beginning of August. First flow data collection will last three (3) months, and we will start exchanging Meter Masters at the end of October 2013. In the meantime, we will work with the GIS and as built plans to develop the geometric model. Following a QA/QC effort, we will schedule meetings with IRWD's Operations and Planning staff to resolve any issues, and have the geometric model ready for the calibration effort. We will also review and document the data logger information from the summer period starting approximately mid-September 2013. We will install the pressure data loggers again in January to capture the low water use period during which the seasonal storage reservoirs will be filled.

TASK 9: EXISTING SYSTEM ANALYSIS

We propose to have the Base Model include the existing system improvements with full 28 mgd water reclamation capacity at the MWRP, and the three El Toro Groundwater Remediation Project Wells. Untreated water will be served only to the existing customers through ILP north of Rattlesnake Reservoir. Recycled water service to these customers will be considered following completion of Task 12, and its results. The Base Model will have the Lake Forest system being supplied by the MWRP effluent, delivering the recycled water to the suction side of the LAWRP pumps. We will include the Syphon Reservoir connected to the Zone A system as a future project. We will conduct extended period simulations of the existing system for the following conditions:

- a. Low period demands, reflecting reservoir fill conditions – 6-month extended period analysis
- b. Average day demands – 24 hour extended period analysis with reservoir fill and reservoir drain conditions in 1 hour time increments
- c. High period demand reflecting reservoir drain conditions – 6-month extended period analysis
- d. Maximum day demands (peak hour conditions will be modeled in this scenario)
- e. Outage of a source of supply or a major supply pipeline during a high demand period – seven day extended period analysis.

We will identify the deficiencies in the system, formulate alternative mitigation projects, and verify their adequacy.

As an optional task, we will evaluate the feasibility of pumping from Sand Canyon Reservoir into the Zone A system as opposed to draining the reservoir back to MWRP, and pumping the flow again.

We will review the results of these analyses with IRWD staff to ascertain that they are reasonable. If needed, adjustments will be made and analyses will be conducted again.

Phase II – Non-Potable Water Future System Model Development

TASK 10: DEVELOP HYDRAULIC MODEL OF FUTURE NON-POTABLE WATER SYSTEM

A separate future potable water system model will be developed. The basis for this model will be the fully calibrated existing system model developed in Task 8. We propose that this model be developed in conjunction with Task 12.1, Zone B and C Regional Recycled Water System Analysis as the recommended improvements, upon verifications and refinement, will be a part of the future

system, and revise the recommendations of some of the SAMPS. Pending the status of the WRDA grant application for the Syphon Reservoir Seasonal Storage Project, it may be included in the future system model as well.

Future Developments and Demands

We will utilize the available SAMP documents and model files in adding future developments to the future hydraulic model, considering how they will be impacted by other potential projects. The future pipe geometry and associated data will be imported from available GIS data or previously completed SAMP models of the future developments. The future demands and allocation of demands will be based upon the SAMP documents, hydraulic models, IRWD's GIS-based demand forecasting tool, and the Mass Balance Model, as appropriate. We will make revisions to the diurnal demand curves developed for the existing system to reflect the change in land use, particularly in areas where the existing demands are agricultural.

TASK 11: FUTURE SYSTEM ANALYSIS

We will conduct extended period simulations of the future system similar to the existing system for the following conditions:

- a. Low period water use reflecting reservoir fill conditions – 6 month extended period analysis
- b. Average day demand under reservoir fill and drain conditions – 24 hour extended period analysis
- c. High period demands reflecting reservoir drain conditions – 6 month extended period analysis
- d. Maximum day demands (peak hour conditions will be modeled in this scenario)
- e. Outage of a major source of supply, or transmission main during the maximum month demand – Seven day extended period analysis

Specifically, the following analyses will be conducted:

- Evaluation of piping system to meet future demands
- Evaluation of pump stations to meet future conditions and work properly through variations in seasonal storage reservoirs.
- Evaluation of reservoirs to meet future conditions and provide the needed seasonal storage, as applicable
- Evaluation of supply (wells and imported water) to meet future conditions.

We will identify future improvements to the distribution system and supply sources as required to service anticipated growth within the service area. This will include recommendations for expansion and/or replacement of facilities. We will analyze the system until the established criteria is met. We will meet with IRWD for review and obtain comments at appropriate points.

PHASE III - OPERATIONAL SCENARIO ANALYSIS

TASK 12: OPERATIONAL ANALYSIS OF POSSIBLE SYSTEM MODIFICATIONS

This task will incorporate the recommendations of two recently completed studies into the existing and future system models, and conduct evaluations of the non-potable water system. It will also evaluate four alternatives currently identified by IRWD for incorporating the portion of the Irvine Lake Pipeline north of Rattlesnake Reservoir into the recycled water system.

We propose to prepare one model for the existing system, and one model for the future system with separate scenarios for each analysis in the two models. This will allow incorporation of revisions to one scenario into another easily. However, we will set up three separate models if desired by IRWD.

1. Regional Zone B and C Recycled Water System Analysis

The improvements recommended by this study for Zone B (Alternative A-1) consist of a Zone A to B Booster Pump Station at the northwest corner of Jeffrey Road and Irvine Boulevard, and pipeline improvements between Irvine Center Drive and Marine Way, connecting the Zone B North and South systems for the existing system, and adding a 5th pump at the IIC East Irvine Zone A to B Booster Pump Station for the future system. The study showed that the system can be normally served without supplies from the LAW RP, either directly from the plant, or through the Zone LF-B to IRWD-C PRV. It also determined that the Zone C to B

PRV (RPR097) at Sand Canyon Avenue will only open during the TOU restrictions on the two Zone A to B Booster Pump Stations.

The Zone C analysis provided supplies to the Great Park from the Zone C system, and recommended a Zone A to Zone C Booster Pump Station to meet existing demands, operating on TOU, at the northwest corner of Jeffrey Road and Irvine Boulevard, and eliminate the use of untreated water supplies through the ILP and Baker Pipeline. While the existing Zone A to C Orchard Hills Booster Pump Station becomes adequate with the addition of the new pump station, the analysis showed the Portola Hills Zone C Tank levels drop to less than 10% if all the Zone C pumps operate on TOU.

We will review the input and output files of these analyses to understand the exact conditions under which the analyses were conducted. We will incorporate the recommended facilities into the existing and future models with appropriate diurnal demand variations, and verify their adequacy. For the Zone C system, we will investigate an alternative which can maintain higher water levels in the Zone C Tank. We will perform at least a maximum week analysis incorporating a maximum day to verify storage capacity adequacy.

2. Conversion of ILP-North

The Irvine Ranch Water District desires to maximize the use of recycled water produced at the MWRP. The portion of the Irvine Lake Pipeline south of Rattlesnake Reservoir has been separated, and connected to the Zone C system. There are currently 76 landscape irrigation customers with an average day demand of 158 gpm (299 gpm maximum month), and four agricultural customers with an average day demand of 867 gpm (1,637 gpm maximum month), totaling 1,654 acre-feet/year. IRWD has developed four alternative scenarios of converting a portion of the ILP to recycled water service, and eliminate the use of untreated/native water.

We will review the four alternatives, incorporate the facilities into the hydraulic models, conduct analyses, review results with IRWD, refine the alternatives, and develop recommended projects for incorporating ILP into the recycled water system, if determined to be feasible.

3. Syphon Reservoir Evaluation

The study recommended three pump stations at the northwest corner of Irvine Boulevard and Jeffrey Road; a 1.6 mile long, 36-inch diameter reservoir inlet/outlet pipe, and connections to the Zone B and Zone C systems. The recommended improvements allow the use of the future Syphon Reservoir as a seasonal storage facility, as well as a part of the Zone B system when the water levels are higher than 440 feet. The pump stations are at the same location as the two pump stations recommended by the Regional Zone B and C Recycled Water System Analysis.

We will obtain the modeling information for the recommended alternative and review it. We will incorporate these facilities into the models, and perform extended period analyses. We recommend that these analyses cover an entire fill and drain scenario with the diurnal demand variations that we will develop as part of the study and the seasonal demand variations due to the fact that the Zone A to Syphon and Syphon to Zone B Booster Pump Stations will have significant variations in static lift between the reservoir low levels and high levels, and may not be able to function with just the use of variable frequency drives. The recommendations of this study will be integrated with that of the Regional Zone B and C Recycled Water System Analysis so that the two common pump stations can be planned with consideration of both.

TASK 13: WATER RESOURCES MASTER PLAN UPDATE

A capital improvement program (CIP) will be developed based on the results of the existing and future system hydraulic analyses, and discussions with IRWD staff regarding replacement of aging facilities, if desired. It will include all identified improvements required to support future growth in the service area, as well as improvements required to correct existing system capacity and operational deficiencies. The CIP will include recommendations for improvements to the non-potable water distribution system, supply sources, pump stations, storage facilities, treatment facilities, and instrumentation. We will meet with IRWD for review and obtain comments at appropriate points. Cost estimates will be developed for each recommended CIP project and will include engineering, construction, and other contingencies. To the extent possible, cost estimates will be based on actual bid data for similar projects in the area for agencies with similar contract requirements to that of IRWD.

We will update the non-potable diurnal curves in Chapter 3 (Future Water Requirements), Chapter 8 (Distribution System Analysis) and Chapter 10 (Estimated Capital Costs) of the IRWD Water Resources Master Plan for the non-potable water system. Our approach to updating Chapter 8 will be to give a general overview of how the model was developed and calibrated without going into extensive detail. The detailed description of model development and calibration will be provided in the deliverable of Task 14. The Chapter 8 update will include the results of the analyses conducted, providing the basis for the Capital Improvement Program recommendations presented in Chapter 10. A discussion of the basis of future cost estimates and assumptions in developing the cost of capital improvements will be included in Chapter 10.

The following illustrates the portions of the three chapters to be updated.

Chapter 3 Future Water Requirements

Figure 3-8 Non-Potable System Diurnal Curves

Chapter 8 Distribution System Analysis

- 8.1 Purpose**
- 8.2 Distribution System Modeling**
 - 8.2.1 Hydraulic Model**
 - 8.2.2 Hydraulic Model Calibration - Nonpotable System**
- 8.4 Non-Potable Water System Analysis**
 - 8.4.1 Existing System**
 - 8.4.2 Ultimate System (Year 2025)**
 - 8.4.3 Intermediate Year Model Analyses - to be eliminated**
- 8.5 Recommendations**

Chapter 10 Estimated Capital Costs

- 10.1 Purpose**
- 10.2 Basis of Costs**
 - 10.2.1 Distribution System – Existing System Improvements (pipelines, reservoirs, pump stations, PRVs)**
 - 10.2.2 Source Development – Existing System Improvements (turnouts, treatment facilities, wells)**
- 10.3 Capital Costs**
 - 10.3.2 Non-Potable Water System**
- 10.4 Funding**
- 10.5 Summary/Recommendations**

TASK 14: TRAINING/DELIVERABLES

A report entitled "Non-Potable Water System Hydraulic Model" will be submitted as a final deliverable for this project. This report will be in constant development as the project progresses. It will include documentation of the model development including a description of model controls, runs, results, pump curves, and facility information. An outline of the final report is as follows:

Hydraulic Model Overview

- 1.0 Model Geometry** - This section will describe how the model geometry was developed based on GIS data, previous models, as-built plans, etc.
- 2.0 Demands** - This section will describe how the demands were developed and distributed in the models.
- 3.0 Diurnal Curves** - This section will describe how the diurnal curves were developed for various service zones and specific customers. A plot of each one, as well as tabular list will be provided.
- 4.0 Reservoir Data** - This section will include a summary table of pertinent reservoir information. Additional information such as as-built plans will be included in the appendix of the report.

- 5.0 Pipe Data** - This section will include a summary table of pipe information included in the model(s) and friction factors implemented.
- 6.0 Booster Pump Hydraulic Data** - This section will include a summary table of pertinent booster pump information. Additional information such as as-built plans, pump curves, and efficiency tests will be included in the appendix of the report.
- 7.0 Well Pump Data** - This section will include a summary table of pertinent well pump data. Additional information such as as-built plans, pump curves, efficiency tests, and drilling logs will be included in the appendix of the report.
- 8.0 Pressure Regulating Station Data** - This section will include a summary table of pertinent pressure regulating station information. Additional information such as as-built plans will be included in the appendix of the report.
- 9.0 Control Data** - This section will include a summary table(s) of control information for the pumps, valves, wells, and treatment facilities.
- 10.0 Scenarios and Datasets** - This section will describe the scenarios and datasets set up in each model (i.e. low, average day, maximum month, maximum week, and maximum day).
- 11.0 Model Calibration**
- 12.0 Existing System Analysis**
- 13.0 Future System Model**
- 14.0 Future System Analysis**
- 15.0 Operational Scenario Analysis**

Submittals will include the following:

1. 50 Percent Submittal - A complete skeletonization of the system with all pipes that are to be included in the model along with all the facilities such as pump stations, PRV's, turnouts, treatment plants, wells, and reservoirs. A binder and/or electronic documentation of critical facilities attributes and controls as described in Task 4 (five hard copies and one pdf compiled electronic copy)
2. 90 Percent Submittal - Fully calibrated and functional existing system model files; 90% draft of the future system model; 90% draft of the Chapters 3, 8, and 10 of the Water Resources Master Plan; and 90% draft of Non-Potable Hydraulic Model Report as well as Operational Analysis of Possible System Modifications.
3. 100 Percent Submittal - Final future system hydraulic model, final Chapters 3, 8, and 10 of the Water Resources Master Plan Update; final Non-Potable Water Hydraulic Model Report; and all input files, graphics, spreadsheets, databases, and GIS coverages.
Five (5) copies of final report along with one compiled pdf copy of the 90% and final report as well as one MS Word 2007 compatible file.

We will conduct the following workshops:

1. One 4-hour workshop for the review of the 50 percent submittal
2. One 4- hour workshop for the review of the 90 percent submittal
3. A 2-day workshop once the models are completed. This workshop will cover the following topics:
 - a. Model construction
 - b. Adding or modifying the model elements
 - c. Model calibration
 - d. Modeling select scenarios
 - e. Updating the model with future GIS information

The project schedule detailed on the following page represents the level of effort and duration required to develop the calibrated non-potable water system hydraulic model of the existing system and model of the ultimate system, conducting analyses of the existing and ultimate systems, and updating Section 3 (Future Water Requirements), Section 8 (Distribution System Analysis) and Section 10 (Estimated Capital Costs) of the Water Resources Master Plan. The schedule has been developed to meet IRWD's project objectives contained in the Request for Proposal.

In order to be able to capture the warm period data, which may include maximum week and maximum day demands, we propose to order equipment as soon as the project is awarded. We have selected data logger and Meter Master locations in order to accomplish this. We will immediately review these selections with IRWD, collect water meter data, and provide it to Brainard and Company so that appropriate Meter Master units can be obtained before August 2013, allowing installations in early August and data collection during August and September, which have historically been the highest demand months. The long term monitors will collect flow data for three months before requiring charging of the batteries. This will be done in early November 2013 first, and then in three month increments.

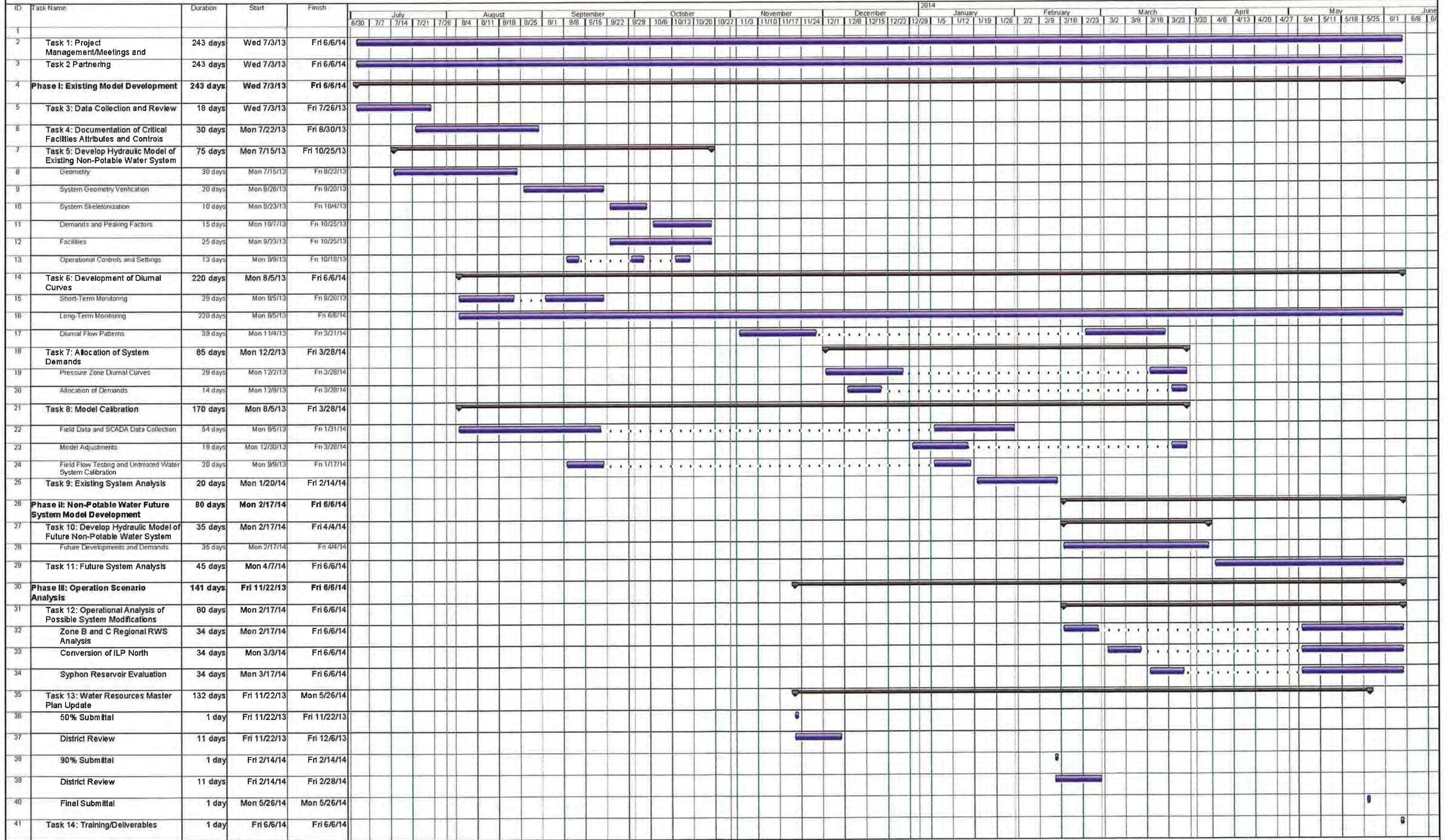
Similarly, we will install the pressure data loggers simultaneously for collecting pressure data during this warm period to be used in summer calibration. The pressure data loggers will collect data for four to eight weeks (depending upon weather conditions).

While the Meter Masters are connected for the first three months, we will prepare the geometric model from GIS and as-built facility plans, quality control it, and review it with IRWD's Operations and Engineering staff to resolve any issues, which is the process we used in preparing the geometric model for the Potable Water System Model.

AKM Consulting Engineers has the resources to accomplish the anticipated work of this program. We have carefully reviewed our current workload and staff commitments and are confident that we can mobilize the staff that will be required to effectively execute the required project tasks in a timely manner.

The schedule is contingent upon implementation of the scope of work as contained within this proposal. Changes to the scope may affect the project schedule. However, it is acknowledged that time is and will remain of the essence throughout the course of the work. Correspondingly, all schedule modifications will be treated in a manner reflecting this consideration.

PROJECT SCHEDULE
IRVINE RANCH WATER DISTRICT
Non-Potable Water System Hydraulic Model
June 14, 2013



AKM Proposal No 13-1053 Task Split Progress Milestone Summary Project Summary External Tasks External MileTask Split

STAFF HOUR & FEE ESTIMATE
Irvine Ranch Water District
Non-Potable Water System Hydraulic Model
June 14, 2013

Task	Project Mgr	Project Engr	Associate Engr	Field Data Collection	Office Support	Total Hours	Labor / Expenses	Equipment Cost	Total Cost	
PROJECT MANAGEMENT										
Task 1: Project Management/Meetings & Coordination	16	40				56	\$10,040		\$10,040	
Task 2: Partnering		16	16			32	\$4,800		\$4,800	
PHASE I - EXISTING MODEL DEVELOPMENT										
Task 3: Data Collection and Review	8	24	40			72	\$10,720		\$10,720	
Task 4: Documentation of Critical Facilities Attributes and Controls	4	24	60			88	\$12,460		\$12,460	
Task 5: Develop Hydraulic Model of Existing Non-Potable Water System	8	40	200			248	\$33,520		\$33,520	
Task 6: Development of Diurnal Curves- Short and Long Term Flow Recording	8	24	136	300		468	\$54,220		\$54,220	
Task 6: Equipment Rental / Purchase Cost (Purchase 40 Meter Masters)								\$106,466	\$106,466	
Task 7: Allocation of Demands (10 Diurnal Demand Curves)	8	40	160			208	\$28,520		\$28,520	
Task 8: Model Calibration - High and Low Demand Period	8	40	120	120		288	\$36,120		\$36,120	
Task 8: 49 Pressure Data Loggers for Calibration								\$22,437	\$22,437	
Task 8: 3 Pressure Data Loggers for PR Stations								\$1,361	\$1,361	
Task 8: 3 Strap on Meters for PR Stations								\$12,798	\$12,798	
Task 8: 4 Level Loggers								\$3,280	\$3,280	
Task 9: Existing System Analysis	8	16	40			64	\$9,320		\$9,320	
PHASE II - NON-POTABLE WATER FUTURE SYSTEM MODEL DEVELOPMENT										
Task 10: Develop Hydraulic Model of Future Non-Potable Water System	8	24	48			80	\$11,720		\$11,720	
Task 11: Future System Analysis	8	16	60			84	\$11,820		\$11,820	
PHASE III - OPERATIONAL SCENARIO ANALYSIS										
Task 12: Operational Analysis of Possible System Modifications										
12.1 Regional Zone B and C System Analysis	8	40	40			88	\$13,520		\$13,520	
12.2 ILP-North Conversion Study	8	24	40			72	\$10,720		\$10,720	
12.1.3 Syphon Reservoir Study	12	40	120			172	\$24,280		\$24,280	
Task 13: Water Resources Master Plan Update	8	40	12		24	84	\$12,460		\$12,460	
Task 14: Training/Deliverables		40	40		40	120	\$15,400		\$15,400	
Total Hours	120	488	1132	420	64	2224				
Rate (\$/Hr)	\$190	\$175	\$125	\$105	\$60					
AKM Proposal No. 12-1075	Total Cost	\$22,800	\$85,400	\$141,500	\$44,100	\$3,840		\$299,640	\$146,342	\$445,982

IRVINE RANCH WATER DISTRI **Exhibit "C"**

Expenditure Authorization

Project Name: HYDRAULIC MODEL UPDATE / CALIBRATION - NONPOTABLE

EPMS Project No: 31384 **EA No:** 1

Oracle Project No: 1106

Project Manager: HOOLIHAN, MICHAEL

Project Engineer: AKIYOSHI, ERIC

Request Date: June 11, 2013

ID Split: Regional Reclaimed Water Split with LAWD (11/08)

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
211	1.9	CAPITAL FUND
212	15.7	BONDS YET TO BE SOLD**
213	5.5	BONDS YET TO BE SOLD**
221	14.7	BONDS YET TO BE SOLD**
230	8.7	BONDS YET TO BE SOLD**
235	6.4	BONDS YET TO BE SOLD**
240	7.7	BONDS YET TO BE SOLD**
250	25.6	BONDS YET TO BE SOLD**
261	9.6	BONDS YET TO BE SOLD**
290	4.2	BONDS YET TO BE SOLD**
Total	100.0%	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$467,500
Total EA Requests:	\$467,500
Previously Approved Budget:	\$467,500
Budget Adjustment Requested this EA:	\$0
Updated Budget:	\$467,500
Budget Remaining After This EA	\$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	50,000	0	50,000	0	50,000	50,000	6/13	9/14
ENGINEERING - PLANNING OUTSIDE	360,000	0	360,000	0	360,000	360,000	6/13	9/14
CONSTRUCTION FIELD SUPPORT	15,000	0	15,000	0	15,000	15,000	6/13	9/14
Contingency - 10.00% Subtotal	\$42,500	\$0	\$42,500	\$0	\$42,500	\$42,500		
Subtotal (Direct Costs)	\$467,500	\$0	\$467,500	\$0	\$467,500	\$467,500		
Estimated G/A - 170.00% of direct labor*	\$110,500	\$0	\$110,500	\$0	\$110,500	\$110,500		
Total	\$578,000	\$0	\$578,000	\$0	\$578,000	\$578,000		
Direct Labor	\$65,000	\$0	\$65,000	\$0	\$65,000	\$65,000		

*EA includes estimated G&A. Actual G&A will be applied based on the current ratio of direct labor to general and administrative costs.

EA Originator:

Eric Akiyoshi 6-11-13

Department Director:

Kevin L. Burton 6/12/13


Finance:

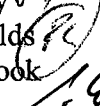
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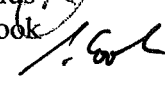
Board/General Manager:

** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of \$590,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated by reference. This declaration of official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

June 24, 2013

Prepared by: W. Posey 

Submitted by: P. Shields 

Approved by: Paul Cook 

ACTION CALENDAR

IRWD 2013 SEWER SYSTEM MANAGEMENT PLAN

SUMMARY:

The State Water Resources Control Board (SWRCB) is the permitting agency for sewage collection systems throughout California. The SWRCB requires that the owner of a sewage collection system develop and implement a Sewer System Management Plan (SSMP). As part of the implementation of the SSMP, the SWRCB also requires that the governing body of the agency that owns the sewer system certify the SSMP. Staff and the District's consultants have completed the IRWD SSMP, and are presenting this document, along with the 2008-2011 SSMP Audit Report, for the Board's review and consideration. Staff recommends that the Board:

- Receive and file the 2008-2011 SSMP Audit Report, and
- Approve the certification of the District's 2013 SSMP.

BACKGROUND:

Irvine Ranch Water District has one of the largest sewer systems in Orange County, with over 100,000 sewer connections serving 350,000 customers. The District maintains 963 miles of gravity sewer mains and 12 miles of sewer force mains spanning 181 square miles of service area. Drainage patterns in the wastewater collection system are influenced by the physical geography of the service area, resulting in five separate wastewater collection systems within the District's service area covered by the SSMP.

Under the SWRCB's General Waste Discharge Requirements (WDRs) for sewage collection systems, the owners of these systems must develop, implement, and maintain a SSMP to facilitate the appropriate funding and management of sewer systems. A SSMP must include provisions to properly and efficiently manage, operate, and maintain the sewer system, while taking into consideration risk management and cost benefit analyses. Additionally, an SSMP must contain a Spill Response Plan that establishes standard procedures for immediate response to a sewer system overflow (SSO) in a manner designed to minimize health and water quality impacts, along with potential nuisance conditions.

District's SSMP Plan History:

The District's 2005 SSMP was created to meet the requirements of the SWRCB Santa Ana Region Order No. R2-2002-0014 General Waste Discharge Requirements for Sewage Collection Agencies in Orange County within the Santa Ana Region. On December 1, 2006, the Santa Ana Region issued Order No. R8-2006-0081, rescinding Order No. R2-2002-0014 with the understanding that Orange County collection system agencies would be regulated pursuant to the terms and conditions of the SWRCB Proposed General WDRs for Sanitary

Sewer Systems. On May 2, 2006 the SWRCB adopted the Order No. 2006-0003-DWQ Statewide General WDRs for publicly owned sewer systems.

The timeline in the SWRCB's WDRs required the District to certify the SSMP prior to May 2, 2009. During this period, the Director of Water Quality was the District's authorized representative as described in Section J of the WDR Order. On August 8, 2007, the Director of Water Quality certified the District's 2005 SSMP on the on-line California Integrated Water Quality System (CIWQS) SSO database.

The table below shows the District's SSMP timeline.

Date	Description
April 26, 2002	Regional Water Quality Control Board, Santa Ana Region, adopts R8-2002-0014 General Waste Discharge Requirements for Sewage Collection Agencies in Orange County within the Santa Ana Region.
September 30, 2005	IRWD Sewer System Management Plan is completed on schedule with R8-2002-0014.
May 2, 2006	SWRCB adopts Order No. 2006-0003-DWQ Statewide General WDRs for Sanitary Sewer Systems.
December 1, 2006	RWQCB, Santa Ana Region issues Order No. R8-2006-0081 rescinding R8-2002-0014. From this point forward IRWD is only required to meet SWRCB's WDRs requirements.
August 8, 2007	IRWD certifies the existing SSMP in the SWRCB California Integrated Water Quality System (CIWQS) database prior to WDRs schedule deadline of May 2, 2009.
June 11, 2012	IRWD completes SSMP Program Audit Report
June 24, 2013	IRWD completes and certifies updated SSMP addressing recommendations from SSMP Program Audit Report.

SSMP Program Audit Report:

In accordance with the SWRCB's WDRs, the District is required to self-audit its SSMP a minimum of once every two years. This includes a review of the District's compliance with the WDRs and its effectiveness in controlling and responding to S. In October 2011, the District entered into a professional services agreement with RMC Water and Environment to conduct the audit on behalf of the District. This audit was conducted through a series of meetings with IRWD staff involved with the implementation of the activities required by provisions included in Provision D.13 of the WDRs. This audit assessed the District's current state of the SSMP compliance with Provision D.13 of the WDRs and identified any deficiencies with the District's SSMP effectiveness. The Audit Report was completed in June 2012 and covered the period of January 1, 2008 through December 31, 2011. The Final SSMP Audit Report is attached as "Exhibit A".

With recommendations from the SSMP Audit Report as listed in "Exhibit B", the audited findings incorporated into IRWD's updated SSMP; revisions to the SSMP's 11 elements were completed in June 2013. These elements that were updated include the following:

1. Collection System Management Goals
2. Organization of personnel, including the chain of command and communications
3. Legal authority for permitting flows into the system, inflow and infiltration control as well as enforcement of proper design, installation and testing standards, and inspection requirements for new and rehabilitated sewers, limiting the discharge of fats, oils and grease (FOG), and enforcement of sewer ordinances
4. Operations and maintenance program activities to maintain the wastewater collection system
5. Design and performance provisions
6. Overflow emergency response plan
7. A FOG Control Program
8. System evaluation and capacity assurance plan
9. Monitoring, measurement and program modifications plan for SSMP program effectiveness
10. Periodic internal SSMP audits
11. SSMP communication program

The WDRs require that the SSMP be updated every five years, and must include any significant program changes. Certification by the governing board of the District is required in accordance with D.14 of the WDRs when significant updates to the SSMP are made. Once the Board has certified the SSMP, staff will complete the certification process by entering the required data into the CIWQS SSO database; post a certified copy of the SSMP on the IRWD website; mail a certified hard copy to the State Water Resources Control Board.

SSMP Implementation Training:

Staff is trained regularly on SSO response and reporting. Additional structured informational SSMP training will be provided to staff involved in the development, and/or adherence to the SSMP document which will be divided into a matrix of three specific areas. The matrix will provide specific training for SSMP document owners, Collection Systems personnel, and primary standby or first responders to any SSO event. Training for the SSMP document owner is directed by the IRWD Collection System Manager to ensure that staff is familiar with the sections they are responsible for updating, and the deadline for which the updates will be completed. Collection Systems Department personnel will be trained in all aspects of the SSMP, including the purpose of the SSMP, SSO response, and each employee's responsibility and roles. Standby personnel and first responder training will be for staff either on standby and/or Collection Systems personnel who would respond to an SSO event. In the future, when there are any significant program changes, the SSMP will require re-certification by the IRWD Board of Directors.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on June 18, 2013.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO RECEIVE AND FILE THE 2008-2011 SEWER SYSTEM MANAGEMENT PLAN AUDIT REPORT AND CERTIFY THE IRWD 2013 SEWER SYSTEM MANAGEMENT PLAN.

LIST OF EXHIBITS:

Exhibit "A" – 2008-2011 SSMP Audit Report

Exhibit "B" – SSMP Audit Recommendations Spread Sheet

Exhibit "C" – 2013 Sewer System Management Plan



Final SSMP Audit Report

Irvine Ranch Water District SSMP Audit

Subject: 2008-2011 SSMP Audit Report

Prepared For: Wayne Posey, IRWD
Greg Springman, IRWD

Prepared by: Michael Flores, RMC
Paul Giguere, RMC
Andy Eggleston, RMC

Date: June 11, 2012

1 Purpose

The purpose of this document is to report the results of the Sewer System Management Plan (SSMP) Audit conducted for the Irvine Ranch Water District (IRWD) covering Calendar Year (CY) 2011. This report was prepared and is being submitted pursuant to the requirements included in the State Water Resources Control Board Order No. 2006-0003 – Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The audit requirements are:

“As part of the Sewer System Management Plan (SSMP), the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee’s compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.”

2 Background

Irvine Ranch Water District is a California Special District formed in 1961 and incorporated under the California water code. IRWD owns a sanitary sewer system with approximately 100,000 connections serving 300,000 customers and operates and maintains 877 miles of gravity sewer mains and 12 miles of sewer force mains spanning 180 square miles (84,000 acres) of service area in Orange County. In addition to encompassing the City of Irvine, IRWD is bordered by and includes portions of the Cities of Costa Mesa, Lake Forest, Newport Beach, Orange, Santa Ana, and Tustin and large portions of unincorporated Orange County. Drainage patterns in the wastewater collection system are influenced by the physical geography of the service area and result in five separate wastewater collection systems within the IRWD service area which are covered by the Sewer System Management Plan.

The SSMP was certified as completed on September 30, 2005 and was created by the Water Quality department to meet the requirements of Order No. R2-2002-0014. General Waste Discharge Requirements for Sewage Collection Agencies in Orange County within the Santa Ana Region. On December 1, 2006 the Santa Ana Region issued Order No. R8-2006-0081, Rescission of Waste Discharge Requirements for Specific Facilities which rescinded Order No. R2-2002-0014 with the understanding that collection system agencies would be regulated pursuant to the terms and conditions of the State Board’s General Waste Discharge

Requirements for Sanitary Sewer Systems, Order No. 2006-0003-DWQ. The SSMP has not been updated since the original version created in 2005.

3 SSMP Audit

This audit, covering from January 1, 2008 through December 31, 2011, is the first SSMP Audit performed to meet WDR requirements for completion of an audit a minimum of once every two years. This audit assesses the current state of SSMP compliance with Provision D.13 of the WDR, identifies any deficiencies found in the SSMP, and recommends corrective actions. In addition the audit provides an evaluation of SSMP effectiveness. IRWD intends to use the audit results to improve SSMP compliance and performance in reducing sewer overflows.

RMC Water and Environment conducted the audit on behalf of the District through a series of meetings with IRWD staff involved with implementation of activities required by provisions included in Provision D.13 of the WDR. The RMC Audit Team members and IRWD staff supporting the audit interviews and audit process are identified in Table 3-1 and Table 3-2 organized in alphabetical order by first name.

Table 3-1: RMC Audit Team Members

Team Member	Role
Andy Eggleston	Technical Expert, FOG; Audit Support
Michael Flores	Lead Auditor
Paul Giguere	Technical Expert, SECAP

Table 3-2: IRWD Audit Team Members

Name	Title
Charlie Hjorth	Senior Collection Systems CCTV Tech
Greg Springman	Collection Systems Manager
Henry Solis	Collection Systems Supervisor
Joe Costantino	Collection Systems Supervisor
Kevin Burton	Executive Director of Engineering and Planning
Mike Hoolihan	Principal Engineer
Shannon Reed	Public Affairs Manager
Soha Vazirnia	Analyst
Wayne Posey	Director of Wastewater Operations

SSMP audit interviews were performed over a two-day period on January 24, 2012 and January 25, 2012. The order of the audit interviews, WDR provision audited, and District staff interviewed is documented in Table 3-3:

Table 3-3: SSMP Audit Interviewees

Date	WDR Provision Section	Topics	Interviewees
1/24/12	D.13 (i), D.13 (ii) D.13 (iii) D.13 (ix) D.13 (x)	SSMP Goal, SSMP Organization, Legal Authority, Monitoring, Measurement, and Program Modifications, SSMP Program Audits	Wayne Posey Greg Springman
1/24/12	D.13 (xi)	Communication Program	Shannon Reed Greg Springman
1/24/12	D.13 (viii)	System Evaluation and Capacity Assurance Plan	Mike Hoolihan Greg Springman
1/24/12	D.13 (iv)	O&M Program <ul style="list-style-type: none"> • Rehabilitation and Replacement Planning • CIP Funding 	Kevin Burton Greg Springman
1/24/12	D.13 (v)	Design and Performance Provisions	Kevin Burton Greg Springman
1/25/12	D.13 (iv)	O&M Program <ul style="list-style-type: none"> • Mapping • PM Activities • Training 	Greg Springman Henry Solis Joe Costantino Charlie Hjorth Mike Hoolihan
1/25/12	D.13 (vi)	Overflow Emergency Response Plan	Greg Springman
1/25/12	D.13 (vii)	FOG Control Program	Soha Vazirnia Greg Springman
1/25/12		Post Audit Meetings Debrief	Wayne Posey Greg Springman Soha Vazirnia

4 Evaluation of SSMP Effectiveness

Overall, based on analysis of the SSO trends over the past four years and the results of the SSMP audit, it appears that the overall program for managing the sewer system has been effective at maintaining a very low SSO rate averaging less than 1 SSO per 100 miles of sewer pipelines per year consistently between Calendar Year 2008 and Calendar Year 2011.

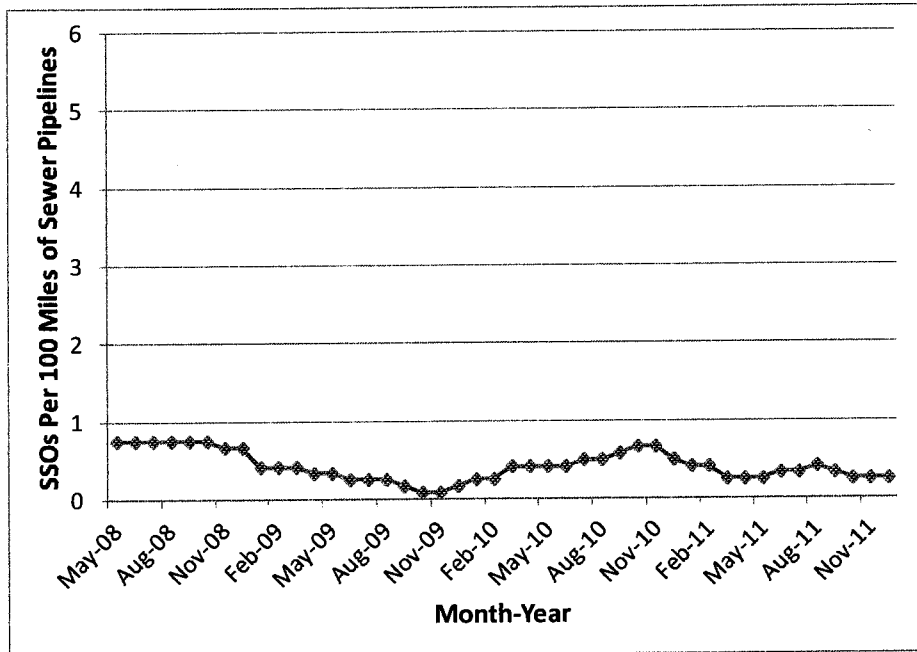
4.1 Sewer Overflow Performance

The primary measure of the effectiveness of the SSMP is sewer overflow performance. During the period between January 1, 2008 and December 31, 2011, the District experienced 19 SSOs with 17 SSOs occurring in sewer gravity mainlines and 2 SSOs associated with pressure pipelines or pump stations. All 19 SSOs occurred during dry weather conditions.

4.1.1 Number and Size of SSOs

Over the past four years the District has experienced relatively few sanitary sewer overflows with an average SSO rate of well below 1 SSO per 100 miles of sewer pipelines per year from Calendar Year 2008 through Calendar Year 2011. An SSO rate of less than 1 SSO per 100 miles of pipeline per year is considered a high-performing sewer system. Figure 4-1 shows the 12-month rolling average of SSOs per 100 miles of pipelines per year from May 2008 through December 2011.

Figure 4-1: 12-Month Rolling Average of SSOs per 100 Miles of Sewer Pipelines per Year



In the past four years, 10 out of 19 SSOs (52 percent) had volumes of less than 1,000 gallons. Of the nine (9) SSOs larger than 1,000 gallons, six (6) occurred in 2008 and three (3) in 2010. IRWD did not experience any SSO greater than 1,000 gallons in Calendar Year 2011. Table 4-1 shows the number and size of all SSOs occurring in the IRWD sewer system between Calendar Year 2008 through Calendar Year 2011.

Table 4-1: Number and Size of All SSOs from CY 2008 through CY 2011

Size of SSO (gallons)	CY 2008	CY 2009	CY 2010	CY2011	TOTAL
Greater than 10,000	3	0	1	0	4
From 1,000 to 9,999	3	0	2	0	5
From 100 to 999	1	1	3	2	7
From 10 to 99	1	1	0	1	3
From 1 to 9	0	0	0	0	0
Total	8	2	6	3	19

4.1.2 Causes of SSOs

SSOs caused by roots (7), grease (3), debris (4), some combination of these (1), and vandalism (2) accounted for 89.5 percent of SSOs occurring between January 1, 2008 and December 31, 2011 as shown in Table 4-2. Of the remaining two (2) SSOs, one was caused by contractor error in performing a sewer bypass and the other had a cause that was not determined.

Table 4-2: Causes of SSOs (1/1/2008 – 12/31/2011)

Cause of SSO	Number	Percent of Total
Blockage:		
Roots	6	31.6%
Grease	3	15.8%
Debris	4	21.1%
Vandalism	2	10.5%
Construction Debris	0	0.0%
Multiple Causes	1	5.3%
Subtotal for Blockage	16	84.2%
Operator Error	0	0.0%
Infrastructure Failure	1	5.3%
Inflow and Infiltration	0	0.0%
Electrical Power Failure	0	0.0%
Flow Capacity Deficiency	0	0.0%
Contractor Error	1	5.3%
Cause Unknown	1	5.3%
TOTAL (ALL)	19	100%

4.2 Review of Effectiveness of SSMP Elements

The following sections focus on evaluating the effectiveness of each element of the SSMP.

4.2.1 Element 1 - Goal

WDR Requirement: *The goal of the Sewer System Management Plan (SSMP) is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.*

Audit Finding: As stated in the IRWD SSMP, the goal of the SSMP is to provide a plan and schedule for measures to be implemented to prevent SSOs. Overall, the programs, plans, systems, and practices the District employs and have implemented to manage, operate, and maintain the sewer system are resulting in an SSO rate of less than 1 SSO per 100 miles of pipelines per year, which is well below the industry average SSO rate in California indicating the District has been effective with achieving this goal..

4.2.2 Element 2 – Organization

WDR Requirement: *The Sewer System Management Plan (SSMP) must identify:*

a. *The name of the responsible or authorized representative as described in Section J of this Order.*

b. *The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and*

c. *The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).*

Audit Finding: The SSMP Organization section is currently out-of-date. Although the SSMP documentation is out-of-date, key items required are in place within the organization and clearly understood as follows:

1. The Director of Wastewater Operations is the Legally Responsible Official and is the authorized representative as described in the WDR.
2. The chain of communication for reporting SSOs is understood. The District maintains a response, reporting, and notification list and has clearly communicated SSO response, notification, and reporting roles and responsibilities to District staff members.

The management, administrative, and maintenance positions responsible for implementing specific measures of the SSMP program is not documented in the SSMP and until recently was not clear within the organization. This has resulting in several issues relating to SSMP documentation, as identified in the audits findings, yet has not contributed to reductions in overall SSMP program effectiveness.

4.2.3 Element 3 – Legal Authority

WDR Requirement: *Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:*

- a. *Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);*
- b. *Require that sewers and connections be properly designed and constructed;*
- c. *Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;*
- d. *Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and*
- e. *Enforce any violation of its sewer ordinances.*

Audit Finding: The current version of the SSMP is still organized to meet the requirements of the rescinded General Waste Discharge Requirements for Sewage Collection Agencies in Orange County within the Santa Ana Region and should be updated. The legal authorities for IRWD are documented in the Rules and Regulations for Water, Sewer, Recycled Water and Natural Treatment System Service and Procedural Guidelines and General Design Requirements and meet all requirements for legal authorities included in the WDR. No deficiencies or issues were identified in the SSMP audit relating to legal authorities. Table 4-3 summarizes IRWD's legal authorities for each of the requirements related to legal authorities included in the WDR requirements.

Table 4-3: Summary of IRWD Legal Authorities

Requirement	Reference in Rules and Regulations	Reference in Procedural Guidelines and General Design Requirements	Meets GWDR Requirements?
GENERAL			
Prevent illicit discharges into the wastewater collection system	Sec. 7.3.1		Yes
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	Sec. 7.11		Yes
Require that sewers and connection be properly designed and constructed	Sec. 4.4.2 Sec. 5.1; Sec. 5.2	Sec. 4	Yes
Require proper installation, testing, and inspection of new and rehabilitated sewers		Sec. 2.5	Yes
LATERALS			
Clearly define District responsibility and policies	Sec. 4.15		Yes
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the District		Sec. 4.12	Yes
Control infiltration and inflow (I/I) from private service laterals	Sec. 7.3.2		Yes
FOG SOURCE CONTROL			
Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements	Sec. 7.11.4 Sec. 7.11.6.8 Sec. 7.11.6.11 Sec. 7.1.7		Yes
Authority to inspect grease producing facilities	Sec. 7.11.7.4		Yes
ENFORCEMENT			
Enforce any violations of its sewer ordinances	Sec. 7.11.8 Sec. 14		Yes

4.2.4 Element 4 – Operation and Maintenance Program

WDR Requirement: *The Sewer System Management Plan (SSMP) must include those elements listed below that are appropriate and applicable to the Enrollee's system:*

- a. *Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;*
- b. *Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;*
- c. *Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;*
- d. *Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and*
- e. *Provide equipment and replacement part inventories, including identification of critical replacement parts.*

Audit Finding: The primary measure of the effectiveness of the operation and maintenance program is SSO performance improvements over time. As discussed in Section 4, the District has sustained an SSO rate in the sewer system of less than 1 SSO per 100 miles of sewer pipelines per year, placing IRWD in the category of high-performing sewer systems. The Operation and Maintenance Program is a key contributor to the high level of SSO performance achieved in the last four years through:

- An aggressive sewer cleaning program which focuses aggressive sewer cleaning in pipelines with historical maintenance issues and cleaning of all other pipes at least once every two years;
- CCTV inspection of all pipes with sewer overflows, blockages, or severe maintenance issues to determine an appropriate maintenance strategy and identify repair or rehabilitation needs.
- Systematic CCTV inspection of the sewer system on an 11-year cycle beginning with the problematic and older portions of the system. This prioritization resulted in comprehensive sewer rehabilitation program of a root-infested portion of the system that was requiring significant resources to maintain, and was a source of sewer overflows. This systematic approach will enable IRWD to identify structural deficiencies in the early stages of deterioration and to monitor these deficiencies and determine appropriate corrective actions.

- Well-trained collection system employees with all employees maintaining CWEA Collection System Maintenance certifications at or above levels required for their position.
- Accurate and up-to-date mapping of sewer and stormwater systems to support SSO response and preventive maintenance activities.
- A pump station maintenance and inspection program with a well-defined maintenance schedule, documented standard operating procedures, checklists, and daily SCADA data review.

Areas the District is still working on to improve the effectiveness of the Operations and Maintenance Program include:

- Implementing a computerized maintenance management system to document maintenance activities performed on the sewer system as well as to support documentation of important information collected during maintenance by asset.
- Development of a long-term projection of sewer rehabilitation and replacement needs and incorporating these results into the long-term funding forecasts and rate structure.

4.2.5 Element 5 – Design and Performance Provisions

WDR Requirement:

- Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and*
- Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.*

Audit Finding: The District has appropriate design and construction standards and specifications as well as procedures and standards for inspection and testing of new sewers and rehabilitation and repair projects. The one (1) SSO event linked to sewer system structural failure was caused by the rupture of a non-standard fitting on a pump station discharge pipe. In retrospect, the fitting did not meet District design standards and should not have been installed. The District has determined this to be an isolated incident and aside from the event has not had any other sewer overflow events relating to design and construction of new, repaired, or rehabilitated collection system assets.

4.2.6 Element 6 – Overflow Emergency Response Plan

WDR Requirement: *Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:*

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;*
- A program to ensure an appropriate response to all overflows;*
- Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit*

requirements. The Sewer System Management Plan (SSMP) should identify the officials who will receive immediate notification;

d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

f. A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Audit Finding: The District's Overflow Emergency Response Plan is out-of-date and does not document the current protocols and practices utilized by Wastewater Operations. Collection System Operations is in the process of updating the Overflow Emergency Response Plan to meet the requirement of the WDR.

The District has invested in sewer overflow response equipment and has sewer containment equipment and sewer bypass piping and pumps on overflow response trailers. The District has performed several trainings focused on overflow response including a Safety Training Day in 2011 devoted to overflow emergency response training. Training activities have included field exercises. The District has also utilized plant bypasses as opportunities to practice emergency response sewer bypass procedures. Collection System Operations also conducts monthly meetings for standby personnel which includes a review of emergency response roles and responsibilities. In addition, Collection System Operations staff will debrief on overflow emergency response training topics as necessary during weekly meetings.

The average response time to sewer overflow events has averaged less than 30 minutes from 2008 through 2011. In Calendar Year 2010 and 2011 the District recovered 81 percent of all sewage spilled. Since September 15, 2010, of the 640 gallons spilled, none reached surface waters. These are strong indicators of an effective overflow response capability.

4.2.7 Element 7 – FOG Control Program Plan

WDR Requirement: Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

b. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

c. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

d. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;

- e. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
- f. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
- g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

Audit Finding: The District has a very effective program for fats, oils, and grease (FOG) blockage control consisting of a combination of aggressive source control of approximately 1,000 food service establishments (FSEs) and aggressive sewer cleaning of all areas known to have a history of FOG issues. In the last four years the District has only experienced four (4) grease-related SSOs with only one (1) grease-related SSO occurring since October 17, 2008. The one (1) SSO that did occur in 2010 was attributed to grease coming from a residential area and not a commercial FSE. This is an indicator that the current FOG Control Program has been effective at controlling grease issues in the sewer mainlines.

Table 4-4: Grease-Related SSOs

Year	2008	2009	2010	2011
Number of Grease-related SSOs	3	0	1	0

4.2.8 Element 8 – System Evaluation and Capacity Assurance Plan

WDR Requirement: *The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:*

- a. *Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;*
- b. *Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and*
- c. *Capacity Enhancement Measures: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.*
- d. *Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the Sewer System Management Plan (SSMP) review and update requirements as described in Section D. 14.*

Audit Finding: The District has not experienced any capacity-related sewer overflows since before June 2007, which is when the District began entering sewer overflow reports into the SWRCB CIWQS database. The District completed a Sewer Master Plan in June 2006 that

identified capacity projects. The District completed capacity upgrades in Muirlands, the only location with verified surcharging. The remainder of the capacity deficiencies identified were field-verified and found not to have evidence of capacity issues. The District did reconfigure how flows were diverted to the treatment plant, which had the secondary effect of reducing one of the capacity issues identified in the 2006 Sewer Master Plan. Overall, the District's approach to system evaluation and capacity assurance has proven to be effective, as evidenced by no capacity-related SSOs occurring since before June 2007.

4.2.9 Element 9 – Monitoring, Measurement, and Program Modifications

WDR Requirement: *The Enrollee shall:*

- a. *Maintain relevant information that can be used to establish and prioritize appropriate Sewer System Management Plan (SSMP) activities;*
- b. *Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;*
- c. *Assess the success of the preventative maintenance program;*
- d. *Update program elements, as appropriate, based on monitoring or performance evaluations; and*
- e. *Identify and illustrate SSO trends, including: frequency, location, and volume.*

Audit Finding: Monitoring and measurement of core maintenance and inspection activities is performed on an on-going basis. Core activities measured and monitored include:

- Sewer overflows
- Sewer cleaning
- Chemical root control
- Sewer inspection
- FOG source control inspections, investigations, and follow-up activities
- Sewer repairs
- Sewer pipeline and manhole rehabilitation

Sewer overflows are monitored monthly on a “dashboard” reporting system utilized by IRWD management to track key performance indicators. Sewer maintenance and inspection production indicators are tracked continuously and utilized by the Collection Systems Manager to report progress to the Director of Wastewater Operations and are shared with Collection System Supervisors to manage meeting overall goals for production. Sewer overflow data is collected on paper and tracked on an internal spreadsheet as well as on the SWRCB CIWQS database. Sewer maintenance activities are tracked on daily activity reports and entered into an MS Access database created to track maintenance activities. The District is in the midst of an asset management information system assessment to evaluate potential asset management systems to support sewer management, operations, and maintenance activities.

The Wastewater Operations Management Analyst tracks source controls activities performed by the source control inspection contractor using software which the contractor developed. Data is delivered to the District periodically and analyzed by the Management Analyst to determine progress. Meetings are held periodically with the source control inspection contractor to discuss progress and prioritize activities.

Sewer repair, rehabilitation, and replacement needs, as identified by Wastewater Operations, are recorded in Tabware software and work orders are printed and given to Engineering and Construction. Engineering does not use the Tabware system and it is currently a tool utilized solely by Wastewater Operations to track deficiencies recommended for repair, rehabilitation, and replacement.

Overall the District has a disparate set of spreadsheets, databases, and reporting tools to monitor and measure activities and is in the process of determining a longer-term and holistic solution to managing SSMP activities and collection system assets through the asset management system assessment, evaluation, selection, and implementation project.

4.2.10 Element 10 – SSMP Program Audits

WDR Requirement: *As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.*

The District's SSMP includes plans to perform an internal SSMP audit every two years with audit results to be distributed to staff and management along with recommendations and suggested improvements. This SSMP audit process is the first SSMP audit performed of the District's SSMP. The original SSMP was completed in September 2005. On August 8, 2007, the District appears to have entered the certification dates for all SSMP into the State Water Resources Control Board California Integrated Water Quality System (CIWQS) as occurring on September 30, 2005. This indicates that an SSMP audit should have occurred sometime in 2007, 2009, and 2011. This current SSMP audit process was initiated in 2011. The primary reason SSMP audits were not performed appears to be linked to unclear responsibilities for the SSMP audit element of the SSMP. Although the audits have not occurred as originally planned it has not impacted IRWD's effectiveness with achieving and maintaining above-average collection system performance.

4.2.11 Element 11 – Communication Program

WDR Requirement: *The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.*

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

IRWD participates in the Orange County WDR Steering Committee Meetings that occur bi-monthly and include all agencies that are tributary to Orange County Sanitation District. This includes most agencies that are tributary to IRWD including portions Santa Margarita Water District and portions El Toro Water District which flow into IRWD collection system and the agencies with which IRWD is tributary which include Orange County Sanitation District and El Toro Water District. This meeting provides IRWD with a means to communicate with tributary and neighboring agencies.

IRWD has utilized education and communication as the primary means for controlling FOG discharges from multi-family housing and single-family homes. The FOG Control Program Manual includes strategies to provide educational information to customers in the District's

Quarterly Newsletter and FOG educational brochures mailed with utility bills on an annual basis to educate District customers.

IRWD does not have an adequate plan and process in place for communicating with the public on the implementation and performance of the SSMP. The lack of a plan for communication has not impacted the overall effectiveness of the program to manage the sewer system.

5 Strengths and Implementation Accomplishments

Documenting the strengths and implementation accomplishments of the SSMP is as important as determining the deficiencies and corrective actions. The District should both recognized the areas of strength in sewer system management as well as continue building upon success in these areas. Table 5-1 includes the strengths and implementation accomplishment that were identified during the audit.

Table 5-1: Strengths and Implementation Accomplishments

WDR Provision	Strengths and Implementation Accomplishments
D.13 (iv) Operation and Maintenance Program – Preventive Maintenance	Aggressive program to maintain pipes with historical maintenance issues and aggressive systemwide cleaning program. Aggressive sewer cleaning is resulting in a high level of sewer system performance (low SSO rate).
D.13 (iv) Operation and Maintenance Program – Training	All Collection System Operations employees hold CWEA Collection System Maintenance certification at or above levels required for their position. Collection System Maintenance certification is a job requirement.
D.13 (vi) Overflow Emergency Response Plan	The District has purchased and outfitted SSO response trailers with containment and sewer bypass piping and pump equipment to enable faster SSO response.
D. 13 (vii) FOG Control Program	The District has sustained a comprehensive FOG source control program including FSE inspections and follow-up for all FSEs in the IRWD service area. In the past three years IRWD has not experienced any grease-related SSOs linked to grease coming from an FSE.
D.10 – Adequate Capacity & D.13 viii (a-d) – System Evaluation and Capacity Assurance Plan	<p>No capacity-related SSOs have been observed since at least 2007.</p> <p>The District completed a Sewer Master Plan in 2006 which included water demand analysis and sewer flow monitoring to establish capacity planning criteria, and modeling to evaluate existing and future capacity in all pipes 10 inches and larger (and many key smaller lines) and the 10 largest lift stations.</p> <p>The Master Plan identified a limited number of potential deficiencies. Deficiencies that were validated based on observed surcharging have been addressed via CIP projects.</p> <p>District staff continues to monitor two locations with high-level alarms, and have purchased 10 “Smartcovers” for monitoring levels in selected easement sewers.</p>

6 SSMP Deficiencies and Corrective Actions

Several deficiencies were identified during the audit and are in this Section along with recommended corrective actions. Deficiencies were divided into three categories and coded with a letter. The deficiency categories are coded and defined as follows:

Table 6-1: Deficiency Definitions

Deficiency Type	Deficiency Type	Deficiency Definition
A	Non-Compliance	A process or outcome resulting in the SSMP not currently being in compliance with the WDR/SSMP requirements.
B-major	Major Non-Conformance	Moderate to high risk that a statement in the SSMP is not fully conformed. Moderate to high risk to the success of the SSMP.
B-minor	Minor Non-Conformance	Low risk that a statement in the SSMP is not fully conformed. Low risk to the success of the SSMP.

Table 6-2: Non-Compliance Deficiencies and Recommended Corrective Actions

WDR Provision	Identified Deficiency	Recommended Corrective Action	Deficiency Type
D.13 (ii)(a) Organization	The SSMP does not include the name(s) of the responsible or authorized representatives, as defined in the SSS WDR.	Update the SSMP to include this information. The District may want to consider providing the required information as an attachment to the SSMP to simply future SSMP updates.	A
D.13 (ii)(b) Organization	The SSMP does not include names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP.	Update the SSMP to include this information. The District may want to consider providing the required information as an attachment to the SSMP to simply future SSMP updates.	A
D.13 (ii)(b) Organization	The SSMP does not include a narrative explanation of the lines of authority for positions involved in the implementation of the SSMP.	Add the required information to the text of the SSMP. This information could be provided in a table, including an indication of which position is responsible for which aspects of the SSMP.	A
D.13 (ii)(c) Organization	The description of the chain of communication for reporting SSOs is incomplete.	Update the SSMP to include a description of the chain of communication. Any chain of communication included in the Organization section of the SSMP should be consistent with the Overflow Emergency Response Plan (OERP). The District may want to consider simply referencing the updated OERP to meet this requirement.	A
D.13 (iii) Legal Authority	The SSMP does not demonstrate IRWD's legal authorities relating to: <ul style="list-style-type: none"> • Ensuring access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency; • Enforcing any violation of its sewer ordinances 	Update the SSMP to include references to the appropriate documents creating legal authorities for these items.	A

EXHIBIT "A-17"

Table 6-2: Non-Compliance Deficiencies and Recommended Corrective Actions (Cont'd)

WDR Provision	Identified Deficiency	Recommended Corrective Action	Deficiency Type
D.13 (iv)(c) O&M Program – Rehabilitation and Replacement Plan	The SSMP does not include a rehabilitation and replacement plan identifying: <ul style="list-style-type: none"> • Short-term and long-term rehabilitation actions to address deficiencies; • A description of regular visual and TV inspections of manholes and sewer pipes; • A system for ranking the condition of sewer pipes and scheduling rehabilitation; • A capital improvement plan and schedule for developing funds 	Update the SSMP to include a rehabilitation and replacement plan section addressing WDR requirements. The District may want to consider including the following items in the rehabilitation and replacement plan: <ul style="list-style-type: none"> • Estimating the lifecycle of collection system assets and developing a long-term projection for system renewal. • A description of the amount of reserve funding the District is putting aside for future repair and replacement. 	A
D.13 (iv)(e) O&M Program	Equipment: The SSMP does not include an inventory of equipment and replacement parts or a discussion of why this is not necessary.	Add the required information as an attachment to the SSMP or add a discussion of why this is not necessary.	A
D.13 (vi) Overflow Emergency Response Plan (OERP)	Current overflow emergency response procedures are not well documented.	Prepare an updated Overflow Emergency Response Plan, making sure to include the required elements listed in the SSS WDR.	A
D.13 (x) SSMP Program Audits	The SSMP indicates SSMP audits were to be performed every two years starting in 2005. The WDR requires SSMP audits every two years from certification of completion of the SSMP. IRWD certified in CIWQS that the SSMP was completed on 9/30/2005. SSMP audits should have been performed in 2007, 2009, and 2011.	Update the SSMP audit section to include a schedule for performing future SSMP audits and perform audits as scheduled. The next audit should be performed in the first quarter of 2014 and should review SSMP effectiveness for Calendar Years 2012 and 2013.	A
D.13 (xi) Communication Program	IRWD has not defined a means to communicate with the public on a regular basis on the performance of the SSMP.	Define a means to communicate with the public on a regular basis on the performance of the SSMP and update the SSMP to include a description of how IRWD intends to accomplish this.	A

EXHIBIT "A-18"

Table 6-3: Major and Minor Non-Conformance Deficiencies and Recommended Corrective Actions

WDR Provision	Identified Deficiency	Recommended Corrective Action	Deficiency Type
D.13 (iv)(b) O&M Program – Preventive Maintenance	The SSMP indicates that the sewer system is cleaned once annually. The District is on schedule to complete sewer cleaning of the entire system on an 18-month cycle.	Although the District is technically not meeting the stated goal for sewer cleaning in the SSMP, the goal is well above industry standard for system-wide sewer cleaning. It is recommended that the District update the SSMP to include a more achievable goal and based on the preventive maintenance needs of the sewer system.	B-minor
D.13 (vii) FOG Control Program – Sufficient Staff to Enforce	The District does not have sufficient resources available to perform enforcement for all of the FOG violations identified by the FOG inspection contractor.	Perform a workload analysis of FOG enforcement work activities to determine the additional labor required to enforce FOG violations in a timely manner.	B-major
D.13 viii (a-d) – System Evaluation and Capacity Assurance Plan	District’s current SSMP was completed prior to publication of the 2006 Master Plan, and does not describe in adequate detail the system evaluation that was performed or the capital improvement projects that resulted. The SSMP does not describe the SAMP process for new development and how it is coordinated with the Master Plan.	Update the SSMP to include a more thorough description of the District’s 2006 Master Plan, including the development of specific planning criteria and the improvement projects performed following field validation. Also document the Master Plan projects that were found to be unnecessary and why. The updated SSMP should also include a description of the District’s SAMP process and how it is coordinated with the Master Plan.	B-minor
D.13 viii (a-d) – System Evaluation and Capacity Assurance Plan	The District’s current planning criteria for flow generation factors are based on water demand and flow monitoring studies performed in 2003-2005. Given the declining flows experienced by wastewater agencies since that time, the factors may have changed significantly.	Update the flow generation factors used for capacity planning through a combination of water demand analysis and targeted flow monitoring. Use the new flow generation factors in the Master Plan update which is planned to be initiated within the next two years.	B-minor

EXHIBIT “A-19”

Table 6-3: Major and Minor Non-Conformance Deficiencies and Recommended Corrective Actions (Cont'd)

WDR Provision	Identified Deficiency	Recommended Corrective Action	Deficiency Type
D.13 viii (b) – System Evaluation and Capacity Assurance Plan	The current planning criteria account for I/I by using conservative d/D ratios. While this method appears to be adequate based on the lack of observed wet weather overflows, it is possible that some areas of the system experience I/I sufficient to limit the capacity available for future upstream development.	<p>In conjunction with an update of the Master Plan, consider a targeted wet weather flow monitoring program to identify areas in which I/I may be problematic.</p> <p>Highest priority for wet weather flow monitoring should be given to older sewers which are suspected of having high I/I, and which also have the potential for receiving additional flows from future upstream development. Areas of high I/I that are already built-out and do not have a history of backups or overflows are of less concern, unless they contribute significant amounts of I/I to downstream sewers which will serve future development.</p> <p>In the near term, utilize existing high level sensors in suspected high-I/I areas to determine if sewers are surcharging during rainfall events. Use this information to help design the wet weather flow monitoring program.</p>	B-minor

EXHIBIT "A-20"

7 Other Findings and Opportunities

This section includes other findings and opportunities for improvements not linked directly to issues of compliance or conformance with the WDR. These are ideas which resulted from the audit and are presented for the District's consideration.

Table 7-1: Other Findings and Opportunities

WDR Provision	Finding	Opportunity
D.13 (i) Goal	Existing SSMP text does not match the goal as defined in the SSS WDR.	Update stated goal to match the language provided in the SSS WDR.
D.13 (iv)(a) Operations and Maintenance Program	The District does not have access to mapping for stormwater conveyance facilities throughout the entire service area. The District does have access to support from the County of Orange, in the form of staff and equipment, during an SSO event and County staff do have access to all available stormwater conveyance mapping data as well as have historical knowledge of the location of stormwater conveyance assets.	Continue to work with the County of Orange to gain access to stormwater conveyance mapping information as it becomes available. Make this information available to Collection System Operations field crews.
D.13 (iv)(b) O&M Program – Preventive Maintenance	The District's current system-wide cleaning strategy to clean the system once every 18 months is potentially more than is needed. Although an aggressive sewer cleaning strategy is one of the factors contributing to the low SSO rates the District is achieving, it may be possible to achieve the same results with a condition-based sewer cleaning approach which determines sewer cleaning frequency based on the cleaning needs individual pipelines.	<p>Some pipelines in the sewer system could be cleaned on a significantly reduced schedule with little to no risk of having a sewer overflow. The District may want to consider using feedback from sewer cleaning crews to identify pipelines and areas which may not require such an aggressive system-wide cleaning schedule and begin to increase periods between cleanings in these locations.</p> <p>If the District employs a condition-based sewer cleaning approach an additional opportunity will be to re-invest sewer cleaning resources to performing additional CCTV inspection. This could be accomplished over a multi-year period with a phased transition of a crew from cleaning to CCTV. The additional CCTV inspection capability could be focused on inspection in lieu of cleaning, validation of preventive maintenance schedules, and additional system-wide inspection for condition assessment.</p>

EXHIBIT "A-21"

Table 7-1: Other Findings and Opportunities (Cont'd)

WDR Provision	Finding	Opportunity
D.13 (iv)(b) O&M Program – Preventive Maintenance	The District currently utilizes a paper-based system and MS Access database to schedule and track sewer preventive maintenance activities. The District is in the process of selecting an asset management system and implementing new processes to support collection system asset management.	Include in the new asset management system business processes to collect code-based feedback from sewer cleaning crews indicating the type and severity of material found during cleaning activities. Implement a process to analyze this data to continually optimize sewer cleaning frequencies with the goal of focusing cleaning on locations prone to maintenance issues or with a high risk associated with system failure.
D.13 (iv)(c) O&M Program – Rehabilitation and Replacement Program	The District currently uses a combination of Tabware software and paper work orders to track and communicate collection system repair, rehabilitation, and replacement needs. Currently the District does not have a streamlined process for mapping deficiencies recommended for repair, rehabilitation, or replacement. Mapping of these deficiencies would enable Engineering to group projects addressing deficiencies geographically.	Include a means for tracking collection system asset repair, rehabilitation, and replacement needs and activities in the implementation of the asset management system currently being planned. Include a means to map system deficiencies and locations recommended for repair, rehabilitation, or replacement to support Engineering in defining projects to address system deficiencies.
D.13 (iv)(c) O&M Program – Rehabilitation and Replacement Program	The District does not have an approach to assess the condition of all force mains within the collection system.	The District should consider performing a risk assessment of force main assets and developing an approach to managing risk associated with force main assets including an analysis of probable failure modes, contingency plans in the event of failure, and approaches to assess condition issues linked to probable failure modes.
D.13 (vii)(a) FOG Control Program	Several opportunities were identified during the audit for additional public outreach regarding FOG control. Current public outreach activities include brochures sent to residential customers with bills during the holiday season as well as information provided on IRWD's website. Multi-family residences have specifically been identified as a potentially significant source of FOG.	Arrange for regular communication between the FOG Program Manager and the Public Outreach Coordinator regarding: <ul style="list-style-type: none"> • Development and implementation of a multifamily outreach campaign. • Ongoing public outreach efforts.

EXHIBIT "A-22"

Table 7-1: Other Findings and Opportunities (Cont'd)

WDR Provision	Finding	Opportunity
D.13 viii (a-d) – System Evaluation and Capacity Assurance Plan	The District uses the InfoSewer hydraulic modeling software, which is not a fully-dynamic program. InfoSewer is adequate for analyzing and sizing simple sewer systems with gradual flow variations that operate primarily in a non-surcharge mode.	<p>Evaluate whether converting to a fully-dynamic model would provide sufficient benefits to planning and operational analyses to offset the additional cost and re-training of staff. This evaluation could be done in conjunction with the update of the Master Plan.</p> <p>A fully-dynamic model (e.g., InfoSWMM) can more accurately represent the hydraulics within a sewer system that includes diversion structures that can split flow in two directions at normal or high levels, and that may experience backups due to planned or unplanned constrictions, pump operations, or temporary diversions.</p>
D.13 (xi) Communication Program	IRWD did not provide a means for the public to provide input into development and implementation of the original SSMP. IRWD has the opportunity to provide a means for the public to provide input during the next SSMP update.	Provide a means for the public to provide input into the next revision of the SSMP and future implementation activities.

EXHIBIT "A-23"

IRVINE RANCH WATER DISTRICT
SEWER SYSTEM MANAGEMENT PLAN AUDIT FINDINGS AND RECOMMENDATIONS

Findings Type	Linkage to WDR	SSMP Audit Finding	Auditor Recommended Correction Action	Corrective Action Status
Non-compliance	D.13 (ii)(a) Organization	The SSMP does not include the name(s) of the responsible or authorized representatives, as defined in the SSS WDR.	Update the SSMP to include this information. The District may want to consider providing the required information as an attachment to the SSMP to simplify future SSMP updates.	Addressed in SSMP update.
Non-compliance	D.13 (ii)(b) Organization	The SSMP does not include names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP.	Update the SSMP to include this information. The District may want to consider providing the required information as an attachment to the SSMP to simplify future SSMP updates.	Addressed in SSMP update.
Non-compliance	D.13 (ii)(b) Organization	The SSMP does not include a narrative explanation of the lines.	Add the required information to the text of the SSMP. This information could be provided in a table, including an indication of which position is responsible for which aspects of the SSMP.	Addressed in SSMP update.
Non-compliance	D.13 (ii)(c) Organization	The description of the chain of communication for reporting SSOs is incomplete.	Update the SSMP to include a description of the chain of communication. Any chain of communication included in the Organization section of the SSMP should be consistent with the Overflow Emergency Response Plan (OERP). The District may want to consider simply referencing the updated OERP to meet this requirement.	Addressed in SSMP update.
Non-compliance	D.13 (iii) Legal Authority	The SSMP does not demonstrate IRWD's legal authorities relating to: - Ensuring access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency; - Enforcing any violation of its sewer ordinances	Update the SSMP to include references to the appropriate documents creating legal authorities for these items.	Addressed in SSMP update.
Non-compliance	D.13 (iv)(c) O&M Program - Rehabilitation and Replacement Plan	The SSMP does not include a rehabilitation and replacement plan identifying: - Short-term and long-term rehabilitation actions to address deficiencies; - A description of regular visual and TV inspections of manholes and sewer pipes; - A system for ranking the condition of sewer pipes and scheduling rehabilitation; - A capital improvement plan and schedule for developing funds	Update the SSMP to include a rehabilitation and replacement plan section addressing WDR requirements. The District may want to consider including the following items in the rehabilitation and replacement plan: - Estimating the lifecycle of collection system assets and developing a long-term projection for system renewal. - A description of the amount of reserve funding the District is putting aside for future repair and replacement.	Addressed in SSMP update.
Non-compliance	D.13 (iv)(e) O&M Program	Equipment: The SSMP does not include an inventory of equipment and replacement parts or a discussion of why this is not necessary.	Add the required information as an attachment to the SSMP or add a discussion of why this is not necessary.	Addressed in SSMP update.
Non-compliance	D.13 (vi) Overflow Emergency Response Plan (OERP)	Current overflow emergency response procedures are not well documented.	Prepare an updated Overflow Emergency Response Plan, making sure to include the required elements listed in the SSS WDR.	Addressed in SSMP update.
Non-compliance	D.13 (x) SSMP Program Audits	The SSMP indicates SSMP audits were to be performed every two years starting in 2005. The WDR requires SSMP audits every two years from certification of completion of the SSMP. IRWD certified to CWRUS that the SSMP was completed on 9/30/2005. SSMP audits should have been performed in 2007, 2009, and 2011.	Update the SSMP audit section to include a schedule for performing future SSMP audits and perform audits as scheduled. The next audit should be performed in the first quarter of 2014 and should review SSMP effectiveness for Calendar Years 2012 and 2013.	Addressed in SSMP update.
Non-compliance	D.13 (xi) Communication Program	IRWD has not defined a means to communicate with the public on a regular basis on the performance of the SSMP.	Define a means to communicate with the public on a regular basis on the performance of the SSMP and update the SSMP to include a description of how IRWD intends to accomplish this.	Addressed in SSMP update.
Minor Non-conformance	D.13 (iv)(b) O&M Program - Preventive Maintenance	The SSMP indicates that the sewer system is cleaned once annually. The District is on schedule to complete sewer cleaning of the entire system on an 18-month cycle.	Although the District is technically not meeting the stated goal for sewer cleaning in the SSMP, the goal is well above industry standard for system-wide sewer cleaning. It is recommended that the District update the SSMP to include a more achievable goal and based on the preventive maintenance needs of the sewer system.	Addressed in SSMP update.
Major non-conformance	D.13 (vii) FOG Control Program - Sufficient Staff to Enforce	The District does not have sufficient resources available to perform enforcement for all of the FOG violations identified by the FOG inspection contractor.	Perform a workload analysis of FOG enforcement work activities to determine the additional labor required to enforce FOG violations in a timely manner.	Addressed in SSMP update.

EXHIBIT "B-1"

EXHIBIT "B"

IRVINE RANCH WATER DISTRICT
SEWER SYSTEM MANAGEMENT PLAN AUDIT FINDINGS AND RECOMMENDATIONS

Findings type	Linkage to WDR	SSMP Audit Findings	Auditor Recommended Correction Action	Corrective Action Status
Minor Non-conforman	D.13 viii (a-d) - System Evaluation and Capacity Assurance Plan	District's current SSMP was completed prior to publication of the 2006 Master Plan, and does not describe in adequate detail the system evaluation that was performed or the capital improvement projects that resulted. The SSMP does not describe the SAMP process for new development and how it is coordinated with the Master Plan.	Update the SSMP to include a more thorough description of the District's 2006 Master Plan, including the development of specific planning criteria and the improvement projects performed following field validation. Also document the Master Plan projects that were found to be unnecessary and why. The updated SSMP should also include a description of the District's SAMP process and how it is coordinated with the Master Plan.	Addressed in SSMP update.
Minor Non-conforman	D.13 viii (a-d) - System Evaluation and Capacity Assurance Plan	The District's current planning criteria for flow generation factors are based on water demand and flow monitoring studies performed in 2003-2005. Given the declining flows experienced by wastewater agencies since that time, the factors may have changed significantly.	Update the flow generation factors used for capacity planning through a combination of water demand analysis and targeted flow monitoring. Use the new flow generation factors in the Master Plan update which is planned to be initiated within the next two years.	Future
Minor Non-conforman	D.13 viii (b) - System Evaluation and Capacity Assurance Plan	The current planning criteria account for I/I by using conservative d/D ratios. While this method appears to be adequate based on the lack of observed wet weather overflows, it is possible that some areas of the system experience I/I sufficient to limit the capacity available for future upstream development.	In conjunction with an update of the Master Plan, consider a targeted wet weather flow monitoring program to identify areas in which I/I may be problematic. Highest priority for wet weather flow monitoring should be given to older sewers which are suspected of having high I/I, and which also have the potential for receiving additional flows from future upstream development. Areas of high I/I that are already built-out and do not have a history of backups or overflows are of less concern, unless they contribute significant amounts of I/I to downstream sewers which will serve future development. In the near term, utilize existing high level sensors in suspected high-I/I areas to determine if sewers are surcharging during rainfall events. Use this information to help design the wet weather flow monitoring program.	Performed preliminary I/I Study. Addressed in SSMP update.
Recommendation	D.13 (i) Goal	Existing SSMP text does not match the goal as defined in the SSS WDR.	Update stated goal to match the language provided in the SSS WDR.	Addressed in SSMP update.
Recommendation	D.13 (iv)(a) Operations and Maintenance Program	The District does not have access to mapping for stormwater conveyance facilities throughout the entire service area. The District does have access to support from the County of Orange, in the form of staff and equipment, during an SSO event and County staff do have access to all available stormwater conveyance mapping data as well as have historical knowledge of the location of stormwater conveyance assets.	Continue to work with the County of Orange to gain access to stormwater conveyance mapping information as it becomes available. Make this information available to Collection System Operations field crews.	Future
Recommendation	D.13 (iv)(b) O&M Program - Preventive Maintenance	The District's current system-wide cleaning strategy to clean the system once every 18 months is potentially more than is needed. Although an aggressive sewer cleaning strategy is one of the factors contributing to the low SSO rates the District is achieving, it may be possible to achieve the same results with a condition-based sewer cleaning approach which determines sewer cleaning frequency based on the cleaning needs individual pipelines.	Some pipelines in the sewer system could be cleaned on a significantly reduced schedule with little to no risk of having a sewer overflow. The District may want to consider using feedback from sewer cleaning crews to identify pipelines and areas which may not require such an aggressive system-wide cleaning schedule and begin to increase periods between cleanings in these locations. If the District employs a condition-based sewer cleaning approach an additional opportunity will be to re-invest sewer cleaning resources to performing additional CCTV inspection. This could be accomplished over a multi-year period with a phased transition of a crew from cleaning to CCTV. The additional CCTV inspection capability could be focused on inspection in lieu of cleaning, validation of preventive maintenance schedules, and additional system-wide inspection for condition assessment.	Future
Recommendation	D.13 (iv)(b) O&M Program - Preventive Maintenance	The District currently utilizes a paper-based system and MS Access database to schedule and track sewer preventive maintenance activities. The District is in the process of selecting an asset management system and implementing new processes to support collection system asset management.	Include in the new asset management system business processes to collect code-based feedback from sewer cleaning crews indicating the type and severity of material found during cleaning activities. Implement a process to analyze this data to continually optimize sewer cleaning frequencies with the goal of focusing cleaning on locations prone to maintenance issues or with a high risk associated with system failure.	Plan to address discussed in SSMP update.

EXHIBIT "B-2"

IRVINE RANCH WATER DISTRICT
SEWER SYSTEM MANAGEMENT PLAN AUDIT FINDINGS AND RECOMMENDATIONS

Finding Type	Linkage to WDR	SSMP Audit Finding	Auditor Recommended Correction Action	Corrective Action Status
Recommendation	D.13 (iv)(c) O&M Program - Rehabilitation and Replacement Program	The District currently uses a combination of Tabware software and paper work orders to track and communicate collection system repair, rehabilitation, and replacement needs. Currently the District does not have a streamlined process for mapping deficiencies recommended for repair, rehabilitation, or replacement. Mapping of these deficiencies would enable Engineering to group projects addressing deficiencies geographically.	Include a means for tracking collection system asset repair, rehabilitation, and replacement needs and activities in the implementation of the asset management system currently being planned. Include a means to map system deficiencies and locations recommended for repair, rehabilitation, or replacement to support Engineering in defining projects to address system deficiencies.	Future
Recommendation	D.13 (iv)(c) O&M Program - Rehabilitation and Replacement Program	The District does not have an approach to assess the condition of all force mains within the collection system.	The District should consider performing a risk assessment of force main assets and developing an approach to managing risk associated with force main assets including an analysis of probable failure modes, contingency plans in the event of failure, and approaches to assess condition issues linked to probable failure modes.	Future
Recommendation	D.13 (vii)(a) FOG Control Program	Several opportunities were identified during the audit for additional public outreach regarding FOG control. Current public outreach activities include brochures sent to residential customers with bills during the holiday season as well as information provided on IRWD's website. Multi-family residences have specifically been identified as a potentially significant source of FOG.	Arrange for regular communication between the FOG Program Manager and the Public Outreach Coordinator regarding: - Development and implementation of a multifamily outreach campaign. - Ongoing public outreach efforts.	Future
Recommendation	D.13 viii (a-d) - System Evaluation and Capacity Assurance Plan	The District uses the InfoSewer hydraulic modeling software, which is not a fully-dynamic program. InfoSewer is adequate for analyzing and sizing simple sewer systems with gradual flow variations that operate primarily in a non-surcharge mode.	Evaluate whether converting to a fully-dynamic model would provide sufficient benefits to planning and operational analyses to offset the additional cost and re-training of staff. This evaluation could be done in conjunction with the update of the Master Plan. A fully-dynamic model (e.g. InfoSWMM) can more accurately represent the hydraulics within a sewer system that includes diversion structures that can split flow in two directions at normal or high levels, and that may experience backups due to planned or unplanned constrictions, pump operations, or temporary diversions.	Future
Recommendation	D.13 (xi) Communication Program	IRWD did not provide a means for the public to provide input into development and implementation of the original SSMP. IRWD has the opportunity to provide a means for the public to provide input during the next SSMP update.	Provide a means for the public to provide input into the next revision of the SSMP and future implementation activities.	Addressed in SSMP update.

EXHIBIT "B-3"

EXHIBIT "C"



Irvine Ranch Water District Sewer System Management Plan

June 2013

Preparation Supported By:



Table of Contents

Chapter 1	Introduction	1-1
1.1	Organization of SSMP	1-1
1.2	System Overview	1-1
1.3	Definitions, Acronyms, and Abbreviations	1-1
Chapter 2	Prohibitions and Provisions	2-1
2.1	Prohibitions	2-1
2.2	Provisions	2-1
Chapter 3	Goal	3-1
3.1	Purpose	3-1
3.2	Goal	3-1
3.3	Objectives for Operation and Maintenance of the Sewer System	3-1
Chapter 4	Organization	4-1
4.1	Regulatory Requirements	4-1
4.2	Authorized Representative	4-1
4.3	Responsibility for SSMP Development, Implementation, and Maintenance	4-1
4.4	SSO Reporting Chain of Communication	4-1
Chapter 5	Legal Authority	5-1
5.1	Regulatory Requirements	5-1
5.2	Legal Authorities	5-1
5.3	Agreements with Other Agencies	5-2
Chapter 6	Operations and Maintenance Program	6-1
6.1	Regulatory Requirements	6-1
6.2	Collection System Mapping	6-1
6.3	Preventive Maintenance	6-2
6.4	Rehabilitation and Replacement Plan	6-9
6.5	Training Program	6-17
6.6	Equipment and Replacement Parts Inventory	6-18
Chapter 7	Design and Performance Provisions	7-1
7.1	Regulatory Requirements	7-1
7.2	Design and Construction Standards	7-1
7.3	Inspection and Testing Standards	7-2
Chapter 8	Overflow Emergency Response Plan	8-1
8.1	Regulatory Requirements	8-1
8.2	Goals of the Overflow Emergency Response Plan	8-1
8.3	SSO Detection	8-1
8.4	SSO Response Procedures	8-3
8.5	Traffic and Crowd Control	8-10
8.6	Public Notification	8-10
8.7	SSO Event Investigation	8-11
8.8	SSO Categories	8-11
8.9	SSO Documentation and Reporting	8-12
8.10	External SSO Reporting Procedures	8-12
8.11	Equipment	8-16
8.12	SSO Response Training	8-17
8.13	Contractors Working on District Sewer Facilities	8-17
Chapter 9	FOG Control Program	9-18

9.1	Regulatory Requirements	9-18
9.2	Nature and Extent of FOG Problem	9-18
9.3	Legal Authority to Support FOG Source Control Program	9-19
9.4	FOG Pretreatment Requirements	9-20
9.5	FOG Preventive Maintenance	9-22
9.6	FOG Source Control	9-22
9.7	FOG Control Program Enforcement.....	9-23
9.8	FOG Program Staffing	9-24
9.9	FOG Disposal Facilities.....	9-25
9.10	FOG Public Education Outreach.....	9-26
9.11	Industrial Discharger FOG Control.....	9-26
Chapter 10 System Evaluation and Capacity Assurance Plan		10-1
10.1	Regulatory Requirements	10-1
10.2	Background	10-1
10.3	Capacity Evaluation	10-1
10.4	Design and Performance Criteria	10-3
10.5	Reliability and Redundancy.....	10-5
10.6	Capacity Enhancement, Reliability, and Redundancy Measures and Schedule.....	10-6
Chapter 11 Monitoring, Measurement, and Program Modifications		11-9
11.1	Regulatory Requirements	11-9
11.2	Performance Measures.....	11-9
11.3	Performance Monitoring and Program Changes.....	11-9
11.4	SSMP Updates.....	11-10
Chapter 12 SSMP Program Audits		12-1
12.1	Regulatory Requirements	12-1
12.2	SSMP Audits	12-1
Chapter 13 Communication Program.....		13-1
13.1	Regulatory Requirements for the Communication Program.....	13-1
13.2	Communication with Public	13-1
13.3	Communication with Tributary and/or Satellite Systems	13-1

List of Tables

Table 2-1: SSMP Development and Completion Schedule	2-4
Table 4-1: Positions Responsible for SSMP Development and Implementation	4-1
Table 4-2: Narrative Explanation of SSMP Roles of Various Positions	4-2
Table 5-1: Summary of IRWD Legal Authorities	5-4
Table 6-1: Advancements in Manufacture of Vitriified Clay Pipe Prior to Construction of IRWD Sewer System	6-10
Table 6-2: Maximum Structural Defects Observed in Pipe Segments in Since March 2007	6-12
Table 6-3: FY14 – FY23 10-Year Pipeline Capital Improvement Program Funding.....	6-16
Table 6-4: Training Resources (Conferences, Seminars, and Courses).....	6-17
Table 6-5: Training Resources (Materials).....	6-17
Table 7-1: Sewer Standard Drawings	7-2
Table 8-1: Standby List Positions and Roles	8-3
Table 9-1: Summary of IRWD’s FOG Legal Authorities	9-19
Table 9-2: Types of FOG Source Control Inspection Performed by IRWD	9-23
Table 9-3: Levels of FSE Enforcement Response	9-24
Table 9-4: Grease Hauling Companies Serving Orange County	9-25
Table 9-5: Grease Rendering/Drop Off Points for Irvine Area	9-26
Table 10-1: Allowable Flow Depth at Peak Design Flow	10-3
Table 10-2: Recommended Capital Improvement Projects to Address Capacity Issues	10-7
Table 10-3: Recommended Reliability and Redundancy Projects	10-8
Table 11-1: Performance Metrics for Monitoring and Measurement.....	11-10
Table 12-1: SSMP Program Audit Schedule	12-1
Table 13-1: Strategies for Communication with Public on SSMP Development, Implementation and Performance	13-1

List of Figures

Figure 1-1: IRWD Sewer System and Service Area	1-1
Figure 4-1: Organization and Roles of IRWD Staff Responsible for Development and Implementation of the SSMP.....	4-1
Figure 6-1: IRWD Sewer Pipeline Installation By Decade	6-5
Figure 6-2: IRWD System-Wide Sewer Cleaning Plan	6-6
Figure 6-3: IRWD Sewer Quarterly Troublespot Cleaning.....	6-7
Figure 6-4: Sewer Cleaning Scheduling Flowchart.....	6-8
Figure 6-5: Pipe Material by Year of Installation	6-9
Figure 6-6: Pipe Material by Sewer System Age	6-10
Figure 6-7: Sewer Pipelines Inspected Between March 2007 and March 2013	6-13
Figure 6-8: Maximum Structural Defect Grade for Pipes Inspected Between March 2007 and March 2013	6-14
Figure 6-9: Sewer Pipeline Rehabilitation and Repair	6-15
Figure 8-1: SSO Response Procedure Flow Chart.....	8-4
Figure 8-2: SSO Response Flow Chart for District-Owned Sewer SSOs.....	8-5
Figure 8-3: SSO Response Flow Chart for SSOs in Sewers Not Owned by District.....	8-6
Figure 8-4: External Reporting Requirement Checklist and Contact Information	8-14
Figure 10-1: Observed Residential Flow Patterns	10-2
Figure 10-2: Observed Non-Residential Flow Patterns	10-2
Figure 10-3: Peaking Factors	10-4

Chapter 1 Introduction

This Sewer System Management Plan (SSMP) has been prepared in compliance with the State Water Resources Control Board (SWRCB) Order 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The SSMP also complies with Monitoring and Reporting Program No. 2006-0003-DWQ (MRP), Order No. 2008-0002 EXEC, along with all future revisions to the monitoring and reporting program, included by reference to the WDR. The WDR prohibits sanitary sewer overflows (SSOs) and requires reporting of SSOs using the statewide electronic reporting system. Both the WDR, MRP, and Order No. 2008-0002 EXEC are included in **Appendix A**.

1.1 Organization of SSMP

The structure of this document follows the section numbering and nomenclature specified in the WDR. The SSMP includes eleven sections, as follows:

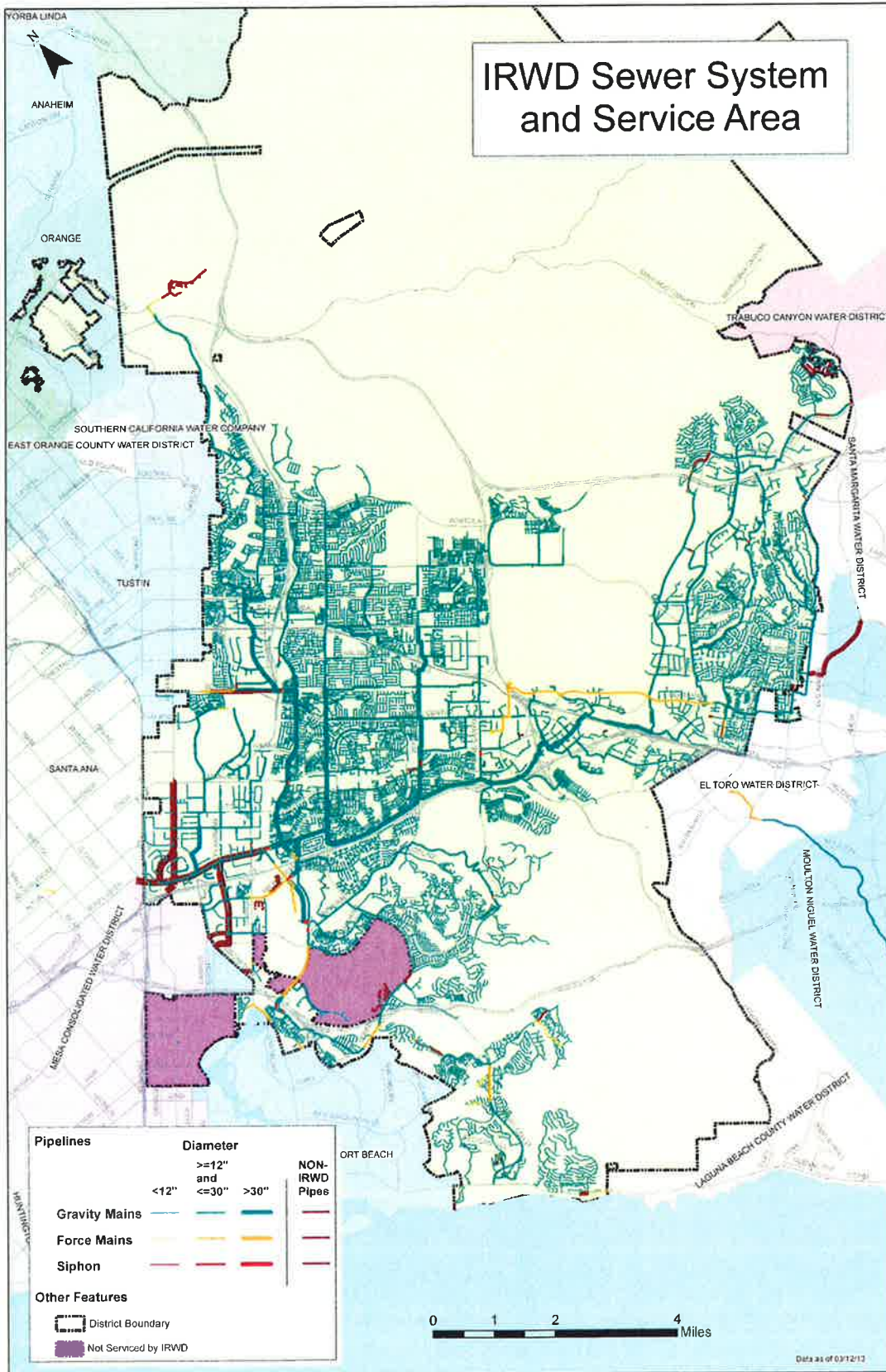
1. Introduction
2. Prohibitions and Provisions
3. Goal
4. Organization
5. Legal Authority
6. Operation and Maintenance Program
7. Design and Performance Provisions
8. Overflow Emergency Response Plan
9. Fats, Oils and Grease (FOG) Control Program
10. System Evaluation and Capacity Assurance Plan
11. Monitoring, Measurement, and Program Modifications
12. SSMP Program Audits
13. Communication Program

1.2 System Overview

Irvine Ranch Water District (IRWD) is a California Special District formed in 1961 and incorporated under the California water code. IRWD owns a sanitary sewer system with approximately 20,200 sewer connections serving 300,000 customers and operates and maintains 963 miles of sanitary sewer mains and 12 miles of force mains spanning 180 square miles (84,000 acres) of service area in Orange County. The wastewater collection system serves the City of Irvine, Lake Forest, parts of Tustin, Newport Beach, Foothill Ranch, Costa Mesa, and unincorporated areas of Orange County. There is a small amount of wastewater generated in the City of Newport Beach and Irvine that is collected by trunk sewers owned, operated, and maintained by the IRWD, then discharged into sewers owned and maintained by the Orange County Sanitation District (OCSD).

IRWD's sewer mains range in size from 4 to 60 inches in diameter as shown in **Figure 1-1**. The sewer main material is nearly exclusively vitrified clay pipe (VCP) and polyvinyl chloride (PVC), with other miscellaneous materials. Drainage patterns in the wastewater collection system are influenced by the physical geography of the service area and result in five separate wastewater collection systems within the IRWD service area which are covered by the Sewer System Management Plan.

Figure 1-1: IRWD Sewer System and Service Area



Data as of 03/12/13

1.3 Definitions, Acronyms, and Abbreviations

Best Management Practices (BMP) - Refers to the procedures employed in commercial kitchens to minimize the quantity of grease that is discharged to the sanitary sewer system. Examples include scraping food scraps into the garbage can and dry wiping dishes and utensils prior to washing.

California Integrated Water Quality System (CIWQS) - Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

Capital Improvement Program (CIP) - Refers to the document that identifies planned capital improvements to the District's wastewater collection system.

District - Refers to the Irvine Ranch Water District.

Closed Circuit Television (CCTV) - Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.

Collection System – See Wastewater Collection System

Computerized Maintenance Management System (CMMS) - Refers to software utilized to manage maintenance and condition assessment data including the production of work orders and the recording of work completed.

Fats, Oils, and Grease (FOG) - Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

Fiscal Year (FY). IRWD's fiscal year starts July 1 and ends the following year on June 30.

Food Service Establishment (FSE) - Refers to commercial or industrial facilities where food is handled/prepared/served that discharge to the wastewater collection system.

Full-time Equivalent (FTE) - Refers to the equivalent of 2,080 paid labor hours per year by a regular, temporary, or contract employee.

Geographical Information System (GIS) - Refers to the District's system that it uses to capture, store, analyze, and manage geospatial data associated with the District's wastewater collection system assets.

Grease Removal Equipment (GRD) - Refers to grease traps or grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.

Infiltration/Inflow (I/I) - Refers to water that enters the wastewater collection system from stormwater and groundwater that increases the quantity of flow. Infiltration enters through defects in the wastewater collection system after flowing through the soil. Inflow enters the sanitary sewer without flowing through the soil.

Lateral Connection – The point of connection of the customer's upper lateral with the lower lateral of the District.

Lower Lateral – The District's facility between its collection system and the lateral connection, which is normally the exterior boundary of the easement or the street or access road right-of-way.

Legally Responsible Official (LRO) - Refers to the individual who has the authority to certify reports and other actions that are submitted through the Online SSO Reporting System.

Manhole (MH) - Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

Monitoring and Reporting Program (MRP) - Refers to the State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ, including all future revisions.

National Pollution Discharge Elimination System (NPDES)

OCS**D** – Orange County Sanitation District

Online SSO Reporting System - Refers to the California Integrated Water Quality System (CIWQS).

Operations and Maintenance (O&M)***Overflow Emergency Response Plan (OERP)***

Preventive Maintenance (PM) - Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

Private Lateral Sewage Discharges (PLSD) - Sewage discharges that are caused by blockages or other problems within the privately-owned portion of a sewer service lateral.

Sanitary Sewer Overflow (SSO) - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

- (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
- (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
- (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

Sewer System - See Wastewater Collection System.

Sewer System Management Plan (SSMP)

State Water Resources Control Board (SWRCB) - State Water Resources Control Board and staff responsible for protecting the State's water resources.

Supervisory Control and Data Acquisition (SCADA) - Refers to an electronic system that is used to monitor lift station performance and to initiate alarms when monitored parameters exceed pre-set limits.

Troublespot - A gravity sewer identified as requiring frequent preventive maintenance to reduce the likelihood of SSOs.

Upper Lateral – The pipeline from the lateral connection to the building or improvements of the applicant, owner, or customer.

Vitrified Clay Pipe (VCP)

Waste Discharge Requirements (WDR) - Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006, including all future revisions.

Wastewater Collection System - Refers to the portion of the sanitary sewer facilities owned and operated by the Irvine Ranch Water District.

Chapter 2 Prohibitions and Provisions

This chapter describes the sewage discharge prohibitions and provisions as stated in the WDR.

2.1 Prohibitions

To meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, IRWD is required to comply with the following prohibitions:

- Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited, and
- Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

2.2 Provisions

As stated in the Order, IRWD agrees to meet the following provisions:

1. IRWD must comply with all conditions in the Order. Any noncompliance with the Order constitutes a violation of the California Water Code and is grounds for enforcement action.
2. Nothing in the general WDR shall be:
 - (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
 - (ii) Interpreted or applied to authorize a SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
 - (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual National Pollutant Discharge Elimination System permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
 - (iv) Interpreted or applied to supersede any more specific or more stringent WDR or enforcement order issued by a Regional Water Board.
3. IRWD shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, IRWD shall take all feasible steps to contain and mitigate the impacts of an SSO.
4. In the event of an SSO, IRWD shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.
5. IRWD shall report SSOs in accordance with Section G of the general WDR.
6. IRWD understands that in any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy, and, consistent with this policy, must consider IRWD's efforts to contain, control, and mitigate SSOs when considering the California Water Code 13327 factors. In assessing these factors, the

State and/or Regional Water Boards will also consider additional factors listed in Provision 6 of the WDR.

7. When an SSO occurs, IRWD shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

IRWD shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

- (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure.
 - (ii) Vacuum truck recovery of sanitary sewer overflows and washdown water.
 - (iii) Cleanup of SSO-related debris at the overflow site.
 - (iv) System modifications to prevent another SSO at the same location.
 - (v) Adequate sampling to determine the nature and impact of the release.
 - (vi) Adequate public notification to protect the public from exposure to the SSO.
8. IRWD shall properly manage, operate, and maintain all parts of the sanitary sewer it owns and operates, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
 9. IRWD shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally accepted accounting practices.
 10. IRWD shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in IRWD's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the IRWD.
 11. IRWD shall develop and implement a written SSMP and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publically available at the Enrollee's office and/or available on the internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.
 12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.

13. The elements of the SSMP include:

- (i) Goal
- (ii) Organization
- (iii) Legal Authority
- (iv) Operations and Maintenance Program
- (v) Design and Performance Provisions
- (vi) Overflow Emergency Response Plan
- (vii) FOG Control Program
- (viii) System Evaluation and Capacity Assurance Plan
- (ix) Monitoring, Measurement, and Program Modifications
- (x) SSMP Program Audits
- (xi) Communication Program

14. The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of IRWD is required when significant updates to the SSMP are made. To complete the re-certification process, IRWD shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described in Section D.14 of the Order.

IRWD has met all the mandatory elements of the SSMP as specified in the SSMP Development and Completion Schedule in **Table 2-1**.

Table 2-1: SSMP Development and Completion Schedule

SSMP Task	Milestone Due/Completion Date
Application for Permit Coverage	September 30, 2005
Reporting Program	September 30, 2005
SSMP Development Plan and Schedule	September 30, 2005
Goal and Organization Structure	September 30, 2005
Overflow Emergency Response Plan	September 30, 2005
Legal Authority	September 30, 2005
Operation and Maintenance Program	September 30, 2005
Fats, Oils, and Grease Control Program	September 30, 2005
Design and Performance Provisions	September 30, 2005
System Evaluation and Capacity Assurance Plan	September 30, 2005
Final SSMP, addressing all SSMP requirements	September 30, 2005
SSMP Update	June 24, 2013

Chapter 3 Goal

This chapter describes the goal of this SSMP document.

3.1 Purpose

The purpose of the Order is to prevent SSOs. IRWD has prepared and implemented this SSMP to support this purpose. IRWD will monitor the effectiveness of this SSMP and the SSMP implementation to determine if deficiencies exist in the SSMP or SSMP implementation and will take appropriate steps to correct them.

3.2 Goal

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the IRWD sanitary sewer system to prevent SSOs and mitigate any SSOs that do occur. A copy of the Order and the certified SSMP is available to personnel operating and maintaining the IRWD sanitary sewer system. Pursuant to California Water Code Section 13267(b), IRWD will also comply with the SSO "Monitoring and Reporting Program No. 2006-0003 DWQ", Order No. 2008-0002 EXEC, and all future revisions, included by reference in the Order. A copy of the WDR, MRP, and Order No. 2008-0002 EXEC amending the original MRP is included in **Appendix A** of this SSMP.

3.3 Objectives for Operation and Maintenance of the Sewer System

The District aims to operate and maintain the sewer collection system in a safe, efficient, reliable and cost effective manner to prevent spills and interruptions in an environmentally safe manner with the highest customer satisfaction. IRWD has set the following objectives for operation and maintenance of the wastewater collection system:

- (a) Maintain the collection system in an efficient and reliable manner to prevent problems for IRWD customers.
- (b) Maintain the collection system to prevent any sewer system overflows (SSO) from occurring.
- (c) Clean the entire collection system consisting of 21-inch diameter pipelines and under on a 24-month cycle.
- (d) Improve collection system reliability by identifying and mitigating areas with an accumulation Fats, Oils and Grease (FOG).
- (e) Maintain sewer collection system reliability by identifying and mitigating areas with excessive root growth.
- (f) Monitor and inspect all lift stations within the collection system to ensure efficient and reliable operation.
- (g) Monitor H₂S levels throughout the collection system to identify sources for mitigation, and to ensure efficient and effective H₂S control.
- (h) Monitor sewer flows throughout the collection system to ensure sufficient capacity.
- (i) Conduct CCTV inspections of at least 10 percent of all existing pipelines on an annual basis.
- (j) Identify sewer collection system deficiencies using CCTV inspection equipment and schedule infrastructure repairs as needed.
- (k) Provide our Engineering Department with timely and accurate CCTV inspections of all existing and newly constructed sewer pipelines.
- (l) Identify areas within the collection system requiring the application of vector control chemicals.

- (m) Provide our employees with training necessary to fulfill the goals of IRWD succession planning program.
- (n) Provide our employees a safe work environment and recognition for their contributions.

Chapter 4 Organization

This section identifies the Authorized Representative to meet the SWRCB requirements for completing and certifying spill reports and the implementation and development of the SSMP. This section also includes IRWD's staff responsible for managing and maintaining the wastewater collection system and the responders to SSO events.

4.1 Regulatory Requirements

The WDR requirements for the Organization section of the SSMP are listed below:

- (a) *The name of the responsible or Authorized Representative.*
- (b) *The names and telephone numbers for management, administrative and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and*
- (c) *The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).*

4.2 Authorized Representative

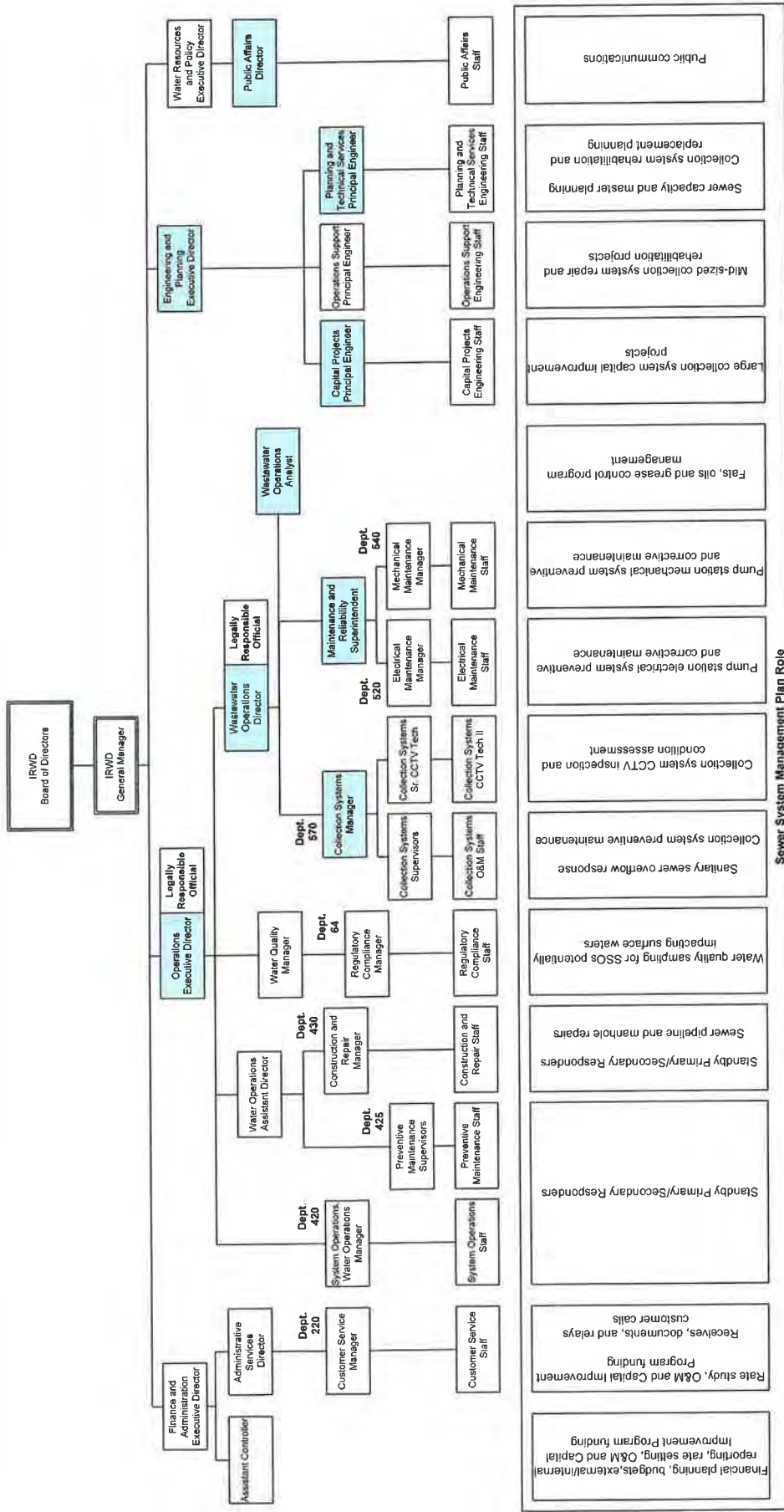
IRWD's Authorized Representative/Legally Responsible Official (LRO) is the Executive Director of Operations, or his/her designee. In this capacity, he is responsible for overseeing the SSMP, as well as certifying the SSOs to the State via the CIWQS electronic reporting system.

The Authorized Representative has delegated the field reporting to IRWD's Collection Systems Manager and/or Collection Systems Supervisor as sewer overflow response staff. As the first responders, they are responsible for documenting the conditions associated with the spill and the on-line reporting. The Executive Director of Operations, or his/her designee, is responsible for certifying. The Standby personnel staff is also responsible for verbal notification to the various regulatory agencies including State and Regional Boards, California Emergency Management Agency, and Orange County Health Department.

4.3 Responsibility for SSMP Development, Implementation, and Maintenance

The Executive Director of Operations, or his/her designee, is responsible for the overall development, implementation, and maintenance of the SSMP. The Executive Director of Operations in turn utilizes Collection Systems and other District staff to carry out the various tasks under the SSMP. IRWD's Department 570 personnel are responsible for the operation and maintenance of the wastewater collection system, with assistance from Department 520 and Department 540, as shown in **Figure 4-1**. **Table 4-1** lists the positions responsible for the SSMP. **Table 4-2** provides a narrative explanation of the roles of various positions with the District's organization with implementing elements of the SSMP. The names and telephone numbers for management, administrative, and maintenance positions listed in **Table 4-1** is included in **Appendix D**.

Figure 4-1: Organization and Roles of IRWD Staff Responsible for Development and Implementation of the SSMP



Sewer System Management Plan Role	
	Responsible for Development and Implementation of One or More Elements of SSMP
	SSMP Role of Organizational Unit

Table 4-1: Positions Responsible for SSMP Development and Implementation

WDR Reference	SSMP Element/Measure	Responsible Position
D.13	Overall SSMP Development and Implementation	Executive Director of Operations
D. 13(i)	Goal	Wastewater Operations, Director
D.13(ii)	Organization	Wastewater Operations, Director
D.13(iii)	Legal Authority	Wastewater Operations, Director
D.13(iv)(a)	Operations and Maintenance Program – Mapping	Planning and Technical Services, Principal Engineer
D.13(iv)(b)	Operations and Maintenance Program – Sewer Pipeline and Manhole Preventive and Routine Maintenance	Collection Systems Manager
D.13(iv)(b)	Operations and Maintenance Program – Lift Station Mechanical and Electrical Preventive and Routine Maintenance	Maintenance and Reliability Superintendent
D.13(iv)(c)	Operations and Maintenance Program – System Inspection	Collection Systems Manager
D.13(iv)(c)	Operations and Maintenance Program – Condition Assessment; Rehabilitation and Replacement Program	Engineering and Planning, Executive Director
D.13(iv)(c)	Operations and Maintenance Program – Capital Program Funding	Engineering and Planning, Executive Director
D.13(iv)(d)	Operations and Maintenance Program - Training	Collection Systems Manager
D.13(iv)(e)	Operations and Maintenance – Critical and Replacement Part inventory	Maintenance and Reliability Superintendent
D.13(v)	Design and Performance Provisions	Planning and Technical Services, Principal Engineer
D.13(vi)	Overflow Emergency Response Plan	Collection Systems Manager
D.13(vii)	Fats, Oils, and Grease Control Program	Wastewater Operations, Analyst
D.13(viii)	System Evaluation and Capacity Assurance Plan	Planning and Technical Services, Principal Engineer
D.13(ix)	Monitoring, Measurement, and Program Modifications	Wastewater Operations, Director
D.13(x)	SSMP Program Audits	Wastewater Operations, Director
D.13(xi)	Communication Program – Public education	Public Affairs, Director
D.13(xi)	Communication Program – Satellite agencies	Executive Director of Operations

Table 4-2: Narrative Explanation of SSMP Roles of Various Positions

Position	Narrative Explanation
Administrative Services, Director	Responsible for overseeing customer service activities.
Assistant Controller	Responsible for financial planning, budgets, external/internal reporting, rate setting, O&M and Capital Improvement Program funding.
Board of Directors	Responsible for hiring the General Manager and for assessing the overall direction and strategy of the District.
Capital Projects, Engineering Staff	Responsible for performing or managing design and construction services to implement capital projects.
Capital Projects, Principal Engineer	Manages Capital Projects engineering staff responsible for performing or managing design and construction services to implement capital projects.
Collection Systems CCTV Tech II	Responsible for performing CCTV inspection of sewer pipelines.
Collection Systems Manager	Responsible for collection system operations, maintenance, and performance. Oversees emergency response, sewer cleaning, and sewer inspection activities.
Collection Systems O&M Staff	Responsible for performing collection system emergency response and sewer cleaning activities.
Collection Systems Sr. CCTV Tech	Responsible for District's CCTV inspection program and performing CCTV inspection of sewer pipelines.
Collection Systems Supervisors	Responsible for overseeing collection system emergency response and sewer cleaning activities.
Construction and Repair Manager	Responsible for managing staff that support sewer overflow emergency response activities. Responsible for overseeing sewer repair activities.
Construction and Repair Staff	Performs primary and secondary responder duties. Supports sewer overflow emergency response when needed. Responsible for performing sewer repair activities.
Customer Service Manager	Manages customer service staff responsible for receiving, documenting, and communicating customer calls to emergency response and O&M staff.
Customer Service Staff	Responsible for receiving, documenting, and communicating customer calls to emergency response and O&M staff.
Electrical Maintenance Manager	Responsible for preventive and corrective maintenance of electrical equipment at sewer pump stations.
Electrical Maintenance Staff	Performs preventive and corrective maintenance of electrical equipment at sewer pump stations.
Engineering and Planning, Executive Director	Responsible for overseeing capital project planning and implementation.
Finance and Administration, Executive Director	Manages staff responsible for receiving, documenting, and relaying customer calls within the District organization. Manages staff responsible for working with operations and engineering to determine financial requirements of organization; responsible for ensuring revenue stream and funding is in place to meet financial obligations for operations, maintenance, and capital improvements.
IRWD General Manager	Responsible for overseeing day-to-day operation of the District.
Maintenance and Reliability Superintendent	Responsible for managing staff performing electrical and mechanical preventive and corrective maintenance at sewer pump stations.
Mechanical Maintenance Manager	Responsible for preventive and corrective maintenance of mechanical equipment at sewer pump stations.
Mechanical Maintenance Staff	Performs preventive and corrective maintenance of mechanical equipment at sewer pump stations.
Operations Support, Engineering Staff	Responsible for managing design and construction of sewer rehabilitation projects.

Position	Narrative Explanation
Operations Support, Principal Engineer	Responsible for overseeing design and construction of sewer rehabilitation projects.
Operations, Executive Director	Manages organizational units responsible for sewer overflow emergency response; collection system preventive maintenance, inspection and repair; and, fats, oils, and grease source control.
Planning and Technical Services, Engineering Staff	Performs system evaluation and capacity assurance planning. Performs sewer rehabilitation and replacement planning. Performs updates to collection system GIS databases.
Planning and Technical Services, Principal Engineer	Oversees system evaluation and capacity assurance planning activities. Oversees sewer rehabilitation and replacement planning.
Public Affairs Staff	Responsible for public communications, maintaining the District website, and implementing social media strategies.
Public Affairs, Director	Responsible for overseeing staff that are responsible for public communications, maintaining the District website, and implementing social media strategies.
Regulatory Compliance Manager	Responsible for overseeing staff performing water quality sampling and testing when a sewer overflow impacts surface waters.
Regulatory Compliance Staff	Performs water quality sampling and testing when a sewer overflow impacts surface waters.
System Operations Staff	Performs primary and secondary responder duties. Supports sewer overflow emergency response when needed.
System Operations, Water Operations Manager	Responsible for managing staff that provides support to sewer overflow emergency response activities.
Wastewater Operations Analyst	Responsible for managing the District's Fats, Oils, and Grease Control Program.
Wastewater Operations, Director	Legally responsible official for the District. Responsible for the overall development and implementation of the SSMP.
Water Operations, Assistant Director	Responsible for overseeing collection system repairs activities performed by District repair crews. Manages staff that perform Primary and Secondary Responder duties during standby.
Water Operations, Preventive Maintenance Staff	Performs primary and secondary responder duties. Supports sewer overflow emergency response when needed.
Water Operations, Preventive Maintenance Supervisors	Responsible for managing staff that support sewer overflow emergency response activities.
Water Quality Manager	Responsible for the Regulatory Compliance staff that oversee and perform water quality sampling and testing when a sewer overflow impacts surface waters.
Water Resources and Policy, Executive Director	Responsible for overseeing staff that are responsible for public communications, maintaining the District website, and implementing social media strategies.

4.4 SSO Reporting Chain of Communication

The SSO reporting chain of communication is illustrated in **Figure 8-1**, **Figure 8-2**, and **Figure 8-3**. Chapter 8 – Overflow Emergency Response Plan details the procedures and responsibilities during an SSO event, and the process is briefly summarized below.

Once a detection of an SSO is reported, either by the public or IRWD personnel, Collection Systems personnel will be dispatched to the scene by Customer Service Representatives during normal operating hours. If notification occurs after hours, the Standby personnel are notified by IRWD's after hours answering service. Once at the scene staff will:

- Investigate the site
- Determine the cause of the problem
- Request reinforcement, if necessary
- If possible, notify the responsible party if SSO is not caused by IRWD's collection system
- Contain and mitigate
- Correct the SSO and clean-up
- Notify the proper regulatory agencies (EMA, RWQCB, Orange County Health Department, Orange County Flood Control), as appropriate
- Document response actions
- Complete the internal SSO Report Form
- Report the SSO in the CIWQS SSO Online Reporting Database

No later than the next business day, the internal SSO Report Form is forwarded to designated Senior Management and Operations staff. Any debriefings of the respondents to the SSO will occur at the Senior Management level. The internal SSO Reporting form is utilized to document the SSO event, communicate SSO event to all appropriate IRWD staff internally, enter all required information into the CIWQS on-line database, and to certify the SSO by the LRO.

Chapter 5 Legal Authority

This section of the SSMP discusses the IRWD's legal authority to comply with the SSMP requirements, as provided in its Rules and Regulations and agreements with other agencies.

5.1 Regulatory Requirements

The requirements for the Legal Authority element of the SSMP are summarized below:

IRWD must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- (a) *Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);*
- (b) *Require that sewers and connections be properly designed and constructed;*
- (c) *Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;*
- (d) *Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and*
- (e) *Enforce any violation of its sewer ordinances.*

5.2 Legal Authorities

The District complies with the legal authority requirements of the WDR. The District's legal authorities are contained in the following documents:

- Rules and Regulations for Water, Sewer, Recycled Water, and Natural Treatment System Service
- Procedural Guidelines and General Design Requirements
- IRWD Standard Drawings and IRWD Standard Specifications for the sewer system
- Standard Specifications for Public Works Construction (Greenbook)

The primary source of IRWD's legal authorities is Section 7 of the District's Rules and Regulations, which is dedicated to "Use of District Sewerage Facilities". The following sections provide a narrative of the District's legal authorities for each of the requirements of the WDR. **Table 5-1** provides a summary of the District's legal authorities.

5.2.1 Prevention of Illicit Discharges

Measures prohibiting illicit discharges are included in Sections 7.3.1 to 7.3.12. The specific purpose of the Section is to prevent the discharge of any pollutant or any combination of pollutants into the sewers that would obstruct or damage the collection system, interfere with treatment, or threaten harm to human health or the environment. Examples of discharges covered in Section 7.3 of IRWD's Rules and Regulations for Water, Sewer, Recycled Water, and Natural Treatment System Service. A full copy of the latest version of IRWD's Rules and Regulations for Water, Sewer, Recycled Water, and Natural Treatment System Service is available on the District's website (<http://www.irwd.com/doing-business/engineering-planning/engineering-docs.html>).

Section 7.11 of the District's Rules and Regulations also limit the discharge of fats, oils, and grease. Legal authorities regarding control of fats, oils, and grease are discussed in detail in Section 9.3 of the SSMP and summarized in **Table 9-1**.

5.2.2 Proper Design and Construction of Sewers and Connections

The District's legal authorities pertaining to the design, construction, and inspection of sewer pipelines and connections are included in IRWD's Rules and Regulations for Water, Sewer, Recycled Water, and

Natural Treatment System Service, IRWD's Standard Drawings and Standard General Technical Specifications. IRWD also utilizes the Standard Specifications for Public Works Construction, popularly known as the "Greenbook".

Section 4.4.2 of the District's Rules and Regulations require the lower lateral and lower lateral connection be designed in accordance with the District's Procedures Guide and Construction Manual. The District also has the authority to determine and specify the size, location, and manner of installing the lower lateral.

5.2.3 Lateral Maintenance Access

Per Section 4.15.1 to 4.15.4 of the District's Rules and Regulations, property owners are responsible for clearing and cleaning the upper and lower laterals to their connection point with the main sewer. IRWD is only responsible for repairs to the lower lateral to the sewer main. See Section 2 for the definitions for upper lateral and lower laterals. The District's Construction Manual Standard Detail Drawing S-3 requires a cleanout on the lateral at the property line or edge of easement providing the District with access to the lower lateral. The latest version of the District's Standard Detail Drawings for the sewer system are available on the District's website (<http://www.irwd.com/doing-business/engineering-planning/engineering-docs.html>).

5.2.4 Enforcement Measures

Sections 14.1 to 14.3 of IRWD's Rules and Regulations for Water, Sewer, Recycled Water, and Natural Treatment System Service describe measures available to IRWD staff for enforcement of sewer provisions. Any person, firm, corporation, association, or agency found to be violating any provision of the District's Rules and Regulations; or the terms and conditions of the applicant's, owner's, or customer's service agreement, permit; or any and all applicable Federal, State, or local statutes, regulations, ordinances; or other requirement; shall be served by the District with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction. The offender shall, within the period of time stated in such notice, permanently cease all violations. This provision is in addition to and not by way of derogation of any other remedies or procedures available to the District by law, regulation, or pursuant to any of the provisions of these Rules and Regulations including, but not limited to, Section 7.

Failure to permanently cease all violations within the time stated shall result in revocation of the permit by the District and termination of water, sewer, recycled water and/or natural treatment system service as provided in Sections 14.2 and 14.3. Violations regarding any one service may result, at the sole discretion of the Board or Manager, in termination of any combination of or all water, sewer, recycled water and natural treatment system service.

5.3 Agreements with Other Agencies

The SSMP requirements for legal authority are fulfilled by IRWD's Rules and Regulations for Water, Sewer, Recycled Water, and Natural Treatment System Service. However, IRWD does have additional legal agreements with other agencies, which are described in this section for reference.

5.3.1 Orange County Sanitation District Agreement

A portion of IRWD service boundaries is currently included inside the boundaries of Orange County Sanitation District (OCSD), which has the direct responsibility for the transport and treatment of wastewater discharged to IRWD sewer system pursuant to that agency's Wastewater Ordinance. In addition, IRWD coordinates with OCSD to permit and implement the industrial waste requirements of the Clean Water Act and the State Water Resources Control Board. OCSD, in conjunction with IRWD, jointly permit all major industrial dischargers and categorical industries pursuant to its State approved pretreatment program requirements.

5.3.2 Santa Margarita Water District Agreement

IRWD entered into an agreement with the Santa Margarita Water District (SMWD) on February 27, 1989 to receive, treat, and dispose of wastewater through SMWD's Chiquita system. The sewage received, treated, and disposed by SMWD is to be domestic wastewater characteristics as opposed to industrial wastewater. IRWD coordinates industrial wastewater permits, and implements the industrial waste requirements of the Clean Water Act and the State Water Resources Control Board under this agreement.

5.3.3 Satellite Systems

IRWD accepts a small quantity of wastewater into its sewer system from the University of California, Irvine (UCI) which is located within IRWD's service boundaries. IRWD has a Sewer Service Agreement with UCI regarding acceptance of their discharges and requiring UCI to amend the agreement if additional capacity is required. IRWD has verified that UCI has developed a site specific SSMP for their sewer system. IRWD sewer system has adequate capacity to convey the minor flows it accepts from UCI.

Table 5-1: Summary of IRWD Legal Authorities

Requirement	Reference in Rules and Regulations	Reference in Procedural Guidelines* or Standard Details
ILLCIT DISCHARGES		
Prevent illicit discharges into the wastewater collection system	Sec. 7.3.1	
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	Sec. 7.11	
Control infiltration and inflow (I/I) from private service laterals	Sec. 7.3.2	
PROPER DESIGN AND CONSTRUCTION		
Require that sewers and connection be properly designed and constructed	Sec. 4.4.2 Sec. 5.1; Sec. 5.2	Procedural Guidelines, Sec. 4
Require proper installation, testing, and inspection of new and rehabilitated sewers		Procedural Guidelines, Sec. 2.5
ACCESS TO LATERALS		
Clearly define District responsibility and policies	Sec. 4.15	
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the District		Standard Detail Drawing S-3
FOG SOURCE CONTROL		
Requirements to install grease removal devices (such as traps or interceptors)	Sec. 7.11.4	
Design standards for the grease removal devices	Sec. 7.11.6.8 Sec. 7.11.6.8	
Maintenance requirements, BMP requirements, record keeping and reporting requirements for grease removal devices	Sec. 7.11.6.11 Sec. 7.11.7	
Authority to inspect grease producing facilities	Sec. 7.11.7.4	
ENFORCEMENT		
Enforce any violations of its sewer ordinances	Sec. 7.11.8 Sec. 14	

*Refers to Procedural Guidelines and General Design Requirements Manual, Development Services Group, August 2011. The latest version of the Procedural Guidelines and General Design Requirements Manual is on the District's website (<http://www.irwd.com/doing-business/engineering-planning/engineering-docs.html>).

Chapter 6 Operations and Maintenance Program

This section of the SSMP presents the District's wastewater collection system operations and maintenance (O&M) program.

6.1 Regulatory Requirements

The WDR requirements for the Operations and Maintenance Program are:

- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;*
- (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;*
- (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;*
- (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and*
- (e) Provide equipment and replacement part inventories, including identification of critical replacement parts.*

6.2 Collection System Mapping

Irvine Ranch Water District uses Geographic Information System (GIS) technology to create, maintain, and manage maps and data sets associated with its wastewater collection system facilities. The sewer system GIS mapping is maintained by the Engineering and Water Department. Pipe inventory data includes ownership, installation year, diameter, length, material, slope, status, record drawing reference, and other information. Manhole inventory data includes ownership, installation year, shaft diameter, depth, invert elevation, rim elevation, record drawing reference, and other information. The GIS information is available to appropriate to all District field staff in the form of hard copy Atlas maps.

The District last printed Atlas maps in entirety in 2010 though electronic version of the atlas books are updated on a regular basis. The District plans to implement mobile computers to all collection system field crews by FY15, which will include the ability to access system mapping and as-built plans electronically. Currently, all Collection Systems field crews have access to up-to-date sewer system mapping in electronic format on shared workstations in District offices. Field crews routinely locate and print up-to-date Atlas map pages as needed. In addition, both CCTV crews have access to sewer system mapping in electronic format in the field using the computer on the CCTV truck.

The District has also scanned all sewer system record drawings into electronic format and has made these drawings available to District staff through Mapplet and MapLibrary software, which is available on all

workstations. Typically, the Collection System Supervisor or the Collection System Manager will perform the detailed investigations requiring access to sewer system record drawings.

6.2.1 Updates to Existing GIS Mapping

The District has a formal process to correct sewer system mapping. All Collection System Maintenance Division field crews are trained to note mapping issues on the Daily Worksheet. The Collection System Supervisors review the Daily Worksheets and transmit all significant update requests to the CCTV crew for investigation. Upon investigation and verification, the CCTV crew will note changes to the sewer system GIS using Field Mapplet software and will transmit this data to the District's GIS section electronically. The GIS section will perform changes to the Atlas maps on a weekly basis. Changes are generally performed in order of submission (i.e., first in - first out) unless a specific request has been made to expedite a change. The updated GIS is posted to the server and available for review immediately after changes are completed.

6.2.2 New Improvement Plan Drawings

The District requires that record drawings be prepared and submitted for the installation of new sewer facilities and for the rehabilitation or replacement of existing facilities. The record drawings are submitted in both hard copy and electronic formats. The new record drawings are scanned and linked to the GIS and available through Mapplet Library. New or altered facilities are digitized and the associated inventory data are added to the GIS database and hard copy maps weekly.

6.3 Preventive Maintenance

The elements of the District's wastewater collection system Operation and Maintenance Program include proactive, preventive, and corrective maintenance of sewers and lift stations. The District utilizes combination jetter/vacuum units to clean and remove material from the sewer system. Each truck is equipped with an array of nozzles and other tools to support effective cleaning of the sewer system under a variety of situations. A rotating nozzle is the primary utilized for cleaning smaller diameter sewer pipes. The District contracts with the nozzle manufacturer to perform nozzle maintenance every six months. This section describes the District's O&M programs. **Figure 6-1** provides a map of the District's sewer system by decade constructed.

6.3.1 Proactive Sewer Cleaning

The District proactively cleans every gravity sewer pipe segment in the wastewater collection system at least once every 2 years on a systematic cleaning cycle. The 2-year systematic cleaning cycle used for proactive sewer cleaning consists of cleaning groups of pipes, organized into "tracks", which are scheduled in a sequence to clean all pipes less than or equal to 21 inches in diameter starting from the farthest reaches and ending at the treatment plant. **Figure 6-2** shows the sequence of system-wide cleaning performed on a 2-year schedule.

The District cleans all pipes larger than 21 inches in diameter every five years separately from the cleaning performed in the tracks. Once per week, Collection Systems crews report to duty at 3 a.m. to perform cleaning of sewer pipes located on arterials as well as larger diameter lines.

6.3.2 Preventive Maintenance Sewer Cleaning

Preventive maintenance sewer cleaning is utilized for sewer reaches with a known history of one or more maintenance issues such as root intrusion, grease accumulation, or debris deposition. Based on the severity of the maintenance issue identified, the Collection Systems Supervisor for that area will assign a monthly or quarterly, or semi-annual sewer troublespot cleaning frequency. As additional information is gathered, either through subsequent cleaning crew findings or CCTV inspection data, the sewer cleaning frequency for individual sites are adjusted to increase or decrease preventive maintenance based on the maintenance needs of individual pipe segments.

The cleaning frequencies for all sewer reaches are all documented in the District's MS Access database and is linked to GIS. **Figure 6-3** provides a map of the District's current sewer quarterly troublespot cleaning program.

6.3.3 Lift Station Operation and Maintenance

The District currently owns, operates, and maintains 13 sewage lift stations. The District is planning to eliminate two lift stations (Foothill Borrego Lift Station and Columbus Square Lift Station) in 2013. Each of the lift stations are equipped with SCADA and monitored daily by the Collection System Supervisors. The Collection System Supervisors can monitor lift station SCADA data from the office or remotely on laptop computers. The District addresses SCADA alarms on a daily basis. A collection system maintenance crew visits each lift station at least once weekly to perform operational inspections. The Lift Station Weekly Inspection Form is included in **Appendix F**. The collection system crew documents weekly operational inspections using a Lift Station Inspection Sheet. Collection System Supervisors coordinate maintenance of electrical and mechanical equipment with the District's Electrical (Dept. 520) and Mechanical (Dept. 540) sections.

The District has installed quick-connect connections and isolation valves at all lift stations to easily bypass the station in the event of lift station mechanical or electrical failure. The District owns replacement pumps for all lift stations.

6.3.4 Maintenance Scheduling

Sewer maintenance activities are scheduled based on maintenance frequency. Collection Systems Supervisors maintain a list of pipelines on the semi-monthly and quarterly cleaning schedule and assign the list for cleaning as the due date approaches. Pipes on the proactive cleaning are cleaned throughout the year and are used to balance the cleaning workload schedule with priority given to preventive maintenance of sewer reaches with known maintenance issues. The District currently does not have any sewer reaches with a 6-month or 12-month preventive maintenance cycle. In the future, the District may utilize a 6-month or 12-month preventive maintenance cycle if deemed appropriate to address the maintenance needs of a sewer reach.

6.3.5 System Monitoring

The District has equipped 10 manholes and with sensor technology at strategic locations in the sewer system in pipelines with potential capacity constraints and manholes with potential for vandalism or illegal dumping. The sensors trigger alarms in the case of surcharging beyond a preset levels or in the case of intrusion.

The District has also installed redundant level controls at each lift station. In addition to redundant level controls, the District has installed Mission Control Units, which are secondary systems for loss of communication, loss of power, and high wet well. In the case of a high wet well, floats are in place to trigger all pumps to turn on. In the event of loss of primary communication or power, an alarm is sent to the Collection System Manager, Collection System Supervisors, and Collection System Primary and Secondary Responders.

6.3.6 Maintenance Documentation

The District uses a Daily Field Activity Report, included in **Appendix F**, to document sewer cleaning preventive maintenance activities, including cleaning and inspection activities related to Customer Service Request response and sewer blockage removal. Collection Systems crews document sewer overflow events using the Spill Response Field Report which is included in **Appendix H** and referenced in the Overflow Emergency Response Plan. Completion of sewer cleaning activities are documented and tracked in the District's Collection System Maintenance database, an MS Access database created specifically to manage and track sewer maintenance activities. Collection Systems Supervisors are

responsible for entering data from Daily Field Activity Reports collected by their crews into the MS Access database.

An important aspect of the District's sewer cleaning program is to record cleaning results on the Daily Field Activity Report for each manhole-to-manhole pipe. Those results then provide the basis for the Collection Systems Supervisors to modify the frequency or method of cleaning for that pipe segment to reflect current field conditions. The Standard Measures for Observed Results for Sewer Cleaning are shown in **Appendix F** along with the criteria for changing cleaning frequencies. The District is currently recording the severity of cleaning results using the comment field on the Daily Field Activity Report. The District plans on incorporating code-based values to document the type and severity of sewer cleaning findings, similar to those identified in **Appendix F**, into the new asset management information system. **Figure 6-4** charts the process the District utilizes to review cleaning data and modify preventive maintenance frequencies.

In addition to documenting preventive maintenance activities, Customer Service documents the customer complaints using the Customer Service Request system. Customer Service sends a Customer Service Request as both a page and e-mail notification to Collection System Manager and Collection System Supervisors. Customer Service also follows up with a phone call to the Collection System Manager or Collection System Supervisors. During after-hours, when Customer Service is not on duty, all calls are forwarded to the District's answering service. The answering service contacts the Primary Responder using a page, e-mail notification, and a phone call. The answering service does not enter calls into the Customer Service Request system. During after-hours, the Primary Responder or Collection System First Responder will enter the service call into the Customer Service Request system. The responding Collection System Supervisor will document findings and close-out the Customer Service Request in the Customer Service Request system. The District is developing plans to replace the Customer Service Request system with an Oracle-based system in FY 2015.

6.3.7 Maintenance Program Analysis

At least once per year, the Collection Systems Manager and Supervisors output a list of pipes from the MS Access database identifying all locations with maintenance issues and forwards this list to Planning and Technical Services. Planning and Technical Services generates a set of maps identifying sewer pipes lines with roots, grease, roaches, and deteriorated manholes. The Collection System Manager uses this information to document annual productivity for the Executive Management Team and for fiscal year budget development. Collection Systems Supervisors use these maps to initiate programmatic activities such as chemical root control, manhole condition assessment and rehabilitation, and vector control.

Figure 6-1: IRWD Sewer Pipeline Installation By Decade

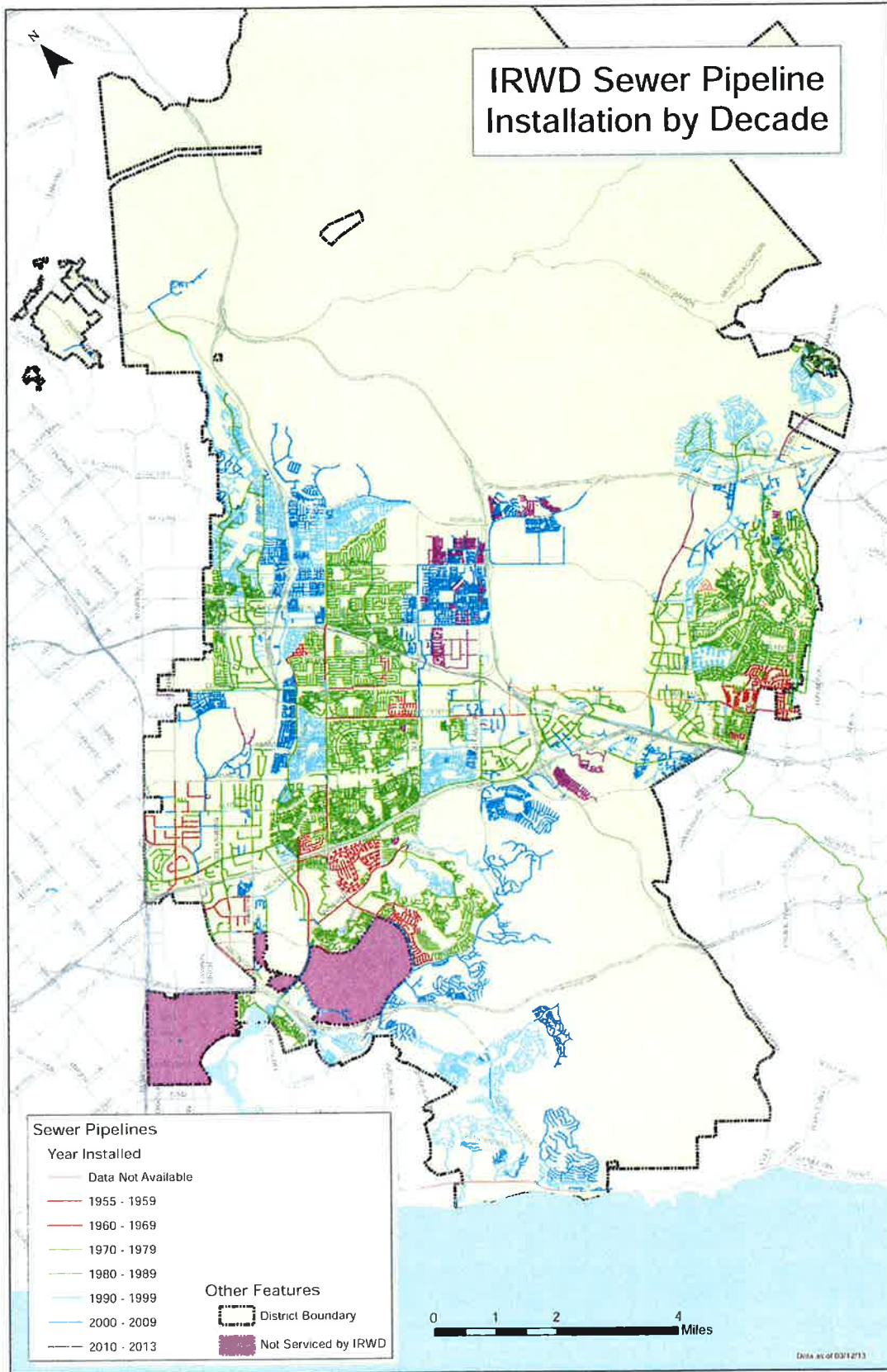


Figure 6-2: IRWD System-Wide Sewer Cleaning Plan

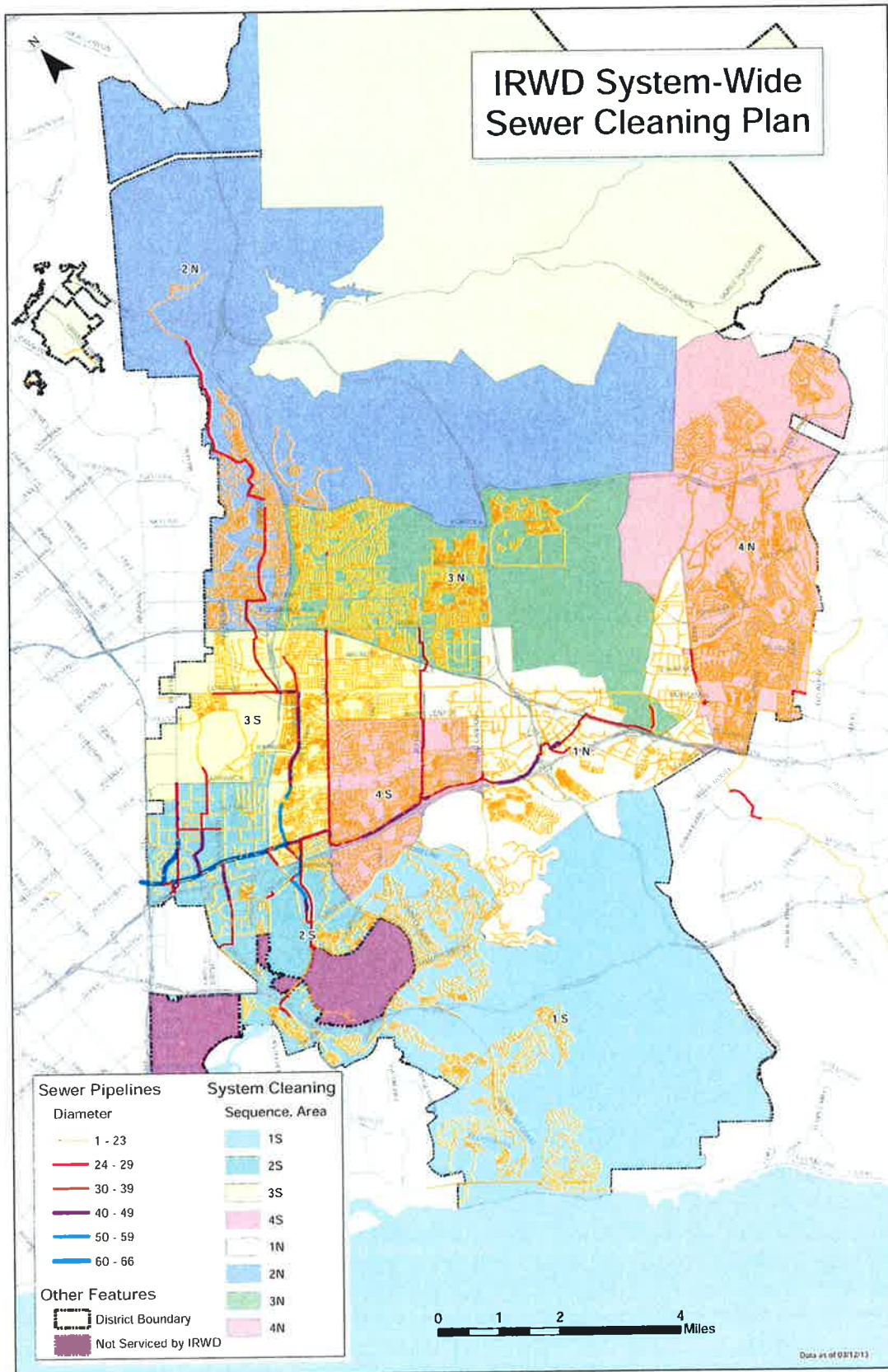


Figure 6-3: IRWD Sewer Quarterly Troublespot Cleaning

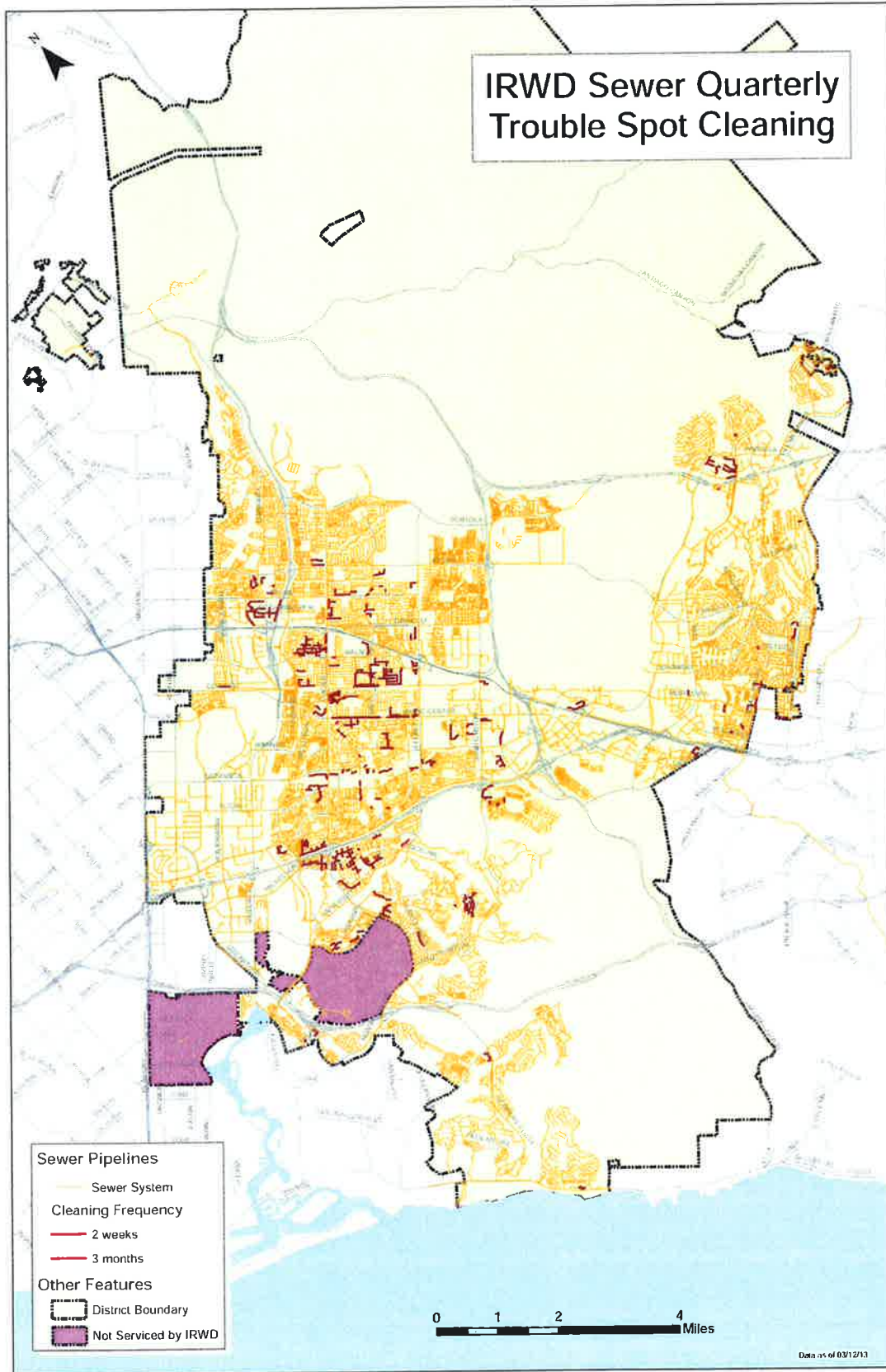
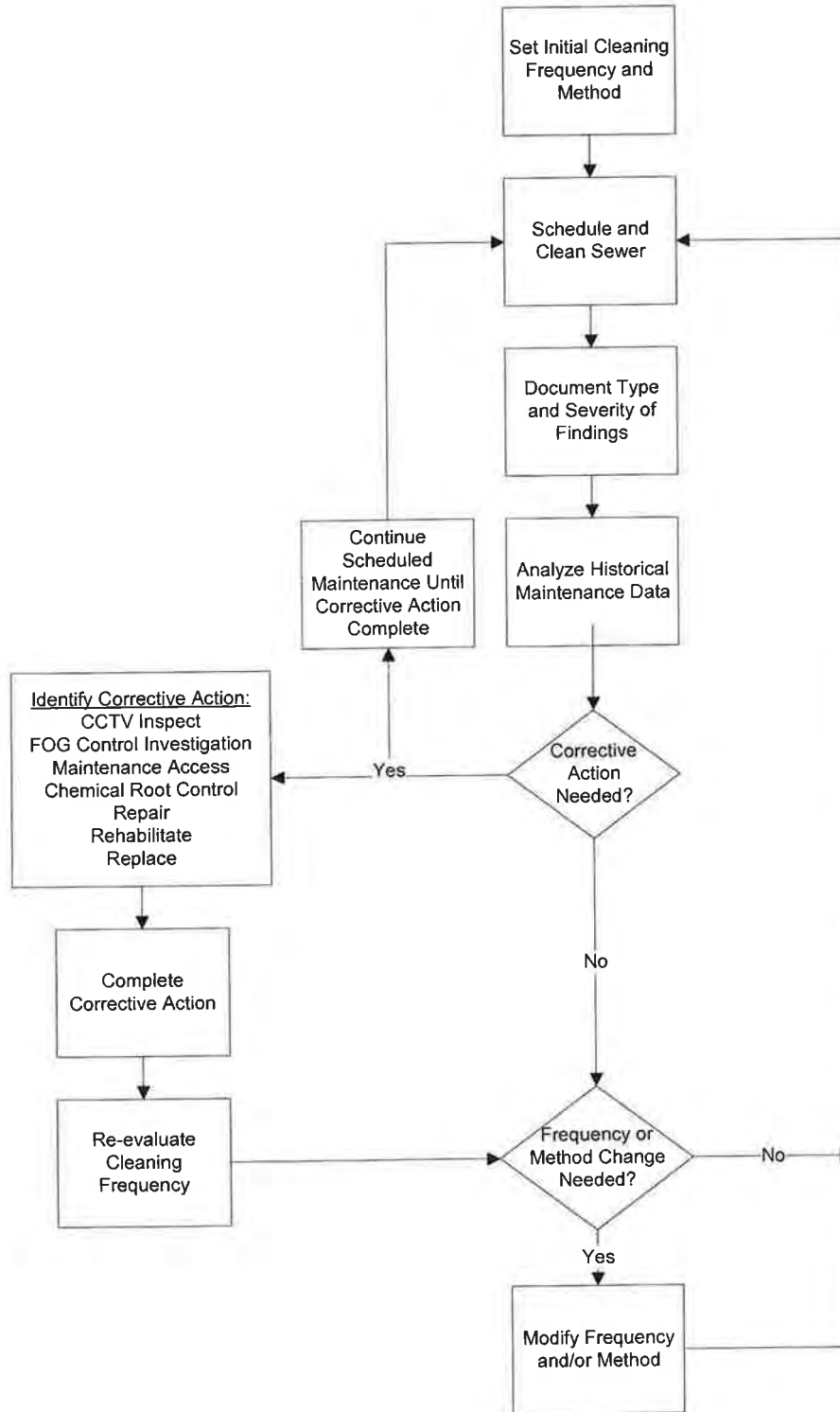


Figure 6-4: Sewer Cleaning Scheduling Flowchart



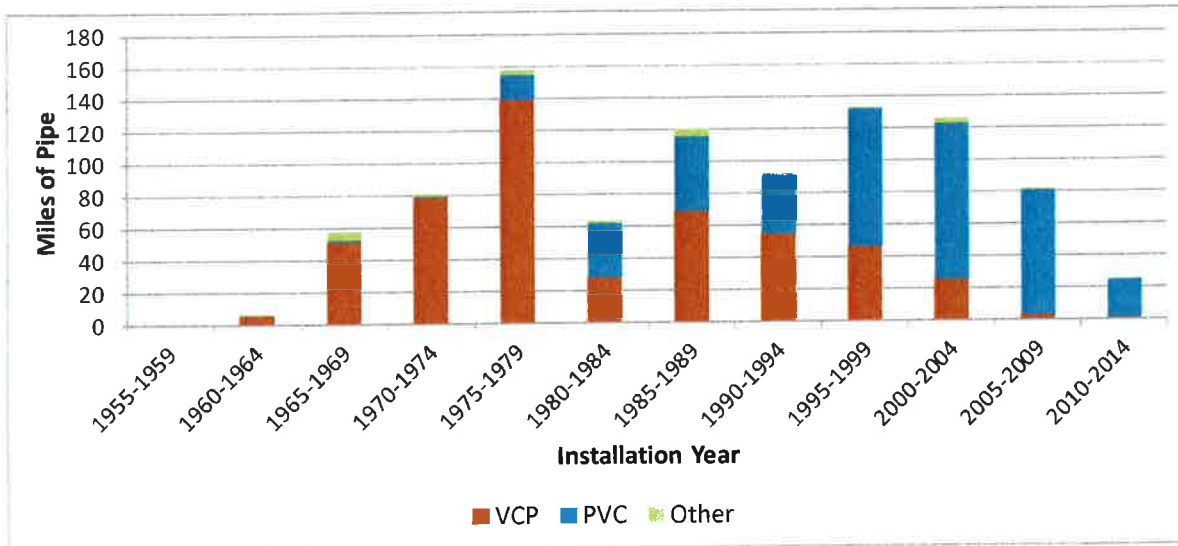
6.4 Rehabilitation and Replacement Plan

The District's sewer system rehabilitation and replacement planning process consists of systematic inspection and condition assessment of all pipe reaches 30 years and older over the next 10 years and identification of condition-related repair, rehabilitation, and replacement projects as determined by condition assessment. The District's process is to evaluate sewer system structural deficiencies identified through sewer inspection and condition assessment to determine if a repair, rehabilitation, or replacement project is required along with an appropriate timeframe for addressing the structural issues identified.

6.4.1 Sewer System Materials and Age

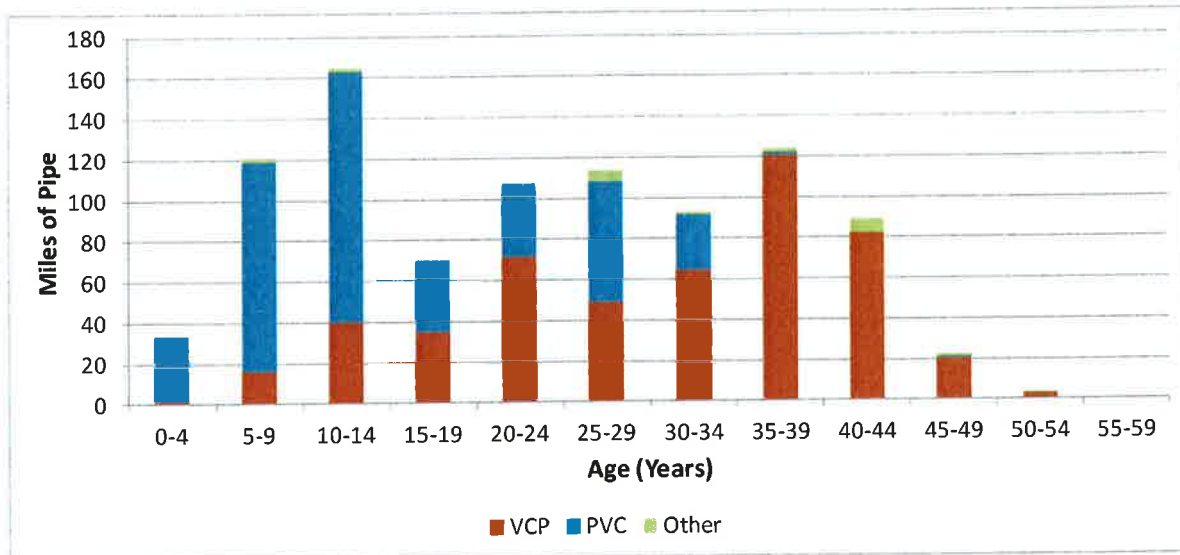
The sewer system was largely constructed beginning in the 1960s with approximately 50 percent of the system constructed prior to 1990 as shown in **Figure 6-5**. The oldest 65 miles (6.9 percent) of the sewer system built during the 1960s are currently between 40 to 49 years old.

Figure 6-5: Pipe Material by Year of Installation



The average age of the sewer system is currently 22.2 years with the average age of PVC pipe approximately 14.4 years and the average age of VCP pipe and other materials is approximately 30 years. **Figure 6-6** shows the amount of pipe by material and sewer pipeline age. Currently, approximately 333.4 miles of sewers are 30 years or older. Over the next 10 years, an additional 221.2 miles of sewers will reach 30 years in age for a total of 554.6 miles, or 58.7 percent of the system. In the early phases of construction of the system, the predominant material of construction was vitrified clay pipe (VCP). Beginning in the mid-1970s, the District began installing polyvinyl chloride (PVC) pipe, which has now become the predominant material utilized for new construction.

Figure 6-6: Pipe Material by Sewer System Age



Of the 506 miles of VCP sewer pipes in the District’s sewer system, only 514 feet were installed prior to 1960. For all intensive purposes, all VCP pipe installed in the District’s sewer system was installed after 1960 with approximately 99 percent installed after 1965. This is an important point since clay pipe experienced significant technological advancements in both standards and methods of manufacture. These advancements included:

Table 6-1: Advancements in Manufacture of Vitriified Clay Pipe Prior to Construction of IRWD Sewer System

Timeframe	Advancement
1950s – Present	<p>Pipe extrusion, drying, and firing (vitrification) were greatly improved after World War II. The pipe is more dense with reduced voids and higher strengths.</p> <p>Factory applied elastomeric joints introduced for bell and spigot pipes. Joints change to compression joints for VCP pipe and fittings. ASTM C 425 created for joints for bell and spigot pipes.</p>
1958 – Present	<ul style="list-style-type: none"> • 1958-1967: Factory applied joint for 4-inch through 12-inch bell pipe composed of Polyvinyl Chloride. • 1962-1967: Factory applied joint for 15-inch through 42-inch bell pipe composed of Polyester with an embedded gasket in the bell. • 1966-Present: Factory applied joint for 4-inch through 42-inch bell pipe composed of Polyurethane.

These advancements in manufacture, combined with advancements in construction techniques, most notably the introduction of standard specifications for installing pipeline connections, significantly improved the quality of construction of the District’s sewer system when compared to sewer systems with older installations of clay pipe. It is reasonable to assume a mean expected useful life of 100 years for the

vitrified clay pipe sewer mains installed in the District's system. In the mid-1970s, the District began transitioning to the installation of PVC pipe for gravity sewer mains. Similar to VCP pipe, it is reasonable to assume a mean expected useful life of 100 years for PVC sewer mains.

6.4.2 Collection System Inspection and Condition Assessment

This section describes the inspection and condition assessment program for sewer manholes and pipelines.

6.4.2.1 Sewer Manhole Inspection and Condition Assessment

All collection system crews perform sewer manhole inspection and condition assessment daily in the course of performing sewer cleaning and CCTV inspection activities. Sewer cleaning and CCTV inspection crews rate manhole condition on a 1 to 3 scale, with a 1 being a higher priority and 3 being a lower priority and mark manholes recommended for rehabilitation. The Collection System Supervisors perform a secondary inspection to verify the need and priority of the recommended manhole rehabilitation. Based on the results of the secondary inspection, the District's GIS section creates a manhole map book annually, which is included as an attachment in a Request for Bid to hire a contractor to perform manhole rehabilitation. The District has allocated approximately \$200,000 annually for capital improvements related to manhole rehabilitation.

6.4.2.2 Sewer Main Inspection and Condition Assessment

The District has two full-time in-house CCTV technicians certified to perform sewer inspection and condition assessment according to the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) standard. The District's two CCTV technicians each operate a CCTV truck and operate as a one-person crew. One of the CCTV technicians is a Senior Collection Systems CCTV Technician and is responsible for overseeing all CCTV inspection activities. The CCTV inspection trucks each have a Pearpoint pan and tilt CCTV camera and capture CCTV inspection data utilizing Pipelogix software. The Collection Systems CCTV technicians perform an initial condition assessment screening of sewer pipelines to identify repair, rehabilitation, or replacement recommendations, as well as maintenance issues requiring a one-time cleaning or periodic preventive maintenance, and forwards recommendations to the Collection System Manager and Collection Systems Supervisors. CCTV technicians document the specific pipe segment inspected and recommendations using a Daily Field Activity Report, which the CCTV technician or Collection System Supervisor enters into the District's MS Access database. The associated backup CCTV inspection documentation is uploaded to District servers daily. The Collection Systems Supervisors review CCTV crew recommendations for repair, rehabilitation, or replacement and forward reviewed recommendations to the Collection Systems Manager.

The District plans to inspect all sewer mains within the next 10 years. The District's goal is to record a baseline condition assessment inspection of each pipe segment in the sewer system by June 2018. The District prioritizes CCTV inspection by age and history of general maintenance issues within a given area. The Collection Systems Supervisors prioritize referrals for CCTV inspection into the CCTV inspection workload. Supervisors give the highest priority to inspection requests on pipes experiencing blockages or suspected of having severe maintenance or structural issues. **Figure 6-7** identifies the sewer pipes inspected since March 2007 and the remaining pipes requiring inspection by June 2018.

6.4.3 Sewer Rehabilitation and Replacement Plan

Since March 2007, the District has inspected approximately 460 miles of sewer pipes for condition assessment. In addition, the District has inspected an additional 90 miles of newly constructed sewer pipelines since March 2007 for acceptance of these pipelines into the sewer system. **Table 6-2** summarizes the results of the inspection performed since March 2007. Of the 460 miles of sewer pipes inspected, only 4.3 miles of pipes had one or more NASSCO PACP Structural Grade 4 or Grade 5 defects

requiring repair, rehabilitation, or replacement. This represents less than 1 percent of the sewer system having a structural condition requiring near-term action indicating the sewer system is in very good condition. The District performed these inspections in the older portions of the sewer system. The District expects even less structural issues in the newer portions of the sewer system remaining to be inspected. **Figure 6-8** shows the maximum structural grade for all pipelines inspected between March 2007 and March 2013.

Table 6-2: Maximum Structural Defects Observed in Pipe Segments in Since March 2007

Maximum Structural Defect Observed	Miles of Pipes	Percentage of Total Inspected, By Length
PACP Structural Grade 5	1.4	0.3%
PACP Structural Grade 4	2.9	0.6%
PACP Structural Grade 3	14.2	3.1%
PACP Structural Grade 2	22.9	5.0%
PACP Structural Grade 1	6.7	1.5%
No Structural Defects	412.1	89.5%
Total Inspected	460.3	100%

The District is addressing existing PACP Structural Grade 4 and Structural Grade 5 defects through a combination of localized repairs or sewer rehabilitation. Since the sewer system is in very good condition, the District has been focusing a large portion of existing sewer repair and rehabilitation on addressing pipe segments with severe maintenance issues. An example of this is the recent rehabilitation performed in “The Woods” area. To date, the majority of the pipe segments requiring sewer rehabilitation or replacement have been located in a relatively localized area of the District’s service area known as “The Woods”. This area was developed on the former site of a Eucalyptus tree farm and experienced extensive root intrusion. The District recently rehabilitated or replaced all 10.8 miles of sewer pipelines in “The Woods” development along with an additional 0.8 miles of nearby sewer pipelines, accounting for the majority of sewer rehabilitation and replacement performed over the last 10 years. **Figure 6-9** shows the location of sewer rehabilitation and repair performed between March 2007 and March 2013 to address significant structural and maintenance defects in the sewer system.

Figure 6-7: Sewer Pipelines Inspected Between March 2007 and March 2013

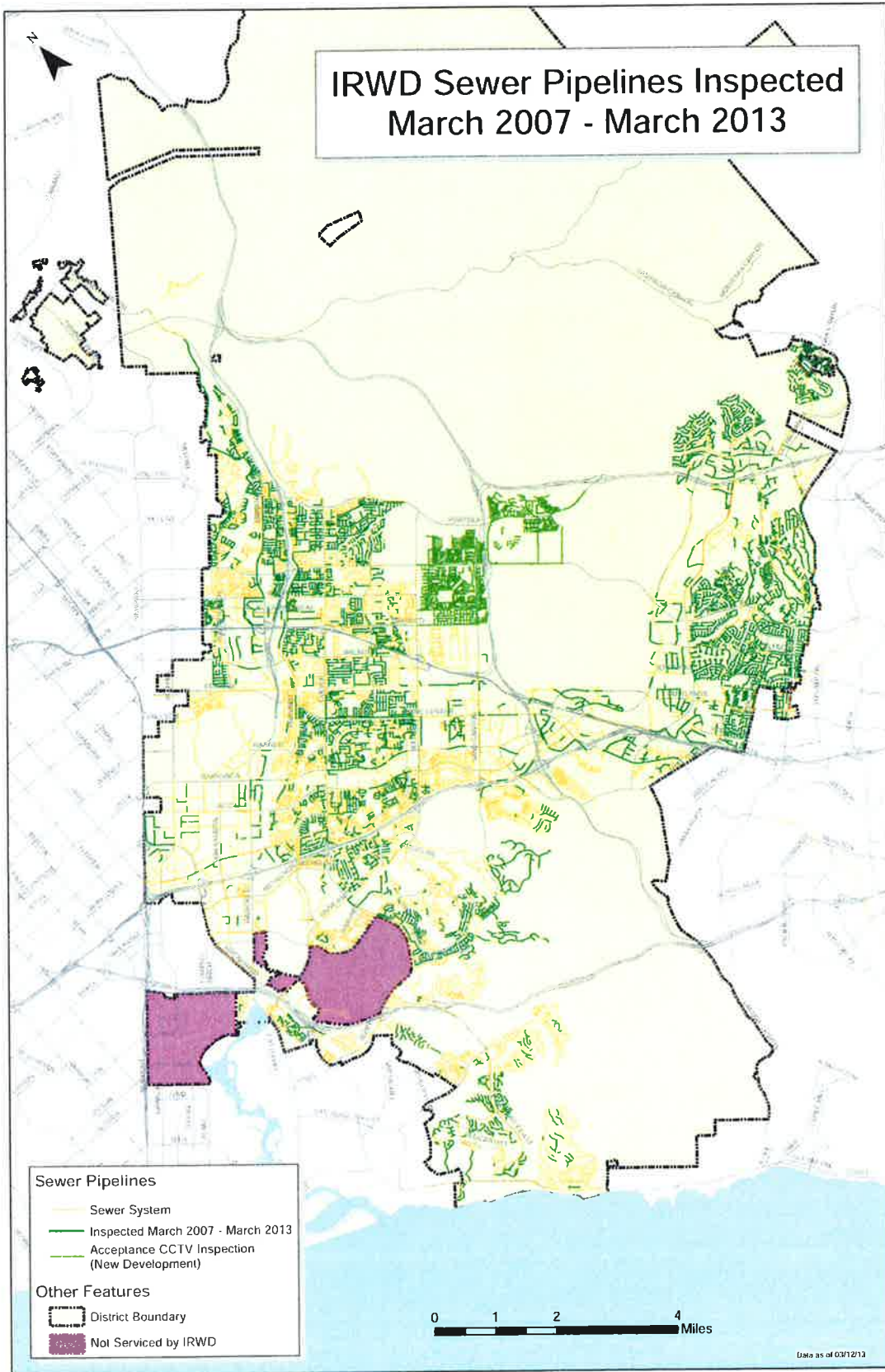


Figure 6-8: Maximum Structural Defect Grade for Pipes Inspected Between March 2007 and March 2013

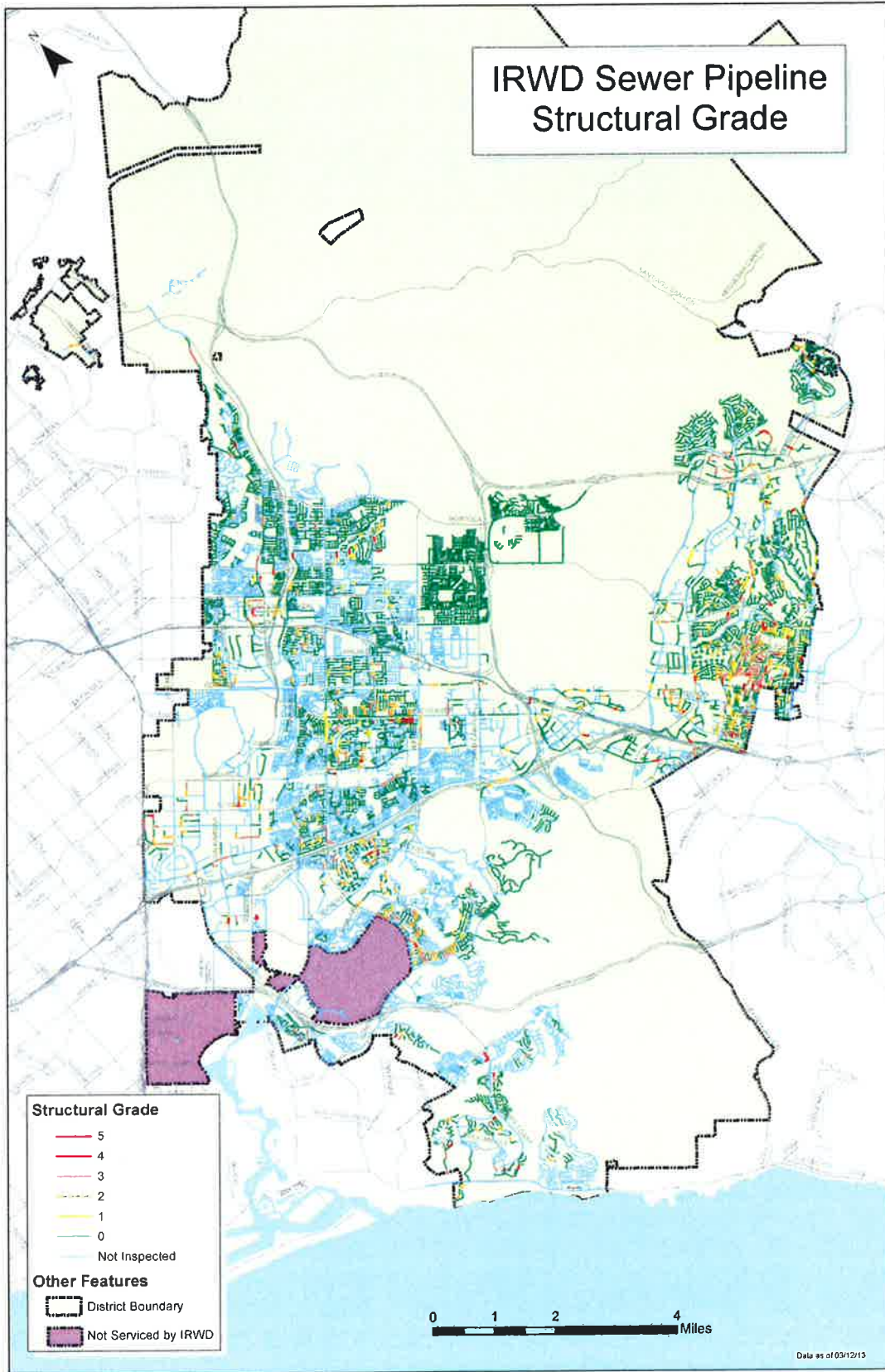
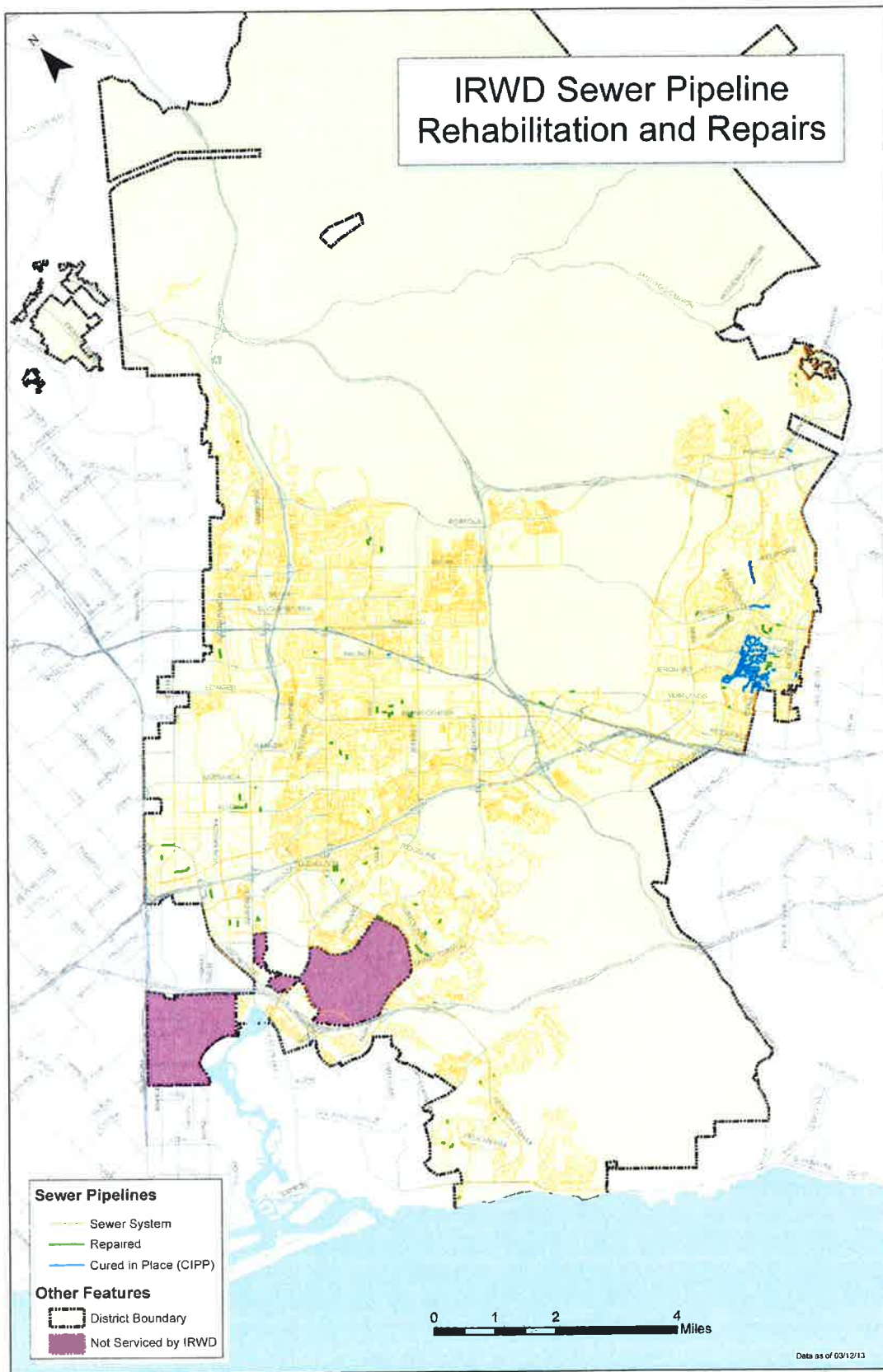


Figure 6-9: Sewer Pipeline Rehabilitation and Repair



6.4.4 Capital Improvement Program Funding

The District has funding available to accomplish the capital improvements required to address wastewater collection system capacity, structural, and maintenance issues. In addition to comprehensive system inspection, condition assessment, and capacity modeling, the District has also employed a Replacement Planning Model (RPM). In place since 1996 and updated in 2005, the RPM utilizes asset management principles to build a funding policy for establishing a funding mechanism for rehabilitation and replacement projects. Collection system sewer pipelines and lift stations are included in the model. The model assumes a 75-year lifecycle for sewer pipelines, which is a conservative estimate since the majority of pipelines in the District's sewer system are comprised on newer generation materials likely to have a mean lifecycle of 100 years. The model assumes the costs for pipeline rehabilitation and replacement are incurred over a period of years before and after the estimated replacement date, since it is likely some pipelines will fail early and some will last longer.

The RPM also includes lift stations and have varying estimates for the lifecycle of lift station assets ranging from 20 years for pumps to 40 years for the lift station structures. The RPM incorporates assumptions for rehabilitation for lift station assets over the lifecycle of the individual assets prior to full-scale replacement of the asset. Documentation of the Replacement Planning Model is included in **Appendix F**.

The Planning and Technical Services Division utilizes the RPM to generate a report of the projected costs for long-term asset replacement for all District assets, including wastewater collection system pipelines and lift stations. The Planning and Technical Services Division provides the projected costs from the RPM to Finance and Administration for incorporation into the District's rate model and rate structure.

Cost projections for wastewater pipelines from the RPM incorporated in the District's rate structure are shown in **Table 6-3**. Cost projections for lift stations are lumped in with cost projections for all wastewater plant assets for the wastewater treatment plant and are incorporated into the District's rate structure as well.

Table 6-3: FY14 – FY23 10-Year Pipeline Capital Improvement Program Funding

Fiscal Year	Wastewater Pipeline Rehabilitation and Replacement (\$1,000s)
FY14	\$492
FY15	\$492
FY16	\$492
FY17	\$492
FY18	\$492
FY19	\$512
FY20	\$532
FY21	\$553
FY22	\$575
FY23	\$599
10-Year Total	\$5,231

6.5 Training Program

The District provides training on a regular basis to all employees performing operations and maintenance activities on the sewer system assets. The District also requires contractors working on the sewer system to be appropriately trained.

6.5.1 District Staff

The District uses a combination of on-the-job training, conferences, seminars, and other training opportunities to provide technical training for its wastewater collection system staff. Vendors provide training for new equipment. The District Collection System Maintenance budget includes approximately \$9,000 for CWEA membership for employees and technical training in the form of conferences, seminars, and other training classes. Examples of technical training and training materials the District's wastewater collection staff might take advantage of are listed in **Table 6-4** and **Table 6-5**.

Table 6-4: Training Resources (Conferences, Seminars, and Courses)

Sponsor	Event	Timeframe	References
Water Environment Federation	Collection System Specialty Conference	Periodically	www.wef.org
	WEFTEC	Periodically	www.weftec.com
	Santa Ana River Basin Section	Annually	
California Water Environment Association	State Conference	Every other April	
	Southern Regional Safety Conference	May	www.cwea.org
	Southern Sections Collection Systems Committee	Quarterly	
Southern California Alliance of Publicly Owned Treatment Works	Collection System Committee	Quarterly	www.scap1.org
Tri-State Conference	Annual Conference	September	www.tristateseminar.com

Table 6-5: Training Resources (Materials)

Sponsor	Materials	Reference
California State University, Sacramento	Videos, manuals, home study courses	www.owp.csus.edu

In addition to technical training provided by outside resources, the District provides in-house technical training to collection system operations and maintenance staff. The focus of in-house training is hands-on training at a work site. Other potential sources of training include the Southern California Chapter of the American Public Works Association and the Southern California Chapter of the Maintenance Superintendents Association.

6.5.1.1 CWEA Certification

All Collection System Operations and Maintenance employees have earned California Water Environment Association Collection System Maintenance certification. Employees responsible for performing collection system maintenance activities enter into the organization as a Collection Systems Tech I and are required to obtain CWEA Collection System Maintenance Grade 1 certification within one year of employment. In order to advance to a Collection System Tech II or a CCTV Tech II position, employees are required to have three years of field experience and to earn CWEA Collection Systems

Maintenance Grade 2 certification. Similarly, in order to advance to a Collection System Supervisor position, an employee is required to obtain CWEA Collection System Maintenance Grade 3 certification with the ability to earn CWEA Collection System Maintenance Grade 4 certification. The Collection System Manager is required to have a CWEA Collection System Maintenance Grade 4 certification, a Bachelor degree in business, public administration, or related field, six years of management experience in the collection system field, and three years experience as a supervisor.

6.5.1.2 Training Documentation

The District documents all training activities using a Training Sign-In Sheet with signatures of attendees along with training agenda and training handouts. These documents are managed and stored by the Safety Office.

6.5.2 Training Requirements for Contractors

The District requires contractors who work on District sewer projects to be qualified with wastewater collection system experience. The District has a Supplier Assessment Process requiring all contractors to become pre-qualified by the District's Purchasing Department. Contractors must apply for pre-qualification by submitting a Supplier Assessment Information Sheet. Each contractor must provide the District with three references to demonstrate they are qualified to perform the work and the District performs reference checks to verify contractor qualifications. In addition, during the process of selecting contractors for a specific project, the District requires each contractor to submit a list of three local comparable projects performed using the equipment and techniques specified. These references are checked during the selection process for a specific project.

Once contractors are selected for a specific project, the District requires contractors to provide safety plans, confined space plans, and wastewater bypass plans prior to work. These are reviewed by the Safety Department, Collection System Maintenance, and Engineering prior to commencing project. SSO response is part of their Safety Plan and Wastewater Bypass Plan. In the specification documents there is a notification list with contacts in the case of an emergency (including SSO). If any work involves or requires coordination with pump station operations, the District will provide pump station operations staff to support coordination with contractor activities.

6.6 Equipment and Replacement Parts Inventory

The District has assembled equipment and replacement parts inventory to quickly address a lift station or a sewer main failure.

6.6.1 Equipment and Replacement Parts Inventory for Sewer Mains

The District does not consider a sewer main as requiring critical spare parts. The District has stored PVC pipe in various sizes at the Michelson Water Reclamation Plant along with fittings and coupling required to perform a pipeline repair. The District also owns three trailer-mounted bypass pumps for bypassing sewer main failures, if required, along with 6,000 feet of 8-inch diameter flexible hose on two different spools and 2,000 feet of 6-inch diameter flexible hose on a separate spool. The three existing pumps include:

- One (1) 6-inch pump;
- One (1) 10-inch pump; and,
- One (1) 12-inch pump.

The District is planning on purchasing another 12-inch pump in FY2013/14.

6.6.2 Equipment and Replacement Parts Inventory for Lift Stations

The District has identified lift stations pumps and motors as critical spare parts. The District owns spare pumps and motors for all lift stations. In addition, the District owns spare level transducers enabling quick replacement when needed. The District has designed backup pumps and backup power providing redundancy at each lift station.

Chapter 7 Design and Performance Provisions

This section of the SSMP documents IRWD's design and performance provisions.

7.1 Regulatory Requirements

The WDR requires IRWD to have the following design and performance provisions:

- (a) *IRWD must have design and construction standards and specifications for the installation of new sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sewer systems;*
- (b) *IRWD must also have procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances and for rehabilitation and repair projects.*

7.2 Design and Construction Standards

The District has developed design and construction standards for the installation of new sewer systems, pump station components, and other appurtenances. The latest versions of all of the District's design and construction standards, guidelines, specifications, and details are publicly available on the internet at <http://www.irwd.com/doing-business/engineering-planning/engineering-docs.html>.

The District's webpage includes the following documents:

- Procedural Guidelines and General Design Requirements
- Standard Drawings
- General Technical Specifications

In addition, anyone interested in automatically receiving updates to the District's documents, guidelines, and requirements can sign up for IRWD eNotify (<http://www.irwd.com/about-us/e-notifications.html>), which will send e-mail notifications when changes are made to any of the documents or when a change is posted to the IRWD website.

The District's Procedural Guidelines and General Design Requirements include:

- Development Plan and Permit Processing Procedures
 - District authority to access work site
 - Sewer system inspection standards and procedures for construction
- Design Criteria for Sewer Facilities
 - Pipe size, material, minimum and maximum slope, and flow design criteria;
 - Standard location and alignment, stationing, and minimum depth;
 - Manhole location, size, type, frame and covers, and lining;
 - Cleanout design criteria;
 - Force main design criteria;
 - Sewer lateral design criteria;
 - Sewer pump stations design criteria; and,
 - Design criteria for easement and right-of-way for sewer.

The District's Sewer Standard Drawings includes the following eight standard details for the sewer system listed in **Table 7-1**.

Table 7-1: Sewer Standard Drawings

Drawing No.	Description
S-1	Manhole
S-2	Drop Manhole
S-3	Sewer Lateral
S-4	Cut-in Wye Connection
S-5	Terminal Cleanout
S-6	Sewer Trench
S-7	Steel Casing for Sewer Pipe
S-8	Concrete Slope Anchors

The District's General Technical Specifications, for use in all District construction contracts, includes a comprehensive set of specifications for sewer system pipelines and facility construction. The District contracts with a design engineer for the development of design drawings and specifications for sewer pipeline and pump station rehabilitation and replacement projects. In addition, IRWD has adopted and uses the Standard Specifications for Public Works Construction (Greenbook).

7.3 Inspection and Testing Standards

IRWD uses the inspection and testing requirements detailed in the District's Procedural Guidelines and General Design Requirements, General Technical Specifications, and the Standard Specifications for Public Works Construction (Greenbook).

The District's Procedural Guidelines and General Design Requirements requires sewer inspections at the following intervals:

- Trench excavation and bedding
- Placing of pipe, fittings, and structures
- Placing and compacting the pipe zone backfill
- Backfill of the trench to grade
- Raising of manhole and clean-outs and during system cleaning
- Pipeline CCTV inspection at completion of construction

Prior to pipelines CCTV inspection, pipelines must be balled and flushed, air-tested, and mandrelled. CCTV inspection is then performed to determine if any of the following defects exist:

- Off grade - 0.08 foot, or greater, deviation from grade.
- Joint separations exceeding $\frac{3}{4}$ -inch.
- Misaligned joints (none permitted on straight runs or on wrong side of pipe curves). Joint spaces exceeding $\frac{3}{4}$ -inch on designed curves.
- Chips in pipe ends more than $\frac{1}{4}$ " deep.

- Cracked or damaged pipe or evidence of presence of an external object bearing upon the pipe (rocks, roots, etc.).
- Dropped joints.
- Infiltration in excess of maximum permissible specified in the District Standard Specifications, Section 15043.
- Debris or other foreign object in the line.
- Other obvious deficiencies.

Any defects found must be corrected prior to final acceptance. Inspection and testing standards for sewer pipeline repair and rehabilitation projects are developed by the design engineer during the design phase of the project. Similar, inspection and testing requirements for pump station repair or rehabilitation projects are developed by the design engineer during the design phase of the project.

Chapter 8 Overflow Emergency Response Plan

The purpose of the Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). This plan provides guidelines for District personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the District's service area.

8.1 Regulatory Requirements

IRWD shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;*
- (b) A program to ensure appropriate response to all overflows;*
- (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;*
- (d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;*
- (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and*
- (f) A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.*

8.2 Goals of the Overflow Emergency Response Plan

The District's goals with respect to responding to SSOs are:

- Work safely;
- Minimize public contact with the spilled wastewater;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

8.3 SSO Detection

The processes that are employed to notify the District of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by District staff during the normal course of their work.

8.3.1 Public Observation and Emergency Communications

Public observation is the most common way that the District is notified of blockages and spills. Contact information for reporting sewer spills is located on monthly water bills and on the District's website at www.irwd.com/about-us/contact.

8.3.1.1 Normal Work Hours

The normal working hours for District office staff, including Customer Service staff responsible for answering emergency calls, is from 7:30 a.m. to 5:00 p.m. Monday through Thursday. The office is open every other Friday from 7:30 a.m. to 4:00 p.m. Customer service staff are available to answer calls every Friday from 7:30 a.m. to 4:00 p.m. The normal working hours for District's Collection System Maintenance field crews are Monday through Thursday from 6:30 a.m. to 4:00 p.m. and every Friday from 6:30 a.m. to 3:00 p.m., except holidays. When a report of a sewer spill or backup is made, the Customer Service representative receives the call, takes the information from the caller and communicates this information to the Collection System Manager or Supervisors who dispatch a field crew to the site. Emergency calls received by the City of Irvine or County of Orange are routed to the IRWD Customer Service main line.

8.3.1.2 After Hours

After hours emergency calls go to the District's after hours answering service. The District's after hours answering service staff are trained to gather basic information regarding a customer complaint and relay this information to the District Primary Responder. The District Primary Responder is trained to investigate any emergency issue and is responsible for either addressing the issue or contacting an appropriate standby response crews. The Preventive Maintenance Manager in Department 40 is responsible for maintaining the Standby List for all departments containing the names, phone numbers, and responsibilities for standby employees and distributing an updated list weekly via e-mail.

The District's after hours approach to sewer overflow response is to include employees with different skill sets on the Standby List enabling the District to respond quickly and effectively to a variety of emergencies involving sewer pipelines or sewer pump stations. The Standby List includes the following designations for standby employees:

Table 8-1: Standby List Positions and Roles

Standby Position	Roles
Primary Responder	Investigate service calls and either address issue or request support from specialized standby personnel as needed.
First Backup	Provide backup support to primary responder as requested.
Second Backup	Provide backup support to primary responder as requested.
Collection System (1 st)	Respond to sewer-related service calls when requested by Primary Responder.
Collection System (2 nd)	Respond to sewer-related service calls when requested by Primary Responder.
Electrical Services	Respond to service calls requiring expertise in electrical systems. This includes electrical systems for sewer pump station issues.
Water System Operator	Responds to service calls requiring water system operational expertise.
Water Quality	Responds to service calls involving water quality issues.
Standby Manager	A list is provided to standby staff for all IRWD managers. All managers are available to respond during off-hours.
LAWRP Plant Operator	Respond to after hours issues related to, or requiring coordination with, LAWRP operations.
MWRP Treatment Plant Operator	Respond to after hours issues related to, or requiring coordination with, MWRP operations.

Information from the emergency call is recorded on the Spill Response Field Report Form included in **Appendix H**.

8.3.1.3 Routing of Calls

Any calls answered by the District's answering service are routed to the Primary Responder on the Standby List. District customer service staff are trained to send sewer overflow calls to the Collection System Maintenance Supervisor during normal business hours and to the Collection System First Responder after 4:00 p.m. on Monday thru Thursday and after 3:00 p.m. on Friday.

8.4 SSO Response Procedures

Sewer service calls are high priority events that demand a prompt response to the location of the problem. Upon notification of a potential sewer overflow, a District Primary Responder shall be dispatched onsite within 30 minutes during normal working hours and during standby. During normal working hours, the District's Primary Responder will be a Department 570 Collection System maintenance crew. During after hours, the District's Primary Responder will be assigned personnel from Department 420, 425, or 430 who will investigate the service call to determine the appropriate response.

The response procedures for SSOs caused by District-owned sewers, private laterals within the District service area, and surrounding Agency sewers are depicted in **Figures 8-1, 8-2, and 8-3**.

Figure 8-1: SSO Response Procedure Flow Chart

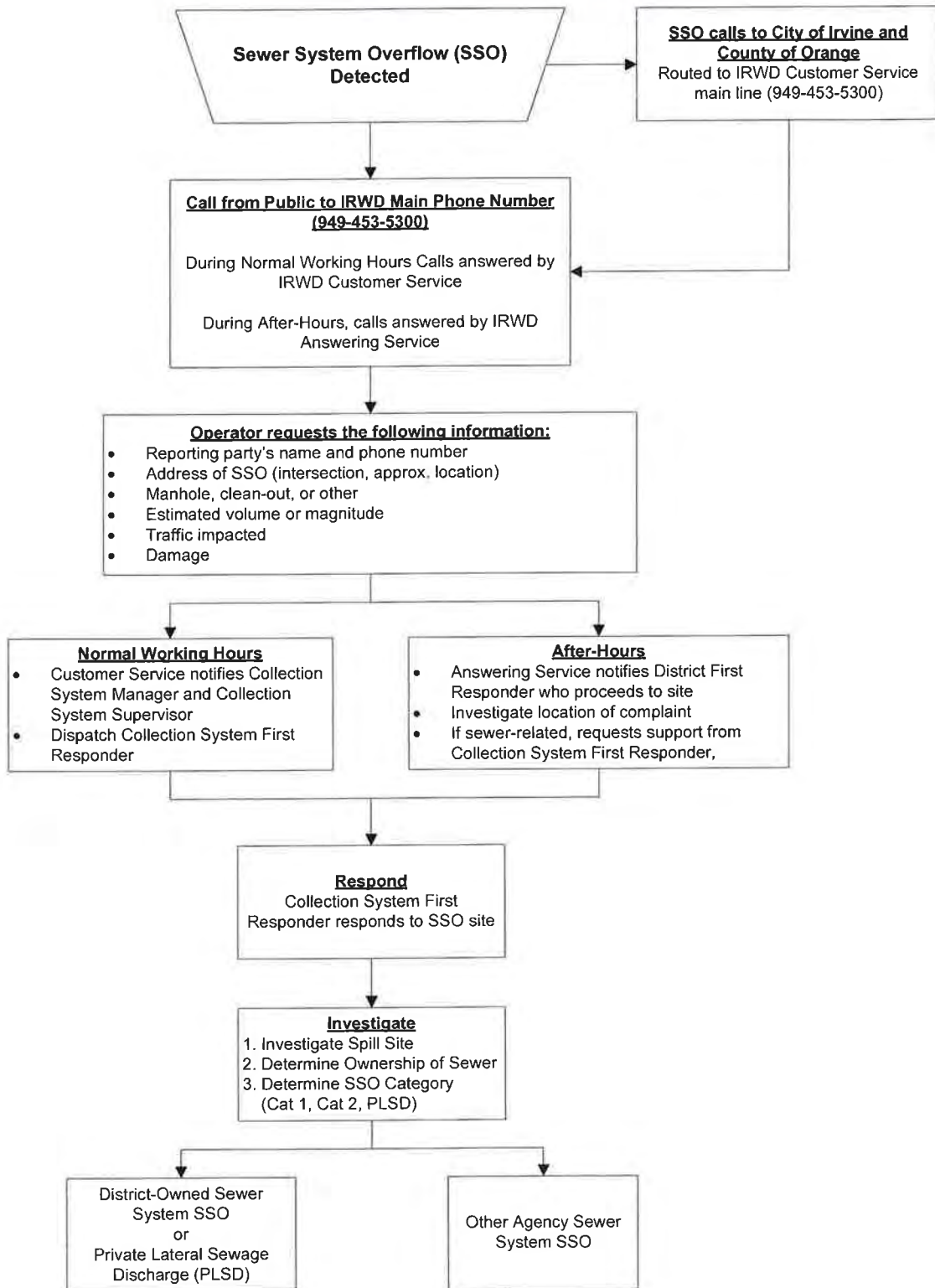


Figure 8-2: SSO Response Flow Chart for District-Owned Sewer SSOs

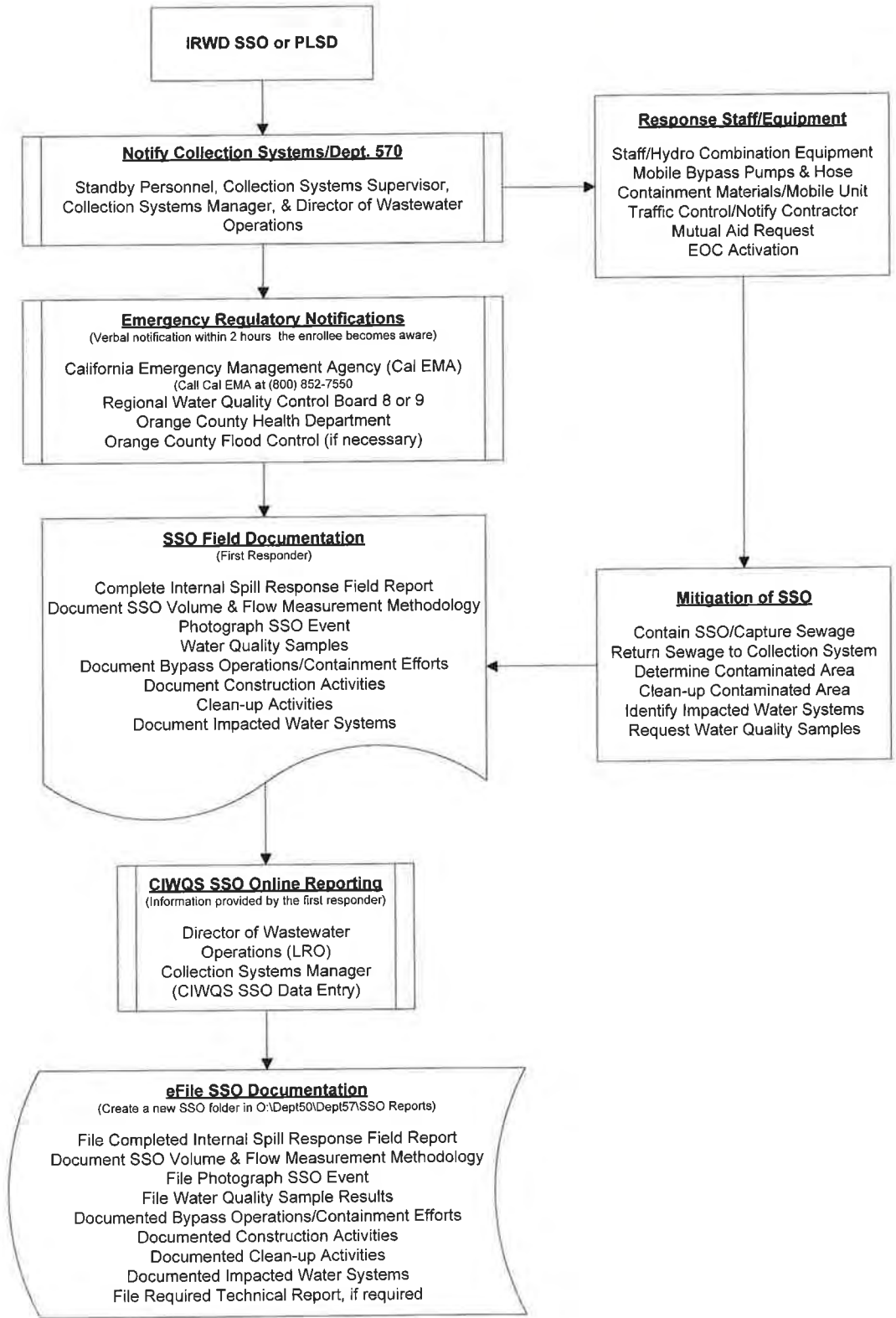
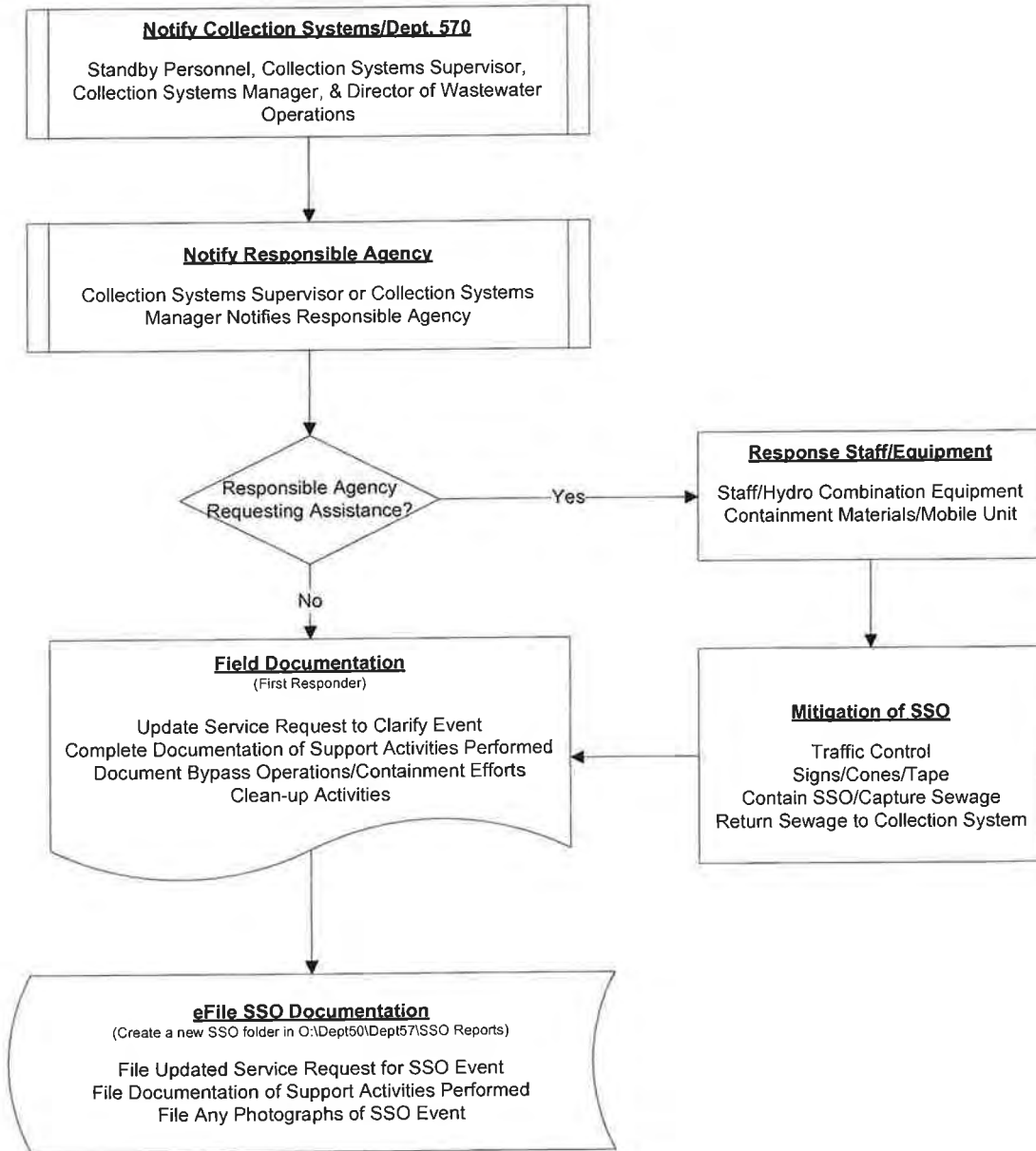


Figure 8-3: SSO Response Flow Chart for SSOs in Sewers Not Owned by District



8.4.1 Safety

The District's Primary Responder, as first responder, is responsible for following District safety procedures at all times.

8.4.1.1 Traffic Control

Traffic control requirements vary depending on the location and the risk to operating personnel and the public. CalTrans standards are the minimum for congested and/or high-speed streets and highways. The minimum traffic controls for low-speed/low-traffic-density streets should conform to the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD), the California Department of Transportation MUTCD, and the Watch Book Manual standards. In the case where there are no local standards, the minimum traffic control should be:

- Warning signs (signs with the symbol for person working are preferred);
- Directional arrow signs on rear of the truck;
- Traffic cones clearly delineating traffic lanes and directions; and
- One or more flaggers utilized to control and direct traffic where visibility is limited or the possibility of collision exists.

8.4.2 Primary Responder Priorities

The Primary Responder's priorities, as the first person to respond to the call, are:

- To follow safe work practices;
- To respond promptly with appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To minimize public access to and/or contact with the spilled sewage;
- To return the spilled sewage to the wastewater collection system; and
- To restore the area to its original condition (or as close as possible).

8.4.3 Initial Response

Clarify that the Primary Responder during standby will perform initial assessment either through phone call interview or initial site assessment. Once the Primary Responder determines it is a sewer-related event, they will transfer the call to Collection Systems Maintenance.

The Primary Responder is responsible for contacting the reporting party to clarify the situation and collect any additional information that may allow District personnel to respond in an efficient manner. If the Primary Responder determines the event is sewer-related, immediately contact the Collection Systems Maintenance standby staff. Whichever person arrives to the site first will:

- Field verify the address and nearest cross street to determine whether the spill or backup is located in the District's service area.
 - If the location of the spill is not in the District's service area or not caused by the District's sewer system, call the responsible agency, provide them with the service call information, and notify the caller that the responsible agency has been notified. The District's Emergency Directory contains contact information for surrounding agencies.
 - If the spill/backup is caused by another agency sewer system, the responding crew will standby until representatives of the responsible party arrive and are fully operational

unless an emergency on one of the District's sewers requires the team to respond to another location.

- Notify the Collection Systems Manager and Collection System Supervisor when an SSO is verified. The Collections System Manager will work with crew to determine if additional resources are needed and level of response.
- Respond with the appropriate spill response equipment that has spill containment tools, materials and any additional equipment that may be needed based on the details provided by the caller.
 - Note arrival time at spill site.
- If the spill/backup is caused by a private lateral, the responding crew should contain/mitigate the spilled sewage to prevent sewage from entering the public right of way without District staff going on private property.
- Set up traffic and pedestrian control as necessary for safety of the public and the response crew.
- Identify and assess the affected area and extent of spill. If possible, take photographs to document the extent of the spill.
 - If the spill appears to be too large for the response crew to handle or is in an area that may cause danger to human health (e.g. impacting a school, hospital, park, etc.), then document conditions upon arrival with photographs.
- Use best judgment to determine whether to proceed immediately with blockage removal versus containment. The guidance for this decision is:
 - Small spills – proceed with immediate containment measures near the appearance point followed by blockage removal.
 - Moderate or large spill where containment is anticipated to be simple – proceed with immediate containment measures near the appearance point followed by blockage removal.
 - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, call for additional assistance immediately to focus on implementing containment measures.

8.4.4 Restore Flow

Using the appropriate cleaning tools, set up downstream of the blockage and hydro clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream.

- If the blockage cannot be cleared within a reasonable time (15 minutes), or the sewer requires construction repairs to restore flow, then initiate additional containment measures and/or bypass pumping.
- If assistance is required, contact other employees, contractors, and equipment suppliers.

8.4.5 Initiate Spill Containment Measures

The responding crew should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Implement immediate containment measures consisting of plugging storm drains using sandbags, plastic sheeting, and/or other dam construction material to contain the spill, whenever appropriate.
- Additional containment measures include containing/directing the spilled sewage using dike/dam, sandbags, or earthen berms in landscaped or undeveloped areas.

- Pump around the blockage/pipe failure to convey the wastewater to the nearest downstream manhole or facility.
- If the spill is caused by a sewer lateral, District staff may shut off the water supply to that property when the wastewater endangers the public health.

8.4.6 Water Quality Sampling and Testing

Water quality testing is performed to determine the extent and impact of an SSO when sewage enters a water body. The Collection Systems Manager or Collection Systems Supervisor will coordinate with the Orange County Health Care Agency or the Orange County Flood Control District to determine whether water quality is required. If required, the water quality sampling procedures are:

- The Collection Systems Manager, Collection System Supervisor, or Collection System First Responder will contact Dept. 64 Regulatory Compliance water quality personnel during normal hours, or the Water Quality standby personnel during after-hours, to collect samples. Dept. 64 Regulatory Compliance water quality personnel or the Water Quality standby will collect samples as soon as possible after the discovery of the SSO event.
- The water quality samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. rivers). The water quality samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shoreline of the stationary water body (e.g., bay or lake).
- The District has a state-certified laboratory to analyze the samples to determine the nature and impact of the discharge. The basic analyses include total coliform, fecal coliform, and *Enterococcus*.

8.4.7 Recovery and Clean Up

The recovery and clean up phase begins when the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and clean up procedures include the steps below.

8.4.7.1 Estimate the Volume of Spilled Sewage

Use the methods outlined in **Appendix H**, or other methods as deemed necessary, to estimate the volume of the spilled sewage. If possible, utilize available information such as pump station run times and Supervisory Control and Data Acquisition (SCADA) data to support or validate volume estimates. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation.

8.4.7.2 Recovery of Spilled Sewage

Vacuum up spilled sewage using the hydro/combo unit or pump the spilled sewage and any water used to flush the area and discharge it back into the wastewater collection system.

8.4.7.3 Clean Up and Disinfection

Implement clean up and disinfection procedures to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. Where clean up is beyond the resources or capabilities of District staff, the District may use a contractor to support clean-up operations.

8.4.7.3.1 Hard Surface Areas

Take reasonable steps to contain and vacuum up the wastewater and return it to the wastewater collection system. Collect all signs of sewage solids and sewage-related material either by hand or with the use of

rakes and brooms. Wash down the affected area with high pressure water using nozzles on provided on the hydro/combo unit and vacuum the wash water utilizing the hydro/combo unit. Allow area to dry. Repeat the process if additional cleaning is required.

8.4.7.3.2 Landscaped and Unimproved Natural Vegetation

Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms.

Wash down the affected area with clean water until the water runs clear. The flushing volume should be approximately three times the estimated volume of the spill.

Either contain or vacuum up the wash water so that none is released. Return the wastewater to the wastewater collection system to the extent possible.

Allow the area to dry. Repeat the process if additional cleaning is required.

8.4.7.3.3 Natural and Man-Made Waterways

Notify Orange County Public Works in the event an SSO impacts any waterways. Contain contaminated creeks where feasible. Remove all contaminated water by pumping to the collection system or vacuuming by means of vacuum truck and return all collected water to the sewer system. Introduce additional wash water as needed to flush contaminated areas towards the containment area.

8.4.7.4 Wet Weather Modifications

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

8.4.8 Follow Up Activities

If sewage has reached the storm drain system, the hydro/combo unit should be used to vacuum/pump out the catch basin. Flush the storm drain system with wash water and capture all residual wash water at a point of containment downstream.

In the event that an overflow occurs at night, inspect the location early on the following morning. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

If the District sewer causes an overflow on a private property, restore flow and notify the Collection Systems Manager. The Collection Systems Manager will notify the Director of Wastewater Operations and the Manager of Contracts Administration and Risk to determine if any immediate steps to rectify the issue are required. Provide the customer with the contact information for the Manager of Contracts Administration and Risk to make a claim, pending investigation.

8.5 Traffic and Crowd Control

Place barricades, cones, traffic arrow board, and caution tape as needed to keep vehicles and pedestrians away from contact with spilled sewage.

8.6 Public Notification

If an SSO affects a waterway or ocean requiring posting of signage, contact Orange County Public Works. Orange County Public Works will post and remove signage for waterways and beach closures as required and will not remove the signs until the effects of the spill have been mitigated. A sample warning sign utilized by Orange County Public Works is included in **Appendix H**.

Major spills may warrant broader public notice. The Collection Systems Manager and/or Director of Wastewater Operations will contact the Director of Public Affairs or the Public Affairs Manager. Public Affairs will create and execute the outreach plan for media. If media crews show up at a job site the crews will ask media personnel to wait and will contact Public Affairs immediately. Do not respond to questions from the media or interview requests unless the Director of Public Affairs or the Public Affairs Manager provides direction and permission. The approval of the Public Affairs is required prior to contacting local media when significant areas may have been contaminated by sewage.

8.7 SSO Event Investigation

The objective of the SSO event investigation is to determine the cause of the SSO and to identify corrective action(s) needed that will reduce or eliminate potential for the SSO to recur.

The investigation includes reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will be conducted by the Collection Systems Manager and/or Collection Systems Supervisor and reported to the Director of Wastewater Operations or his/her designee. The investigation should include:

- Reviewing and completing/correcting the Sanitary Sewer Overflow Report Form;
- Reviewing available photographs;
- Reviewing historical maintenance activities
- Conducting a CCTV inspection to determine the condition a portion of the line segment immediately following the SSO and reviewing the video and logs; and
- If FOG-related, reviewing the results of a FOG source control investigation
- Debrief with staff who responded to the spill.

The goal of the SSO event investigation is to determine the cause of the SSO event and to identify appropriate corrective actions. The District's standard practice is, at a minimum, to perform additional cleaning of the pipe containing the blockage that caused the SSO event along with the pipes immediately upstream and downstream.

8.8 SSO Categories

The California State Water Resources Control Board (SRWCB) has established guidelines for classifying and reporting SSOs. Reporting and documentation requirements vary based on the type of SSO.

Currently, there are two categories of SSOs as defined by the SWRCB¹:

- **Category 1** – All discharges of sewage resulting from a failure in the sanitary sewer system that:
 - Equals or exceeds 1,000 gallons, or;
 - Results in a discharge to a drainage channel and/or surface water; or
 - Discharges to a storm drainpipe not fully captured and returned to the sanitary sewer system.
- **Category 2** – All other discharges of untreated or partially treated wastewater resulting from a failure in the Enrollee's sanitary sewer system.
- **Private Lateral Sewage Discharges** – Sewage discharges that are caused by blockages or other problems within a privately-owned lateral.

¹ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

8.9 SSO Documentation and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the wastewater collection system and meeting established reporting requirements. The procedures for investigating and documenting SSOs are:

8.9.1 Internal SSO Reporting Procedures

The Collection Systems Primary Responder will fill out the Sanitary Sewer Overflow Field Report Form and turn it in to the Collection Systems Supervisor. The Collection Systems Supervisor reviews and completes a draft of the report and will send a copy to necessary IRWD staff documenting all field activities. Necessary staff includes all operations management and executive management as shown on SSO Field Report Form. The Collection Systems Manager is required to enter all required information into the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS) Online SSO Reporting System. The Director of Wastewater Operations certifies the SSO Report in CIWQS.

8.10 External SSO Reporting Procedures²

CIWQS is used for reporting SSO information to the SWRCB whenever possible. A summary of external reporting requirements and contact information is included as **Figure 8-5**.

8.10.1.1 Category 1 SSOs

If a Category 1 SSO results in a discharge to a drainage channel or surface waters, the following notification/reporting requirements apply:

- **Within two hours** of notification of the spill event the Collection Systems Manager or Collection Systems Supervisor will:
 - Notify California Emergency Management Agency (Cal EMA) and obtain spill number for use in other reports;
 - Notify the appropriate Regional Water Quality Control Board by phone:
 - Santa Ana RWQCB (Region 8);
 - San Diego RWQCB (Region 9);
 - Notify Orange County Health Care Agency (OCHCA);
 - Notify Orange County Public Works; and ;
- **Within 24 hours** of notification of the spill event, the Legally Responsible Official, or his/her designee, will certify to the appropriate RWQCB, by phone or with a follow up fax, that Cal EMA and OCHCA were notified.
- **Within 3 business days** of being notified of the spill event, the Legally Responsible Official or his/her designee will certify the initial report using the CIWQS Online SSO Reporting System.
- **Within 15 calendar days** of the conclusion of SSO response and remediation, the Legally Responsible Official or his/her designee will certify the final report using the CIWQS Online SSO Reporting System.
- The Legally Responsible Official or his/her designee will update the CIWQS and re-certify the SSO report as new or changed information becomes available. The updates should be submitted as soon as new information is verified. The LRO must certify all SSO report updates.

² State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

8.10.1.2 Category 2 SSOs

Within 30 calendar days after the end of the calendar month in which the SSO occurs, the Legally Responsible Official or his/her designee will submit a certified report using the Online SSO Reporting System. The report will include the information to meet the GWDR requirements.

Figure 8-4: External Reporting Requirement Checklist and Contact Information

Reporting & Certification Checklist			
Category 1 SSO that reach Drainage Channel or Surface Waters			
2-Hour Notification: Regulatory Agencies (CalEMA, Orange County Health Department, RWQCB) must be notified within two hours of ANY discharge of sewage (untreated/partially treated) to a surface water or drainage channel (that is not fully captured and returned to sewer).			
24-Hour Certification: Any SSO requiring notification based on the two-hour rule must be followed up with a certification submitted to the RWQCB within 24 hours.			
Within 3 Business Days of Notification: Report to SWRCB using CIWQS.			
Within 15 Calendar Days of Conclusion of Response/Remediation: Must be certified by LRO using CIWQS.			
Category 1 SSO that did not reach a Drainage Channel or Surface Waters			
Within 3 Business Days of Notification (SWRCB/CIWQS): Report to SWRCB using CIWQS.			
Within 15 calendar Days of Conclusion of Response/Remediation: Must be certified by LRO using CIWQS.			
Category 2 SSO (<1,000, Did not reach Surface Waters)			
Within 30-Days After End of Calendar Month with SSO Event: Must be reported to SWRCB using CIWQS; Must be certified by LRO using CIWQS.			
Negative Reporting (No SSOs in Month)			
Within 30 days past the end of the month The LRO or designee must report using CIWQS.			
Private Lateral Sewage Discharge (Reporting is Optional) If reporting, enter into CIWQS as a "Private Lateral Sewage Discharge" and identify responsible party, if known (not the District). Must be certified by LRO using CIWQS.			
California Integrated Water Quality Systems (CIWQS)			
SWRCB Reporting Timeframes Depend on the Size and Final Destination of the SSO.			
<ul style="list-style-type: none"> • CIWQS must be used for reporting if the website is available (http://ciwqs.waterboards.ca.gov) <ul style="list-style-type: none"> ○ User Name: xxxx Password: xxxx ○ Waste Discharge Identification Number (WDID) #xxxxxx ○ The SSO database will automatically generate an email notification with customized information about the SSO upon initial reporting and final certification for all Category I SSOs. ○ Emails will be sent to the Orange County Health Department and the appropriate RWQCB • Fax RWQCB (only if website is down) 			
Two-Hour Notification / 24-Hour Certification			
<ol style="list-style-type: none"> 1. California Emergency Management Agency Phone: (800) 852-7550; (916) 845-8911 Make sure you ask for an "OES Control Number" (for RWQCB) 2. Orange County Health Department Phone: (714) 433-6000 Fax: (714) 433-6481 After Hours: (714) 628-7008 Email: mfennessy@ocha.com; lbrennler@ochca.com 3. RWQCB (Region 8 – Santa Ana; Region 9 – San Diego) Option of phoning in the 2-hour notification and follow up within 24 hours using the online certification or utilize the online feature for both. <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> RWQCB, Region 8 Region 8-Najah Amin (951) 320-6362 Region 8, Main Number (951) 782-4130 Region 8, Fax (951) 781-6288 Region 8: namin@waterboards.ca.gov </td> <td style="width: 50%; vertical-align: top;"> RWQCB, Region 9 Region 9-Chris Means (858) 637-5581 Region 9, After hours (858) 822-8344 Region 9, Fax (858) 571-6972 Region 9: cmeans@waterboard.ca.gov </td> </tr> </table> 		RWQCB, Region 8 Region 8-Najah Amin (951) 320-6362 Region 8, Main Number (951) 782-4130 Region 8, Fax (951) 781-6288 Region 8: namin@waterboards.ca.gov	RWQCB, Region 9 Region 9-Chris Means (858) 637-5581 Region 9, After hours (858) 822-8344 Region 9, Fax (858) 571-6972 Region 9: cmeans@waterboard.ca.gov
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Sanitary Sewer Overflow (SSO)			
Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system that: <ol style="list-style-type: none"> (i) Reach waters of the United States (including storm drains, unless fully captured and returned to sewer); (ii) Do not reach waters of the United States; and (iii) Backs up into buildings and on private property that are caused by District owned lines. 			

8.10.1.3 Private Lateral Sewage Discharges

The Legally Responsible Official or his/her designee may report private lateral sewage discharges using the CIWQS Online SSO Reporting System **at the District's discretion**, specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the District), if known.

8.10.1.4 No Spill Certification (Monthly)

If there are no SSOs during the calendar month, the Legally Responsible Official will submit and certify an electronic report that the District did not have any SSOs, **within 30 days after the end of each calendar month**.

8.10.1.5 Online SSO Reporting System (CIWQS) Not Available

In the event that the CIWQS Online SSO Reporting System is not available, the Legally Responsible Official or his/her designee will fax all required information to the appropriate RWQCB office in accordance with the time schedules identified above. In such event, the District will submit the appropriate reports using the CIWQS Online SSO Reporting System as soon as practical.

8.10.2 Internal SSO Documentation

8.10.2.1 Category 1, 2, and 3 SSOs

The Collection Systems Primary Responder will complete the Spill Response Field Report Form and provide a draft report to the Collection Systems Supervisor or his/her designee. The Collection Systems Supervisor will assemble all available documentation and review, complete, and submit an internal report of all available information to appropriate District staff via e-mail.

The Legally Responsible Official or his/her designee will prepare an electronic file for each individual SSO. The electronic file should include the following information as available:

- Initial service call information;
- Spill Response Field Report;
- Online SSO Reporting System form;
- Volume estimate;
- Map showing the spill location;
- Photographs of spill location;
- CCTV inspection data, if applicable;
- Water quality sampling and test results, if applicable;
- SSO event investigation results; and
- Any other forms related to the SSO.

8.10.2.2 Private Lateral Sewage Discharges

The Collection Systems Primary Responder will complete the Spill Response Field Report Form and provide a draft report to the Collection Systems Supervisor or his/her designee. The Collection Systems Supervisor will assemble all available documentation and review, complete, and submit an internal report of all available information to appropriate District staff via e-mail.

A separate electronic file will be prepared for each individual PLSD, at the discretion of the Legally Responsible Official. The file will include any relevant information from the above list.

8.10.3 External SSO Record Keeping Requirements³

The WDR requires that individual SSO records be maintained for a minimum of **five years** from the date of the SSO. This period may be extended when requested by a Regional Water Quality Control Board Executive Officer.

All records shall be made available for review upon State or Regional Water Board staff's request.

Records shall be retained for all SSOs, including but not limited to the following when applicable:

- Copy of Certified Online SSO Reporting System report(s);
- Any photos (if taken);
- Spill Response Field Report Form;
- Steps that have been and will be taken to prevent the SSO from recurring and a schedule to implement those steps.

If water quality samples are required by an environmental or health regulatory agency, or if voluntary monitoring is conducted by the District, as a result of any SSO, records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses.

8.10.4 Post SSO Event Debriefing

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events.

8.11 Equipment

This section provides a list of specialized equipment that should be used to support this Sanitary Sewer Overflow Emergency Response Plan.

Camera -- A digital or disposable camera to record the conditions upon arrival, during clean up, and upon departure.

Closed Circuit Television (CCTV) Inspection Unit -- A CCTV Inspection Unit to determine the cause for all SSOs from gravity sewers. This equipment can be provided by a contractor.

Combination Sewer Cleaning Truck -- A combination high velocity sewer cleaning truck with vacuum tank to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.

Emergency Response Trailer -- A trailer to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include containment and clean up materials: sandbags, barricades, cones, caution tape, signs, rakes, drop-inlet mats, and plastic sheeting.

³ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Portable Generators, Portable Pumps, Piping, and Hoses -- Portable equipment used to support this plan is available at the Operations Facility.

8.12 SSO Response Training

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

8.12.1 Initial and Annual Refresher Training

All District personnel who may have a role in responding to, reporting, and/or mitigating a wastewater collection system overflow receive annual training on the contents of this OERP. All new employees receive training before they are placed in a position where they may have to respond.

8.12.2 SSO Training Record Keeping

The District maintains records for all OERP training provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event include date, time, place, content, name of trainer(s), and names of attendees.

8.13 Contractors Working on District Sewer Facilities

All contractors working on District sewer facilities are required to develop an overflow response plan, which identifies who the contractor will contact at the District and any actions a contractor is required to perform in the event of an SSO.

Chapter 9 FOG Control Program

This section of the SSMP presents the District's Fats, Oils, and Grease (FOG) control program to reduce the amount of FOG discharged into the sanitary sewer system.

9.1 Regulatory Requirements

The Statewide General WDR for Wastewater Collection Agencies (Order No. 2006-003) requires the development of a FOG source control program to reduce the amount of FOG discharged to the sanitary sewer system. The requirement in the WDR is as follows:

FOG Control Program: *Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:*

- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;*
- (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;*
- (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;*
- (d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;*
- (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;*
- (f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and*
- (g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.*

9.2 Nature and Extent of FOG Problem

The IRWD FOG Control Program is based on the findings of a FOG characterization study conducted in 2004, other studies with similar agencies, and the requirements of the WDR. The FOG characterization study was documented in the District's FOG Control Program Manual included in **Appendix I**. This program integrates various elements into the program to accomplish the goal of preventing SSOs. The key elements of the program include:

- A FOG Control ordinance;
- Sewer line maintenance activities associated with the FOG-related hot spots;
- An inspection process to minimize the discharge of FOG from Food Service Establishments (FSEs);
- An educational outreach program to minimize the discharge of FOG from multi-family housing and single-family homes; and,

- Orange County Sanitation District's (OCSD) Waste Discharge Pretreatment and Source Control Program for discharge of FOG from industry.

These elements are accomplished through a variety of program-related activities including:

- FSE inspections
- SSO follow-up and enforcement actions
- Plan review for grease control device requirements for new FSEs
- Residential outreach and education
- Mapping and program database utilization
- Follow-up to collection system staff observations

9.3 Legal Authority to Support FOG Source Control Program

The District's legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG is included in Section 7.11 of the District's Rules and Regulations for Water, Sewer, Recycled Water, and Natural Treatment System Service. **Table 9-1** summarizes the legal authorities related to FOG source control and references the relevant section of the District's Rules and Regulations that establishes these authorities.

Table 9-1: Summary of IRWD's FOG Legal Authorities

FOG Legal Authority	Section of IRWD's Rules and Regulations
FOG Discharge Prohibition	7.11.3.1
Food Service Establishment Prohibitions	7.11.3.2
Requirement for FOG Wastewater Discharge Permit	7.11.3.3
Requirements for Implementation of FOG Best Management Practices	7.11.3.4
Requirement to Install, Operate, and Maintain Grease Removal Equipment	7.11.4
Grease Interceptor and Grease Trap Requirements	7.11.6.8 & 7.11.6.9
Authority to Require Monitoring, Reporting, Inspection, and Sampling for FOG Source Control Compliance	7.11.7
Record-Keeping Requirements	7.11.7.2
Authority to Perform Inspection and Sampling	7.11.7.4
Enforcement	7.6 & 7.11.8

9.3.1 FOG Discharge Prohibition

Section 7.11.3.1 of the District's Rules and Regulations prohibits a Food Service Establishment (FSE) from discharging FOG that may accumulate and/or cause or contribute to blockages in either IRWD's sewer system or sewer system lateral connecting the FSE to IRWD's sewer system.

9.3.2 Food Service Establishment Prohibitions

Section 7.11.3.2 of the District's Rules and Regulations applies the following prohibition to all FSEs:

1. Installation of food grinders is prohibited. This includes a requirement to remove existing food grinders.
2. Use of additives to emulsify FOG is prohibited.
3. Disposal of waste cooking oil into drainage pipes is prohibited.
4. Discharge of wastewater from dishwashers to any grease removal equipment is prohibited.
5. Discharge of wastewater with temperatures in excess of 140 degrees F to any grease removal equipment is prohibited.
6. Use of any biological additives for grease remediation or as a supplement to grease removal equipment maintenance is prohibited.
7. Discharge of wastes from toilets, urinals, and other fixtures containing fecal materials to sewer lines connected to grease removal equipment is prohibited.
8. Discharges of any waste including FOG and solid material removed from grease removal equipment to the sewer system is prohibited.
9. Diluting discharge as a substitute for treatment is prohibited.

9.3.3 Authority to Identify Measures to Prevent SSOs and Blockages Caused by FOG

The District has both incorporated measures to prevent SSOs and blockages caused by FOG into the District's Rules and Regulations and has the authority to identify additional measures as deemed necessary. The District's Rules and Regulations require the following measures to prevent SSOs and blockages caused by FOG:

1. Implementation of Best Management Practices to minimize discharge of FOG (Section 7.11.3.4)
2. Requirement to install a grease removal device (Section 7.11.4)
3. Requirement for grease removal equipment maintenance (Section 7.11.6.3)

9.3.4 Authority to Inspect FSEs and Enforce FOG Regulations

Section 7.11.7.4 of the District's Rules and Regulations provides the District with the authority to perform inspection and sampling at FSEs and Section 7.11.8 provides authority to enforce provisions of the Fats, Oils, and Grease Control program.

9.4 FOG Pretreatment Requirements

9.4.1 Requirements to Install Grease Removal Equipment

Pursuant to Section 7.11.4 of the District's Rules and Regulations, FSEs are required to install, operate and maintain approved type and adequately sized grease interceptors. The implementation of this FOG regulation includes:

1. All new construction of FSEs after December 30, 2004 are required to install grease interceptors prior to commencing discharges of wastewater to the sewer system as identified through the FSE FOG Plan Review Process.
2. Existing FSEs determined to be the cause or contributor of FOG related blockages or SSOs are required to install grease interceptors within 180 days of identification.
3. Existing FSEs undergoing remodeling or a change in operations or ownership are required to install grease interceptors as identified through the FSE FOG Plan Review Process.

The District's FOG regulation provides the District with the flexibility to grant a variance from grease interceptor requirements to allow alternative pretreatment technology if the installation of a grease interceptor is not practicable. The District also has the ability to grant a conditional waiver from installation of a grease interceptor if the FSE is determined to have negligible FOG discharge and insignificant impact to the sewer system.

9.4.2 Design Standards for Removal Devices

The District's FOG regulation requires grease removal equipment sizing and installation to conform to the current edition of the California Plumbing Code and also requires grease removal equipment to be constructed and located in accordance with the requirements and criteria set forth in the FOG Control Program. The District's Fats, Oils, and Grease (FOG) Control Program Manual, dated December 15, 2004, documents the current approach utilized by the FOG Control Program Manager to size grease interceptors.

The District's FOG Control Program Manager reviews and approves the sizing and installation of grease removal devices. The design and sizing is based on the current version of the California Plumbing Code Section 1014.3. The FOG Control Program Manager will also consider the potential for large grease interceptors to become septic and may compare the California Plumbing Code sizing against other sizing formulas and use best judgment based on other factors (e.g. FSE cooking equipment, menu, frequency of use of drainage fixture units) to determine the final size of the interceptor.

The FOG Control Program Manual also requires the floor of an interceptor to be shallow enough to allow for proper cleaning and an individual interceptor not to be larger than 3,000 gallons for most installations. FSEs with very large flows may be required to install multiple interceptors. Finally, an FSE calculation of 375 to 750 gallons is required to install a 750 gallon interceptor.

9.4.3 Maintenance Requirements for Grease Removal Equipment

The District's general FOG Wastewater Discharge Permit requires FSEs to perform grease removal equipment maintenance as frequently as is necessary to ensure FOG and/or solids in the device does not exceed 25 percent of the capacity of the equipment. Typically the maintenance frequency required is quarterly, yet is no less frequent than once every six months. If FSE inspections identify non-compliance with the District's FOG regulation, the FOG Control Program Manager may require an FSE to perform more frequent maintenance.

9.4.4 Best Management Practice Requirements

The District's general FOG Wastewater Discharge Permit requires the implementation of the following Best Management Practices:

- Installation of drain screens
- Segregation and collection of waste cooking oils
- Disposal of food waste into trash or garbage, and not into sinks
- Employee training
- Kitchen signage

9.4.5 Recordkeeping and Reporting Requirements

The District's general FOG Wastewater Discharge Permit requires FSEs to conform with the following record keeping and notification requirements:

- Record Keeping requirements
 - Logbook of employee training

- Records of spills and/or cleaning of the lateral or sewer system
- Logbook of grease control equipment cleaning activities
- Copies of grease control equipment records or waste hauling manifests
- Records of sampling data and height monitoring of FOG and solid accumulation in the interceptor
- Notification requirements
 - Notification of a spill
 - Notification regarding planned changes

9.5 FOG Preventive Maintenance

The District employs preventive maintenance as a means to address areas prone to FOG accumulation in the system. The District has identified areas in the sewer system with FOG issues through a combination of maintenance crew knowledge, past grease-related SSOs and stoppages, CCTV inspection data, and the FOG characterization study performed in 2004. **Appendix I** contains maps identifying the areas in the sewer system with past FOG issues along with the District FSEs. The District addresses these locations through a combination of FOG source control, sewer cleaning, and pipeline inspections. The District will continue to adjust the sewer cleaning frequency of pipes to address the FOG issue while optimizing the amount of sewer cleaning performed. The District employs the methods outlined in Chapter 4 – Operations and Maintenance Program to optimize its preventive maintenance activities.

The District also has an on-going CCTV inspection program that will continue search for sewer pipes with FOG issues. In addition, sewer cleaning crews record the type and severity of material found during cleaning activities and the District utilizes this information to identify new areas with FOG issues and to adjust sewer cleaning frequencies as described in Section 4.3.

9.6 FOG Source Control

The District performs several types of FSE inspections to ensure FSEs comply with FOG regulations and FOG Control Program requirements. **Table 9-2** lists the different types of inspection performed by the District.

Table 9-2: Types of FOG Source Control Inspection Performed by IRWD

Inspection Type	Description
Initial Inspections	These inspections are conducted to identify and classify each FSEs potential to generate FOG and its potential to discharge the FOG to the sanitary sewer system. If not adequately controlled, this FOG can lead to sewer blockages and, potentially, SSOs. The inspection identifies the type of food, equipment, and kitchen practices that contribute to FOG discharges and the equipment (e.g., grease interceptors, grease traps) that may reduce the discharge of FOG to the sewer. These initial inspections also provide the opportunity to educate the FSEs on the impact of their grease discharges, what they can do to minimize grease discharges, and how the District's FOG regulations could potential impact them.
Best Management Practices Inspection	These inspections are conducted to evaluate compliance with the facility's best management practices requirements.
Grease Removal Equipment Inspections	These inspections are conducted to evaluate compliance with the facility's grease removal equipment requirements.
Compliance Inspections	These inspections are conducted where it is determined by the FOG Control Program Manager that a follow-up inspection is required for a Non-Compliance issue that has been identified in previous BMP, GRE, or FOG source sewer pipe inspections.
Enforcement Inspections	These inspection are conducted when elevated enforcement of the Permit requirements are required or when the revocation of the FSEs grease interceptor installation Conditional Waiver, Waiver or Variance is required.

The District focuses inspections on FSEs in the vicinity and upstream of areas in the sewer system with known FOG issues and on FSEs identified as having a greater potential to generate FOG and discharge FOG to the sewer system. FSE inspections are conducted approximately once every two years and more frequently for FSEs with greater potential to discharge grease to the sewer system.

9.7 FOG Control Program Enforcement

The District has developed an enforcement response guideline to respond to Non-Compliance issues identified during the inspection process. The District bases the enforcement response on the severity of the non-compliance and the history of non-compliance at the FSE. The enforcement response follows a tiered approach consisting of three tiers: Notice of Non-Compliance, Notice of Violation, and Assessment of Penalties. **Table 9-3** lists the levels of enforcement response.

Table 9-3: Levels of FSE Enforcement Response

Tier	Enforcement Trigger
Tier 1 – Notice of Non-Compliance	A Tier 1 enforcement response is typically utilized for isolated deficiencies that are not serious non-compliance issues. No enforcement action is taken after correction of the deficiency. For example, a single BMP non-compliance finding would result in a Tier 1 enforcement response.
Tier 2 – Notice of Violation	A Tier 2 enforcement response is triggered due to the severity of non-compliance, an FSE that is non-responsive to previous requirements, or an FSE that remains in non-compliance beyond required timelines. This level of enforcement is triggered by multiple deficiencies identified in an inspection. An example of a serious non-compliance issue would be a deficiency in grease removal equipment maintenance or functionality. Another example is when a grease discharge from an FSE directly identified as the cause of a SSO or blockage event.
Tier 3 – Assessment of Penalties	Similar to Tier 2, a Tier 3 enforcement response is triggered due to the severity of non-compliance, an FSE that is non-responsive to previous requirements, or an FSE that remains in non-compliance beyond required timelines. A Tier 3 enforcement response is rare and is utilized by the District as a last resort to generate FSE compliance. This level consists of assessment of non-compliance fees; increased assessment of fees; revocation of FSE's Conditional Waiver requiring installation of a grease interceptor; and the potential loss of the FSE's right to discharge wastewater to the sewer system.

The District has an appeals process for FSEs to appeal the decisions of the FOG Control Program Manager or General Manager. A hearing is conducted and the FSE will be given the opportunity to present information supporting the FSE's position. A FSE affected by a Notice of Violation from an inspector or by the action or determination of the FOG Control Program Manager may file a request for a hearing with the General Manager. The General Manager will conduct a hearing with the FSE, review the facts, and make a determination concerning the appeal. An FSE affected by the action or determination of the General Manager may file a request for appeal hearing with the Board of Directors who will review the facts and make a determination.

9.8 FOG Program Staffing

FOG Control Program staffing consists of a combination of District staff and contractor staff. The District employs a part-time FOG Control Program Manager (0.75 FTEs). The FOG Control Program Manager is responsible for management of the following activities:

- FOG Control Program implementation, performance monitoring, and reporting
- FSE inspections
- FSE compliance follow-up
- FOG Control Program enforcement
- FOG Control Program education, outreach and customer support
- Grease removal device plan review and processing

- FOG Control Program variance and waiver evaluation and processing

The District utilizes a contractor to perform FSE inspections, issue Notice of Violation letters, and to perform compliance follow-up inspections. District staff perform FOG Control Program enforcement activities if the contractor determines compliance is not achieved at the time of the compliance follow-up inspection. The District also dedicates a portion of the District's sewer cleaning crews to FOG-related preventive maintenance activities.

9.9 FOG Disposal Facilities

Grease hauling companies serving the Irvine area as of November 2012 are shown in Table 9-4. and FOG disposal facilities serving the Irvine area as of November 2012 are shown in the following lists. The source of this information is <http://www.calfog.org/Hauler.html#Orange> and www.calfog.org/GreaseFacilities.html.

Table 9-4: Grease Hauling Companies Serving Orange County

Company	Phone Number
Ameriguard Maintenance Services	(800) 347-7876 x14
JR Grease Traps and Interceptor Service	(323) 997-9602
New Leaf Biofuel	(619) 236-8500
One More Time	(800) 624-5504
SMC Grease Specialist	(951) 788-6042
Superior Service Recycling	(888) 888-4121

Source: CalFOG website (<http://www.calfog.org/Hauler.html#Orange>)

FOG disposal facilities serving the Irvine area as of November 2012 are shown in **Table 9-5**. The primary grease drop off location is Orange County Sanitation District's Plant No. 1.

Table 9-5: Grease Rendering/Drop Off Points for Irvine Area

Company	Address	Phone Number	Type of Operation
Baker Commodities, Inc.	4020 Bandini Blvd Los Angeles, CA (Vernon, CA)	(323) 269-6177 or (800) 427-0696	Grease recycler. Drop off location and grease trap cleaning/hauling.
Darling International	2626 E 25th St Los Angeles, CA	(800) 447-3273	Drop off location and grease trap cleaning/hauling.
One More Time	4144 Bandini Blvd Los Angeles, CA (Vernon, CA)	(800) 624-5504	Used cooking oil only
Orange County Sanitation District, Plant No. 1	10844 Ellis Avenue, Fountain Valley, CA 92708	(714) 593-7428	Primary grease drop off point for grease haulers serving IRWD.
Southwest Processors	4120 Bandini Blvd Los Angeles, CA (Vernon, CA)	(800) 900-3366	Grease recycler. Drop off location and grease trap cleaning/hauling.
West Coast Rendering	4105 Bandini Blvd Los Angeles, CA (Vernon, CA)	(323) 261-4176	Small operation. Typically only accept grease from known grease hauler (Triple A). No grease trap servicing.

Source: CalFOG website (<http://www.calfog.org/GreaseFacilities.html>)

The District will update the list bi-annually based on the findings of the biennial SSMP Audit. The number and close proximity of the disposal sites is adequate to handle liquid wastes expected to be removed from current and future grease removal equipment within the District.

9.10 FOG Public Education Outreach

The District utilizes education as the primary method for controlling the discharge of FOG to the sewer system from multi-family housing and single-family homes. The District provides educational information concerning FOG in the District's Quarterly Newsletter at least once annually. In addition, the District mails FOG education brochures with utility bills on an annual basis to educate District customers.

The District conducts more frequent mailing of FOG brochures for areas identified as potential upstream sources of FOG in the sewer system. Additionally, the District provides FOG brochures and educational material to multi-family housing for posting in common areas.

9.11 Industrial Discharger FOG Control

The District utilizes the Orange County Sanitation District's (OCSD) source control program to regulate wastewater discharges from Industrial users into the District's sewer collection system. The District will coordinate with OCSD for regulation and enforcement of industrial dischargers for any FOG related discharges identified by the District.

Chapter 10 System Evaluation and Capacity Assurance Plan

10.1 Regulatory Requirements

The District shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

- (a) **Evaluation:** *Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;*
- (b) **Design Criteria:** *Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and*
- (c) **Capacity Enhancement Measures:** *The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The capital improvement plan shall include an implementation schedule and shall identify sources of funding.*
- (d) **Schedule:** *The District shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a) - (c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements in Section D. 14.*

10.2 Background

The District performs capacity assurance planning for both the trunk sewers as well as for sewer pipelines within smaller planning areas. The District performed capacity assurance planning for the trunk sewers in June 2006. The results were documented in the Sewer Collection System Master Plan included in **Appendix J**. The District also prepares water, sewer, and reclaimed water facility planning studies, also known as a Sub-Area Master Plans (SAMP), on areas after a developer has generated a specific plan of development with a planning area. An example of a SAMP is included in **Appendix J**. The District has not experienced any capacity-related sewer overflows.

10.3 Capacity Evaluation

One of the primary objectives of the Sewer Collection System Master Plan, developed by the District in June 2006, was to determine the available capacity of the collection system and to identify any deficiencies resulting from those system capacities. To accomplish this objective, the District created a hydraulic model of the collection system. The hydraulic model is composed of both the physical characteristics of the system and the flows the District estimates will be conveyed by the system. Analyses were performed to determine the water demand and sewage flow generation factors for representative land uses throughout the District's service area. This analysis was documented in a Water Demand and Flow Generation Factor Study, which includes the procedures used to calculate water demands and sewage flow generation factors as well as the results of those analyses.

Hourly variations in wastewater flows are an important part of determining the hydraulic capacity of the sewer collection system. The District's Flow Measurement Program characterized the flow volumes per land use and this information was used to define the hourly flow variations for residential and non-residential land use types.

Under the first phase of the flow measurement program, a number of flow measurement devices (monitors) were installed throughout the collection system. These devices were positioned to measure flow from generally homogenous land use areas. Each device sampled the flow rate within the sewer system on a five minutes interval. For each measurement site, hourly average flow rates were used to define the diurnal pattern of the actual flow in the system. Hourly peak flow factors were calculated to allow comparison of the flow measurement results between drainage basins with different flow volumes. Hourly peak flow factors are calculated by dividing the average hourly flow rate by the average daily flow rate. **Figure 10-1** and **Figure 10-2** show the observed flow patterns for residential and non-residential flows. These flow patterns are documented in Section 3 of the Sewer Collection System Master Plan.

Figure 10-1: Observed Residential Flow Patterns⁴

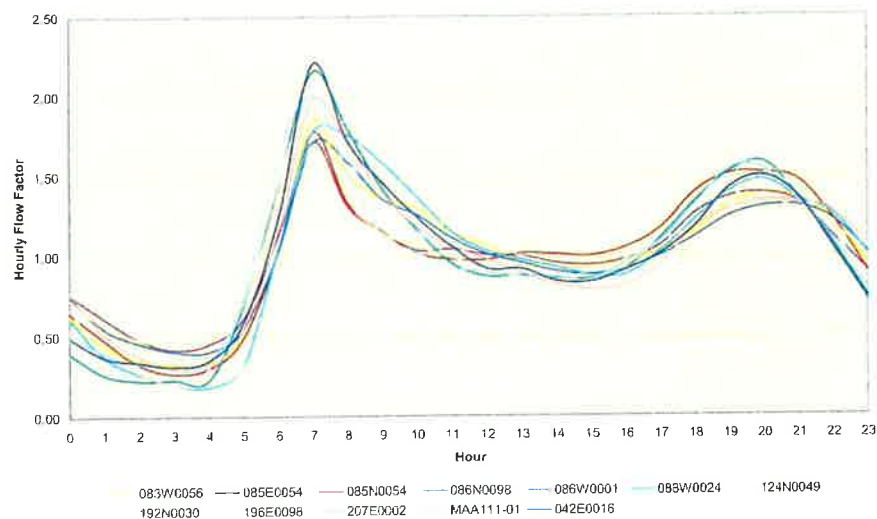
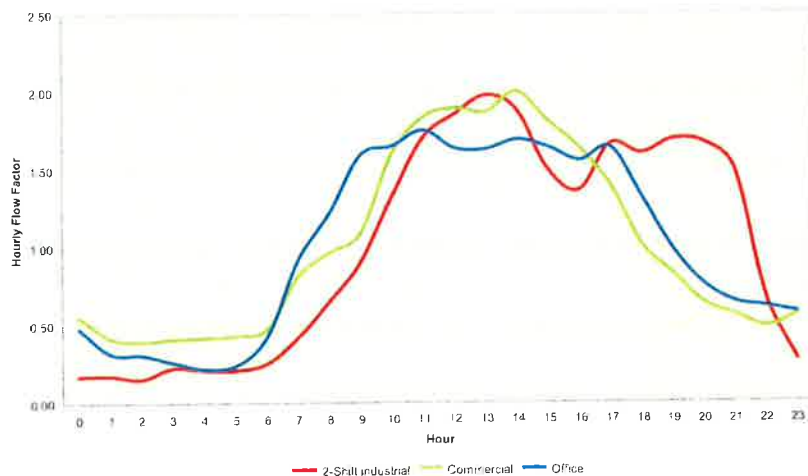


Figure 10-2: Observed Non-Residential Flow Patterns⁵



⁴ Figure 3-2, Sewer Collection System Master Plan, June 2006, Dudek

⁵ Figure 3-4, Sewer Collection System Master Plan, June 2006, Dudek

In June 2012, the District's Sewer System Management Plan Program Audit included an audit finding indicating the District's current planning criteria of accounting for inflow/infiltration (I/I) using conservative depth over diameter (d/D) ratios may be inadequate for areas with high levels of I/I. In November 2012, the District performed a preliminary I/I study from data collected at selected lift stations between January 1, 2010 and March 31, 2012. The Preliminary Rainfall Dependent I/I (RDII) Analysis Report is included in **Appendix J**. The study concluded that normalized volumetric RDII responses from the evaluated tributary basins are considered moderate. Furthermore, RDII peak factors associated with the Canada, Coastal Ridge and Coyote lift stations suggest that peak flows leading to the wet wells of those stations were likely significant during the two large, system-stressing storms evaluated. Based on the results of this preliminary evaluation, the District plans on performing additional analysis during the next Sewer Master Plan project to determine if a change to the planning criteria for accounting for I/I is needed in areas with high levels of I/I.

10.4 Design and Performance Criteria

Section 3 of the Sewer Collection System Master Plan documents the District's design and performance criteria for gravity pipelines including the allowable sewer main slope, peaking factors, and minimum depth. Section 3 also includes design criteria for force mains, sewer pump stations, and inverted siphons.

10.4.1 Gravity Mains

The District requires design flows for residential sewer mains to be calculated based on the flow generation factors presented in Table 3-1 of the Sewer Collection System Master Plan according to the most appropriate land use category. The District encompasses a variety of land use types, with different density and population per EDU values. The District requires commercial/Industrial flow design criteria to be calculated by the design engineer based on projected generation rates for the specific commercial or industrial development. Peak dry weather design flows for sewer mains are to be design to maintain a specific depth (d) to diameter (D) ratio, based on the selected diameter of the pipeline as shown in Table 10-1.

Table 10-1: Allowable Flow Depth at Peak Design Flow⁶

Diameter Range	d/D
Diameter < 15"	0.50
Diameter = 15"	0.67
Diameter > 15"	0.75

Maintenance of specific d/D ratios under peak dry weather flow conditions provides sufficient pipeline capacity to accommodate wet weather flow, including infiltration, inflow and other storm related water, over and above the actual wastewater. This additional headspace also provides a margin of safety for variations in flow estimation. The overall intent is to provide a factor of safety within the pipeline for wet weather and other unexpected flows.

Design criteria establish a means of selecting a pipeline size and vertical slope that provides the required capacity and flushing velocity for projected flows and the available head space above the water surface for potential unexpected peak flows above normal projected conditions. Such instances of peak flows exceeding design conditions may occur during rain events where any number of potential avenues of water conveyance may allow rain water into the sewer collection system. Groundwater is another potential source of defect flow that may contribute to overall Inflow and Infiltration (I&I) that can occur

⁶ Table 3-3, Sewer Collection System Master Plan, June 2006, Dudek

during the life span of a pipeline segment. Excessive I&I within a collection system will increase the risk of sanitary sewer overflows.

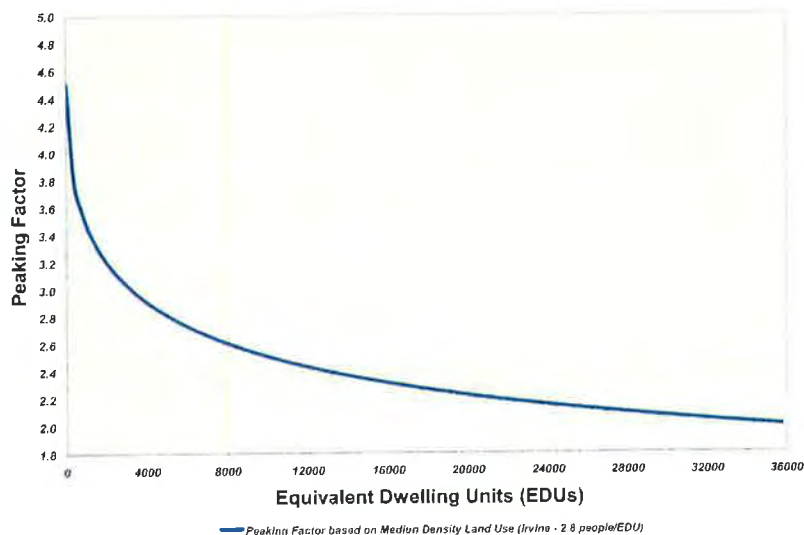
The design criteria for gravity pipelines provides for an industry standard margin of safety from sanitary sewer overflows by dedicating the remaining head space (air space above the water level) for unexpected I&I situations. Once in operation for a long period of time, if a pipeline operates with a peak flow higher than the design criteria, it is not necessarily a trigger for upsizing the pipeline segment capacity. This is particularly relevant for areas that have already reached their ultimate build-out condition and do not expect any further increase in flows.

The District's Sewer Collection System Master Plan included gravity pipeline performance criteria to provide a means to prioritize pipeline segments experiencing flows above design standards. A ranking system of low, medium, and high was created for different pipe size categories and d/D ratio ranges to evaluate the performance of pipelines and focus on segments presenting the highest risk of surcharging and potential failure.

Sewer mains are required to be designed and constructed to provide mean velocities of not less than 2.2 feet per second when flowing at the design depth defined in Table 3-4 of the Sewer Collection System Master Plan. Section 3.4.3 of the Sewer Collection System Master Plan documents the design criteria for allowable sewer main slope.

District sewer mains are required to be designed and sized using peak flow conditions, determined by multiplying average flow conditions by a peaking factor. Design flows for residential sewer mains are required to be calculated based on the number of EDUs served. Similarly, the design peaking factor is selected based on the number of EDUs served. The peaking factor selection is based on the base generation rate of a low density residential land use, defined to be 288 gallons per EDU per day (gpd/EDU) and a density of 1.6 EDUs per acre. Based on this land use definition, **Figure 10-3** outlines applicable peaking factors based on dwelling units served.

Figure 10-3: Peaking Factors⁷



Generally, developments containing more than 400 dwelling units are required to provide the District with a Sub-Area Master Plan (SAMP). The SAMP includes an analysis of the proposed sewer system using a computerized hydraulic model, a complete description of the facilities to be constructed, maps,

⁷ Figure 3-5, Sewer Collection System Master Plan, June 2006, Dudek

and computations providing the design criteria meeting the requirements of the Sewer System Guidelines. The Sewer Collection System Master Plan incorporates the information provided by SAMPs where appropriate and available.

10.4.2 Force Mains

Section 3.5 of the Sewer Collection System Master Plan documents the design criteria for force mains. The capacity of the force main is designed to be equivalent to the design peak flow of the corresponding pump station. The capacity analysis is conducted for the new force main installation (C=140) and the future force main condition (C=100). The required nominal design velocity for the force main is three (3.0) fps, with minimum velocity of two (2.0) fps, and maximum allowed velocity of eight (8.0) fps. The maximum headloss in the designed force main cannot exceed five (5) feet per 1,000 feet of force main.

Parallel force mains are to be provided for the purpose of facilitating operation and maintenance, as well as the prevention of sewer spills. Parallel force mains are to be of equal size, each equivalent in capacity to that required for a single force main installation.

10.4.3 Sewer Pump Stations

Pump stations included in the Sewer Collection System Master Plan conform to the District's Procedural Guidelines and General Design Requirements available on the District's website (<http://www.irwd.com/doing-business/engineering-planning/engineering-docs.html>).

10.4.4 Inverted Siphons

Section 3.7 of the Sewer Collection System Master Plan documents design criteria utilized for capacity analysis of inverted siphons. Inverted siphons are only be used when specifically approval by the District Engineer, and after all other design options have been investigated. The inverted siphon is designed with a minimum of two barrels and a gated system at the inlet that directs the flow towards either the primary or secondary barrel. The minimum peak flushing velocity of wastewater through the any barrel of the inverted siphon is required to be three and one-half (3.5) fps. Higher flushing velocities are preferred in all cases, up to a maximum of six (6) fps. Vertical curves must be used for all changes in slope (minimum of 100 feet). Vertical slopes shall be limited to a maximum of 15 percent. The design engineer uses Manning's equation, modified to reflect head losses for full pipe flow, when calculating friction loss and capacity of each inverted siphon barrel. Velocities are to be calculated as peak volume divided by barrel area ($V = Q/A$).

10.5 Reliability and Redundancy

The District performed a system reliability and redundancy analysis documented in Section 6 of Sewer Collection System Master Plan. The basis for the system reliability analysis is a risk analysis assessing the likelihood and consequence of failure of sewer system assets. The risk analysis indicated the majority of the highest risk pipelines are located in the western portion of the District, near the Michelson Water Reclamation Plant (WRP). They are concentrated in the following areas:

- Culver North Trunk Line
- Main Street Trunk Line
- MWRP North Trunk Line
- University Trunk Line
- Along OCTA Metrolink Railroad

Several analysis factors compounded in these areas to increase the overall facility risk, including:

- Proximity to natural waterways (particularly San Diego Creek)

- Potential spill volume (located at downstream end of system)
- Pipe material (trunks constructed of RCP and ACP)
- Repair duration (no stockpile of larger diameter pipe)
- Flooding
- Capacity limitation

The analysis resulted in a high risk rating in the District's largest trunks aligned along San Diego Creek, a highly sensitive waterway for its drainage into the Back Bay. Due to the high volume of flow and, at the time the analysis was performed, the District was unable to inspect these lines or supply bypass pumping in the event of a failure. The results of the analysis reflect the factors that are most critical to the District, including proximity to sensitive habitat, volume of flow, and proximity to natural waterways. System redundancy analyses were performed on the larger pipelines identified as having high risk. Five projects, listed in

Table 10-3 Table 2-1, were identified to mitigate the areas with high risks.

10.6 Capacity Enhancement, Reliability, and Redundancy Measures and Schedule

Section 8 of the Sewer Collection System Master Plan documents the recommended pipeline capacity, reliability, and redundancy projects identified as part of the master planning process. Table 10-2 and Table 10-3 list the recommendations for capacity and redundancy projects identified in the Sewer Collection System Master Plan. Two of the six capacity projects identified in Table 10.2 have been completed, with the remainder of the capacity projects are being deferred indefinitely and monitored utilizing flow level sensors placed at strategic manhole locations. One of the reliability projects identified on Table 10.3 was completed. The District completed a follow-up study on the San Diego Creek Interceptor Reliability which recommended investment in bypass pumping equipment including various sizes of bypass pumps and hose, as described in the Sewer Overflow Emergency Response Plan, to quickly respond to and mitigate sewer overflows that might occur on these pipelines.

Table 10-2: Recommended Capital Improvement Projects to Address Capacity Issues

Name	Description	Total Project Cost	Status
Muirlands Blvd/EI Toro Rd	Upsize existing sewer line along Muirlands Blvd and EI Toro Rd between Ferngreen Ln and EI Toro Rd due to capacity limitations.	\$8,500,000	Upsized portion of Muirlands. Mitigated remainder by abandonment of Glen Ranch Lift Station
MWRP North Influent	Upsize existing sewer line to 54" Riparian View.	\$1,500,000	Replaced 1,000 feet of North Influent Interceptor on Riparian View
Sand Canyon Ave/ Barranca Ave/Laguna Canyon Rd	Upsize existing sewer line to 18" along Laguna Canyon Rd and Barranca Pkwy and to 24" along Sand Canyon Ave till San Diego Frwy due to capacity limitations.	\$4,100,000	On-hold. Monitoring w/ Smartcover.
University Dr.	Upsize existing sewer line along University Dr between Culver Dr and Ridgeline Dr due to capacity limitations.	\$7,000,000	On-hold. Monitoring w/ Smartcover.
Dakota/ Harvard Ave	Upsize existing sewer line along Dakota and Harvard Ave between Colorado and Octa Metrolink RR due to capacity limitations.	\$3,100,000	On-hold. Monitoring w/ Smartcover.
West Yale Loop	Upsize existing sewer line along Main St and W Yale Lp between Culver Dr and Blue Lake S due to capacity limitations.	\$850,000	On-hold. Monitoring w/ Smartcover.

Table 10-3: Recommended Reliability and Redundancy Projects

Name	Description	Total Project Cost	Status
South San Diego Creek Interceptor	Build a sewer interceptor on the south side of the 405 freeway from Irvine Center Drive to the 51" influent line to MWRP. Trunk crossings would be made at Irvine Center Drive, Sand Canyon and Jeffery to allow flow from the San Diego Creek to be diverted to the new parallel.	\$45,000,000	On-hold. Monitoring w/ Smartcover. Purchased by-pass equipment for redundancy.
Irvine Center Interceptor	<u>Alternative to South San Diego Creek Interceptor.</u> Build a sewer interceptor in Irvine Center Drive from the San Diego Creek Interceptor in the Spectrum to HATS. It would allow flow in the San Diego Creek Interceptor to be reduced to a manageable level in the event of an emergency or for routine maintenance. It would also accommodate the diverting of LAW RP to MWRP or OCSD in an event of plant shutdown.	\$40,000,000	On-hold. Monitoring w/ Smartcover. Purchased by-pass equipment for redundancy.
LAW RP Bypass	Diversion of flows from the Los Alisos Water Reclamation Plant into the San Diego Creek Interceptor.	\$6,500,000	On-hold. Monitoring w/ Smartcover.
Barranca Relief	Build a relief sewer in Barranca from the Culver Trunk to the HATS. Flows north of Barranca from the Culver Trunk could be diverted to reduce flows in the southern portions of these Culver in the of an emergency or for routine maintenance. It would also accommodate the diverting of LAW RP to MWRP or OCSD in an event of plant shutdown.	\$4,400,000	On-hold. Monitoring w/ Smartcover.
Great Park Trunk	Build a sewer interceptor on the west side of the Great Park. It would allow most of the flows from PA-6 diverted from the PA-9 and Jeffery Trunk. This would reduce the flows in PA-9 and the siphon crossing the 133 Freeway in PA-9C in the event of an emergency or for routine maintenance.	\$12,400,000	Constructed
HATS MWRP	This project would give parallel capacity for both the 51" San Diego Creek interceptor and 24" Culver Trunk from the San Leandro Diversion Structure to MWRP.	\$18,000,000	Constructed

Chapter 11 Monitoring, Measurement, and Program Modifications

This section of the SSMP presents the District's approach to Monitoring, Measurement, and Program Modifications.

11.1 Regulatory Requirements

The requirements for the Monitoring, Measurement, and Program Modifications element of the SSMP are that the District shall:

- (a) *Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;*
- (b) *Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;*
- (c) *Assess the success of the preventative maintenance program;*
- (d) *Update program elements, as appropriate, based on monitoring or performance evaluations; and*
- (e) *Identify and illustrate SSO trends, including: frequency, location, and volume.*

11.2 Performance Measures

The District utilizes data captured in the District's geographical information system (GIS), computerized maintenance management system (CMMS), and the State Water Resources Control Board's California Integrated Water Quality System (CIWQS) SSO database to monitor and measure the performance of the SSMP and SSMP implementation. The District monitors sewer overflow performance to accomplish the following:

- Establish and prioritize appropriate SSMP activities
- Monitor the implementation and effectiveness of the SSMP
- Assess the success of the preventative maintenance program
- Identify and illustrate SSO trends including frequency, volume, and location

The District's MS Access computerized maintenance management system contains information on the effectiveness of preventative maintenance activities and allows for historical review of pipeline work order history to adjust maintenance and repair priorities. The District also performs a failure cause analysis of all individual sewer overflow events and, based on this review, identifies corrective actions to SSMP program elements as appropriate.

11.3 Performance Monitoring and Program Changes

The District will evaluate the performance of its wastewater collection system at least annually using the performance measures identified in **Table 11-1**. The District will update the data and analysis of performance measures at the time of the evaluation. The District may use other performance measures in its evaluation.

Table 11-1: Performance Metrics for Monitoring and Measurement

Type	Performance Measure	Source
System Statistics	Total miles of gravity sewer	GIS
	Total miles of pressure sewer	GIS
	Total number of sewage pumping stations	GIS
	Total number and percentage of SSOs by Category	CIWQS
Measures Based on SSO Number	Number and percentage of dry weather versus wet weather SSOs	CIWQS
	Number of SSOs by cause:	CIWQS
	Number of SSOs per 100 miles of sewer per year	CIWQS
	Number of locations with more than one SSO in the past year	CIWQS
	Volume of SSOs per 100 miles per Year	CIWQS
	Number and percentage of SSOs by Size Class	CIWQS
	Total volume of SSOs	CIWQS
	Mean and median SSO volume	CIWQS
Measures Based on SSO Volume	Total SSO volume recovered and percentage of overall total SSO volume	CIWQS
	Net volume of SSOs (total minus recovered) and percentage of overall total SSO volume	CIWQS
	Total volume reaching storm drainage channel and not recovered or reaching surface waters and percentage of overall total SSO volume	CIWQS
SSO Response Time	Average response time during business hours	CIWQS
	Average response time outside of business hours	CIWQS
	Number of blockages in the past year by cause	CMMS
Maintenance Program	Planned cleaning (LF)	CMMS
	Planned cleaning versus goal (LF) – Gap analysis	CMMS
	Planned CCTV inspection (LF)	CMMS
	Planned CCTV inspection versus goal (LF) – Gap analysis	CMMS

11.4 SSMP Updates

The District will update its SSMP at least every five years and will complete the next update on or before May 2, 2018. The District will determine the need to update its SSMP prior to a 5-year update based on the results of the biennial audit and the performance of its sanitary sewer system. The District will complete an update within one year following identification of the need for the update.

District staff will seek approval from the District Board for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or minor procedural changes is delegated to the Director of Wastewater Operations. Copies of the current SSMP document will be available to all interested parties on the District's website.

Chapter 12 SSMP Program Audits

This section of the SSMP presents the process the District will follow to audit its SSMP and related programs.

12.1 Regulatory Requirements

As part of the SSMP, IRWD shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the SSMP requirements identified in this subsection (D.13 of the WDR), including identification of any deficiencies in the SSMP and steps to correct them.

12.2 SSMP Audits

The District will audit its SSMP every two years. Table 12-1 shows the schedule for future SSMP Program Audits. The SSMP Program Audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the District's current practices, and whether the District is following the SSMP. The audit will be conducted by a team consisting of District staff. At the District's discretion, a consultant may be retained to perform all or part of the audit process in cooperation with District staff. The results of the audit will be included in the SSMP Audit Report.

Table 12-1: SSMP Program Audit Schedule

SSMP Program Audit Schedule	Audit Timeframe	Status
June 11, 2012	Calendar Year 2008 – 2011	Completed
May 2, 2014	Calendar Year 2012-2013	Future
May 2, 2016	Calendar Year 2014-2015	Future
May 2, 2018	Calendar Year 2016-2017	Future

The SSMP Audit Report will focus on the effectiveness of the SSMP program, compliance with the WDR requirements, and identification of any deficiencies in the SSMP. The SSMP Audit Report will identify revisions that may be needed for a more effective program. Information collected as part of Chapter 11 – Monitoring, Measurement, and Program Modifications will be used in preparing the audit. The District will retain copies of the bi-annual Audit Reports for five years and will be available to the State Board upon request. A summary of the results from the District's June 2012 SSMP Program Audit is included in **Appendix L**.

Chapter 13 Communication Program

This section of the SSMP is intended to outline the process involved in communicating with interested members of the public regarding the development, implementation, and performance of this plan.

13.1 Regulatory Requirements for the Communication Program

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

13.2 Communication with Public

The District communicates on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system provides the public the opportunity to provide input to the District's SSMP and SSMP implementation. This communication occurs in the form of notices in the newsletter and on the District web site. Public comments are accepted at all monthly District Board meetings and the Districts will evaluate public input, when provided, and will address as appropriate.

The District's Board of Directors is presented a report of sewer spills volume and location as a part of the monthly dashboard report of strategic measures during Board meetings. This information is available to the public in the monthly agenda and Board packets available on the internet. These monthly sewer overflow performance reports are the primary means for the District to communicate the on-going performance of the SSMP and SSMP implementation to the public. District Board Meetings are open to the public with agendas posted on the District website prior to the meeting.

Table 13-1 lists the various strategies the District employs to communicate with the public on the development, implementation, and performance of the District's SSMP.

Table 13-1: Strategies for Communication with Public on SSMP Development, Implementation and Performance

Subject Matter	Strategy	Description	Frequency
SSMP Development	Website	SSMP presented to the Board for approval. The document is available for public review prior to the Board meeting. The public can provide input and comments to the Board at any Board meeting.	During and after development of SSMP update
SSMP Implementation	Website	District has a webpage dedicated to the collection system. The page includes a link to the District's SSMP and contact information for who to call with any questions regarding SSMP content, implementation, and performance.	Always available on District webpage
SSO Emergency Response Fats, Oils, and Grease Best Practices	Website	IRWD website has Emergency and CodeRED button on homepage.	Always available on District webpage
SSMP Performance	Website Board Meeting	IRWD website has a webpage providing the public with information relating to FOG control best practices. Monthly report on sewer overflow performance included with Strategic Measures.	Always available on District webpage Monthly at Board Meetings
SSMP Performance	CIWQS Website	Sewer overflow performance information is available to the public on the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS). Go to https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportsSSOServlet?reportAction=criteria&reportId=sso_main . Type in "Irvine Ranch" in the "Enter a sanitary sewer agency name" field. Click on "Generate Report" button.	Always available on internet

13.3 Communication with Tributary and/or Satellite Systems

The District's wastewater collection system serves the City of Irvine, Lake Forest, as well as parts of Tustin, Newport Beach, Foothill Ranch, Costa Mesa, and unincorporated areas of Orange County. These areas are within the District service area and are not considered tributary or satellite system.

IRWD does accept a small quantity of wastewater into its sewer system from the University of California, Irvine (UCI), which is located within IRWD's service boundaries. UCI has provided the District with a copy of the SSMP for the UCI sewer system. The District has communicated to UCI the commitment to provide mutual assistance in the event of a sewer overflow, if UCI requests support. The IRWD sewer system has adequate capacity to convey the minor flows it accepts from UCI. IRWD does not currently have a formal agreement with UCI regarding discharge of wastewater into the District's collection system.

There is a small amount of wastewater generated in the City of Newport Beach and Irvine that is collected by trunk sewers owned, operated, and maintained by the IRWD, then discharged into sewers owned and maintained by the Orange County Sanitation District (OCSD). The District communicates with the City of Newport Beach and OCSD through bi-monthly Orange County Waste Discharge Requirements Steering Committee and General meetings.

IRWD entered into an agreement with the Santa Margarita Water District (SMWD) on February 27, 1989 to receive, treat, and dispose of domestic wastewater through SMWD's Chiquita system. The IRWD Director of Wastewater Operations communicates with the SMWD Chief Engineer as needed to discuss and resolve any issues relating to sewer system. IRWD coordinates industrial wastewater permits, and implements the industrial waste requirements of the Clean Water Act and the State Water Resources Control Board under this agreement.

June 24, 2013

Prepared by: Tina Bertsch/C. Smithson

Submitted by: Cheryl Clary

Approved by: Paul Cook

ACTION CALENDAR

SETTING CONNECTION FEES AND PROPERTY TAX RATES FOR FY 2013-14

SUMMARY:

Staff is currently in the process of reviewing the existing long term capital funding plan (LTFP) and considering adjustments that will make the plan more practical as the District nears build-out and transitions its focus to ongoing operations and maintenance activities. The District continues to work closely with local stakeholders to determine the impact on existing rate setting practices including the possible consolidation of existing improvement districts (IDs) as well as the impact on future connection fees and property taxes. Much progress has been made to date and more will be required before changes can be implemented. Based on the progress made to date and work that remains to be completed, staff recommends taking an interim step in the connection fee and property tax rate setting for Fiscal Year (FY) 2013-14.

Staff has reviewed the latest Engineer News and Record Construction Cost Index (ENR) for Los Angeles and other factors in consideration of recommending an interim increase. The latest update for the ENR for 2013 is 0.05%. Based on the existing enterprise model with no changes in the IDs, preliminary estimates identify a need to increase connection fees to fund future capital requirements. Staff recommends that the Board consider adopting the intermediate increase ranging from \$185-\$332 per unit in developing improvement districts for FY 2013-14 and holding the property tax rates as established in FY 2012-13.

BACKGROUND:

The focus of the LTFP review has been to identify issues with the existing capital funding plan and to consider adjustments that would make the plan more practical as the District nears build-out. The review process has included the input and direction from the Finance and Personnel Committee as well as input from interested outside participants (the Working Group) which includes representatives from the development community within the District.

In summary, the key working assumptions previously reviewed with the Committee are:

- A proposed revision to capital project definitions to allocate future capital costs;
- The inclusion of the areas known as IDs 110/210 as funding sources for future capital project costs;
- The use of one percent property tax revenues first to fund enhancement and / or replacement projects and secondarily for other purposes at the direction of the Board;
- The funding of future capital projects through connection fees, property taxes and user rates; and
- The 50/50 funding split between connection fees and property taxes to fund future capital projects should be continued.

This process is far reaching and will significantly influence the methodology used in setting connection and property tax rates annually. All preliminary estimates identify a need to increase connection fees to fund future capital requirements. The direction of the current efforts of the LTFP evaluation may result in significant changes, and a great deal of analysis is still required before setting connection fees for the remaining development areas within IRWD. Due to the time required for this analysis, staff recommends that the Board adopt an intermediate increase in connection fees, further discussed below.

Next Steps:

Staff is reviewing various ID consolidation scenarios and the related impact on connection fees and property tax rates. Staff will continue reviewing and modifying the results based on input from the Committee and feedback from the monthly meetings with the Working Group. Final review of the recommendations is expected to take place at the August 2013 Committee meeting. Staff anticipates bringing recommendations regarding the LTFP to Board Workshops scheduled for August and September 2013, with the implementation of the Board approved Plan, including new connection fees set for Fiscal Year 2014-2015.

Staff Recommendation:

Staff is recommending an interim increase of 5.0% on connection fees for FY 2013-14 that will range between \$185-\$332 per unit in developing improvement districts. This interim step will provide time to continue to work on the LTFP. The current and proposed residential connection fees based on the staff recommendation are detailed below:

Improvement District/ Planning Area	Existing (FY 12-13) Combined Water and Sewer Connection Fee	Recommended (FY 13-14) Combined Water and Sewer Connection Fee
101/210*/All others	\$8,219	\$8,630
113/213	\$6,641	\$6,973
120/121/220/221	\$1,970	\$2,068
130/230	\$3,707	\$3,892
135/235	\$6,550	\$6,878
140/240	\$5,342	\$5,608
150/250	\$3,707	\$3,892
160/161/260/261	\$3,707	\$3,892
184/284	\$3,767	\$3,956
186/286	\$12,197	\$12,807
Laguna Altera/Lion Country Safari PA**	\$4,657	\$4,842
Lambert Ranch PA**	\$6,146	\$6,331
112/212 ***	\$5,320	\$5,320
256 ***	\$24,500	\$24,500
OPA1 Ridgeline PA ***	\$4,200	\$4,200

* Connection fees in 101/210 vary by density of dwelling units per acre; assumed 5.9 – 10.8 DUs per acre.
 ** Laguna Altera and Lambert Ranch Planning Areas have net increases of 3.0 to 4.0% due to the net effect of the 5.0% increase on the 130/230 and 150/250 base rates and their fixed buy-in costs previously approved by the Board.
 ***No increases recommended in FY 2013-14.

FISCAL IMPACTS:

The fiscal impacts of changes, if any, to the District's long-term capital financing plans will be determined through the course of the project.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

This item was reviewed at the Finance and Personnel Committee on June 6, 2013.

RECOMMENDATION:

THAT THE BOARD APPROVE A 5.0% INCREASE IN CONNECTION FEES AND ADOPT THE FOLLOWING RESOLUTIONS BY TITLE:

RESOLUTION NO 2013-____

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA ADOPTING CHANGES TO CONNECTION FEES AS SET FORTH IN THE SCHEDULE OF RATES AND CHARGES IN EXHIBIT "B" TO THE RULES AND REGULATIONS OF IRVINE RANCH WATER DISTRICT FOR WATER, SEWER, RECYCLED WATER AND NATURAL TREATMENT SYSTEM SERVICE

RESOLUTION NO 2013-____

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA ESTABLISHING AD VALOREM TAX REVENUES FOR FISCAL YEAR 2013-14

LIST OF EXHIBITS:

- Exhibit "A" – Resolution Adopting Changes to Rates and Charges
- Exhibit "B" – Resolution Adopting Ad Valorem Property Tax Rates
- Exhibit "C" – Rates and Charges

Exhibit "A"

RESOLUTION NO. 2013-

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE
RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
ADOPTING CHANGES TO CONNECTION FEES AS SET FORTH IN
THE SCHEDULE OF RATES AND CHARGES
IN EXHIBIT "B" TO THE RULES AND
REGULATIONS OF IRVINE RANCH WATER DISTRICT
FOR WATER, SEWER, RECYCLED WATER, AND NATURAL
TREATMENT SYSTEM SERVICE

WHEREAS, the Irvine Ranch Water District (IRWD) is a California Water District organized and existing under the California Water District Law, and all of the lands within the boundaries of said District are located in the County of Orange, State of California; and

WHEREAS, Section 35423, 35470, and Section 35501 of the California Water Code empower the District to establish, print and distribute equitable rules and regulations and prescribe and collect rates or other charges for water and sewer service, and such authority to prescribe and collect rates or other charges for water and sewer service includes connection fees for connection and service capacity; and

WHEREAS, the Board of Directors of IRWD, by adoption of Resolution No. 2009-4 approved and adopted amended "Rules and Regulations of Irvine Ranch Water District for Water, Sewer, Recycled Water, and Natural Treatment System Service effective February 9, 2009"; and

WHEREAS, Exhibit "B" of said Rules and Regulations sets forth Rates and Charges, which Exhibit "B" may be changed from time to time by adoption of changes to any of the rates and charges or any new rates and charges as may be established and set forth therein; and

WHEREAS, Section 21080(b) (8) of the Public Resources Code provides that the establishment, modification, structuring, restructuring or approval of rates, tolls, fares, or other charges by public agencies are exempt from the requirements of the California Environmental Quality Act (CEQA) provided that certain findings are made specifying the basis for the claim of exemption; and

WHEREAS, Article XIII B of the Constitution of the State of California, limiting local agencies' appropriations of proceeds of taxes, excludes user charges or fees or regulatory fees from the definition of proceeds of taxes, as long as such fees and charges do not produce revenue exceeding the costs reasonably borne in providing the regulation, product or service, and further excludes appropriations for debt service and appropriations for qualified capital outlay projects from appropriations subject to limitation; and

WHEREAS, the Board of Directors of IRWD deems it advisable and finds that it would be in the best interest of the District to amend or establish connection fees, consistent with applicable constitutional and statutory requirements; and

WHEREAS, the proposed revisions to the connection fees, as set forth in Exhibit “A” to this resolution, do not modify or establish any property-related fees or charges subject to the notice and hearing procedures of Article XIID of the Constitution of the State of California; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of IRWD as follows:

Section 1. It is hereby found and determined that the proposed changes to the Schedule of Rates and Charges are within the purposes set forth in Section 21080(b) of the Public Resources Code including but not by way of limitation, the purposes of (1) meeting operating expenses, (2) purchasing or leasing supplies, equipment or materials, (3) meeting financial reserve needs and requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing areas, and therefore, that such changes are exempt from CEQA.

Section 2. It is hereby found and determined that relative to Article XIII B of the Constitution of the State of California, the charges or fees or regulatory fees established or increased hereby do not produce revenues exceeding the costs reasonably borne in providing the regulation, product or service and/or are used for debt service or qualified capital outlay projects and accordingly do not constitute proceeds of taxes, the appropriation of which is limited under Article XIII B, and that the documentation used in making such determinations has been on file in the office of IRWD for not less than 15 days prior to the date hereof, pursuant to Section 7910 of the Government Code of the State of California. It is hereby further found and determined that relative to the requirements of Sections 66013 and 66016 of the Government Code of the State of California, the availability of such documentation also satisfies the requirement to make publicly available the data indicating the estimated cost and revenue sources to provide the service for which the fee is imposed at least 10 days prior to the meeting at which this resolution is adopted, and that the connection fees established or increased hereby do not exceed the estimated reasonable cost of providing the service for which they are imposed.

Section 3. The new and/or revised connection fees as set forth in Exhibit “A” attached to this resolution and by this reference incorporated herein are hereby adopted, and the corresponding rate(s), fee(s) or charge(s), if any, as set forth in Rules and Regulations Exhibit “B” currently in effect, are hereby superseded. Staff is directed to incorporate the hereby adopted new and/or revised connection fee(s) into Exhibit “B” to the Rules and Regulations.

Section 4. That the provisions of this Resolution shall be effective upon adoption.

Section 5. That the Secretary is hereby ordered and directed to post a certified copy of this Resolution in a public place within the Irvine Ranch Water District.

ADOPTED, SIGNED and APPROVED this 24th day of June, 2013.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:
BOWIE, ARNISON, WILES & GIANNONE
Legal Counsel - IRWD

By: _____

Exhibit "B"

RESOLUTION NO. 2013-

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA
ESTABLISHING AD VALOREM TAX REVENUES FOR
FISCAL YEAR 2013-14

WHEREAS, the Board of Directors of the Irvine Ranch Water District (IRWD) has duly considered the financial needs of the IRWD and its Improvement District Nos. 102, 105, 106, 112, 113, 121, 130, 140, 161, 182, 184, 186, 188, 135,1, 2, 206, 212, 213, 221, 230, 235, 240, 250, 252, 261, 282, 284, 286, and 288, for the fiscal year 2013-14 and the funds available and established to become available for meeting said financial needs; and

WHEREAS, pursuant to Section 37206 of the Water Code of the State of California, the Board of Directors annually shall furnish to the Board of Supervisors of Orange County and to the County Auditor, an estimate in writing of the amount of money needed to be raised by the District during the fiscal year for the payment of its proportion of the amount required for the purposes of the District; and

WHEREAS, Article XIIB of the Constitution of the State of California provides that the appropriations of local agencies will be limited each year to those of the previous year with specified adjustments permitted; and

WHEREAS, Section 9(a) of Article XIIB specifically excludes appropriations required to pay the cost of interest and redemption charges, including the funding of any reserve or sinking fund required in connection therewith, on indebtedness existing or legally authorized as of January 1, 1979, or on bonded indebtedness thereafter approved according to law by a vote of electors; and

WHEREAS, the ad valorem tax revenues established by IRWD are used entirely for debt service and are therefore exempt from the appropriations formula established by Article XIIB.

WHEREAS, the ad valorem tax revenues received by IRWD pursuant to this Resolution will provide a portion of the funds needed to pay principal and interest with respect to the General Obligation Bonds referenced below, and this Board wishes to specify the sources of the remainder of the amounts needed therefor in the current year.

NOW, THEREFORE, the Board of Directors of IRWD does hereby RESOLVE, DETERMINE, AND ORDER as follows:

Section 1. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 130 of IRWD for fiscal year 2013-14 is .00680 percent (.0000680) of full value.

Section 2. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 105 of IRWD for fiscal year 2013-14 is .01980 percent (.0001980) of full value.

Section 3. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 121 of IRWD for fiscal year 2013-14 is .01311 percent (.0001311) of full value.

Section 4. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 140 of IRWD for fiscal year 2013-14 is .01000 percent (.0001000) of full value.

Section 5. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 161 of IRWD for fiscal year 2013-14 is .01758 percent (.0001758) of full value.

Section 6. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 182 of IRWD for fiscal year 2013-14 is .02700 percent (.0002700) of full value.

Section 7. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 184 of IRWD for fiscal year 2013-14 is .01350 percent (.0001350) of full value.

Section 8. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 230 of IRWD for fiscal year 2013-14 is .02200 percent (.0002200) of full value.

Section 9. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 221 of IRWD for fiscal year 2013-14 is .01700 percent (.0001700) of full value.

Section 10. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 240 of IRWD for fiscal year 2013-14 is .02140 percent (.0002140) of full value.

Section 11. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 250 of IRWD for fiscal year 2013-14 is .03600 percent (.0003600) of full value.

Section 12. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 261 of IRWD for fiscal year 2013-14 is .02830 percent (.0002830) of full value.

Section 13. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 282 of IRWD for fiscal year 2013-14 is .01890 percent (.0001890) of full value.

Section 14. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 284 of IRWD for fiscal year 2013-14 is .03239 percent (.0003239) of full value.

Section 15: That the tax be levied for servicing the General Obligation Bonds of Improvement District No. 135 of IRWD for fiscal year 2013-14 is .00421 percent (.0000421) of full value.

Section 16. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 235 of IRWD for fiscal year 2013-14 is .00266 percent (.0000266) of full value.

Section 17. That the tax to be levied for servicing Improvement District No. 252's just proportion of liability determined pursuant to Resolution No. 2005-41, for the General Obligation Bonds of Improvement District No. 250 of IRWD for fiscal year 2013-14 is .00001 percent (.0000001) of full value.

Section 18. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 186 of IRWD for fiscal year 2013-14 is .04787 percent (.0004787) of full value.

Section 19. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 188 of IRWD for fiscal year 2013-14 is .21540 percent (.0021540) of full value.

Section 20. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 286 of IRWD for fiscal year 2013-14 is .00201 percent (.0000201) of full value.

Section 21. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 288 of IRWD for fiscal year 2013-14 is .01000 percent (.0001000) of full value.

Section 22. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 113 of IRWD for fiscal year 2013-14 is .05940 percent (.0005940) of full value.

Section 23. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 213 of IRWD for fiscal year 2013-14 is .08720 percent (.0008720) of full value.

Section 24. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 112 of IRWD for fiscal year 2013-14 is .03168 percent (.00031680) of full value.

Section 25. That the tax to be levied for servicing the General Obligation Bonds of Improvement District No. 212 of IRWD for fiscal year 2013-14 is .07452 percent (.0007452) of full value.

Section 26. The taxes levied by Section 1 through 17 of this Resolution are for bonds approved before January 1, 1989. The taxes levied by Section 18 through 25 are for bonds approved after January 1, 1989.

Section 27. That the Secretary and Treasurer of the District are hereby directed to furnish a certified copy of this resolution to the Auditor of the County of Orange.

Section 28. That the ad valorem tax revenues established by IRWD hereby for the fiscal year 2013-14 are in compliance with the provisions of Article XIII B of the constitution of the State of California.

Section 29. That principal and interest with respect to the General Obligation Bonds of IRWD shall be paid from (1) the ad valorem assessments received by IRWD pursuant to this Resolution; (2) any amounts held in bona fide debt service funds; (3) other monies, if any, required to be applied to the payment of debt service by the applicable indenture or resolution of issuance; (4) tax revenues applied pursuant to Resolution Nos. 1992-48 and 2002-10 (pledge of the 1% levy), as such application may be modified by resolution amending the allocation of tax revenues; and (5) to the extent additional amounts are necessary for such purpose, revenues which are received by IRWD within twelve months of being applied to the payment of debt service and which are legally available therefor, including income from the investment of such revenues where both the investment income and the revenues on which it is earned are received by IRWD within twelve months of being applied to the payment of debt service.

ADOPTED, SIGNED and APPROVED this 24th day of June, 2013.

President, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

Secretary, IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES AND GIANNONE

Legal Counsel

Water Connection Fees

Residential

	IMPROVEMENT DISTRICT	0-5.8 DU/acre	5.9-10.8 DU/acre	10.9-25.8 DU/acre	25.9-40.0 DU/acre
Connection Fees Per Dwelling Unit	101*	\$3,505 \$3,338	\$3,092 \$2,945	\$2,618 \$2,494	\$2,406
	112	\$1,400	\$1,400	\$1,400	\$1,400
	113	\$2,536 \$2,415	\$2,535 \$2,415	\$2,536 \$2,415	\$2,536 \$2,415
	102 (120), 121	\$1,212 \$1,154	\$1,211 \$1,154	\$1,212 \$1,154	\$1,212 \$1,154
	103 (130)	\$1,828 \$1,744	\$1,828 \$1,744	\$1,828 \$1,744	\$1,828 \$1,744
Total acreage for any given development shall be gross acres excluding private parks.	140	\$2,175 \$2,072	\$2,175 \$2,072	\$2,175 \$2,072	\$2,175 \$2,072
	105 (150)	\$1,828 \$1,744	\$1,828 \$1,744	\$1,828 \$1,744	\$1,828 \$1,744
	106 (160), 161	\$1,828 \$1,744	\$1,828 \$1,744	\$1,828 \$1,744	\$1,828 \$1,744
	184	\$1,607 \$1,530	\$1,418 \$1,350	\$1,200 \$1,143	\$1,013 \$965
	186	\$10,033 \$9,555	\$10,033 \$9,555	\$10,033 \$9,555	\$10,033 \$9,555
	LC/LCS PA	\$2,251 \$2,164	\$2,251 \$2,164	\$2,251 \$2,164	\$2,251 \$2,164
	Lambert Ranch	\$2,913 \$2,826	\$2,913 \$2,826	\$2,913 \$2,826	\$2,913 \$2,826
	Los Alisos 135	\$2,468 \$2,350	\$2,468 \$2,350	\$2,468 \$2,350	\$2,468 \$2,350
	All others*				

Commercial, Industrial and Public Authority – Office Building

	IMPROVEMENT DISTRICT	Commercial	Industrial	Public Authority
Connection Fees Per Gross Acre	101*	\$19,446 \$18,520	\$29,618 \$28,207	\$19,446 \$18,520
	112	\$5,600	\$5,600	\$5,600
	113	\$18,526 \$17,644	\$0	\$9,263 \$8,822
	102 (120), 121	\$6,063 \$5,774	\$6,159 \$5,865	\$6,063 \$5,774
	103 (130)	\$3,704 \$3,528	\$3,704 \$3,528	\$3,704 \$3,528
	140	\$11,177 \$10,645	\$0	\$11,177 \$10,645
	105 (150)	\$9,606 \$9,149	\$13,636 \$12,986	\$9,606 \$9,149
	106 (160), 161	\$9,606 \$9,149	\$13,636 \$12,986	\$9,606 \$9,149
	186	\$20,450 \$19,476	\$20,450 \$19,476	\$20,450 \$19,476
	188	\$31,910 \$30,390	\$31,910 \$30,390	\$31,910 \$30,390
	Los Alisos 135	\$11,533 \$10,984	\$11,533 \$10,984	\$11,533 \$10,984
	All others*			

Parks, Churches and Commercial Recreational Facilities

	IMPROVEMENT DISTRICT	Indoor Water Use	Outdoor ⁽¹⁾ Water Use
Connection Fees Per Fixture Unit	101*	\$60.90 \$58.00	\$214.31 \$204.14
	102 (120), 121	\$10,049 \$9,57	\$35.50 \$33.84
(1) As calculated per UPC as revised.	103 (130)	\$7,316 \$6.96	\$21.94 \$20.90
	140	\$42.17 \$40.16	\$148.36 \$141.30
	105 (150)	\$30.77 \$29.34	\$107.85 \$102.74
	106 (160), 161	\$31.95 \$30.43	\$111.98 \$106.65
	186	\$66.34 \$63.18	\$233.01 \$221.92
	188	\$159.49 \$151.89	\$561.11 \$534.39
	All others*		

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement

Schools (Public and Private)

	<u>IMPROVEMENT DISTRICT</u>	<u>Primary & Intermediate</u>	<u>Secondary</u>	<u>Primary Intermediate & Secondary</u>
Connection Fees Per	101*	\$4,799.18	\$4,570.65	\$6,436.40
100 Students Average Daily Attendance	102 (120), 121	\$796.01	\$758.10	\$1,058.40
	103 (130)	\$488.41	\$465.15	\$657.09
(2) Minimum required	140	\$3,319.63	\$3,161.55	\$4,465.13
	105 (150)	\$2,416.68	\$2,301.60	\$3,250.17
	106 (160), 161	\$2,512.62	\$2,392.95	\$3,373.65
	186	\$5,005.35	\$4,767.00	\$7,015.21
	188	\$12,624.73	\$12,023.55	\$16,893.61
	All others*			

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

High Volume User – Commercial and Industrial

This section shall apply to all non-residential applicants in addition to standard connection fees in all improvement districts.

Connection Fee Formula Additional High Volume Water User Connection Fee =
[Est. GPD use – (no. acres x use factor*)] x \$1,043,075/cfs
 646,320 gal/day/cfs

<u>*Non-Residential Water Use Factor</u>	<u>Land Use Category</u>	<u>Water Use Factors (Gal/Acre/Day)</u>
	Commercial	2,000.00
	Industrial	4,000.00
	UCI	Special Contact

Definitions Commercial: Commercial development including retail and offices
Industrial: Industrial development including manufacturing, research and development, and distributorships

Service Installations by District

- The District may install individual domestic or fire services upon request. The cost for each service will be based on an estimate prepared by District personnel. The requestor will provide a written request accompanied by a drawing to show the location of the proposed service. The district will provide their estimate to the requestor and when the check is received from the requestor the work order will be forwarded to the District crews for installation and coordination.

Meter installation charges are as follows: (customer provides the service and the meter box)

<u>Meter size</u>	<u>Cost</u>
5/8" x 3/4"	\$55.00*
5/8" x 3/4"	\$80.00 for individual meters and bypass meters on DDCA
3/4"	\$105.00
1"	\$175.00
1-1/2"	\$290.00
2" Disc	\$710.00
2" Turbo	\$710.00
3" Turbo	\$1,025.00
4" Turbo	\$1,890.00

*(Developer installed-Residential only)

Costs for larger meters will have to be determined at the time of request from Purchasing Dept. Cost of meter includes the strainer if not already built-in to the meter.

- If a meter is downsized on a 2" or smaller service lateral there will be no additional charge or refund. If the meter is downsized from a 3" or larger meter, the charge will be based on the service installation charge less the salvage value of the materials recovered from the larger service. Customer will be responsible for any plumbing modifications downstream of the water meter.
- If a meter is to be upsized from 5/8" X 3/4" to 1", the angle stop will need to be replaced. The cost for District ~~forces~~ staff to do this work is \$2,000.00 and will be collected along with the standard 1" meter cost.

Plan Check and Inspection Fees

Plan check and inspection fees for water systems shall be calculated as 8% of the bondable cost for the off-site, public, potable or recycled water system or a fixed fee as described below:

1. <u>Installation of a 1" or 2" service</u>	<u>\$400.00</u>	2. <u>Addition of a 1" service</u>	<u>\$200.00</u>
2. <u>Addition of a 2" service</u>	<u>\$200.00</u>		
3. <u>Addition of a 4" or larger service</u>	<u>\$500.00</u>		
4. <u>Addition or replacement of Fire DDCA</u>	<u>\$300.00</u>	2. <u>Removal of a 1" or 2" service</u>	
	<u>\$400.00</u>		
3. <u>Installation of a 4" or larger service</u>	<u>\$700.00</u>		
4. <u>Installation or replacement of Fire DDCA</u>	<u>\$500.00</u>		

A non-refundable deposit of 5% of the estimated cost of the public potable or recycled water system is required with the submittal of the first plan check to cover the costs of plan checking. The total fee is due and payable prior to final plan approval.

Non-Digital Submittal Surcharge

A surcharge fee, calculated as 2% of the bondable cost for the potable or recycled water system will be charged for any plans not submitted with a digital format. The fee is due and payable prior to final approval of the plans.

Interim Water Service Charge – New Developments

A one-time charge of \$35.10 per connection to each pad in a new tract and/or development will be made to builders and developers for unmetered water service available for that period of time after in-tract lines have been connected to the District's water system until the new customer begins metered water service.

Custom lots will be charged \$164.50 per lot due to the extended construction period.

Sewer Connection Fees

Residential

	IMPROVEMENT DISTRICT	0-5.8 DUs/acre	5.9-10.8 Dus/acre	10.9-25.8 Dus/acre	25.9-40.0 Dus/acre
Connection Fees Per Dwelling Unit	1 (201)*	\$6,223\$5,926	\$5,538\$5,274	\$4,558\$4,341	\$3,596\$3,425
	212	\$3,920	\$3,920	\$3,920	\$3,920
	213	\$4,4384,226	\$4,4384,226	\$4,4384,226	\$4,4384,226
	2 (220), 221	\$857816	\$857816	\$857816	\$857816
	2 (230)	\$2,0641,966	\$2,0641,966	\$2,0641,966	\$2,0641,966
Total acreage for any given development shall be gross acres excluding private parks.	240	\$3,4333,270	\$3,4333,270	\$3,4333,270	\$3,4333,270
	205 (250)	\$2,0641,966	\$2,0641,966	\$2,0641,966	\$2,0641,966
	206 (260), 261	\$2,0641,966	\$2,0641,966	\$2,0641,966	\$2,0641,966
Parks.	256	24,500	24,500	24,500	24,500
	284	\$2,8522,716	\$2,5382,417	\$2,0901,990	\$1,6491,570
	286	\$2,774 2,642	\$2,7742,642	\$2,7742,642	\$2,7742,642
	LC/LCS PA	\$2,5912,493	\$2,5912,493	\$2,5912,493	\$2,5912,493
	Lambert Ranch	\$3,4183,320	\$3,4183,320	\$3,4183,320	\$3,4183,320
	Los Alisos 235	\$4,4104,200	\$4,4104,200	\$4,4104,200	\$4,4104,200
	OPA1 (Ridgeline)	4,200	4,200	4,200	4,200
	All others*				

Commercial, Industrial and Public Authority – Office Building

	IMPROVEMENT DISTRICT	Commercial	Industrial	Public Authority
Connection Fees Per Gross Acre	1 (201)*	\$34,874\$33,214	\$60,845\$57,947	\$34,874\$33,214
	212	\$15,680	\$15,680	\$15,680
	213	\$26,43925,180	\$0	\$13,12312,498
	2 (220), 221	\$7,0586,722	\$10,65910,151	\$7,0586,722
	2 (230)	\$783746	\$783746	\$783746
	240	\$15,67814,931	\$0	\$15,67814,931
	205 (250)	\$9,4108,962	\$15,61514,871	\$9,4108,962
	206 (260), 261	\$9,4108,962	\$15,61514,871	\$9,4108,962
	286	\$5,7695,494	\$5,7695,494	\$5,7695,494
	288	\$5,7685,494	\$5,7685,494	\$5,7685,494
	Los Alisos 235	\$8,8318,411	\$8,8318,411	\$8,8318,411
	All others*			

Parks, Churches and Commercial Recreational Facilities

	IMPROVEMENT DISTRICT	Fee
Connection Fees Per Fixture Unit	1 (201)*	\$385.84\$367.47
	2 (220), 221	\$111.30106.00
	2 (230)	\$26.7825.50
	240	\$233.24222.14
	205 (250)	\$147.48140.46
	206 (260), 261	\$142.39135.61
	286	\$62.8659.87
	288	\$62.8659.87
	All others*	

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

Schools (Public and Private)

	IMPROVEMENT DISTRICT	Primary & Intermediate	Secondary
Connection Fees Per	1 (201)*	\$18,283\$17,412	\$24,381\$23,220
100 Students Average Daily Attendance	2 (220), 221	\$5,2294,980	\$6,9666,634
	2 (230)	\$2,0551,957	\$2,8272,692
	240	\$11,02410,499	\$14,70114,001
	205 (250)	\$6,9296,599	\$9,2398,799
	206 (260), 261	\$6,8066,482	\$9,0758,643
	286	\$3,0262,882	\$4,0333,841
	288	\$3,0262,882	\$4,0333,841
	All Others*		

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

Former OCSD Irvine Business Complex – Non-Residential

	-----Commercial/Industrial-----		
	(1) Low Demand	(2) Average Demand	(3) High Demand
Connection Fees Per 1,000 Square Feet	\$240\$229	\$1,483\$1,412	\$3,515\$3,347

- (1) Low Demand connections are the following categories of users: Nurseries, Warehouses, Parking Structures, RV Storage, Churches, Truck Terminals, RV Parks, Lumber/Construction Yards, and other discharge whose flow is similar in volume to these listed categories.
- (2) Average Demand connections other than listed in Low or High Demand categories.
- (3) High Demand connections are the following categories of users: Restaurants, Supermarkets, Car Washes, Coin Laundries, Amusement Parks, Shopping Centers with Restaurants, Food Processing Facilities, Textile Manufacturers, and other discharges whose flow is similar in volume to these listed categories.

High Volume User – Commercial and Industrial

This section shall apply to all non-residential applicants for 2" and larger meters in addition to standard connection fees in all improvement districts.

Connection Fee Formula Additional High Volume Sewer User Connection Fee =

* Sewer GPD = 90% of water GPD
$$\frac{[\text{Est. GPD use} * - (\text{no. acres} \times \text{use factor}^{**})] \times \$15.1615.92/\text{Gal. of Sewer Flow}}$$

**Non-Residential Sewage Flow Generators (Use Factors)	Land Use Category	Average Flows
	Commercial	1,300.00
	Industrial	2,600.00
	UCI	Special Contract

Definitions
Commercial: Commercial development including retail and offices
Industrial: Industrial development including manufacturing, research and development and distributorships

June 24, 2013

Prepared by: Rob Jacobsen

Submitted by: Cheryl Clary

Approved by: Paul Cook



ACTION CALENDAR

RETIREMENT BENEFIT FUNDING TRUST TRUST AGREEMENT AND FUNDING APPROVAL

SUMMARY:

At its May 13, 2013 meeting, staff provided the Board with information regarding a retirement trust structure to facilitate the investment of District assets for future funding of the District's CalPERS unfunded liability, and potentially Other Post Employment Benefit (OPEB) obligations. Staff recommends approval of a Section 115 Trust Agreement (115 Trust) and related Retirement Board to facilitate funding of future retirement obligations. Staff also recommends an initial funding amount of \$35 million, based on the District's current unfunded liability estimates and feedback from the Finance and Personnel Committee. Legal counsel has drafted a resolution for adoption by the Board, attached as Exhibit "A", approving the *Irvine Ranch Water District Post-Employment Benefits Trust (IRWD Trust)*, its Retirement Board / Trustee and the initial funding amount as stated above.

BACKGROUND:

Currently, the District's only option for committing additional funds (in excess of its annual required contributions) to reduce its CalPERS unfunded liability is limited to sending excess contributions to CalPERS. Establishing a separate trust to "pre-fund" the CalPERS unfunded liability would provide the District with an alternative that will allow for investment by a professional fund management team selected and monitored by the District, with future excess contributions transferred to CalPERS at the District's discretion.

Expected benefits offered by a separate retirement funding trust include:

- Increased risk diversification of District retirement contributions through additional / different asset management;
- Oversight and control of fund management selection, monitoring of performance and ability to replace fund management based on performance criteria;
- Increased flexibility on use of trust assets (if also used for OPEB obligations); and
- Potential for positive rating agency and investor consideration.

Legal counsel for the District, Hanson Bridgett, has determined that a separate trust would be allowable using an IRS Section 115 Trust structure. To date, the 115 Trust structure has been used by public agencies to pre-fund OPEB obligations. The proposed IRWD Trust would be an irrevocable trust dedicated solely for District retirement obligations (pension and potentially OPEB). By placing assets in an irrevocable 115 Trust, public agencies are permitted to invest in alternatives such as equities, bonds and other types of investments.

115 Trust Structure and Legal Opinion:

Based on discussions with, and feedback from, the Board and the Committee, staff directed legal counsel to draft a retirement 115 Trust with the initial intent of funding future pension obligations, but also allowing for pre-funding of the District's OPEB obligation if desired. A copy of the draft *Irvine Ranch Water District Post-Employment Benefits Trust* is attached as Exhibit "B".

While similar 115 Trust structures are being used by some public agencies to fund future OPEB-specific benefits, it appears there is no precedent for use of the trust structure as a pension funding trust. Legal counsel has provided a letter confirming their opinion that the 115 Trust structure is appropriate for both pension and OPEB uses. A copy of the draft opinion letter is attached as Exhibit "C".

Included in the opinion letter is a recommendation from counsel that the District request an Internal Revenue Service (IRS) tax determination for the IRWD Trust. Staff anticipates that a final determination from the IRS will be received approximately six to twelve months following submittal, and the irrevocable status of the IRWD Trust would be contingent on a favorable IRS ruling. Counsel will assist the District with the application process for the IRS tax-exempt determination.

115 Trust Retirement Board Requirements and Responsibilities:

The 115 Trust structure requires that a Retirement Board be established to act as the plan Trustee and that the voting members of the Board assume fiduciary responsibility for ongoing prudent investment of the Trust assets. As Trustee, the Retirement Board's responsibilities will include implementing and updating the Investment Policy, defining the Trust's investment strategy (asset allocation, risk tolerance, etc.), selection of consultants including an investment advisor and fund manager and ongoing monitoring of the Trust's performance.

Based on discussions and feedback from the Finance and Personnel Committee, and input from legal counsel related to structure, the Retirement Board will consist of the two appointed members of the Finance and Personnel Committee and the District's General Manager as voting members, with the District's Executive Director of Finance and the Treasurer providing analyses and recommendations to the Retirement Board.

Initial Custody Services and Agreement:

In order to hold (or custody) the IRWD Trust assets separate from the District's general funds, a new trust account will need to be established. To facilitate the Committee's goal of funding the IRWD Trust by fiscal year-end, an initial trust custody account with Bank of New York Mellon Trust Company (BNYM) will be established. BNYM currently provides custody services to the District for its fixed income portfolio. BNYM also provides custody services for more than \$26 trillion in assets and asset management services for more than \$1.4 trillion.

BNYM's cost for trust custody services is 0.02% (2 basis points) of the total market value of assets per year, or \$2,000 per year for each \$10 million of assets held in trust. Additional fees are due for securities purchased, sold or transferred. Copies of the Custody Agreement and Fee Schedule and Disclosure are attached as Exhibits "D" and "E", respectively. Following completion of the IRWD Trust Investment Policy, selection of a financial advisor and fund manager(s), the retention of BNYM as custody agent will be re-evaluated.

Initial Trust Funding Amount and Timing:

Current estimates of the District's CalPERS unfunded liability vary depending on the expected investment return assumption used. The table below shows estimated unfunded amounts as of January 1, 2013 based on the CalPERS assumed annual rate of return of 7.50%, a more conservative assumed rate of 7.25% and a corporate bond rate of 6.00%.

Rate Assumption	Assumed Rate	*Est. Unfunded Liability
CalPERS Rate	7.50%	\$43.0 million
IRWD Rate	7.25%	\$51.0 million
Corp Bond Rate	6.00%	\$93.0 million

* Unfunded liability estimates (as of 1/1/13) provided by Aon Hewitt

Based on these figures and related discussions with the Committee, staff recommends an initial funding amount of \$35 million to be placed in the new trust account no later than June 30, 2013. Funding the IRWD Trust prior to June 30 is significant as it is the District's fiscal year-end and will allow the District to reflect the payment as a reduction of its liability in the current year's financial statements. Once placed in the IRWD Trust, the funds will be *irrevocable* to the District's general funds and will be considered restricted assets of the District. The funds will initially be invested in Treasury securities or a similarly rated money market fund(s). Following the Retirement Board's completion of the IRWD Trust Investment Policy, development of the plan's asset allocation strategy and selection of a fund manager, the assets would then be actively invested.

Next Steps:

Following establishment and initial funding of the IRWD Trust, next steps for the Retirement Board shall include:

- Selection of an Investment Advisor to assist the District in developing the trust's investment policy and asset allocation strategy;
- Identifying the appropriate investment fund management types (based on the trust's asset size, asset allocation strategy, etc.); and
- Evaluating, interviewing and selecting the fund manager(s).

Staff anticipates that these steps will be completed in approximately 60 to 90 days, and staff will provide additional updates to the Board as needed.

FISCAL IMPACTS:

Funds placed in the IRWD Trust will be irrevocable to the District's general fund and shall be considered restricted assets and staff recommends an initial funding amount of \$35 million. Custody account fees and expenses are estimated at 0.02% (two basis points) of assets held per year, or approximately \$7,000 per year.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3 Section 15378.

COMMITTEE STATUS:

Establishing and funding a retirement benefit trust was discussed with the Finance and Personnel Committee at multiple meetings and most recently on June 6, 2013.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. __

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE IRVINE RANCH WATER DISTRICT
APPROVING DECLARATION OF TRUST FOR THE
IRVINE RANCH WATER DISTRICT
POST-EMPLOYMENT BENEFITS TRUST

AND THAT THE BOARD AUTHORIZE THE FUNDING OF THE IRVINE RANCH WATER DISTRICT POST-EMPLOYMENT BENEFITS TRUST FOR AN AMOUNT UP TO \$35 MILLION.

LIST OF EXHIBITS:

- Exhibit "A" – Resolution
- Exhibit "B" – Irvine Ranch Water District Retirement Benefit Trust
- Exhibit "C" – Letter of Opinion
- Exhibit "D" – Bank of New York Custody Agreement
- Exhibit "E" – Bank of New York Schedule of Fees and Charges

Exhibit "A"

RESOLUTION NO. 2013-_____

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE IRVINE RANCH WATER DISTRICT
APPROVING DECLARATION OF TRUST FOR THE
IRVINE RANCH WATER DISTRICT
POST-EMPLOYMENT BENEFITS TRUST

WHEREAS, the Irvine Ranch Water District (the "District") has contracted with the California Public Employees' Retirement System ("CalPERS") to provide pension benefits to its employees who are eligible to participate in CalPERS and their beneficiaries; and

WHEREAS, the District desires to set aside funds that will be held in trust for the purpose of making, when and to the extent the District elects to do so from the trust, the District's required CalPERS employer contributions and any employer contributions in excess of such required contributions; and

WHEREAS, Sections 53216 *et seq.* of the Government Code authorizes the legislative body of a local agency to establish a pension trust; and

WHEREAS, Article XVI, Section 17, of the California Constitution vests the retirement board of a public pension or retirement system with sole and exclusive fiduciary responsibility for the assets of the system, which must be held in trust for the exclusive purposes of providing benefits to the system's participants and beneficiaries and defraying reasonable expenses of administering the system; and

WHEREAS, the District provides retiree health benefits and other post-employment benefits other than pension benefits ("OPEB") to its eligible former employees and their beneficiaries; and

WHEREAS, the District desires to set aside funds that will be held in trust for the purpose of funding OPEB; and

WHEREAS, Article XIII B, Section 5, of the California Constitution and Sections 53201, 53206, and 53622 of the California Government Code authorize the legislative body of a local agency to establish an OPEB trust; and

WHEREAS, the Board of Directors believes it to be in the best interest of the District to establish a single trust for the purpose of funding both CalPERS benefits and OPEB, intended to qualify as a tax-exempt trust performing an essential governmental function within the meaning of Section 115 of the Internal Revenue Code, to receive contributions from the District and disburse amounts to CalPERS for the payment of the District's employer contributions and reimburse the District for payment of OPEB, with all such contributions and disbursements to be in such amounts and at such times as shall be determined by the District in its sole discretion; and

WHEREAS, in accordance with Article XVI, Section 17, of the California Constitution, the Board desires to establish a retirement board as trustee to administer the trust and to assign the responsibility for the investment, control and management of the trust assets to the retirement board; and

WHEREAS, there has been placed on file with the Secretary of the District the form of a declaration of trust, pursuant to which the above-described trust will be established and maintained and

pursuant to which the retirement board will be appointed, and this Board desires to approve the form and authorize the execution of the declaration of trust;

NOW, THEREFORE, the Board of Directors of the Irvine Ranch Water District DOES HEREBY RESOLVE, DETERMINE and ORDER as follows:

Section 1. The declaration of trust establishing a trust to be known as the “Irvine Ranch Water District Post-Employment Benefits Trust” (the “Trust”) is hereby approved in the form on file with the Secretary upon adoption of this resolution, and the President and Secretary of the District are authorized and directed to execute it in such form, with such changes, insertions and deletions as are approved by the Executive Director of Finance of the District or the Treasurer of the District, with the concurrence of the President, which approval will be conclusively evidenced by execution and delivery thereof. The form of the declaration of trust, as so executed and delivered (the “Declaration of Trust”) is incorporated herein as of its date, by this reference.

Section 2. Contributions to the Trust shall be made by the Treasurer of the District in such amounts and at such times as shall be within parameters established from time to time by the Board of Directors of the District. The directions of the District to the Trustee, with respect to the disbursements to be made from the Trust in accordance with the Declaration of Trust and any other matters as to which the Declaration of Trust requires or permits a direction of the District, may be given on behalf of the District by the Executive Director of Finance of the District or the Treasurer of the District within parameters established from time to time by the Board of Directors of the District.

Section 3. The President, the Treasurer and the Secretary of IRWD, by any two (2) of their signatures, be and hereby are authorized and directed to execute and deliver any and all documents and instruments, and to do and cause to be done any and all acts and things necessary or proper for carrying out the transactions contemplated by this resolution and the Declaration of Trust, including, but not limited to, submission of the Trust and any other documentation as may be needed to the Internal Revenue Service to obtain a determination that the Trust qualifies as a tax-exempt trust performing an essential governmental function within the meaning of Section 115 of the Internal Revenue Code.

Section 4. This resolution shall take effect immediately upon its adoption.

ADOPTED, SIGNED AND APPROVED this ____ day of _____, 2013.

President/Vice President
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

Secretary/Assistant Secretary
IRVINE RANCH WATER DISTRICT
and of the Board of Directors
thereof

APPROVED AS TO FORM:

BOWIE, ARNESON,
WILES & GIANNONE
Legal Counsel - IRWD

By _____

BAWG/ 00170528/ 061913

Exhibit "B"

DRAFT
6/18/13

**DECLARATION OF TRUST
FOR THE
IRVINE RANCH WATER DISTRICT
POST-EMPLOYMENT BENEFITS TRUST**

TABLE OF CONTENTS

	<u>Page</u>
ARTICLE 1 DEFINITIONS	2
1.1 Beneficiary.....	2
1.2 Board of Directors.....	2
1.3 CalPERS	2
1.4 Code.....	2
1.5 Employer	2
1.6 Fiscal Year.....	2
1.7 Investment Policy Statement.....	2
1.8 OPEB	2
1.9 Plans	2
1.10 Retirement Board.....	2
1.11 Surplus Contributions.....	2
1.12 Trust	2
1.13 Trustee	2
ARTICLE 2 ESTABLISHMENT AND PURPOSE OF THE TRUST	2
2.1 Establishment of Trust	2
2.2 Purpose of the Trust	2
ARTICLE 3 GENERAL TRUST PROVISIONS	3
3.1 Irrevocable Trust.....	3
3.2 Title to and Control Over Trust Assets	3
3.3 Exclusive Purpose	3
3.4 No Diversion	3
3.5 Spendthrift Provision.....	3
3.6 Contributions	3
ARTICLE 4 TRUSTEE	4
4.1 Powers and Duties of the Trustee	4
4.2 Custody of Trust Assets.....	5
4.3 Delegation of Investment Authority	5
4.4 Reliance	6
4.5 Annual Audit	6
ARTICLE 5 INVESTMENTS	6
5.1 Trustee	6
5.2 Combining of Assets for Investment.....	6
5.3 Investment Policy Statement.....	6
5.4 Broker Executed Investments	6

TABLE OF CONTENTS

	<u>Page</u>
5.5 Asset Allocation	6
5.6 Annual Reports	7
ARTICLE 6 PAYMENTS FROM TRUST	7
6.1 Employer	7
6.2 Trustee Reliance.....	7
6.3 Payments.....	7
ARTICLE 7 TAXES, EXPENSES AND COMPENSATION OF THE TRUSTEE.....	7
7.1 Reimbursement of Expenses	7
ARTICLE 8 RECORDKEEPING AND VALUATION	8
8.1 Trust Records	8
8.2 Annual Reports	8
8.3 Valuation.....	8
8.4 Separate Accounts	8
ARTICLE 9 STANDARD OF CARE	8
9.1 Standard of Care	8
ARTICLE 10 AMENDMENT AND TERMINATION	9
10.1 Amendment	9
10.2 Termination of Trust.....	9
10.3 Return of Contributions Due to Mistake of Fact.....	9
10.4 Termination and Reversion Due to Unfavorable IRS Ruling.....	9
10.5 Reversion	9
ARTICLE 11 MISCELLANEOUS.....	10
11.1 Choice of Law.....	10
11.2 Severability	10_Toc358810816

**DECLARATION OF TRUST
FOR THE
IRVINE RANCH WATER DISTRICT
POST-EMPLOYMENT BENEFITS TRUST**

The Board of Directors (the "Board") of the Irvine Ranch Water District (the "Employer") hereby makes and enters into this Declaration of Trust (the "Declaration") in order to establish the Irvine Ranch Water District Post-Employment Benefits Trust (the "Trust"). The Trust is effective when the first contribution is made to the Trust.

WHEREAS, the Employer has contracted with the California Public Employees' Retirement System ("CalPERS") to provide pension benefits to its employees who are eligible to participate in CalPERS and their beneficiaries;

WHEREAS, the Employer currently contributes to CalPERS more than the CalPERS-required employer contributions to fund these pension benefits;

WHEREAS, the Employer desires to set aside future such surplus contributions in a separate trust to fund CalPERS benefits instead of contributing them to CalPERS;

WHEREAS, the Employer currently provides retiree health benefits and other post-employment benefits other than pension benefits ("OPEB") for its eligible former employees and their beneficiaries;

WHEREAS, the Employer desires to set aside funds in a trust to fund OPEB;

WHEREAS, the Employer has determined that these two purposes can be served by the establishment of a single trust to fund both CalPERS benefits and OPEB;

WHEREAS, Section 53216 et seq. of the California Government Code authorizes the legislative body of a local agency to establish a pension trust;

WHEREAS, Article XIIB, section 5 of the California Constitution and sections 53201, 53206, and 53622 of the California Government Code authorize the legislative body of a local agency to establish an OPEB trust;

WHEREAS, Article XVI, section 17 of the California Constitution vests the retirement board of a public pension or retirement system with the sole and exclusive fiduciary responsibility for the assets of the system, which are trust funds that must be held for the exclusive purposes of providing benefits to the system's participants and beneficiaries and defraying reasonable expenses of administering the system;

WHEREAS, in accordance with Article XVI, section 17 of the California Constitution, the Employer will (i) establish a Retirement Board (the "Trustee") to administer the Trust, and (ii) assign the responsibility for the investment, control, and management of Trust assets to the Retirement Board in accordance with and subject to the terms of the Declaration; and

WHEREAS, in accordance with Article XVI, section 17 of the California Constitution, the Board wishes to establish the Trust and formally state the terms under which Trust assets are held in trust by the Retirement Board as Trustee.

NOW THEREFORE, the Board hereby declares as follows:

ARTICLE 1
DEFINITIONS

- 1.1 "Beneficiary" means a person who is entitled to benefits under CalPERS that are funded with Trust assets.
- 1.2 "Board of Directors" means the Board of Directors of the Employer.
- 1.3 "CalPERS" means the California Public Employees' Retirement System.
- 1.4 "Code" means the Internal Revenue Code of 1986, as amended.
- 1.5 "Employer" means the Irvine Ranch Water District.
- 1.6 "Fiscal Year" means July 1 through June 30.
- 1.7 "Investment Policy Statement" means the statement of policy for investing the assets under the Trust.
- 1.8 "OPEB" means other post-employment health and welfare benefits (other than pensions), including medical, dental, vision, life insurance, long-term care and other similar benefits, provided by the Employer for its eligible former employees.
- 1.9 "Plans" means the plans, policies, or collective bargaining agreements adopted by the Employer, as amended, under which the OPEB funded by the Trust for the Employer's Beneficiaries are payable.
- 1.10 "Retirement Board" means the three-member board, consisting of the Employer's General Manager, and the two members of the Finance and Personnel Committee of the Board of Directors, responsible for the investment, control, and management of Trust assets.
- 1.11 "Surplus Contributions" means the Employer's contributions in excess of the CalPERS-required employer contributions that the Employer makes to the Trust instead of to CalPERS.
- 1.12 "Trust" means the Irvine Ranch Water District Post-Employment Benefits Trust established by this Declaration.
- 1.13 "Trustee" means the Retirement Board.

ARTICLE 2
ESTABLISHMENT AND PURPOSE OF THE TRUST

- 2.1 Establishment of Trust. The Board of Directors establishes the Trust to hold and distribute the assets of the Trust in accordance with the terms of this Declaration.
- 2.2 Purpose of the Trust. The Trust is a single-employer trust arrangement established and maintained for the sole purposes of holding the assets, consisting of the Employer's Surplus Contributions and other contributions together with any earnings thereon, used

to prefund Beneficiaries' CalPERS benefits and OPEB, and for paying the reasonable, allocable expenses of administering the Trust and the Plans. Consistent with its purpose, the Trust is intended to qualify as a tax-exempt trust performing an essential governmental function within the meaning of section 115 of the Code.

ARTICLE 3 GENERAL TRUST PROVISIONS

- 3.1 Irrevocable Trust. The Trust is irrevocable.
- 3.2 Title to and Control Over Trust Assets. The Trustee shall have exclusive right, title and interest in and to the assets of the Trust, and assets under the Trust will be controlled and managed exclusively by the Trustee.
- 3.3 Exclusive Purpose. In accordance with Article XVI, section 17, of the California Constitution, the Trustee will hold all assets of the Trust for the exclusive purpose of prefunding Beneficiaries' CalPERS benefits and OPEB and defraying reasonable expenses of administering the Trust and the Plans.
- 3.4 No Diversion. The principal of the Trust, together with any earnings thereon, shall be held in trust by the Trustee separate and apart from any assets of the Employer or the Public Employees' Retirement Fund. Except as provided in Article 10, all of the assets of the Trust and all income thereon are irrevocably dedicated to, and shall be used for the exclusive purpose of, prefunding Employer contributions to CalPERS and OPEB for the benefit of the Beneficiaries and for paying the reasonable expenses of administering the Trust and the Plans. At no time will any Trust assets be used for, or diverted to, any other purposes.
- 3.5 Spendthrift Provision. Assets held in the Trust may not be used to satisfy claims of creditors of the Employer. No Beneficiary shall be deemed a third-party beneficiary of this Declaration, nor shall any Beneficiary have the right to compel any payment of any amount from the assets of the Trust or to enforce any duties of any party to or other entity referred to in this Declaration. Beneficiaries will not have any preferred claim, lien on, or security interest in, or any beneficial interest in any particular assets of the Trust. Except to the extent allowed by law, the Trust is not subject to attachment or garnishment or other legal process by any creditor of any such Beneficiary, nor shall any Beneficiary have the right to alienate, anticipate, commute, pledge, encumber, or assign any Trust assets.
- 3.6 Contributions. The Employer may at any time make (or cause to be made) contributions of cash or other assets acceptable to the Trustee to the Trust, from Surplus Contributions or from other sources. Neither the Trustee nor any Beneficiary or any party to or any other entity referred to in this Declaration shall have any right to compel such contributions or any duty to determine whether any such contributions comply with the Public Employees' Retirement Law or the Plans. In addition, the Trustee is not responsible for determining the source of contributions.

ARTICLE 4
TRUSTEE

- 4.1 Powers and Duties of the Trustee. Solely for purposes of example and without limitation of any power, authority, rights, or privileges conferred herein or otherwise by law, the Trustee has the following powers and authority, to be exercised in its sole discretion:
- (a) To invest and reinvest Trust assets, together with the income therefrom.
 - (b) To establish and maintain a Trust account to which the Trustee will (i) credit all contributions or transfers from the Employer to the Trust and any income and gains attributable to those amounts, and (ii) debit all distributions, transfers from the Trust, and any losses and expenses attributable to those amounts.
 - (c) At the direction of the Employer, to distribute payments from the Trust in accordance with Article 6.
 - (d) To pay the reasonable expenses of the Trust from Trust assets.
 - (e) To maintain accounts with, execute transactions through, and lend stocks, bonds or other securities on an adequately secured basis to, any qualified brokerage firm.
 - (f) To perform accounting and maintain records of the Trust account;
 - (g) To vote upon or tender any stocks, bonds or other securities and to give general or special proxies or powers of attorney with or without power of substitution; to exercise any conversion privileges, subscription rights or other options of which the Trustee receives actual notice, and to make any payments incidental thereto; to consent to or otherwise participate in corporate reorganizations or other changes affecting corporate securities and to delegate discretionary powers and to pay any assessments or charges in connection therewith; and generally to exercise any of the powers of an owner with respect to stocks, bonds, securities or other property held in Trust.
 - (h) To deposit or invest all or any part of the assets of the Trust in savings accounts or certificates of deposit or other deposits in a bank or savings and loan association or other depository institution.
 - (i) To invest and reinvest any Trust assets in one or more collective investment funds.
 - (j) To hold, manage, improve, repair and control all investment property, real or personal, forming part of the Trust; to sell, convey, transfer, exchange, partition, pledge, encumber, lease for any term, even extending beyond the duration of this Trust, and otherwise dispose of the same from time to time.
 - (k) To take such actions as may be necessary or desirable to protect the Trust from loss due to the default on mortgages held in the Trust including the appointment of agents or trustees in such other jurisdictions as may seem desirable, to transfer property to such agents or trustees, to grant to such agents such powers

as are necessary or desirable to protect the Trust, to direct such agent or trustee, or to delegate such power to direct, and to remove such agent or trustee.

- (l) To settle, compromise or abandon all claims and demands in favor of or against the Trust.
- (m) To borrow money from any source and to execute promissory notes, mortgages, or other obligations and to pledge or mortgage any Trust assets as security.
- (n) To designate and engage the services of such agents, representatives, advisers, counsel and accountants and, as part of its expenses under this Declaration, to pay their reasonable expenses and compensation.
- (o) To hold in cash, without liability for interest, such portion of the Trust assets as is pending investment, or payment of expenses, or the distribution of Surplus Contributions or OPEB.
- (p) To make, execute and deliver, as the Trustee, any and all deeds, leases, mortgages, conveyances, waivers, releases or other instruments in writing necessary or appropriate for the accomplishment of any powers listed in this Declaration.
- (q) To register securities, or any other property, in its name or in the name of any nominee, with or without indication of the capacity in which property shall be held, or to hold securities in bearer form and to deposit any securities or other property in a depository or clearing corporation.
- (r) To pay or cause to be paid from the Trust any and all real or personal property taxes, income taxes or other taxes with respect to the Trust.
- (s) To exercise all of the further rights, powers, options and privileges granted, provided for, or vested in trustees generally under applicable state law so that the powers conferred upon the Trustee herein shall not be in limitation of any authority conferred by law or under this Declaration, but shall be in addition thereto; provided that such powers satisfy applicable state law requirements (if any).
- (t) To do any other acts which the Trustee deems necessary or appropriate for the protection of the Trust.

4.2 Custody of Trust Assets. The Trustee may designate another person to act as custodian of the Trust assets. The Trustee is authorized to re-delegate such custodial duties to one or more banks. Each custodian so designated will receive and hold as part of the Trust any Trust assets transferred to it by the Trustee.

4.3 Delegation of Investment Authority. The Trustee may delegate, consistent with its fiduciary duties, all or part of its power and authority to invest Trust assets, including delegating to investment managers. All rights associated with assets of the Trust will be exercised by the Trustee or the person or persons designated by the Trustee, and will in no event be exercisable by or rest with Beneficiaries. Any investment manager

appointed by the Trustee will have the investment powers granted the Trustee except to the extent the investment manager's powers are specifically limited by the Trustee.

- 4.4 Reliance. In the performance of its duties hereunder, the Trustee is entitled to rely on, and is under no obligation to investigate instructions or data received from the Employer, including whether the amount of contributions made to the Trust by the Employer comply with the Public Employees' Retirement Law or the Plans. Accordingly, the Trustee will not be liable for action or inaction that is caused directly or indirectly by erroneous or late instructions or data furnished by the Employer.
- 4.5 Annual Audit. The Trustee shall appoint a responsible accounting firm to conduct an annual audit of the Trust at the sole expense of the Employer. The results of such audit shall be provided to the Employer.

ARTICLE 5 INVESTMENTS

- 5.1 Trustee. The Trustee will hold and administer Trust assets without distinction between principal and income, and will have exclusive authority and responsibility for the management and investment of Trust assets.
- 5.2 Combining of Assets for Investment. The Trustee may commingle, for investment or administration purposes, the assets (or a portion of the assets) of the Trust in any group trust within the meaning of section 401(a)(24) of the Code, but only if the commingled trust qualifies as tax exempt under Revenue Ruling 2011-1 and any subsequent relevant guidance from the Internal Revenue Service.
- 5.3 Investment Policy Statement. The Trustee will establish an Investment Policy Statement to invest the assets of the Trust in accordance with the principles set forth in the Investment Policy Statement in any investments permitted under this Declaration.
- 5.4 Broker Executed Investments. Transactions in investments which require execution through a broker shall be executed through such broker or brokers as the Trustee may select. The Trustee will hold all right, title, and interest in Trust assets at all times, and the Trustee shall serve as sole custodian with respect to Trust assets, except to the extent that the Trustee has, in accordance with Section 4.2, specifically delegated such custodianship to another person.
- 5.5 Asset Allocation.
- (a) The Trustee will determine the asset allocation of investments for the assets in the Trust in its judgment from time to time in light of the anticipated amounts of cash required for distributions of contributions to CalPERS and OPEB and other expenses, and the principles set forth in the Investment Policy Statement. The Trustee will execute the Investment Policy Statement by buying and selling investments for the Trust as described in this section. Initially, Trust assets will be invested in specified investments or funds in specified proportions as set forth in the Investment Policy Statement. Once the Investment Policy Statement is established, the Trustee will execute the Investment Policy Statement by investing the Trust assets in investments that the Trustee determines in the exercise of its judgment will further the principles set forth in the Investment

Policy Statement without any obligation to consult with or obtain the approval of the Employer.

- (b) The Trustee will reassess and may alter the asset allocation of the Trust at least annually. The Trustee will “rebalance” the investments of the Trust at least annually to maintain the ratios of the asset allocation of the Trust then in effect. In addition, the Trustee will, at least annually, review the most recent relevant actuarial data and will annually consult with the Employer to determine whether there are reasons to revise the Investment Policy Statement for the Trust. The Trustee will continuously review the performance of the investment of the Trust's assets and, in its judgment, will purchase or sell investments for the Trust.

- 5.6 Annual Reports. The Trustee will provide to the Employer not less frequently than annually, or at such other time requested by the Employer, an analysis of the performance of the investments of the Trust and a statement of any changes in investments made in such year.

ARTICLE 6 PAYMENTS FROM TRUST

- 6.1 Employer. The Employer will determine the amount of Employer contributions payable to CalPERS and the amounts payable for OPEB, and has the exclusive authority and responsibility to determine the extent to which those amounts will be paid from the assets in the Trust. The Employer will direct the Trustee in writing to disburse such amounts from the Trust (a) directly to CalPERS for the payment of Employer contributions, and (b) to the Employer to reimburse it for the payment of OPEB, provided that the Employer reserves the right to instruct the Trustee to pay OPEB directly from the Trust to Beneficiaries. Only Employer contributions, not employee contributions, will be paid to CalPERS from the Trust. The Employer will pay all employee contributions directly to CalPERS. The Trustee will not make or authorize disbursements or transfers from the Trust to CalPERS without the explicit written direction from the Employer.
- 6.2 Trustee Reliance. Except as otherwise provided by law, the Trustee will be fully protected in making payments out of the Trust at the direction of the Employer. The Trustee's sole obligation as to those disbursements will be to observe the instructions of the Employer to the extent that the Trust has assets to make disbursements as instructed by the Employer. Nothing in the Trust shall constitute a guarantee that Trust assets will be sufficient to pay any contributions to CalPERS or to fund OPEB.
- 6.3 Payments. The Trustee is authorized to disburse amounts from the Trust to pay the fees and expenses of administering the Trust as expressly authorized by this Declaration.

ARTICLE 7 TAXES, EXPENSES AND COMPENSATION OF THE TRUSTEE

- 7.1 Reimbursement of Expenses. Except as expressly provided otherwise herein, the Trustee is authorized to disburse funds from the Trust to pay all reasonable expenses of administering the Trust, including, without limitation, taxes, payable by the Trust, fees and expenses of legal counsel to the Trust, if any, and, insurance premiums, to the extent not paid by the Employer.

ARTICLE 8
RECORDKEEPING AND VALUATION

- 8.1 Trust Records. The Trustee will keep accurate and detailed records of all investments, receipts, disbursements, and all other transactions, including such specific records as may be agreed upon in writing between the Employer and the Trustee with respect to the Trust.
- 8.2 Annual Reports. Within 180 days following the close of each Fiscal Year, the Trustee will deliver to the Employer a written account of the Trust during such Fiscal Year, setting forth all deposits, investments, receipts, disbursements and other transactions effected by it with respect to the Trust, including a description of transfers made and income received by the Trust, all securities and investments purchased and sold with the cost or net proceeds of such purchases or sales (accrued interest paid or receivable being shown separately), all disbursements for the payment of Employer contributions to CalPERS or the payment of OPEB, administrative expenses (any amounts paid to the Trustee shown separately) or other costs paid from the Trust, and showing all cash, securities and other property held in the Trust at the end of such Fiscal Year.
- 8.3 Valuation. All securities will be valued at fair market value as of the date of valuation, as determined by the Trustee on the basis of all available information that the Trustee deems reasonable.
- 8.4 Separate Accounts. The Trustee may, in its sole discretion, establish separate recordkeeping accounts for Surplus Contributions and OPEB. In such case, the Trustee will (a) credit all Surplus Contributions from the Employer to the Trust and any income and gains attributable to those amounts, and (b) debit all distributions, transfers from the Trust, and any losses and expenses attributable to those amounts to the Surplus Contribution account. Similarly, the Trustee will (a) credit all contributions and transfers from the Employer to the Trust to fund OPEB and any income and gains attributable to those amounts, and (b) debit all distributions, transfers from the Trust, and any losses and expenses attributable to those amounts to the OPEB account. Such accounts are for recordkeeping purposes only, and will not in any way be construed to limit the Trustee's authority to pool or commingle for investment purposes assets of the Trust, including but not limited to, investing all or a portion of those assets in any separate fund or account (including common investment pools or trusts) or other investments permitted under this Declaration as set forth in Article 5.

ARTICLE 9
STANDARD OF CARE

- 9.1 Standard of Care. In accordance with Article XVI, section 17 of the California Constitution, the Trustee, when making, selling or otherwise managing investments of the Trust, will discharge its duties with respect to the investment of the Trust (a) solely in the interest of, and for the exclusive purposes of holding, investing and making payments of Employer contributions to CalPERS and payments of OPEB for the benefit of Beneficiaries, maximizing the amount available for making Employer contributions to CalPERS and paying OPEB, minimizing Employer contributions thereto, and paying reasonable expenses of administering the Trust and the Plans, and (b) with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct

of an enterprise of a like character and with like aims. The Trustee will diversify the investments of the assets so as to minimize the risk of loss and to prudently and reasonably maximize the rate of return, in accordance with the Investment Policy Statement.

ARTICLE 10 AMENDMENT AND TERMINATION

- 10.1 Amendment. The Trustee may amend this Declaration at any time. No amendment, however, will be effective at any time before the satisfaction of all liabilities with respect to Beneficiaries under the Trust to the extent that it would cause any part of the Trust to be used for, or diverted to, purposes other than for the exclusive purposes of prefunding CalPERS benefits and OPEB for Beneficiaries and defraying the reasonable expenses of administering the Trust and the Plans.
- 10.2 Termination of Trust. The Trustee reserves the right to terminate the Trust, provided that, except as provided in Sections 10.3 and 10.4, in no event may any Trust assets revert to the Employer before satisfaction of all CalPERS and OPEB liabilities with respect to the Beneficiaries of the Employer for whom the Trust was established. Upon termination of the Trust, the Trust will continue to exist and the Trustee will continue to have all powers provided in this Declaration as are necessary or desirable for the orderly liquidation and distribution of Trust assets in accordance with the provisions hereof until all Trust assets have been distributed. The Trustee will pay out Trust assets in the following order of priority: (a) payment of reasonable administrative expenses (including taxes and termination costs), and (b) payment of Employer contributions to CalPERS and OPEB. If the Employer's obligation to pay Employer contributions to CalPERS and to provide OPEB pursuant to the Plans terminates, the Trustee will continue to maintain, and shall have all of the powers and duties under this Declaration with respect to, the Trust until all of the reasonable administrative expenses and all of the CalPERS contributions and OPEB payable under the Plans have been paid. Any assets remaining in the Trust will be paid to the Employer to the extent permitted by law and consistent with the requirements of section 115 of the Code.
- 10.3 Return of Contributions Due to Mistake of Fact. At the written direction of the Employer and after receipt of any indemnification that the Trustee may require from the Employer, the Trustee will return any contribution made by the Employer due a mistake of fact, excluding any earnings but reduced by any losses, to the Employer within one year after the Employer discovers the mistake.
- 10.4 Termination and Reversion Due to Unfavorable IRS Ruling. Employer contributions to the Trust are conditioned on receipt of a ruling from the Internal Revenue Service that the Trust is a tax-exempt trust performing an essential governmental function within the meaning of section 115 of the Code. In the event that the Internal Revenue Service determines that the Trust does not qualify as a tax-exempt trust under section 115 of Code, the Trust will terminate, and the Trustee will return the Trust assets to the Employer.
- 10.5 Reversion. The Employer will not have any beneficial interest in the Trust or receive any amounts upon termination of the Trust or at any other time, except as provided in this article.

ARTICLE 11
MISCELLANEOUS

- 11.1 Choice of Law. The Trust shall be governed by, and interpreted in a manner consistent with, the laws of the State of California and, to the extent applicable, the Internal Revenue Code.
- 11.2 Severability. In the event any provision of this Declaration is held to be invalid for any reason, such invalidity shall not affect any other provisions of this Declaration and this Declaration shall be construed and enforced as if the invalid provision had never been included.

IN WITNESS WHEREOF, and as evidence of establishment of the Trust created hereunder, the Board of Directors has caused this Declaration to be executed on this ____ day of _____, 2013.

IRVINE RANCH WATER DISTRICT

By: _____
Douglas J. Reinhart, President of the
Board of Directors of the
Irvine Ranch Water District

[SEAL]

ATTEST:

Leslie Bonkowski, Secretary of
the Board of Directors of
the Irvine Ranch Water District

Exhibit "C"

MARCUS WU
PARTNER
DIRECT DIAL (415) 995-5829
DIRECT FAX (415) 995-3444
E-MAIL mwu@hansonbridgett.com

June __, 2013

DRAFT 6/5/13

ATTORNEY-CLIENT PRIVILEGE

VIA E-MAIL

Robert Jacobson
Director of Treasury and Risk Management
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Re: Adoption of Trust to Fund Retirement Benefits

Dear Rob:

Irvine Ranch Water District would like to establish and maintain a trust ("Trust") outside PERS¹ in order to fund the District's PERS benefits and perhaps OPEBs². This letter addresses your questions about the proposed Trust.

I. QUESTIONS ASKED

You asked the following questions:

- **PERS funding and permitted investments.** The District periodically makes contributions to PERS in excess of the minimum required by PERS. Going forward, the District intends to deposit these excess contributions not in the PERS trust, but in the District's own separate Trust. May the District legally establish and maintain the Trust, invest the Trust's assets in equities, and use Trust assets to fund the District's PERS benefits? In addition, will the Trust qualify as tax-exempt?

Short answer: Yes, under California law, the District may establish and maintain a Trust outside PERS in order to fund the District's PERS benefits. The Trust may invest in equities and other types of investments usually closed to public funds, but only if Trust assets are irrevocably dedicated to providing retirement benefits. We have provided the District with a draft Trust that is intended to satisfy this requirement. In addition, the Trust likely qualifies as a tax-exempt "115 trust"; however, because there is no IRS guidance on point, we recommend that the District request an IRS ruling to this

¹ The California Public Employees' Retirement System.

² Other (non-pension) post-employment benefits.

effect. Without an IRS ruling, the District would be exposed to risk that the IRS could successfully assert that the Trust is not a 115 trust and that, therefore, Trust income is taxable. The District may begin contributing to the Trust before receiving an IRS ruling — if the IRS issues an adverse ruling, the Trust will automatically terminate and all Trust assets will revert to the District.

- **OPEB funding.** May the District use the Trust to fund not only PERS benefits, but also the District's OPEBs?

Short answer: Same answer as previous question. Additionally, using the Trust to fund both benefit types — PERS and OPEBs — may trigger challenging fiduciary issues for the Trust's Retirement Board. For instance, the Retirement Board has a fiduciary duty to prudently invest assets, but what investment style is prudent for PERS benefits and OPEBs may differ. The Retirement Board should establish appropriate safeguards for satisfying its fiduciary duties in view of the different benefits.

- **Retirement Board.** Who will be responsible for operating and administering the Trust? What standards govern the governing body's duties and obligations?

Short answer: Under California law, the District's Board of Directors must appoint a Retirement Board for the Trust. The District Board cannot appoint itself as Retirement Board, but it may appoint one or more District Board members to the Retirement Board. The Retirement Board will be responsible for operating and administering the Trust, including investing Trust assets. When performing these functions, the Retirement Board must satisfy several fiduciary duties, including the following: duty to act prudently; duty of loyalty to the Trust's participants and beneficiaries; duty to ensure prompt delivery of benefits; and, duty to diversify the Trust's investments.

- **Implementation of Trust.** What steps should the District follow in order to implement the Trust?

Short answer: We recommend that the District do the following: (1) establish and adopt a Trust document (we have provided the District with a draft); (2) hire a custodian and make an initial contribution to the Trust; (3) apply for an IRS ruling for the Trust; (4) obtain a tax ID number for the Trust; (5) appoint a Retirement Board, review the adequacy of the District's fiduciary-insurance policies, and create Bylaws for the Retirement Board; (6) select the Trust's interim investments and hire an investment consultant; (7) assess the Trust's impact on the District's financial statements; and, (8) assess the viability of offering Trust participation to other public-agency employers.

II. BACKGROUND

A. Past practice of depositing excess PERS contributions in PERS's 401(a) trust

The District provides retirement benefits to eligible employees through PERS, the California Public Employees' Retirement System. PERS, a pension plan, provides monthly benefit payments to District employees upon their retirement.

To fund PERS benefits, the District must make contributions to PERS in amounts equal to a fixed percentage of employees' compensation. All contributions to PERS, including the District's, are deposited in a PERS-maintained trust. The tax laws require that all contributions to PERS be held in a qualified trust, or a 401(a) trust. Accordingly, PERS's trust is a 401(a) trust.

For several years, the District has contributed more to PERS than the minimum required by PERS. The District wasn't required to make these excess contributions. Rather, we understand that the District did so in the interest of sound financial practice. In any event, all the District's excess contributions have been deposited in PERS's 401(a) trust. Under federal and California law, the District cannot recover those contributions (or any other past contributions to PERS) – they must remain in PERS's 401(a) trust.

B. District proposal to deposit future excess PERS contributions in Trust outside PERS

The District would like to establish a Trust and deposit future excess PERS contributions into the Trust. The Trust would have the following features:

- The Trust must be separate from and independent of PERS. Thus PERS would have no authority whatsoever over the Trust, and would have no claim to or interest in any Trust assets.
- Subject to the Trust's terms, the District – or an entity appointed by the District – must have full control over the administration and operation of the Trust, including the investment of Trust assets.
- Trust assets may be invested in any type of prudent investment, including equities.
- The District would have authority to direct that Trust assets be contributed to PERS, at the time and in the manner determined by the District in its sole discretion. For instance, in any given year, the District could contribute none, part, or all of the Trust's assets to PERS.

In view of these guidelines, we next discuss your questions.

III. PERS FUNDING AND PERMITTED INVESTMENTS FOR TRUST

A. Summary

California law prohibits the District from investing public funds in equities and certain other investments, one of the desired features for the Trust. This restriction, however, won't apply as

long as assets under the Trust are dedicated to providing retirement benefits such as PERS benefits or OPEBs. In addition, due to federal tax laws, the Trust must be designed as a "115 trust" — we recommend that the District request an IRS ruling that the Trust qualifies as a 115 trust. Beyond these constraints, we are not aware of any California law or federal tax law that prohibits the District from establishing and maintaining a Trust with the desired features. In fact, rules under the California Contribution and Government Code, as well as informal PERS guidance, indicate that the District may do so.

B. California law: Permitted investments for public funds

1. Public funds are subject to strict investment limitations

Both the California Constitution and the California Government Code prohibit public agencies from investing in equities and certain other prohibited investments.

Article XVI, section 6 of the California Constitution expressly prohibits the legislature from authorizing a public agency to hold stock:

"[T]he Legislature . . . shall not have the power to authorize the State, or any political subdivision thereof, to subscribe for stock, or become a stockholder in any corporation whatever . . ."

This provision was originally enacted as part of the 1879 California Constitution, with the primary intent of limiting the ability of the legislature, acting in concert with powerful corporations, from requiring local agencies to invest in particular stocks. While the prohibition is expressed as a limitation on legislative power, it effectively limits the powers of a political subdivision. This is because a political subdivision of the state possesses only those powers granted by the legislature.

As a water district, the District is a political subdivision of the state. Thus article XVI, section 6 prohibits the District from investing in stocks.

In addition, under California statute, public agencies may invest only in the types of investments listed under section 53601 of the California Government Code. The permitted investments include, among others, municipal bonds, Treasury notes, commercial paper, and negotiable CDs, but not equities such as stock or mutual funds. Because equities are not listed, section 53601 effectively prohibits public agencies from investing in equities unless an exemption applies.

2. California Constitution art XVI, sec 17 — the investment limitations don't apply to pension or retirement systems

Article XVI, section 17 of the California Constitution is an exception to the above-described investment limitations.

In sum, section 17 extends "plenary authority" to "the retirement board of a public pension or retirement system" to invest and administer the system's assets. These provisions effectively enable a Retirement Board to invest assets under a "public pension or retirement system" in

virtually any prudent investment, including equities. Thus, if the District's proposed Trust is a "pension or retirement system" covered by section 17, its assets may be invested in equities by a Retirement Board. (We discuss the Retirement Board's required composition, duties, and responsibilities in detail below.)

PERS is a "pension or retirement system" within the meaning of Article XVI, section 17.

If Trust assets cannot be used for any purpose other than funding the District's PERS benefits (or other retirement benefits), the Trust should constitute a pension or retirement system. Accordingly, the Trust must specify that its assets are irrevocably dedicated to those purposes.

As long as the Trust satisfies this dedicated-use requirement, we believe that Trust assets will be exempt from California's investment restrictions and may therefore be invested in virtually any prudent investment, including equities.

C. The Trust will be tax-exempt only if it qualifies as a "115 trust"

Generally, under the federal tax laws, income generated by a trust is subject to taxes unless the trust is tax-exempt.

Here, there are only two types tax-exempt trusts that may apply to the District's proposed Trust: 401(a) trust and 115 trust. Under the tax laws, a 401(a) trust must be "part of" a qualified plan.³ This means that to qualify as a 401(a) trust, the Trust must be part of PERS. Put simply, this isn't feasible and is inconsistent with the District's goals.

The question then is, will the Trust qualify as a 115 trust?

A 115 trust is a trust exempt from taxes under section 115 of the Internal Revenue Code. Section 115 provides that gross income doesn't include income derived from the exercise of any "essential governmental function." Therefore, refining the issue, is the Trust's intended purpose — providing the District with a supplemental funding source for PERS benefits — an essential governmental function?

We found no IRS guidance directly on point. The IRS has, however, issued numerous rulings in similar (but not identical) contexts indicating that providing retirement benefits to public-agency employees is an essential government function. For example, in Private Letter Ruling 8825087 (3/18/88), a city established an independent board to manage and invest retirement funds for City employees. The IRS ruled that the funds' income wasn't taxable under section 115, stating that "[t]he provision of retirement benefits for municipal employees is a generally accepted function of state and local government."⁴

Based on this and other IRS rulings under section 115, we believe that there is a reasonable basis to conclude that the District's proposed Trust would likely qualify as a 115 trust. This is because Trust assets will be dedicated to providing retirement benefits, specifically benefits

³ Internal Revenue Code § 401(a).

⁴ Private Letter Ruling 8825087 (3/28/88).

under PERS (and perhaps OPEBs as discussed below). Further, practically speaking, the Trust won't deprive the IRS of any tax revenues – without the Trust, the District would simply deposit the excess contributions in PERS's 401(a) trust on a nontaxable basis. Given these factors, we believe it unlikely that the IRS would assert that the Trust is taxable.

Nevertheless, without direct guidance, there is a risk that the IRS could assert that the Trust's income is taxable. Therefore, we recommend that the District request an IRS ruling that the Trust is a tax-exempt 115 trust. (The ruling-request process is discussed below.)

D. The District may legally adopt the Trust as a 115 trust

We are not aware of any California law or federal tax law that prohibits the District from adopting the Trust.

Article XIII B, section 5 of the California Constitution expressly permits a public agency to set aside funds for retirement benefits (or any other purpose that the agency deems "reasonable and proper"). In addition, section 53216 of the California Government Code authorizes a local agency to establish a "pension trust." The Government Code doesn't define "pension trust," but given section 53216's wording and context, pension trust clearly means a pension plan and its corresponding funding vehicle.

Neither article XIII B, section 5 nor section 53216 specifically addresses whether an agency may adopt a supplemental funding source for its pension plan. Nevertheless, we believe that the District could reasonably point to these laws as permitting its use of the Trust to fund PERS benefits.

Further, PERS shouldn't object to the proposed Trust, for two reasons. First, we don't believe that PERS would have any legal or practical basis for objecting, as long as the District continues to pay its minimum required contributions to PERS. Second, in a 2005 internal memo, PERS's actuarial division stated that PERS-participating employers could adopt a 115 trust outside PERS in order to fund their PERS contributions:

"Employer contributions to the stabilization account could alternately be made to a tax-exempt trust (e.g., a Section 115 trust) separate and apart from the Public Employees' Retirement Fund [PERS's trust]. This account could be administered by the employer or some other third party separate from the board."

A copy of the PERS memo is attached. The memo isn't legal authority, but it indicates that PERS has already vetted this funding method.

IV. OPEB FUNDING

A. The District may use Trust assets to fund both PERS benefits and OPEBs

California law clearly permits the District to establish a 115 trust to fund OPEBs.⁵ Many public agencies in California have adopted such trusts. In fact, PERS maintains a multiple-employer 115 trust and permits public agencies to enroll in and contribute moneys to the trust in order to fund their OPEBs.

And as discussed above, we believe that California law permits the District to establish a 115 trust to fund PERS benefits.

The issue here is, may the District's Trust be used to fund *both* PERS benefits and OPEBs? (They are different – OPEB means post-retirement benefits other than pension, whereas PERS benefits are pension benefits.)

We found no direct legal authority on this issue. And we are not aware of any other public agency that uses a 115 trust in this way.

Nevertheless, the structure is most likely permitted under California law, for several reasons. First, article XIII B, section 5 of the California Constitution extends broad authority to public agencies to set aside funds – in a trust or other fund – as the agency deems "reasonable and proper." Thus, using the District's Trust to fund both OPEBs and PERS benefits should be permitted, as long as the District's Board of Directors finds this use reasonable and proper.

Second, as discussed, various sections of the California Government Code permit the District to maintain a trust to fund OPEBs⁶ or pension benefits.⁷ Although none expressly authorizes a trust that funds both, one can reasonably read the statutes as collectively permitting this structure. We are not aware of any public policy disfavoring this structure.

Third, as discussed above, article XVI, section 17 of the California Constitution requires that the Trust's assets be dedicated to providing benefits under a pension or retirement system. Article XVI, section 17 doesn't define retirement system, but it almost certainly encompasses not only pension plans such as PERS, but also OPEBs. (If this were not the case, then none of the numerous 115 trusts maintained by public agencies in California, including PERS's 115 trust, would be permitted to invest in equities.) Thus, article XVI, section 17 appears to permit using Trust assets for either PERS benefits or OPEBs, or both.

B. Funding both PERS benefits and OPEBs may complicate the Retirement Board's duties

Article XVI, section 17 of the California Constitution requires that the District appoint a Retirement Board to operate and administer the Trust. The Retirement Board's duties and responsibilities are further discussed below. Among other things, the Retirement Board must administer the Trust in a manner that ensures prompt delivery of benefits, and must diversify the

⁵ California Constitution, art. XIII B, sec. 5; Government Code §§ 53201, 53206, and 53622.

⁶ Government Code §§ 53201, 53206, and 53622.

⁷ Government Code §§ 53216.

Trust's investments so as to minimize the risk of loss and to maximize the rate of return, unless doing so would not be prudent.⁸

Using Trust assets to fund both PERS benefits and OPEBs may complicate the Retirement Board's ability to fulfill these duties.

For example, illiquid investments may be prudent for funding PERS benefits in order to maximize investment return. There may, however, be a greater need for liquidity for OPEBs, necessitating a different investment allocation for those benefits than for PERS benefits.

We recommend that the Retirement Board establish safeguards in view of the different benefit types. For instance, the Retirement Board could segregate Trust assets into two pools, one dedicated to PERS and the other to OPEBs, and invest each pool accordingly. We could advise the Retirement Board on developing appropriate safeguards, if you wish.

V. RETIREMENT BOARD

Appointment -

The Trust — whether it funds PERS benefits, OPEBs, or both — must comply with article XVI, section 17 of the California Constitution. Article XVI, section 17 requires that the District appoint a Retirement Board for the Trust. We recommend that the District's Board of Directors appoint the Retirement Board by resolution. The Retirement Board will be treated as an independent entity and, as discussed below, will have the sole authority to administer the Trust and invest Trust assets.

Composition -

For section 17 purposes, a Retirement Board means "the board of administration, board of trustees, board of directors, or other governing body or board of a public employees' pension or retirement system . . . ", but does not include the following:

- a governing body or board created after July 1, 1991 that does not administer pension or retirement benefits, or
- the elected legislative body of a jurisdiction that employs participants in a public employees' pension or retirement system.

The District's Board of Directors is an elected body. Therefore, the District Board cannot simply designate itself as the Trust's Retirement Board.

Section 17 doesn't, however, appear to preclude the District Board from appointing one or more of its members to the Retirement Board. Our conclusion is based on section 31520 of the California Government Code and SB 1746.

⁸ California Constitution, art. XVI, sec. 17.

Section 31520 of the California Government Code governs the composition of Retirement Boards of pension plans sponsored by various California counties under the County Employees Retirement Law of 1937 (in short, '37 Act plans). Section 31520 states that, for each '37 Act plan, one member of the County's Board of Supervisors – an elected body – may serve on the plan's Retirement Board.

And in 2002, the California Legislature adopted SB 1746, declaring that elected officials may serve on a Retirement Board:

"It is the intent of Legislature in enacting this act to assure that all qualified Californians are eligible to participate as a board member of a pension fund. To deny elected officials the opportunity to service simply because of potential incompatibility could result in the loss of valuable expertise and public experience."⁹

SB 1746 further states that funds should consult legal counsel regarding any potential conflict between two public offices. Thus, if the District Board appoints any of its members to the Retirement Board, the District should consult with legal counsel to ensure that proper measures are taken to avoid any actual or perceived conflict.

We are not aware of any challenge to the constitutionality of either section 31520 or SB 1746.

Duties -

Article XVI, section 17, imposes fiduciary duties on the Trust's Retirement Board. These duties require that the Retirement Board do the following:

- act in a prudent manner;
- act for the exclusive benefit of participants and beneficiaries (duty of loyalty);
- administer the Trust in a manner that assures prompt delivery of benefits;
- diversify the Trust's investments.

Authority -

Subject to its fiduciary duties, the Trust's Retirement Board will have sole, unfettered authority to operate and administer the Trust, including invest Trust assets. The Retirement Board may delegate all or any part of its duties to another qualified entity or person, but only if delegation is prudent. For example, the Retirement Board may delegate investment authority to an investment manager, but retain authority to design the initial investment policy and periodically revisit the policy and make changes if needed.

⁹ Stats 2002 ch 289.

VI. IMPLEMENTING THE PROPOSED TRUST

We understand that the District Board has approved the adoption of a Trust to fund PERS benefits. Following are our recommended next steps for implementing the Trust:

- **Establish and adopt Trust document.** We have provided a draft Trust to the District. The Trust is designed to qualify as a 115 trust. In addition, the draft Trust permits the District to use Trust assets only to fund PERS benefits. Please note that contributions to the Trust are irrevocable — this means that once the District deposits funds in the Trust, they cannot revert to the District or be used for any purpose other than funding PERS benefits. As agreed, if the District Board wishes, we can update the Trust to permit OPEB funding as well.
- **Hire custodian and make initial contribution.** The District will need to hire a bank or other custodian to hold and invest Trust assets. The Trust assets should be deposited in an account under the Trust's name, or under the District's name with an FBO naming the Trust. Once the account is established, the District will need to deposit funds in the account in order to effectuate the Trust. The initial deposit can be any amount.
- **Apply for an IRS ruling.** We recommend that the District apply for an IRS ruling that the Trust is a tax-exempt 115 trust. A ruling isn't required, but without one, we believe that there is a risk that the IRS could successfully assert that the Trust's income is taxable. Generally, the request would describe the Trust, its intended purpose, and the legal basis for the requested ruling. The IRS filing fee is \$10,000. Typically, the IRS takes between six months to one year to issue a ruling. Also, if the IRS decides to issue a negative ruling, it would notify the District in advance and give the District an opportunity to revise the request. For example, if the District designs the Trust to fund both PERS benefits and OPEBs, but the IRS objects to the latter, the District could remove the OPEB provisions, enabling the IRS to issue the requested ruling.

Importantly, this step need not delay the District's implementation of the Trust. The District can begin making contributions to the Trust as soon as it completes the first two steps above, even if the District hasn't yet received the requested IRS ruling. The Trust contemplates this possibility, stating that if the IRS refuses to issue the requested ruling, the Trust will cease operation and all Trust assets will revert to the District.

- **Obtain Tax ID# for Trust.** The IRS's website issues identification numbers on demand.
- **Retirement Board.**
 - *Appointment.* The District's Board must appoint a Retirement Board to operate and administer the Trust. The Retirement Board's composition, duties, and authority are discussed above.

- *Fiduciary insurance.* The Retirement Board must satisfy the fiduciary duties set out under article XVI, section 17 of the California Constitution. Members of the Retirement Board could be personally liable for failing to satisfy their duties. To limit this risk, we recommend that the District assess whether its existing insurance policies adequately cover the Retirement Board. If the current policies aren't adequate, the District may want to consider purchasing insurance for the Retirement Board through a new policy or via a rider to an existing policy.
- *Bylaws.* The District Board should establish Bylaws for the Retirement Board. The Bylaws would define the following, among other items: the Retirement Board's authority; formal meeting procedures; frequency of meetings; voting procedures; appointment of chairperson; removal and appointment of members; conflict-of-interest prohibitions; and other relevant items.
- **Investments.**
 - *Select interim investments.* We understand that the District's initial contributions to the Trust may occur before the Retirement Board is established. The District should decide where to invest Trust assets during this period; a conservative investment might be appropriate. (Once established, the Retirement Board will be responsible for investing Trust assets.)
 - *Hire investment consultant.* Under article XVI, section 17 of the California Constitution, the Retirement Board must prudently invest the Trust's assets in a diversified portfolio of investments. We recommend that the Retirement Board hire a qualified investment consultant to advise on Trust investments. The consultant could also advise on related topics, including the following; investment policy; target investment allocations; watch list; performance benchmarks; and other relevant topics.
- **Assess impact on District's financial statements.** Under GASB No. 68, which applies to the District beginning July 1, 2014, Trust assets may reduce the pension liability reported on the District's balance sheet. We suggest, however, that the District request its accountant's opinion on the financial reporting of Trust assets.
- **Assess viability of offering Trust to other employers.** If it wishes to, the District's Board may permit other public agencies to contribute funds to the Trust. The contributions would be commingled with the District's (and every other participating agency's) assets for investment purposes, but would be separately accounted for so that each participating agency's interest would be reserved solely for that agency's use. Doing this could potentially create an economy of scale, reducing administration costs. But before taking this path, the District

ATTORNEY-CLIENT PRIVILEGE

Robert Jacobson

June __, 2013

Page 12

DRAFT 6/5/13

should consider several possible issues, including securities laws, additional administrative complexity, and risk of additional fiduciary liability.

* * *

If you have any questions about this letter, please contact me.

Sincerely,

Marcus Wu

MWW:emb

Enclosure

cc: Joan Arneson

To ensure compliance with requirements imposed by the IRS, we inform you that any tax advice contained in this communication (including any attachments) was not intended or written to be used, and cannot be used, for the purpose of (i) avoiding penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.

Exhibit "D"



THE BANK OF NEW YORK MELLON

CUSTODY AGREEMENT

(U.S. Securities)

AGREEMENT, date as of _____, ____ 2013 between ("Customer") _____
and The Bank of New York Mellon Trust Company, National Association ("Custodian").

ARTICLE I DEFINITIONS

Whenever used in this Agreement, the following words shall have the meanings set forth below:

1. **"Authorized Person"** shall be any person, whether or not an officer or employee of Customer, duly authorized by Customer to give Written Instructions on behalf of Customer, such persons to be designated in a Certificate of Authorized Persons which contains a specimen signature of such person.
2. **"BNY Affiliate"** shall mean any office, branch or subsidiary of The Bank of New York Mellon Company, Inc.
3. **"Book Entry System"** shall mean the Federal Reserve/Treasury book entry system for receiving and delivering securities, its successors and nominees.
4. **"Business Day"** shall mean any day on which Custodian, Book Entry System and relevant Depositories are open for business.
5. **Depository** shall include the Depository Trust Company, the Participants Trust Company and any other securities depository or clearing agency (and their respective successors and nominees) registered with the Securities and Exchange Commission or otherwise authorized to act as a securities depository or clearing agency
6. **"U.S. Securities"** shall include, without limitation, common stock and other equity securities, bonds, debentures and other debt securities, notes, mortgages or other obligations, and any instruments representing rights to receive, purchase, or subscribe for the same, or representing any other rights or interests therein (whether represented by a certificate or held in the Book-Entry System, a Depository or on the books of the issuer).
7. **"Written Instructions"** shall mean written communications actually received by Custodian by S.W.I.F.T., tested telex, letter, email, facsimile transmission, or other method or system specified by Custodian as available for use in connection with the services hereunder.

ARTICLE II APPOINTMENT OF CUSTODIAN; ACCOUNTS; REPRESENTATION AND WARRANTIES

1. Customer hereby appoints Custodian as custodian of all U.S. Securities and cash at any time delivered to Custodian during the term of this Agreement, and authorizes Custodian to hold U.S. Securities in registered form in its name or the name of its nominees. Custodian hereby accepts such appointment and agrees to establish and maintain one or more securities accounts and cash accounts in the name of Customer (collectively, the "Account") in which it will hold U.S. Securities and cash as provided herein.
2. Customer hereby represents and warrants, which representations and warranties shall be continuing and shall be deemed to be reaffirmed upon Written Instruction given by Customer, that:

(a) Customer is duly organized and existing under the laws of the jurisdiction of its organization, with full power to carry on its business as now conducted, to enter into this Agreement and to perform its obligations hereunder;

(b) This Agreement has been duly authorized, executed and delivered by Customer, constitutes a valid and legally binding obligation of Customer, enforceable in accordance with its terms, and no statute, regulation, rule, order, judgment or contract binding on Customer prohibits Customer's execution or performance of this Agreement; and

(c) Either Customer owns the U.S. Securities in the Account free and clear of all liens, claims, security interests and encumbrances (except those granted herein) or, if the U.S. Securities are owned beneficially by others, Customer has the right to pledge such U.S. Securities to the extent necessary to secure Customer's obligations hereunder, free of any right of redemption or prior claim by the beneficial owner. Custodian's security interest pursuant to Article V hereof shall be a first lien and security interest subject to no setoffs, counterclaims or other liens prior to or on a parity with it in favor of any other party (other than specific liens granted preferred status by statute), and Customer shall take any and all additional steps which are required to assure Custodian of such priority and status, including notifying third parties or obtaining their consent to, Custodian's security interest.

ARTICLE III CUSTODY AND RELATED SERVICES

1. Subject to the terms hereof, Customer hereby authorizes Custodian to hold any Securities received by it from time to time for Customer's account. Custodian shall be entitled to utilize the Book Entry System and Depositories to the extent possible in connection with its performance hereunder. Securities and cash deposited by Custodian in the Book-Entry System or a Depository will be held subject to the rules, terms and conditions of the Book-Entry System or such Depository. Custodian shall identify on its books and records the U.S. Securities and cash belonging to Customer, whether held directly or indirectly through the Book-Entry System or a Depository. U.S. Securities and cash of Customer deposited in the Book Entry System or a Depository will be represented in accounts which include only assets held by Custodian for its customers.

2. Custodian shall furnish Customer with a monthly summary of all account transfers and activity. Customer hereby waives the right to receive hard copy written transaction advices. The forgoing waiver may be rescinded at any time in writing to the Custodian. Customer may elect to receive advices, confirmations, reports or statements electronically through the Internet. By electing to use the Internet for this purpose, Customer acknowledges that such transmissions are not encrypted and therefore are insecure. Customer further acknowledges that there are other risks inherent in communicating through the Internet such as the possibility of virus contamination and disruptions in service, and agrees that Custodian shall not be responsible for any loss, damage or expense suffered or incurred by Customer or any person claiming by or through Customer as a result of the use of such methods.

3. With respect to all U.S. Securities held in the Account, Custodian shall, unless otherwise instructed to the contrary:

(a) Receive all income and other payments and advise Customer as promptly as practicable of any such amounts due but not paid;

(b) Present for payment and receive the amount paid upon all U.S. Securities which may mature and advise Customer as promptly as practicable of any such amounts due but not paid;

(c) Forward to Customer all information or documents that it may receive from an issuer of U.S. Securities which, in the opinion of Custodian, are intended for the beneficial owner of U.S. Securities;

(d) Execute, as custodian, any certificates of ownership, affidavits, declarations or other certificates under any tax laws now or hereafter in effect in connection with the collection of bond and note coupons;

(e) Hold directly, or through the Book Entry System or a Depository, all rights and similar U.S. Securities issued with respect to any U.S. Securities credited to the Account hereunder; and

(f) Endorse for collection checks, drafts or other negotiable instruments.

4. (a) Custodian shall notify Customer of such rights or discretionary actions or of the date or dates by when such rights must be exercised or such action must be taken provided that Custodian has received, from the issuer or the relevant Depository, timely notice of such rights or discretionary corporate action or of the date or dates such rights must be exercised or such action must be taken. Communication shall be delivered by Inform, S.W.I.F.T., tested telex, letter, email, facsimile transmission, or other method

or system specified by Custodian as available for use in connection in this agreement. Absent actual receipt of such notice, Custodian shall have no liability for failing to so notify Customer and Custodian shall follow timely directions received in writing through one of the Communication processes so specified by the Custodian.

(b) Whenever U.S. Securities (including, but not limited to, warrants, options, tenders, options to tender or non mandatory puts or calls) confer optional rights on Customer or provide for discretionary action or alternative courses of action by Customer, Customer shall be responsible for making any decisions relating thereto and for directing Custodian to act. In order for Custodian to act, it must receive Customer's Written Instructions at Custodian's offices, addressed as Custodian may from time to time request, not later than noon (Florida time) at least two (2) Business Days prior to the last scheduled date to act with respect to such U.S. Securities (or such earlier date or time as Custodian may notify Customer). Absent Custodian's timely receipt of such Written Instructions, Custodian shall not be liable for failure to take any action relating to or to exercise any rights conferred by such U.S. Securities.

5. Custodian will make available to Customer proxy voting services upon the request of, Customer in accordance with terms and conditions to be mutually agreed upon by Custodian and Customer.

6. Custodian shall promptly advise Customer upon its notification of the partial redemption, partial payment or other action affecting less than all U.S. Securities of the relevant class. If Custodian or Depository holds any such U.S. Securities in which Customer has an interest as part of a fungible mass, Custodian or Depository may select the U.S. Securities to participate in such partial redemption, partial payment or other action in any non-discriminatory manner that it customarily uses to make such selection.

7. Custodian shall not under any circumstances accept bearer interest coupons which have been stripped from United States federal, state or local government or agency securities unless explicitly agreed to by Custodian in writing.

8. Any foreign exchange transaction effected by Custodian in connection with this Agreement may be entered with Custodian or a BNY Affiliate acting as principal or otherwise through customary banking channels. Customer may issue standing Written Instructions with respect to foreign exchange transactions but Custodian may establish rules or limitations concerning any foreign exchange facility made available to Customer. Customer shall bear all risks of holding cash denominated in a foreign currency. Without limiting the foregoing, Customer shall bear the risks that rules or procedures imposed by Depositories, exchange controls, asset freezes or other laws, rules, regulations or orders shall prohibit or impose burdens or costs on the transfer to, by or for the account of Customer of property held outside Customer's jurisdiction or denominated in a currency other than its home jurisdiction or the conversion of cash from one currency into another currency. Custodian shall not be obligated to substitute another currency for a currency whose transferability, convertibility or availability has been affected by such law, regulation, rule or procedure. Custodian shall not be liable to Customer for any loss resulting from any of the foregoing events.

9. To the extent that Custodian has agreed to provide pricing or other information services in connection with this Agreement, Custodian is authorized to utilize any vendor (including brokers and dealers of Securities) reasonably believed by Custodian to be reliable to provide such information. Customer understands that certain pricing information with respect to complex financial instruments (e.g., derivatives) may be based on calculated amounts rather than actual market transactions and may not reflect actual market values, and that the variance between such calculated amounts and actual market values may or may not be material. Where vendors do not provide information for particular Securities or other property, an Authorized Person may advise Custodian regarding the fair market value of, or provide other information with respect to, such Securities or property as determined by it in good faith. Custodian shall not be liable for any loss, damage or expense incurred as a result of errors or omissions with respect to any pricing or other information utilized by Custodian hereunder.

10. As an accommodation to Customer, Custodian may provide consolidated recordkeeping services pursuant to which Custodian reflects on Account statements Securities not held in Custodian's vault or for which Custodian or its nominee is not the registered owner ("Non-Custody Securities"). Non-Custody Securities shall be designated on Custodian's books as "shares not held" or by other similar characterization. Customer acknowledges and agrees that it shall have no security entitlement against Custodian with respect to Non-Custody Securities, that Custodian shall rely, without independent verification, on information provided by Customer regarding Non-Custody Securities (including but not limited to positions and market valuations) and that Custodian shall have no responsibility whatsoever with respect to Non-Custody Securities or the accuracy of any information maintained on Custodian's books or set forth on account statements concerning Non-Custody Securities.

11. From time to time Custodian may make available to Customer or its agent(s) certain services, computer programs or other products or services (collectively, "Tools") that allow Customer or its agent(s) to perform certain analytic, accounting, compliance, reconciliation and other functions with respect to the Securities and other assets in the Account. By way of example, Tools may assist Customer or its agent(s) in analyzing the performance of investment managers appointed by Customer, determining on a post-trade basis whether transactions for the Account comply with Customer's investment guidelines, evaluating assets at risk,

and account reconciliation. Such Tools, whether or not modified to meet specific needs of Customer, are provided "AS IS" and CUSTODIAN DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE TOOLS, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, TITLE, NON-INFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE. ANYTHING IN THIS AGREEMENT TO THE CONTRARY NOTWITHSTANDING, CUSTODIAN SHALL NOT BE LIABLE FOR ANY LOSS, EXPENSE, DAMAGE, LIABILITY OR CLAIM SUFFERED OR INCURRED BY CUSTOMER, ITS AGENT(S) OR ANY OTHER PERSON AS A RESULT OF USE OF, OR RELIANCE UPON, ANY TOOLS BY CUSTOMER, ITS AGENT(S) OR ANY OTHER PERSON.

12. With respect to Securities issued in the United States, the Shareholders Communications Act of 1985 (the "Act") requires Custodian to disclose to the issuers, upon their request, the name, address and securities position of its customers who are (a) the "beneficial owners" (as defined in the Act) of the issuer's Securities, if the beneficial owner does not object to such disclosure, or (b) acting as a "respondent bank" (as defined in the Act) with respect to the Securities. (Under the Act, "respondent banks" do not have the option of objecting to such disclosure upon the issuers' request.) The Act defines a "beneficial owner" as any person who has, or shares, the power to vote a security (pursuant to an agreement or otherwise), or who directs the voting of a security. The Act defines a "respondent bank" as any bank, association or other entity that exercises fiduciary powers which holds securities on behalf of beneficial owners and deposits such securities for safekeeping with a bank, such as Custodian. Under the Act, Customer is either the "beneficial owner" or a "respondent bank."

- Customer is the "beneficial owner," as defined in the Act, of the Securities to be held by Custodian hereunder.
 Customer is not the beneficial owner of the Securities to be held by Custodian, but is acting as a "respondent bank," as defined in the Act, with respect to the Securities to be held by Custodian hereunder.

IF NO BOX IS CHECKED, CUSTODIAN SHALL ASSUME THAT CUSTOMER IS THE BENEFICIAL OWNER OF THE SECURITIES.

For beneficial owners of the Securities only:

- Customer objects
 Customer does not object

to the disclosure of its name, address and securities position to any issuer which requests such information pursuant to the Act for the specific purpose of direct communications between such issuer and Customer.

IF NO BOX IS CHECKED, CUSTODIAN SHALL RELEASE SUCH INFORMATION UNTIL IT RECEIVES A CONTRARY WRITTEN INSTRUCTION FROM CUSTOMER.

ARTICLE IV PURCHASE AND SALE OF U.S. SECURITIES; CREDITS TO ACCOUNT

1. Promptly after each purchase or sale of U.S. Securities by Customer, an Authorized Person shall deliver to Custodian Written Instructions specifying all information necessary for Custodian to settle such purchase or sale. Custodian shall account for all purchases and sales of U.S. Securities on the actual settlement date unless otherwise agreed by Custodian.

2. Customer understands that when Custodian is instructed to deliver U.S. Securities against payment, delivery of such U.S. Securities and receipt of payment therefore may not be completed simultaneously. Customer assumes full responsibility for all credit risks involved in connection with Custodian's delivery of U.S. Securities pursuant to instructions of Customer.

3. Custodian may, as a matter of bookkeeping convenience or by separate agreement with Customer, credit the Account with the proceeds from the sale, redemption or other disposition of U.S. Securities or interest, dividends or other distributions payable on U.S. Securities prior to its actual receipt of final payment therefore. All such credits shall be conditional until Custodian's actual receipt of final payment and may be reversed by Custodian to the extent that final payment is not received. Payment with respect to a transaction will not be "final" until Custodian shall have received immediately available funds which under applicable law or rule are irreversible and not subject to any security interest, levy or other encumbrance, and which are specifically applicable to such transaction.

ARTICLE V

OVERDRAFTS OR INDEBTEDNESS

If Custodian in its sole discretion advances funds to Customer or there shall arise for whatever reason an overdraft in the Account (including, without limitation, overdrafts incurred in connection with the settlement of securities transactions or funds transfers) or if Customer is for any other reason indebted to Custodian, Customer agrees to repay Custodian on demand the amount of the advance, overdraft or indebtedness plus accrued interest at a rate ordinarily charged by Custodian to its institutional custody customers. In order to secure repayment of Customer's obligations to Custodian hereunder, Customer hereby agrees that Custodian shall have a continuing lien and security interest in, and right of set-off against, all U.S. Securities, money and other property now or hereafter held in the Account (including proceeds thereof), and any other property at any time held by it for the account of Customer. In this regard, Custodian shall be entitled to all the rights and remedies of a pledgee under common law and a secured party under the New York Mellon Uniform Commercial Code and any other applicable laws, rules or regulations as then in effect.

ARTICLE VI CONCERNING CUSTODIAN

1. (a) Except as otherwise expressly provided herein, Custodian shall not be liable for any costs, expenses, damages, liabilities or claims including attorneys' and accountants' fees (collectively, "Losses") incurred by or asserted against Customer, except those Losses arising out of the negligence or willful misconduct of Custodian. Custodian shall have no obligation hereunder for Losses which are sustained or incurred by reason of any action or inaction by the Book-Entry System or any Depository or issuer of Securities. In no event shall Custodian be liable to Customer or any third party for special, indirect or consequential damages, or lost profits or loss of business, arising in connection with this Agreement.

(b) Customer agrees to indemnify, save and hold Custodian harmless from and against any and all Losses sustained or incurred by or asserted against Custodian by reason of or as a result of any action or inaction, or arising out of Custodian's performance hereunder, including reasonable fees and expenses of counsel incurred by Custodian in a successful defense of claims by Customer; provided, that Customer shall not indemnify Custodian for those Losses arising out of Custodian's negligence or willful misconduct. This indemnity shall be a continuing obligation of Customer, its successors and assigns, notwithstanding the termination of this Agreement.

2. Without limiting the generality of the foregoing, Custodian shall be under no obligation to inquire into, and shall not be liable for, any losses incurred by Customer or any other person as a result of the receipt or acceptance of fraudulent, forged or invalid U.S. Securities, or U.S. Securities which are otherwise not freely transferable or deliverable without encumbrance.

3. Custodian may, with respect to questions of law specifically regarding the Account, obtain the advice of counsel and shall be fully protected with respect to anything done or omitted by it in good faith in conformity with such advice.

4. Custodian shall be under no obligation to take action to collect any amount payable on U.S. Securities in default, or if payment is refused after due demand and presentment.

5. Custodian shall have no duty or responsibility to inquire into, make recommendations, supervise, or determine the suitability of any transactions affecting any Account.

6. Customer shall pay to Custodian the fees and charges as may be specifically agreed upon from time to time and such other fees and charges at Custodian's standard rates for such services as may be applicable. Customer shall reimburse Custodian for all costs associated with the conversion of Customer's U.S. Securities hereunder and the transfer of U.S. Securities and records kept in connection with this Agreement. Customer shall also reimburse Custodian for out of pocket expenses which are a normal incident of the services provided hereunder. Custodian may debit the Account for amounts payable hereunder which remain in arrears for over 60 days.

7. In addition to the rights of Custodian under applicable law and other agreements, at any time when Customer shall not have honored any and all of its obligations to Custodian, whether or not relating to or arising under this Agreement, Custodian shall have the right without notice to Customer to retain or set-off, against such obligations of Customer, any U.S. Securities or cash Custodian or a BNY Affiliate may directly or indirectly hold for the account of Customer, and any obligations (whether matured or unmatured) that Custodian or a BNY Affiliate may have to Customer. Any such asset of, or obligation to, Customer may be transferred to Custodian and any BNY Affiliate in order to effect the above rights.

8. (a) Subject to the terms below, Custodian shall be entitled to rely upon any Written Instructions actually received by Custodian and reasonably believed by Custodian to be duly authorized and delivered.

(b) If Custodian receives Written Instructions which appear on their face to have been transmitted by an Authorized Person via (i) computer facsimile, email, the Internet or other insecure electronic method, or (ii) secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys, Customer understands and agrees that Custodian cannot determine the identity of the actual sender of such Written Instructions and that Custodian shall conclusively presume that such Written Instructions have been sent by an Authorized Person. Customer shall be responsible for ensuring that only Authorized Persons transmit such Written Instructions to Custodian and that all Authorized Persons treat applicable user and authorization codes, passwords and/or authentication keys with extreme care.

(c) Customer acknowledges and agrees that it is fully informed of the protections and risks associated with the various methods of transmitting Written Instructions to Custodian and that there may be more secure methods of transmitting Written Instructions than the method(s) selected by Customer. Customer agrees that the security procedures (if any) to be followed in connection with its transmission of Written Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances.

(d) If Customer elects to transmit Written Instructions through an on-line communication system offered by Custodian, Customer's use thereof shall be subject to the Terms and Conditions attached hereto as Appendix I. If Customer elects (with Custodian's prior consent) to transmit Written Instructions through an on-line communications service owned or operated by a third party, Customer agrees that Custodian shall not be responsible or liable for the reliability or availability of any such service.

9. Upon reasonable request and provided Custodian shall suffer no significant disruption of its normal activities, Customer shall have access to Custodian's books and records relating to the Account during Custodian's normal business hours. Upon reasonable request, copies of any such books and records shall be provided to Customer at Customer's expense.

10. It is understood that Custodian is authorized to supply any information regarding the Account which is required by any law, regulation or rule now or hereafter in effect.

11. Custodian shall not be responsible or liable for any failure or delay in the performance of its obligations under this Agreement arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including without limitation, acts of God; earthquakes; fires; floods; wars; civil or military disturbances; sabotage; epidemics; riots; interruptions, loss or malfunctions of utilities, computer (hardware or software) or communications service; accidents; labor disputes; acts of civil or military authority or governmental actions; it being understood that Custodian shall use its best efforts to resume performance as soon as practicable under the circumstances.

12. Custodian is hereby authorized to assign its rights and delegate its duties hereunder to any BNY Affiliate, whenever and on such terms and conditions as it deems necessary or appropriate to perform its services hereunder, without any further notice to Customer. Customer agrees to be bound by all actions taken by a BNY Affiliate pursuant to the preceding sentence to the same extent as if they were taken by Custodian, it being understood and agreed that no such assignment or delegation shall discharge Custodian from its obligations hereunder. Customer each further agrees that any BNY Affiliate providing services pursuant to the foregoing authorization shall be entitled to all of the protections afforded to Custodian under this Agreement (including, without limitation, pursuant to Articles V and VI). If so advised by Custodian, Customer shall provide Written Instructions or other information to a BNY Affiliate rather than to Custodian.

13. Custodian shall have no duties or responsibilities whatsoever except such duties and responsibilities as are specifically set forth in this Agreement, and no covenant or obligation shall be implied against Custodian in connection with this Agreement.

ARTICLE VII TERMINATION

Either party may terminate this Agreement by giving to the other party a notice in writing specifying the date of such termination, which shall be not less than ninety (90) days after the date of such notice. Upon termination hereof, Customer shall pay to Custodian such compensation as may be due to Custodian, and shall likewise reimburse Custodian for other amounts payable or reimbursable to Custodian hereunder. Custodian shall follow such reasonable Written Instructions concerning the transfer of custody of records, U.S. Securities and other items as Customer shall give; provided, that (a) Custodian shall have no liability for shipping and insurance costs associated therewith, and (b) full payment shall have been made to Custodian of its compensation, costs, expenses and other amounts to which it is entitled hereunder. If any U.S. Securities or cash remain in the Account, Custodian may deliver to Customer such U.S. Securities and cash. Upon termination of this Agreement, except as otherwise provided herein, all obligations of the parties to each other hereunder shall cease.

ARTICLE VIII

MISCELLANEOUS

1. Customer agrees to furnish to Custodian a new Certificate of Authorized Persons in the event of any change in the then present Authorized Persons. Until such new Certificate is received, Custodian shall be fully protected in acting upon Written Instructions of such present Authorized Persons.

2. Any notice or other instrument in writing, authorized or required by this Agreement to be given to Custodian, shall be sufficiently given if addressed to Custodian and received by it at its offices at 10161 Centurion Parkway, Jacksonville, Florida 32256 or at such other place as Custodian may from time to time designate in writing.

3. Any notice or other instrument in writing, authorized or required by this Agreement to be given to Customer shall be sufficiently given if addressed to Customer and received by it at its offices at _____ or at such other place as Customer may from time to time designate in writing.

4. Each and every right granted to either party hereunder or under any other document delivered hereunder or in connection herewith, or allowed it by law or equity, shall be cumulative and may be exercised from time to time. No failure on the part of either party to exercise, and no delay in exercising, any right will operate as a waiver thereof, nor will any single or partial exercise by either party of any right preclude any other or future exercise thereof or the exercise of any other right.

5. In case any provision in or obligation under this Agreement shall be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations shall not in any way be affected thereby. This Agreement may not be amended or modified in any manner except by a written agreement executed by both parties. This Agreement shall extend to and shall be binding upon the parties hereto, and their respective successors and assigns; provided however, that this Agreement shall not be assignable by either party without the written consent of the other.

6. (a) This Agreement shall be construed in accordance with the substantive laws of the State of Florida, without regard to conflicts of laws principles thereof. Customer and Custodian hereby consent to the jurisdiction of a state or federal court situated in Florida in connection with any dispute arising hereunder. To the extent that in any jurisdiction Customer may now or hereafter be entitled to claim, for itself or its assets, immunity from suit, execution, attachment (before or after judgment) or other legal process, Customer irrevocably agrees not to claim, and it hereby waives, such immunity. Customer and Custodian each hereby irrevocably waives any and all rights to trial by jury in any legal proceeding arising out of or relating to this Agreement.

(b) The parties hereto agree that the establishment and maintenance of the Account, and all interests, duties and obligations with respect thereto, shall be governed by the laws of the State of Florida.

(c) **For Governmental Entities:** If permissible by law; to the extent that in any jurisdiction Customer may now or hereafter be entitled to claim, for itself or its assets, immunity from suit, execution, attachment (before or after judgment) or other legal process, Customer irrevocably agrees not to claim, and it hereby waives, such immunity

7. The parties hereto agree that in performing hereunder, Custodian is acting solely on behalf of Customer and no contractual or service relationship shall be deemed to be established hereby between Custodian and any other person.

8. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but such counterparts shall, together, constitute only one instrument.

9. Customer hereby acknowledges that Custodian is subject to federal laws, including the Customer Identification Program (CIP) requirements under the USA PATRIOT Act and its implementing regulations, pursuant to which Custodian must obtain, verify and record information that allows Custodian to identify Customer. Accordingly, prior to opening an Account hereunder Custodian will ask Customer to provide certain information including, but not limited to, Customer's name, physical address, tax identification number and other information that will help Custodian to identify and verify Customer's identity such as organizational documents, certificate of good standing, license to do business, or other pertinent identifying information. Customer agrees that Custodian cannot open an Account hereunder unless and until the Custodian verifies the Customer's identity in accordance with its CIP.

IN WITNESS WHEREOF, Customer and Custodian have caused this Agreement to be executed by their respective officers, thereunto duly authorized, as of the day and year first above written.

Customer Name

Authorized Signature

Title

Date

Fiscal Year End _____

Tax Identification No.: ____ - _____

THE BANK OF NEW YORK MELLON TRUST CO. N.A.

Authorized Signature

Title

Date

APPENDIX I
THE BANK OF NEW YORK MELLON
ON-LINE COMMUNICATIONS SYSTEM (THE "SYSTEM")

TERMS AND CONDITIONS

1. License; Use. (a) This Appendix I shall govern Customer's use of the System and any computer software provided by BNY to Customer in connection herewith (collectively, the "Software"). In the event of any conflict between the terms of this Appendix I and the main body of this Agreement with respect to Customer's use of the System, the terms of this Appendix I shall control.

(b) Upon delivery to Customer of Software and/or System access codes, Custodian grants to Customer a personal, nontransferable and nonexclusive license to use the Software and the System solely for the purpose of transmitting Written Instructions, receiving reports, making inquiries or otherwise communicating with Custodian in connection with the Account(s). Customer shall use the Software and the System solely for its own internal and proper business purposes and not in the operation of a service bureau. Except as set forth herein, no license or right of any kind is granted to Customer with respect to the Software or the System. Customer acknowledges that Custodian and its suppliers retain and have title and exclusive proprietary rights to the Software and the System, including any trade secrets or other ideas, concepts, know-how, methodologies, or information incorporated therein and the exclusive rights to any copyrights, trademarks and patents (including registrations and applications for registration of either), or other statutory or legal protections available in respect thereof. Customer further acknowledges that all or a part of the Software or the System may be copyrighted or trademarked (or a registration or claim made therefore) by Custodian or its suppliers. Customer shall not take any action with respect to the Software or the System inconsistent with the foregoing acknowledgments, nor shall Customer attempt to decompile, reverse engineer or modify the Software. Customer may not copy, sell, lease or provide, directly or indirectly, any of the Software or any portion thereof to any other person or entity without Custodian's prior written consent. Customer may not remove any statutory copyright notice or other notice included in the Software or on any media containing the Software. Customer shall reproduce any such notice on any reproduction of the Software and shall add any statutory copyright notice or other notice to the Software or media upon Custodian's request.

(c) If Customer subscribes to any database service provided by Custodian in connection with its use of the System, delivery of such database to Customer shall constitute the granting by Custodian to Customer of a non-exclusive, non-transferable license to use such database for so long as this Appendix I is in effect. It is understood and agreed that any database supplied by Custodian is derived from sources which Custodian believes to be reliable but Custodian does not, and cannot for the fees charged, guarantee or warrant that the data is correct, complete or current. All such databases are provided as an accommodation by Custodian to its customers and are compiled without any independent investigation by Custodian. However, Custodian will endeavor to update and revise each database on a periodic basis as Custodian, in its discretion, deems necessary and appropriate. Customer also agrees that Customer will promptly install all updates and revisions to each database which Custodian provides and that Custodian cannot bear any responsibility whatsoever for Customer's failure to do so. **CUSTODIAN IS NOT RESPONSIBLE FOR ANY RESULTS OBTAINED BY CUSTOMER FROM USE OF DATABASE SERVICES PROVIDED BY CUSTODIAN.**

2. Equipment. Customer shall obtain and maintain at its own cost and expense all equipment and services, including but not limited to communications services, necessary for it to utilize the Software and obtain access to the System, and Custodian shall not be responsible for the reliability or availability of any such equipment or services.

3. Proprietary Information. The Software, any data base and any proprietary data, processes, information and documentation made available to Customer (other than which are or become part of the public domain or are legally required to be made available to the public) (collectively, the "Information"), are the exclusive and confidential property of Custodian or its suppliers. However, for the avoidance of doubt, reports generated by Customer containing information relating to the Account(s) are not deemed to be within the meaning of the term "Information". Customer shall keep the Information confidential by using the same care and discretion that Customer uses with respect to its own confidential property and trade secrets, but not less than reasonable care. Upon termination of the Agreement or the licenses granted herein for any reason, Customer shall return to Custodian any and all copies of the Information which are in its possession or under its control. The provisions of this Section 3 shall not affect the copyright status of any of the Information which may be copyrighted and shall apply to all information whether or not copyrighted.

4. Modifications. Custodian reserves the right to modify the Software from time to time and Customer shall install new releases of the Software as Custodian may direct. Customer agrees not to modify or attempt to modify the Software without Custodian's prior written consent. Customer acknowledges that any modifications to the Software, whether by Customer or Custodian and whether with or without Custodian's consent, shall become the property of Custodian.

5. NO REPRESENTATIONS OR WARRANTIES. CUSTODIAN AND ITS MANUFACTURERS AND SUPPLIERS MAKE NO WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE SOFTWARE, THE SYSTEM, ANY SERVICES OR ANY DATABASE, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. CUSTOMER ACKNOWLEDGES THAT THE SOFTWARE, THE SYSTEM, ANY SERVICES AND ANY DATABASE ARE PROVIDED "AS IS." TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL CUSTODIAN OR ANY SUPPLIER BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT, INDIRECT SPECIAL, OR CONSEQUENTIAL, WHICH CUSTOMER MAY INCUR IN CONNECTION WITH THE SOFTWARE, SERVICES OR ANY DATABASE, EVEN IF CUSTODIAN OR SUCH SUPPLIER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL CUSTODIAN OR ANY SUPPLIER BE LIABLE FOR ACTS OF GOD, MACHINE OR COMPUTER BREAKDOWN OR MALFUNCTION, INTERRUPTION OR MALFUNCTION OF COMMUNICATION FACILITIES, LABOR DIFFICULTIES OR ANY OTHER SIMILAR OR DISSIMILAR CAUSE BEYOND THEIR REASONABLE CONTROL.

6. Security; Reliance; Unauthorized Use. Custodian will establish security procedures to be followed in connection with the System. Customer understands and agrees that the security procedures are intended to determine whether instructions received by Custodian through the System are authorized but are not (unless otherwise specified in writing) intended to detect any errors contained in such instructions. Customer will cause all persons utilizing the Software and the System to treat all applicable user and authorization codes, passwords and authentication keys with the highest degree of care and confidentiality. Custodian is hereby irrevocably authorized to comply with and rely upon on Written Instructions, whether or not authorized, received by it through the System in accordance with the security procedures. Customer acknowledges that it is its sole responsibility to assure that only Authorized Persons use the System and that to the fullest extent permitted by applicable law Custodian shall not be responsible nor liable for any unauthorized use thereof or for any losses sustained by Customer arising from or in connection with the use of the System or Custodian's reliance upon and compliance with Written Instructions received through the System.

7. System Acknowledgments. Custodian shall acknowledge through the System its receipt of each transmission communicated through the System, and in the absence of such acknowledgment Custodian shall not be liable for any failure to act in accordance with such transmission and Customer may not claim that such transmission was received by Custodian.

8. EXPORT RESTRICTIONS. EXPORT OF THE SOFTWARE IS PROHIBITED BY UNITED STATES LAW. CUSTOMER MAY NOT UNDER ANY CIRCUMSTANCES RESELL, DIVERT, TRANSFER, TRANSSHIP OR OTHERWISE DISPOSE OF THE SOFTWARE (IN ANY FORM) IN OR TO ANY OTHER COUNTRY. IF CUSTODIAN DELIVERED THE SOFTWARE TO CUSTOMER OUTSIDE OF THE UNITED STATES, THE SOFTWARE WAS EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW IS PROHIBITED. Customer hereby authorizes Custodian to report its name and address to government agencies to which Custodian is required to provide such information by law.

9. Encryption. Customer acknowledges and agrees that encryption may not be available for every communication through the System, or for all data. Customer agrees that Custodian may deactivate any encryption features at any time, without notice or liability to Customer, for the purpose of maintaining, repairing or troubleshooting the System or the Software.

10. On-Line Inquiry and Modification of Records. In connection with Customer's use of the System, Custodian may, at Customer's request, permit Customer to enter data directly into a Custodian database for the purpose of modifying certain information maintained by Custodian's systems, including, but not limited to, change of address information. To the extent that Customer is granted such access, Customer agrees to indemnify and hold Custodian harmless from all loss, liability, cost, damage and expense (including attorney's fees and expenses) to which Custodian may be subjected or which may be incurred in connection with any claim which may arise out of or as a result of changes to Custodian database records initiated by Customer.

**CERTIFICATE OF AUTHORIZED PERSONS
(Customer - Written Instructions)**

The undersigned hereby certifies that he/she is the duly elected and acting _____ of _____ (the "Corporation"), and further certifies that the following officers or employees of the Corporation have been duly authorized in conformity with the Corporation's Articles of Incorporation and By-Laws to deliver Written Instructions to The Bank of New York Mellon Trust Company, National Association ("BNYM") pursuant to the Custody Agreement between the Corporation and BNYM dated _____, and that the signatures appearing opposite their names are true and correct:

_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature
_____ Name	_____ Title	_____ Signature

This certificate supersedes any certificate of authorized individuals you may currently have on file.

[corporate
seal]

Title:

Date:



THE BANK OF NEW YORK MELLON.

Fee Schedule

Fee Schedule and Disclosure

Upon appointment of The Bank of New York Mellon Trust Company, N.A. as Domestic Custodian,

Irvine Ranch Water District Retirement Trust

Shall be responsible for the payment of the fees, expenses and charges as set forth in this Fee Schedule.

ACCEPTANCE FEE: **Waived**

An acceptance fee to establish relationship with Bank of New York Mellon, such as Know Your Customer (KYC) documentation compliance and Business Customer Profile (BCP) approvals and opening of custody account(s).

ANNUAL ADMINISTRATIVE FEE:

An annual fee covering the duties and responsibilities related to account administration, which may include maintenance of accounts on various systems, collection and payment of principal and interest on assets held in the account. Fees are charged based on the total market value of assets in arrears on a quarterly billing cycle.

Total Market Value of assets:.....**2.0 Basis Points**
 (Minimum Quarterly Fee \$1000)

Waived

INVESTMENT and SECURITY TRANSACTION COMPENSATION

Bank Money Market Sweep/Maintenance Fee*:
 Security purchase, sale or transfer (book entry):
 Not in Bank Assets
 Per account Fee (over 2 accounts \$500 each)

Waived
\$ 25
\$250 each
Waived

ACCOUNT DISBURSEMENT TRANSACTION

Per Wire or Check:

\$15

ON LINE INTERNET ACCESS FEES

INFORM-CONNECT BASIC:

Waived



OUT-OF-POCKET EXPENSES

These are charges outside of normal duties and usually requested by the client. An example would be the Client or Client Money Manager request prior 3 year period of statements to be sent overnight by courier. Additional out-of-pocket expenses may include, but are not limited to, telephone; facsimile; courier; copying; postage; supplies, termination fees and expenses of The Bank of New York Mellon Trust Company, N.A. or The Bank of New York Mellon representative(s) and Counsel for attending special meetings and related cost.

MISCELLANEOUS

Charges for performing extraordinary, global transactions or other services not contemplated at the time of the execution of the transaction or not specifically covered elsewhere in this schedule will be determined by appraisal in amounts commensurate with the services to be provided. Additional information will be provided at such time. Miscellaneous fees may include, but are not necessarily limited to the following, if applicable: Not in Bank assets, auditor confirmation fees, transaction fees to settle unusual transactions or create customized statements/reports.

***MONEY MARKET FUNDS** - With respect to investments in money market mutual funds or other type of money market alternative products, BNYM (or its affiliates) may also receive and retain additional fees not reflected in this agreement from these products for shareholder services or other similar fees described in the Prospectus and set forth in the Authorization and Direction to BNYM to Invest Cash Balances in Money Market Mutual Funds.

FEE CYCLE

Administrative, Transaction and other Non Money Market related fees will be billed quarterly in arrears.

TERMS OF PROPOSAL

Final acceptance of the appointment as account agreement is subject to approval of authorized officers of BNYM and full review and execution of all documentation related hereto. If applicable please note that if this transaction does not close, you will be responsible for paying any expenses incurred, including Counsel Fees. We reserve the right to terminate this offer if we do not enter into final written documents within three months from the date this document is first transmitted to you. Fees may be subject to adjustment during the life of the engagement. These fees are good from the date of client acceptance based on services expressed and contemplated at the time of the proposal.

CUSTOMER NOTICE REQUIRED BY THE USA PATRIOT ACT

To help the US government fight the funding of terrorism and money laundering activities, US Federal law requires all financial institutions to obtain, verify, and record information that identifies each person (whether an individual or organization) for which a relationship is established.



Accepted and Authorized By:

For BNY:

Signature: _____

Date: _____

Name: _____

Title: _____

June 24, 2013

Prepared by: Rob Jacobson/Tanja Fournier

Submitted by: Cheryl Clary

Approved by: Paul Cook

ACTION CALENDAR

LETTER OF CREDIT EXTENSIONS AND REMARKETING REALLOCATION

SUMMARY:

Staff is recommending the Board approve the extension of the letters of credit on the Series 1995 and Series 2008-A bonds with Sumitomo Mitsui Banking Corporation (Sumitomo) until April 2017, the Series 2009-A bonds with US Bank until November 2016, and the Series 2009-B bonds with Bank of America until December 2016, which will result in a \$1.9 million savings in letter of credit (LOC) fees over four years. Additionally, staff recommends the Board approve reallocating the Series 2009-A bonds from Goldman Sachs as remarketing agent to US Bank as remarketing agent, and convert the interest rate mode from weekly interest rate mode to daily reset; and replace JP Morgan with Goldman Sachs as remarketing agent on the 2009-B bonds. The remarketing agent restructuring will result in an average annual remarketing fee savings of \$31,250. Legal counsel has drafted a resolution for adoption by the Board, attached as Exhibit "A", approving the extension of letters of credit, changing remarketing agents, and changing the interest rate mode as described above.

BACKGROUND:

Letter of Credit Extensions:

Over the next year, the District has four letters of credit expiring as follows:

Expiration Date	Bond Issue	Outstanding Par Amount	Letter of Credit Bank	Current Fee
November 2013	Series 2009-A	\$72,500,000	US Bank	0.65%
December 2013	Series 2009-B	\$72,500,000	Bank of America	0.65%
April 2014	Series 1995	\$18,100,000	Sumitomo	0.65%
April 2014	Series 2008-A	\$56,400,000	Sumitomo	0.65%

Recently, staff contacted the above mentioned letter of credit banks and requested proposals to extend the existing letters of credit for three years past the current expiration date, and provide new pricing that would become effective immediately. US Bank and Bank of America both offered three-year extensions with LOC fees reduced from 0.65% to 0.35%, which will result in savings to the District of \$1,185,252 over the next three and one-half year period. Sumitomo responded with a three-year extension from their current expiration in April 2014 (a four-year letter of credit commitment) with a reduction in LOC fees from 0.65% to 0.38%, which will result in savings of \$762,883 over four years. All banks agreed to reduce the pricing effective immediately.

In addition, staff received a proposal from Union Bank for a new letter of credit. Union Bank provided a three-year letter of credit proposal at 0.30%. Although the pricing on the Union Bank

proposal is 0.05% less than Bank of America and US Bank, the cost to change letters of credit, including legal fees, rating agency fees, and new disclosure documentation, is estimated at \$100,000 per issue. The extensions with existing banks will only require amendments to the current letters of credit, estimated at \$12,500 total legal expense for all five issues. The Letter of Credit Cost Reduction Analysis is attached as Exhibit "B".

Remarketing Agent and Interest Rate Mode Changes:

A number of months ago, US Bank approached staff with a request to take over remarketing of the District's 2009-A bond issue that is backed by a US Bank letter of credit. The head of the short term trading desk at US Bank was formally with JP Morgan and has many years of experience remarketing variable rate debt and has also remarketed the District's debt. Staff collected US Bank remarketing rate data going back to March 2012 for comparable bond issues to the District's bond issues that are remarketed by JP Morgan and Goldman Sachs. With short-term interest rates being so compressed, there is no significant difference between the rates being set by any of the remarketing agents. Since March 2012, US Bank has set the daily rates for the Irvine Unified School District bonds an average of 0.04% lower than the SIFMA index, (the variable rate municipal bond index) and US Bank has indicated they expect a larger spread to SIFMA for the District's higher rated bond issues. Additionally, US Bank has offered to remarket the District's U.S Bank issue for a 7 basis point remarketing fee, which is a 5 basis point reduction from JP Morgan, and will result in an average annual savings in remarketing fees of \$31,250. In order to accommodate the transfer of the US Bank letter of credit bond issue to US Bank as remarketing agent, the 2009-A and 2009-B bonds will require reallocation between remarketing agents and will result in eliminating JP Morgan as remarketing agent.

In addition to the reallocation of the 2009-A bonds between remarketing agents, staff is recommending changing the interest rate mode from weekly reset to daily reset on the 2009-A bonds. The reallocation between weekly and daily mode will result in a more equal distribution between the District's daily and weekly debt, resulting in 51.33% of the debt portfolio in daily reset mode, and 48.67% in weekly reset mode. Additionally, as interest rates increase, historically the spread between daily rates and weekly rates has widened. The US Bank remarketing agent prefers to set rates daily as there is more flexibility to aggressively set rates and be able to readjust the rate up or down the next day, rather than the need to wait a week to make adjustments.

A Summary of Proposed Remarketing Agent and Daily/Weekly Reallocation is attached as Exhibit "C".

FISCAL IMPACTS:

Extending the letters of credit on the Series 1995 and Series 2008-A bonds with Sumitomo until April 2017, the Series 2009-A bonds with US Bank until November 2016, and the Series 2009-B bonds with Bank of America until December 2016, will result in a \$1.9 million savings in LOC fees over four years. Replacing JP Morgan with Goldman Sachs as remarketing agent on the 2009-B bonds, and adding US Bank as remarketing agent on the 2009-A bonds will result in average annual remarketing fee savings of \$31,250. The legal fees in connection with the five letters of credit amendments are estimated at \$12,500.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act (CEQA), Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on June 6, 2013.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. __
RESOLUTION OF THE BOARD OF DIRECTORS OF
THE IRVINE RANCH WATER DISTRICT AUTHORIZING
CERTAIN ACTIONS IN CONNECTION WITH EXTENSIONS
OF LETTERS OF CREDIT, CONVERSION OF INTEREST
RATE MODE AND SUBSTITUTION OF REMARKETING AGENTS
(CONSOLIDATED SERIES 1995, CONSOLIDATED
REFUNDING SERIES 2008A, CONSOLIDATED
SERIES 2009A AND CONSOLIDATED SERIES 2009B)

LIST OF EXHIBITS:

Exhibit "A" – Resolution

Exhibit "B" – Letter of Credit Cost Reduction Analysis

Exhibit "C" – Proposed Remarketing Agent and Daily/Weekly Mode Reallocation

Exhibit "A"

RESOLUTION NO. 2013-____

RESOLUTION OF THE BOARD OF DIRECTORS OF
THE IRVINE RANCH WATER DISTRICT AUTHORIZING
CERTAIN ACTIONS IN CONNECTION WITH EXTENSIONS
OF LETTERS OF CREDIT, CONVERSION OF INTEREST
RATE MODE AND SUBSTITUTION OF REMARKETING AGENTS
(CONSOLIDATED SERIES 1995, CONSOLIDATED
REFUNDING SERIES 2008A, CONSOLIDATED
SERIES 2009A AND CONSOLIDATED SERIES 2009B)

WHEREAS, the Irvine Ranch Water District ("IRWD") has issued the following series of its Bonds: Bonds of Irvine Ranch Water District, Consolidated Series 1995 (the "Series 1995 Bonds"), Bonds of Irvine Ranch Water District, Consolidated Refunding Series 2008A (the "Series 2008A Bonds"), Bonds of Irvine Ranch Water District, Consolidated Series 2009A (the "Series 2009A Bonds") and Bonds of Irvine Ranch Water District, Consolidated Series 2009B (the "Series 2009B Bonds" and, together with the Series 1995 Bonds, the Series 2008A Bonds and the Series 2009A Bonds, the "Bonds"); and

WHEREAS, the letters of credit relating to the series of Bonds are scheduled to expire on various dates in 2013 and 2014 as listed in Exhibit A to this resolution, and the Board of Directors of IRWD believes it is in the interest of IRWD to authorize three-year extensions of the letters of credit as provided herein; and

WHEREAS, the Board of Directors desires to authorize the removal and replacement of the remarketing agents for the Series 2009A Bonds and the Series 2009B Bonds, and, in connection with such replacement for the Series 2009A Bonds, to change the interest rate mode for such series from a weekly mode or period to a daily mode or period;

NOW THEREFORE, the Board of Directors of IRWD DOES HEREBY RESOLVE, DETERMINE and ORDER as follows:

Section 1. The Treasurer is hereby authorized and directed to cause extensions of the letters of credit relating to the Bonds, as designated in Exhibit A.

Section 2. With respect to each extension of a letter of credit, the foregoing authorization shall include the approval of an amendment to or extension of the existing reimbursement agreement with the respective letter of credit provider (inclusive of the form of the new letter of credit or provisions extending the existing letter of credit), containing covenants, representations and warranties that are substantially the same as those in the existing reimbursement agreement and letter of credit relating to that series of bonds. The President and Secretary of IRWD are authorized and directed to execute any agreement or amendment so approved. The foregoing authorization to cause the extensions of the letters of credit shall include the approval of the terms of any amendments to remarketing agreements and instruments to be delivered by and to the respective remarketing agents, as may be necessary in connection with such extensions. The President and Secretary of IRWD are authorized and directed to execute any amendments so approved.

Section 3. The Treasurer is hereby authorized and directed to remove and make replacements of the remarketing agents for the Series 2009A Bonds and the Series 2009B Bonds in accordance with Exhibit A. Such authorization shall include any and all of the following: removal; designation and appointment of the successor; and approval of the terms of agreements with the successor and instruments to be delivered by and to the successor. The President and Secretary are authorized and directed to execute any agreements so approved.

Section 4. In connection with the Series 2009A Bonds remarketing agent replacement, the Treasurer is hereby further authorized and directed to convert or cause the conversion of the interest rate mode or period from a weekly mode or period to a daily mode or period.

Section 5. The foregoing authorizations shall further include any and all of the following: preparation and/or approval, execution and delivery of any notices, instruments, disclosure or other documents to be delivered or distributed in conjunction with the authorized actions; and any other actions to implement the authorized actions in

accordance with Exhibit A and the related bond documents.

Section 6. The President, Secretary and each other officer of IRWD hereby is authorized and directed to execute and deliver any and all documents and instruments and to do and cause to be done any and all acts and things necessary or proper for carrying out he transactions contemplated by this resolution.

ADOPTED, SIGNED AND APPROVED this ____ day of _____, 2013.

President
IRVINE RANCH WATER DISTRICT and of the
Board of Directors thereof

Secretary
IRVINE RANCH WATER DISTRICT and of the
Board of Directors thereof

APPROVED AS TO FORM:

BOWIE, ARNESON,
WILES & GIANNONE
Legal Counsel - IRWD

By _____

EXHIBIT A

2013 Variable Rate Debt Restructuring

<u>Issue</u>	<u>Remarketing Agent</u>	<u>Interest Rate Mode</u>	<u>Letter of Credit Bank</u>
Series 1995	--	--	Extend Sumitomo LOC
Refunding Series 2008A	--	--	Extend Sumitomo LOC
Series 2009A	Replace Goldman Sachs with US Bank	Convert from Weekly to Daily	Extend U.S. Bank LOC
Series 2009B	Replace JP Morgan with Goldman Sachs	--	Extend Bank of America LOC

Exhibit "B"

**IRVINE RANCH WATER DISTRICT
LETTER OF CREDIT COST REDUCTION ANALYSIS
May 2013**

L/C Bank	Letter of Credit Banks				
	Sumitomo	Sumitomo	US Bank	Bank of America	
Rating					
Year					
Current LC Expiration	1995 4/15/2014	2008-A Ref. 4/15/2014	2009-A 11/10/2013	2009-B 12/3/2013	Total L/C Fee Savings
Stated Average Principal	\$ 16,675,611	\$ 53,961,699	\$ 68,254,521	\$ 44,626,659	
Proposed Annual Fees	\$ 63,367	\$ 205,054	\$ 238,891	\$ 156,193	
Current Annual Fees	\$ 108,391	\$ 350,751	\$ 443,654	\$ 290,073	
Annual Increase/(Decrease)	\$ (45,024)	\$ (145,697)	\$ (204,764)	\$ (133,880)	
Three and One-Half Year Savings			\$ (716,672)	\$ (468,580)	\$ (1,185,252)
Four Year Savings	\$ (180,097)	\$ (582,786)			\$ (762,883)
Total Savings					\$ (1,948,135)
Current LOC Fee	0.650%	0.650%	0.650%	0.650%	
Proposed LOC Fee	0.380%	0.380%	0.350%	0.350%	
Proposed LOC Term	4 yr (1)	4 yr (1)	3.5 yr (2)	3.5 yr (2)	

(1) Sumitomo has agreed to a three year extension from the current expiration date (4/14/2014), with a reduction of fees immediately. New expiration 4/15/17

(2) US Bank & B of A have agreed to a three year extension from the current expiration date (11/10/2013 and 12/03/2013, respectively), with fee reduction immediately.

Exhibit "C"

Irvine Ranch Water District Proposed Remarketing Agent and Daily/Weekly Mode Reallocation June 2013

Remarketing Agent Reallocation

Current Remarketing Agent Allocation

Bond Issues	Remarketing Agents	Par Amount	Percent
Series 1995	Citigroup	\$18,100,000	5.02%
Series 1991, 2009-A (1) , and 2011-A 1	Goldman	\$135,220,000	37.50%
Series 1989, 1993 & 2008-A	BAML	\$96,500,000	26.76%
Series 2009-B (1)	JP Morgan	\$72,500,000	20.11%
Series 2011-A 2	Morgan Stanley	\$38,280,000	10.62%
	Total	\$360,600,000	100.00%

Proposed Remarketing Agent Allocation

Bond Issues	Remarketing Agents	Par Amount	Percent
Series 1995	CG	\$18,100,000	5.02%
Series 1991, 2009-B (1) & 2011-A 1	Goldman	\$135,220,000	37.50%
Series 1989, 1993 & 2008-A	BAML	\$96,500,000	26.76%
Series 2009-A (1)	US Bank	\$72,500,000	20.11%
Series 2011-A 2	Morgan Stanley	\$38,280,000	10.62%
	Total	\$360,600,000	100.00%

(1) Bonds Transferred to New Remarketing Agent

Remarketing Fee Savings US Bank vs. JP Morgan Series 2009-A Bonds	
Current J.P.Morgan Remarketing Fee	0.12%
Proposed US Bank Remarketing Fee	0.07%
Reduction	-0.05%
Average Four-Year Balance	\$62,500,000
Average Annual Savings	(\$31,250)

Interest Rate Mode Reallocation

Current Weekly vs. Daily Allocation

Bond Issues	Mode	Par Amount	Percent
Series 1989, 1993 & 2009-B	Daily Reset	\$112,600,000	31.23%
Series 1991, 1995, 2008-A, 2009-A(2) & 2011-A1&	Weekly Reset	\$248,000,000	68.77%
	Sub-Total	\$360,600,000	100.00%

Proposed Weekly vs. Daily Allocation

Bond Issues	Mode	Par Amount	Percent
Series 1989, 1993 & 2009-A (2)	Daily Issues	\$185,100,000	51.33%
Series 1991, 1995, 2008-A & 2009-A	Weekly Issues	\$175,500,000	48.67%
	Sub-Total	\$360,600,000	100.00%

(2) Bonds Converted from Weekly Mode to Daily Mode

Principal Balances Includes June Principal Reductions