

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

**September 26, 2016**

**PLEDGE OF ALLEGIANCE**

**CALL TO ORDER**            5:00 p.m., Board Room, District Office  
15600 Sand Canyon Avenue, Irvine, California

**ROLL CALL**                    Directors LaMar, Reinhart, Swan, Withers, and President Matheis

**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.

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**COMMUNICATIONS TO THE BOARD**

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1.    A. Written:

      B. Oral:

2.    ITEMS RECEIVED TOO LATE TO BE AGENDIZED

      Recommendation: Determine the need to discuss and/or take immediate action on item(s).

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**CONSENT CALENDAR**

**Resolution No. 2016-24**

**Items 3-13**

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3.    MINUTES OF REGULAR BOARD MEETINGS

      Recommendation: That the minutes of the September 12, 2016 Regular Board Meeting be approved as presented.

4.    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, Douglas Reinhart, Peer Swan, and John Withers as described.

5.    AUGUST 2016 TREASURY REPORTS

      Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Monthly Interest Rate Swap Summary for August 2016, and Disclosure Report of Reimbursements to Board members and staff; approve the August 2016 Summary of Payroll Ach payments in the total amount of \$1,657,241 and approve the August 2016 accounts payable disbursement summary of warrants 369497 through 370322, workers' compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$23,856,973.

**CONSENT CALENDAR - Continued**

**Resolution No. 2016-24**

**Items 3-13**

6. DYER ROAD WELLFIELD WELL 3 REHABILITATION BUDGET  
ADDITION AND CONTRACT CHANGE ORDER

Recommendation: That the Board authorize the addition of project 4327 to the FY 2016-17 capital budget in the amount of \$1,112,100; and authorize the General Manager to execute Contract Change Order No. 5 with General Pump Company in the amount of \$236,006 for the Dyer Road Wellfield Well 3 Rehabilitation, project 4327.

7. DYER ROAD WELLFIELD WELL 7 AND IRVINE DESALTER PROJECT  
WELL 107 REHABILITATION CONSULTANT SELECTION

Recommendation: That the Board authorize the addition of Irvine Desalter Project Well 107 Rehabilitation, project 7589, in the amount of \$770,000 to the FY 2016-17 capital budget, and authorize the General Manager to execute a Professional Services Agreement in the amount of \$130,500 with Richard C. Slade & Associates for the Dyer Road Wellfield Well 7 Rehabilitation and Irvine Desalter Project Well 107 Rehabilitation, projects 7093 and 7589.

8. SANTIAGO HILLS II CAPITAL FACILITIES

Recommendation: That the Board authorize the addition of the Santiago Hills II, Santiago Canyon Road and Jamboree Road capital improvements, projects 7451, 7452 and 7543 to the FY 2016-17 in the amounts of \$1,126,900, \$259,600 and \$2,228,300, respectively; authorize the General Manager to accept Irvine Community Development Company's design and bid support services contract with Michael Baker International in the amount of \$194,200 for the Santiago Hills II, Santiago Canyon Road and Jamboree Road capital improvements, projects 7451, 7452 and 7543; and authorize the General Manager to accept ICDC's design and bid support services contract with Michael Baker International in the amount of \$258,212 for the Santiago Hills II, recycled water capital improvements, projects 5823 and 7137.

9. REIMBURSEMENT AGREEMENT WITH MERITAGE HOMES FOR THE  
COMMERCENTRE DRIVE PRESSURE REGULATING STATION

Recommendation: That the Board authorize the addition of the Lake Forest Encanto Commercentre Domestic Pressure Regulating Station, project 7513 to the FY 2016-17 capital budget in the amount of \$255,200; authorize the General Manager to execute a Reimbursement Agreement with Meritage Homes of California, Inc. for the construction of the Commercentre Drive Pressure Regulating Station; and authorize the General Manager to accept Meritage Homes of California, Inc's construction change order with Kana Pipeline in the amount of \$134,149 for project 7513.

**CONSENT CALENDAR - Continued**

**Resolution No. 2016-24**

**Items 3-13**

10. MAIN STREET DIVERSION STRUCTURE REHABILITATION CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase for project 5174 in the amount of \$426,300 from \$191,400 to \$617,700; and authorize the General Manager to execute a construction contract with Pacific Hydrotech in the amount of \$341,500 for the Main Street Diversion Structure Rehabilitation, project 5174.

11. CONSULTANT SELECTION FOR SECOND ZONE 1 RESERVOIR

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Tetra Tech in the amount of \$438,000 for engineering services for the Second Zone 1 Reservoir, project 6401

12. FATS, OILS AND GREASE PROGRAM VARIANCE NO. 1

Recommendation: That the Board authorize the General Manager to execute Variance No. 1 with Environmental Engineering and Contracting, Inc. to provide fats, oil and grease (FOG) program services in the amount of \$165,950 for the period November 1, 2016 to October 31, 2017 and for an optional additional year at \$165,950 as may be necessary to transition to the District's new pretreatment and FOG programs.

13. RESOLUTION COMMENDING SUSAN HINMAN FOR HER DEDICATED SERVICE TO MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Recommendation: That the Board adopt a resolution commending Mrs. Susan Hinman for her dedicated service to the Municipal Water District of Orange County.

Reso No. 2016-

**ACTION CALENDAR**

14. LONG-TERM DISABILITY, LIFE, AND DEPENDENT LIFE INSURANCE COVERAGE FOR CALENDAR YEAR 2017

Recommendation: That the Board authorize the cancelation of coverage through Hartford and authorize the General Manager to contract with Reliance Standard for the District's long-term disability, life, accidental death and dismemberment, and dependent life insurance coverage for 2017, 2018, and 2019.

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**ACTION CALENDAR**

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15. FIRST AMENDMENT TO WATER CONSERVATION PARTICIPATION AGREEMENT WITH THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Recommendation: That the Board authorize the General Manager to execute the First Amendment to the Water Conservation Participation Agreement between the Municipal Water District of Orange County and Irvine Ranch Water District.

16. MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES VARIANCES AND BUDGET INCREASE

Recommendation: That the board authorize the General Manager to execute Variance No. 5 with Black & Veatch in the amount of \$3,564,215 for supplemental contract administration, construction phase, and start-up and commissioning services; authorize the General Manager to execute Variance No. 1 with Arcadis, Inc. in the amount of \$1,345,755 for supplemental construction inspection, construction management, and document control system services; authorize the General Manager to execute Variance No. 2 with HDR Engineering, Inc. in the amount of \$496,003 for supplemental construction inspection; authorize the General Manager to execute Variance No. 1 with EI&C Engineering, Inc. in the amount of \$734,600 for supplemental process control system construction management services, start-up testing, and development of process control system operation manuals and associated training presentations; and authorize a budget increase in the amount of \$19,607,600 from \$196,465,500 to \$216,073,100, to the FY 2016-17 capital budget for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, project 4286.

17. INITIAL DISINFECTION FACILITY SODIUM HYPOCHLORITE STORAGE AND FEED SYSTEM DESIGN VARIANCE, CONSULTANT SELECTION, AND CONSTRUCTION AWARD

Recommendation: That the Board authorize the General Manager to execute Variance No. 2 with Carollo Engineers in the amount of \$22,428 for additional final design services; authorize the General Manager to execute a Professional Services Agreement with Carollo Engineers in the amount of \$183,586 for engineering services during construction; and authorize the General Manager to execute a construction contract with Pascal & Ludwig Constructors in the amount of \$1,829,451.20 for the initial disinfection facility sodium hypochlorite storage and feed system project, project 6213.

## **OTHER BUSINESS**

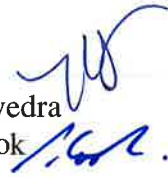
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Pursuant to Government Code Section 54954.2, members of the Board of Directors or staff may ask questions for clarification, make brief announcements, make brief reports on his/her own activities. The Board or a Board member may provide a reference 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.

18. A. General Manager's Report
- B. Directors' Comments
- C. CLOSED SESSION – CONFERENCE INVOLVING A JOINT POWERS AGENCY SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ("SOCWA")) pursuant to Government Code Section 54956.96  
Discussion: under Government Code Section 54956.9, discussion of Potential Litigation in one matter  
IRWD representative on SOCWA Board: Douglas Reinhart  
Additional information listing names of other SOCWA member agencies or titles of representatives to attend closed session: None
- D. OPEN SESSION
- E. Adjourn

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.

September 26, 2016  
Prepared and  
Submitted by: N. Savedra  
Approved by: P. Cook



CONSENT CALENDAR

MINUTES OF BOARD MEETING

SUMMARY:

Provided are the minutes of the September 12, 2016 Regular Board Meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE SEPTEMBER 12, 2016 REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – September 12, 2016 Minutes

# EXHIBIT "A"

## MINUTES OF REGULAR MEETING – SEPTEMBER 12, 2016

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:05 p.m. by President Matheis on September 12, 2016 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: LaMar, Swan, Matheis, Reinhart and Withers.

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Finance Clary, Executive Director of Water Policy Weghorst, Executive Director of Operations Sheilds, Director of Treasury and Risk Management Jacobson, Director of Water Resources Sanchez, Director of Human Resources Roney, Assistant Director of Maintenance Drake, Assistant Director of Recycling Operations Zepeda, Government Relations Officer Compton, Legal Counsel Arneson via teleconference, Assistant Secretary Savedra, Principle Engineer Akiyoshi, Mr. Allen Shinbashi, Mr. Matthew Veeh, Mr. Barkov Meserlian, Mr. Ian Swift, Mr. Alex Munoz, Mr. Jim Reed, Mr. Bruce Newell, and other members of the public and staff.

ORAL COMMUNICATIONS: None

WRITTEN COMMUNICATIONS: None.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED - None

### WORKSHOP

### SEWER COLLECTION SYSTEM MASTER PLAN PROGRESS REPORT

General Manager Cook reported that staff will provide a progress report on IRWD's Sewer Collection System Master Plan (SCSMP) and provide a presentation focusing on the existing system hydraulic analysis and the Criticality Based Replacement Planning analysis.

Mr. Meserlian reported the SCSMP is a way to evaluate our current and future system and identify critical facilities and improvements all in support of capital improvement programs and system management and operations. He said the 2016 SCSMP, updated by AKM Consulting Engineers, quantifies existing and projects future sewage flows for IRWD's service area, develops calibrated hydraulic models for the existing and build-out condition systems, identifies infrastructure needed to support existing and future development, and develops "Criticality-Based Replacement Planning" to prioritize operations and maintenance activities, and repair and replacement projects.

Using a PowerPoint presentation, Mr. Meserlian said that staff presented the sewer monitoring program, sewer generation factor calibration, and the sewer flow projections to the Engineering and Operations Committee on March 15, 2016, and the Board on May 23. Build-out condition flows for Michelson Water Recycling Plant and Los Alisos Water Recycling Plant are anticipated at 32.6 million gallons per day (MGD) and 5.0 MGD, respectively. These projections support the remainder of the SCSMP and a multitude of other IRWD planning and policy level analyses.

He said that AKM Consulting Engineers is developing calibrated hydraulic models of the existing and build-out condition sewer collection systems. These models will be used to analyze the impacts of existing and future development. Multiple iterations of the existing system model have been reviewed since September 2015. The latest version (dated August 2016) of existing system model includes a full analysis of average and peak dry weather conditions. The build-out condition model was received in late August and is currently being reviewed by staff.

Mr. Meserlian said that a comprehensive criticality-based replacement planning tool has been developed utilizing InfoMaster software. InfoMaster combines Closed-Circuit Television (CCTV) data, geographic information system data, and hydraulic model results under a single platform that analyzes the criticality of each sewer facility. The analysis is performed based on agreed-upon criteria, and is customized to IRWD's procedures, operations, and staff input. Several IRWD groups participated in the development of this analysis through various workshops and field visits. The results of the analysis were presented to sewer collections, maintenance, and engineering departments in two workshops held in June.

He said that both the existing and build-out condition hydraulic models are being analyzed to support current operations and future growth. Preliminary recommendations for capital improvement projects are anticipated as a result of the analysis. Additional studies (CCTV, flow monitoring, alignment studies, etc.) will be required to confirm the SCSMP recommended improvements.

#### CONSENT CALENDAR

On MOTION by Withers, seconded and unanimously carried, CONSENT CALENDAR ITEMS 4 THROUGH 7 WERE APPROVED AS FOLLOWS:

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

Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Peer Swan and John Withers as described.

5. MINUTES OF REGULAR BOARD MEETING

Recommendation: That the minutes of the August 22, 2016 Regular Board meeting be approved as presented.

6. 2016 LEGISLATIVE UPDATE

Recommendation: Receive and file.



7. ELECTION OF THE INDEPENDENT SPECIAL DISTRICTS OF ORANGE COUNTY  
2017-2018 OFFICERS

Recommendation: That the Board authorize IRWD to cast its ballot in favor of Mike Scheafer (Costa Mesa Sanitary District) for President, Sandra Jacobs (Santa Margarita Water District) for 1<sup>st</sup> Vice President, Mark Monin (El Toro Water District) for 2<sup>nd</sup> Vice President, and Mary Aileen Matheis (IRWD) for 3rd Vice President, and authorize the District to submit its ballot to ISDOC no later than the September 27, 2016, deadline.

ACTION CALENDAR

SAN JOAQUIN MARSH IMPROVEMENTS CONSTRUCTION AWARD

The San Joaquin Marsh Improvements project will mitigate the effects of reduced San Diego Creek flows due to the Peters Canyon Channel Water Capture and Reuse Pipeline project as well as improve overall San Joaquin Marsh operations.

On Motion by Swan, seconded and unanimously carried, THE BOARD AUTHORIZED A BUDGET INCREASE IN THE AMOUNT OF \$256,200, FROM \$1,776,700 TO \$2,032,900, FOR PROJECT 6168; AND AUTHORIZED THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH OLSSON CONSTRUCTION, INC. IN THE AMOUNT OF \$1,494,775 FOR THE SAN JOAQUIN MARSH IMPROVEMENTS, PROJECT 6168.

PROPOSED POLICY PRINCIPLES ON INCREASING WATER LEVELS IN THE ORANGE COUNTY GROUNDWATER BASIN

General Manager Cook reported that based on the current extreme overdraft conditions in the Orange County Groundwater Basin (Basin), IRWD is proposing policy principles for increasing water levels in the Basin that will provide improved water supply reliability and minimize impacts to the Groundwater Producer Agencies.

Executive Director of Water Policy Weghorst reported that Orange County Water District (OCWD) has recently been managing the Basin inconsistent with its own Groundwater Management Plan and policies. The Basin is now being operated in a sustained state of overdraft, with numerous negative effects being inflicted on the Basin and on the Producers' ability to extract water from the ground. OCWD has indicated that it may be considering taking action to improve overdraft conditions through traditional programs such as increasing untreated water purchases from Metropolitan Water District of Southern California and through an "In-lieu Recharge" program. He said that staff has prepared a Policy Principles Paper on Increasing Water Levels in the Orange County Groundwater Basin for the purpose of initiating the development and implementation of programs and practices through which Orange County Water District, in its role as the manager of the Basin, can increase groundwater levels in the Basin.

Mr. Weghorst said that the OCWD operates the Orange County Groundwater Basin within a narrow band of 0 AF to 500,000 AF of accumulated overdraft to avoid serious adverse impacts to the Groundwater Producer Agencies and the Basin. OCWD has developed plans and policies to prevent the Basin from becoming adversely over-drafted. Currently, OCWD is maintaining the Basin at

approximately 370,000 AF of accumulated overdraft. At this level, the OCWD Groundwater Management Plan (updated in 2015) lists the following adverse impacts as being in effect: Reduced supply of water in storage available for dry years; Increased pumping costs; Increased risk of seawater intrusion; Some production wells inoperable because of low water surface elevations; Increased risk of land subsidence; Potential risk of vertical migration of poor quality water; Need to increase purchases of imported water; and Difficulty in maintaining a stable Basin Pump Percentage (BPP).

He said that these adverse impacts can be mitigated if OCWD took steps to manage the Basin consistent with its own plans and policies. This paper has been prepared to help guide IRWD in advocating for OCWD to take actions to increase groundwater levels and to implement programs that will result in more water stored in the Basin.

Mr. Weghorst said that in 2013, the OCWD Board of Directors adopted a policy to establish a stable BPP with the goal of achieving and maintaining a 75% BPP. At the current accumulated overdraft of approximately 370,000 AF, the OCWD Groundwater Management Plan stipulates that OCWD should be preparing to purchase additional imported water supplies and should lower the BPP. By following its own guidelines, OCWD could substantially improve Basin conditions and reduce accumulated overdraft to within 100,000 AF and 300,000 AF.

He said that in 2015, OCWD signed a purchase order to buy a minimum of 650,000 AF of imported water from the Municipal Water District of Orange County (MWDOC) over a ten-year period. In making this commitment, OCWD intended to use this water to recharge the Basin consistent with the storage management actions described. The Groundwater Management Plan states that the water purchases will help OCWD maintain the BPP and assist with managing the Basin within a safe operating range. OCWD should pursue the purchase of at least the 650,000 AF of imported water during the time the purchase order is in effect. The first step in this process is for OCWD to financially budget for at least 65,000 AF per year of imported water supplies and to augment its Water Reserve Fund. Each year, OCWD should review progress in the reduction of accumulated overdraft and budget for increased purchases above 65,000 AF as may be necessary when accumulated overdraft is forecasted to exceed 150,000 AF. OCWD should set its Replenishment Assessment (RA) to accomplish these purchases and to augment its Water Reserve Fund accordingly. Accumulated overdraft conditions in the Basin will improve quickly if OCWD, in combination with other prudent basin management practices, purchases at least 650,000 AF of imported water over the next 10 years.

Mr. Weghorst said that OCWD should maintain a sufficient Water Reserve Fund to purchase imported water from MWDOC on an annual basis. Accumulating and maintaining appropriate funding levels for future water purchases is critical to the sustainable management of the Basin. Every year OCWD should budget for: The purchase of at least 65,000 AF of imported water through MWDOC; Additional purchases of imported water as may be necessary to improve conditions when accumulated overdraft exceeds 150,000 AF; and Increasing OCWD's Water Reserve Fund to purchase water when it is available. Any funds not used to purchase water in any fiscal year due to Metropolitan Water District of Southern California (MWD) implementing its Water Supply Allocation Plan should be carried over into the next year in the Water Reserve Fund to purchase greater amounts of water. Funds budgeted for the purchase of water from MWDOC should not be re-purposed for other reasons.

Mr. Weghorst said to ensure the ability to recharge a minimum of 65,000 AF of imported water into the Basin every year and to take full advantage of existing imported supplies, OCWD should resume offering a voluntary multi-year in-lieu recharge program that reimburses participating Groundwater Producers to make the cost of participation equivalent to the cost of producing groundwater. Under such a program, the participating Groundwater Producers would use imported water from MWD in-lieu of producing groundwater. This would increase the amount of groundwater available in the Basin. OCWD has historically offered water to the Groundwater Producers through an in-lieu recharge program. OCWD should offer an in-lieu program to interested Producers and budget accordingly.

*Basin Recharge through Other Programs:*

- *Indirect Potable Reuse Programs:* OCWD is considering the implementation of the Final Expansion of the Groundwater Replenishment System (GWRS). This project will result in an additional 30,000 AF per year (AFY) of cost effective water available for recharging the Basin. OCWD also is evaluating participation in the indirect potable reuse project proposed by MWD in partnership with the Sanitation Districts of Los Angeles County. The project would involve the construction of advanced water recycling treatment facilities in Carson and a pipeline to deliver product water to OCWD's recharge basins. The first phase of the project would deliver approximately 65,000 AFY of uninterruptible water to OCWD for recharge in the Basin. IRWD supports OCWD analysis and implementation of the GWRS Final Expansion Project. IRWD also supports OCWD entering into a cost-effective long-term agreement for the purchase of advanced treated water from the Carson project, priced at MWD's melded cost of Tier-1 untreated water rate.
- *In-lieu Exchange Program:* OCWD should pursue other new programs that will increase water levels in the Basin while reducing the adverse effects of accumulated overdraft conditions. One such concept is to implement an In-lieu Exchange Program in a way that is cost neutral to OCWD while benefitting the Producers. Under such a program, interested Groundwater Producers could voluntarily purchase Tier-1 treated water from MWD in-lieu of pumping groundwater. The reduction in pumping by the participating agencies would result in additional water being stored in the Basin. The Producer agencies that participate in this program would receive credits for the stored water in exchange for the reduced pumping. Producer agencies participating in the program would also pre-pay OCWD the RA at the time the In-lieu exchange occurs, thereby compensating OCWD for the resulting lost sale of water. The credits would allow the participating agencies to recover the stored water in the future, having already pre-paid the RA. Through the In-Lieu Exchange Program, Producer agencies would choose to invest in storing water that can be recovered at a later date, while also avoiding future increases in the RA. Under such an exchange program, OCWD would be cost-neutral.
- *Green Acres Project Supply Source:* IRWD is interested in pursuing discussions with OCWD to establish a program whereby IRWD could provide a high-quality and reliable supply of water to OCWD's Green Acres Project throughout the year. This would subsequently increase the amount of water available to OCWD for treatment in the GWRS and subsequent recharge into the Basin.

- *Seawater Desalination Programs:* IRWD's support for projects that propose to use desalinated seawater for recharge in the Basin (either directly or through in-lieu methods) should be provided only when consistent with IRWD's Policy Position on Desalination Projects.

Mr. Weghorst said that based on the background information provided, the following principles define IRWD's policy for supporting methods to increase the amount of water available within the Orange County Groundwater Basin:

1. OCWD should follow its own policies and Groundwater Management Plan for advanced overdraft conditions by reducing the BPP and taking the necessary steps to purchase additional imported supplies from MWD;
2. Every year, OCWD should adjust its purchases of imported water and the BPP accordingly as may be necessary to improve conditions when accumulated overdraft exceeds -150,000 AF while maintaining a Basin operating range of between 100,000 AF and 300,000 AF of accumulated overdraft;
3. OCWD should follow through on its commitment to MWDOC to purchase at least the 650,000 AF of imported water over the next 10 years. As a first step in this process, OCWD should financially budget for at least 65,000 AFY of imported water supplies, increased purchases above 65,000 AF as may be necessary when accumulated overdraft is forecasted to exceed -150,000 AF, and to augment its Water Reserve Fund. OCWD should then set the Replenishment Assessment accordingly;
4. Any funds budgeted by OCWD for imported water purchases that are not used in any fiscal year due to unavailability of water should be dedicated within OCWD's Water Reserve Fund for use in future years when additional import water is available and should not be re-purposed for some other use;
5. OCWD should resume offering a voluntary multi-year in-lieu recharge program where Groundwater Producers could use treated imported water from MWD in-lieu of pumping groundwater. The program should be implemented whereby participating Groundwater Producers pay a net cost equivalent to the cost of producing groundwater;
6. OCWD should implement creative new programs that would increase water levels in the Basin while reducing the adverse impacts of accumulated overdraft conditions. Once such concept would be to implement a voluntary in-lieu exchange program that is cost neutral to OCWD;
7. IRWD supports OCWD evaluation and cost-effective implementation of the GWRS Final Expansion which will increase recharge and reduce accumulated overdraft in the Basin;
8. IRWD supports OCWD pursuing participation in MWD's proposed indirect potable reuse project at Carson through a cost effective long-term agreement for the purchase of advanced treated recycled water from the project at MWD's melded cost of Tier-1 untreated water;
9. IRWD is interested in partnering with OCWD in developing a program through which water from the IRWD recycled water system can be provided to OCWD as a source for the Green Acres Project, thereby increasing available supplies for GWRS for recharge purposes; and
10. IRWD's support for projects that propose to use desalinated seawater for recharge in the Basin (either directly or through in-lieu methods) may be provided subject to consistency

with IRWD's Policy Position on Desalination Projects and demonstration that the project will not result in adverse impacts to IRWD or the Basin.

On further discussion, it was suggested by Director Reinhart that staff and the Board incorporate their recommendations to the Policy Principles Paper for discussion at the WRP Committee. Director Swan amended that suggestion and requested this item be brought back to the OCWD Ad Hoc Committee for further discussion. On Motion by Swan, and seconded THE BOARD AGREED TO BRING BACK THE POLICY PRINCIPLES PAPER ON INCREASING WATER LEVELS IN THE ORANGE COUNTY GROUNDWATER BASIN TO THE OCWD AD HOC COMMITTEE.

### GENERAL MANAGER'S REPORT

General Manager Cook reported on the emergency pipe break at Turtle Ridge Drive which was resolved a few ago but he said that it's the District purchasing policy direction that he report out at this Board meeting that the emergency contract with G.M. Sager of \$162,792 was awarded and completed. He said that this was our first job with G.M. Sanger and that the job went really well.

Mr. Cook reported that Executive Director Clary was notified today from Fitch Rating Agency that the District received a AAA rating by Fitch on its upcoming General Obligation bonds. He said that the District was still waiting to hear from Standard & Poor Rating Agency.

### DIRECTORS' COMMENTS

Director LaMar reported that he along with Directors Swan and Withers attended the Orange County Taxpayers Association Roses and Radishes Awards event. He also attended a WACO meeting and said he will attend the 20<sup>th</sup> Anniversary of the Orange County Central and Costal NCCP/HCP on Thursday.

Director Swan reported that he attended the Urban Water Institute's annual conference, Newport Chamber meeting, a Santa Ana Watershed meeting, a WACO Meeting and MWDOC/MWD meeting.

Director Reinhart reported he attended a WACO Meeting and a MWDOC Planning meeting.

Director Matheis reported that she attended an El Toro Restoration Advisory Board meeting and a memorial for former Orange County Supervisor Marian Bergeson.

### CLOSED SESSION

President Matheis said that the following Closed Session would be held this evening:

CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL RELATIVE TO EXISTING LITIGATION - Government Code Section 54956.9(d)(1) IRWD v. OCWD (Case No.30-2016-00858584-CU-WM-CJC).

CLOSED SESSION CONFERENCE RELATIVE TO PUBLIC EMPLOYEE APPOINTMENT-  
Pursuant to Government Code Section 54957(b)  
Title: Legal Counsel

OPEN SESSION

Following the Closed Session, the meeting was reconvened with Directors Matheis, LaMar, Reinhart Swan, and Withers present. No action was reported.

ADJOURNMENT

There being no further business, President Matheis adjourned the meeting.

APPROVED and SIGNED this 12th day of September 2016.

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President, IRVINE RANCH WATER DISTRICT

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Assistant Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

\_\_\_\_\_  
Legal Counsel - Bowie, Arneson, Wiles & Giannone

September 26, 2016  
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

9/21/16 ACWA Federal Affairs Committee Meeting, Sacramento, CA  
9/27/16 ACWA Ag Advisory Group Committee Meeting, Sacramento, CA  
9/28/16 Irvine Ranch Conservancy Fire Partnership Event  
9/29-30/16 ACWA Board Meeting, Sacramento, CA

Mary Aileen Matheis

8/04/16 OC Chamber of Government Affairs Meeting  
9/22/16 Monthly Discussion of District Activities w/General Manager Paul Cook  
9/29/16 ISDOC Quarterly Meeting

Douglas Reinhart

9/22/16 Monthly Discussion of District Activities w/General Manager Paul Cook

Peer Swan

9/14/16 OCWD Water Issues Committee Meeting  
9/14/16 OCWA Annual Pipe Tapping Competition  
9/20/16 WACO Planning Committee Meeting

John Withers

9/29/16 ISDOC Quarterly Meeting

RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE MEETINGS AND EVENTS FOR STEVEN LAMAR, PEER SWAN AND JOHN WITHERS AS DESCRIBED.

LIST OF EXHIBITS:

None

September 26, 2016

Prepared by: Jennifer Davis/Tanja Fournier

Submitted by: Robert Jacobson/Cheryl Clary

Approved by: Paul Cook

## CONSENT CALENDAR

### AUGUST 2016 TREASURY REPORTS

#### SUMMARY:

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

- A. The Investment Summary Report for August 2016. This Investment Summary Report is in conformity with the 2016 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 August 31, 2016, as outlined in Exhibit "B".
- C. The Summary of Payroll ACH payments in the total amount of \$1,657,241, as outlined in Exhibit "C".
- D. The August 31, 2016 Disbursement Summary of warrants 369497 through 370322, wire transfers, Workers' Compensation distributions, payroll withholding distributions, and voided checks in the total amount of \$23,856,973 as outlined in Exhibit "D".
- E. The Disclosure Report of Reimbursements to Board Members and Staff for August 2016, detailing payments or reimbursements for individual charges of \$100.00 or more per transaction, as outlined in Exhibit "E".

#### FISCAL IMPACTS:

As of August 31, 2016, the book value of the investment portfolio was \$214,434,129, with an 0.85% rate of return and a market value of \$214,487,567. Based on the District's June 30, 2016 quarterly real estate investment rate of return of 13.92%, the weighted average return for the fixed income and real estate investments was 4.14%. Net proceeds of approximately \$100 million from the District's recent 2016 COPs issuance were received on September 1, 2016 and will be reflected on next month's report.

As of August 31, 2016, the total notional amount of the interest rate swap portfolio was \$130 million of fixed payer swaps. Cash accrual in August from all swaps was negative \$628,535.

Payroll ACH payments totaled \$1,657,241, and wire transfers, all other ACH payments, and checks issued for debt service, accounts payable, payroll, and water purchases for August totaled \$23,856,973.



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, THE MONTHLY INTEREST RATE SWAP SUMMARY FOR AUGUST 2016, AND DISCLOSURE REPORT OF REIMBURSEMENTS TO BOARD MEMBERS AND STAFF; APPROVE THE AUGUST 2016 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$1,657,241 AND APPROVE THE AUGUST 2016 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 369497 THROUGH 370322, WORKERS' COMPENSATION DISTRIBUTIONS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$23,856,973.

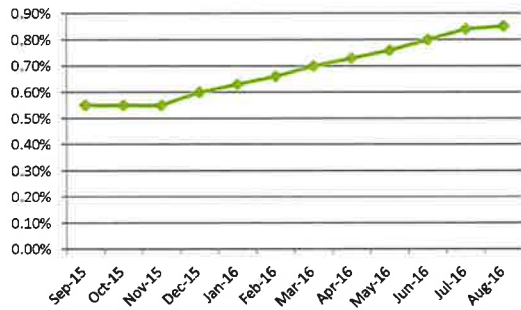
LIST OF EXHIBITS:

- 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
- Exhibit "E" – Disclosure of Reimbursements to Board Members and Staff

# Exhibit "A"

## Irvine Ranch Water District Investment Portfolio Summary August 2016

**Monthly Fixed Income Yield**



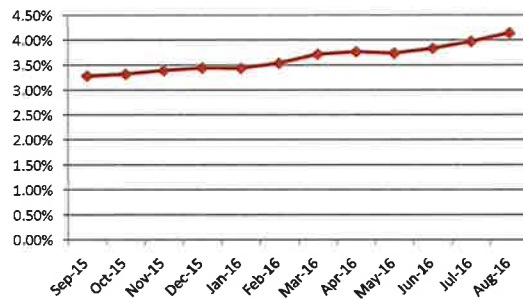
**Portfolio Distribution**



**Investment Summary**

Type	PAR	Book Value	Market Value
Agency Note	120,000,000	120,124,504	120,136,670
LAIF	62,000,000	62,000,000	62,038,516
Collateral Deposit	13,784,644	13,784,644	13,784,644
Agency Discount Note	10,000,000	9,962,893	9,965,650
Direct Muni	8,562,088	8,562,088	8,562,088
<b>Grand Total</b>	<b>214,346,731</b>	<b>214,434,129</b>	<b>214,487,567</b>

**Weighted Average Return  
Including Real Estate Portfolio**



**Maturity Distribution**



**Top Issuers**

Issuer	PAR	% Portfolio
State of California Treasury - LAIF	62,000,000	28.93%
Fed Home Loan Mortgage Corp	39,000,000	18.19%
Fed Home Loan Bank	36,000,000	16.80%
Fed Natl Mortgage Assoc	35,000,000	16.33%
Fed Farm Credit Bank	15,000,000	7.00%
Citi-Group Collateral	8,884,644	4.14%
ETWD	8,562,088	3.99%
Fed Ag Mortgage Corp	5,000,000	2.33%
Merrill Lynch Collateral	4,900,000	2.29%

IRVINE RANCH WATER DISTRICT  
INVESTMENT SUMMARY REPORT

08/31/16

SETTLMT *	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	YTFC	ORIGINAL COST	CARRY VALUE	MARKET VALUE <sup>(1)</sup> 8/31/2016	UNREALIZED <sup>(2)</sup> GAIN/(LOSS)
08/19/16			09/01/16		LAIF	State of California Tsy.	\$62,000,000		0.580%		\$62,000,000.00	\$62,000,000.00	62,038,515.76	38,515.76
10/19/15	N/A	N/A	09/28/16	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	10,000,000	1.250%	0.342%		10,085,280.00	10,007,351.72	10,006,700.00	(651.72)
06/15/15	N/A	N/A	10/13/16	NR	FAMCA - Note	Fed Ag Mortgage Corp	5,000,000	0.970%	0.578%		5,025,900.00	5,002,238.27	5,003,550.00	1,311.73
09/21/15	N/A	N/A	12/09/16	Aaa/AA+/AAA	FHLB - Note	Fed Home Loan Bank	5,000,000	1.625%	0.532%		5,066,150.00	5,014,716.52	5,016,500.00	1,783.48
10/08/15	N/A	N/A	01/30/17	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.250%	0.492%		5,049,445.00	5,015,554.57	5,015,700.00	145.43
09/21/15	N/A	N/A	02/22/17	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	0.875%	0.570%		5,021,500.00	5,007,194.23	5,008,400.00	1,205.77
06/15/15	N/A	N/A	03/30/17	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.625%	0.727%		4,990,950.00	4,997,094.04	5,002,850.00	5,755.96
06/16/16	N/A	N/A	04/21/17	NR	FNMA - Discount Note	Fed Natl Mortgage Assoc	5,000,000	0.530%	0.539%		4,977,254.15	4,982,922.21	4,983,900.00	977.79
06/16/16	N/A	N/A	04/27/17	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.125%	0.607%		5,022,271.95	5,016,827.70	5,017,100.00	272.30
06/16/16	N/A	N/A	05/12/17	NR	FNMA - Discount Note	Fed Natl Mortgage Assoc	5,000,000	0.570%	0.580%		4,973,875.00	4,979,970.83	4,981,750.00	1,779.17
08/27/15	N/A	N/A	05/30/17	NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.625%	0.642%		4,998,500.00	4,999,366.82	5,000,450.00	1,083.18
06/16/16	N/A	N/A	06/30/17	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.800%	0.614%		5,009,614.00	5,007,660.76	5,006,250.00	(1,410.76)
11/05/15	N/A	N/A	08/28/17	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	0.750%	0.800%		4,995,500.00	4,997,546.07	5,002,900.00	5,353.93
09/16/15	N/A	N/A	09/15/17	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	0.900%	0.915%	0.960%	4,998,500.00	4,999,221.23	5,012,350.00	13,128.77
09/29/15	Continues after	03/28/16	09/28/17	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.810%	0.815%		4,999,500.00	4,999,731.51	4,997,350.00	(2,381.51)
12/18/15	Continues after	12/13/13	12/12/17	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.820%	1.132%		4,969,500.00	4,980,353.79	4,997,450.00	17,096.21
04/22/16	N/A	N/A	01/29/18	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	4,000,000	0.850%	0.856%		3,999,600.00	3,999,681.61	4,002,320.00	2,638.39
03/01/16	Quarterly	05/26/16	02/26/18	NR/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.050%	1.050%		5,000,000.00	5,000,000.00	5,002,350.00	2,350.00
03/23/16	N/A	N/A	03/23/18	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.100%	0.908%		5,019,000.00	5,014,783.56	5,016,050.00	1,266.44
04/07/16	N/A	N/A	04/09/18	NA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	0.750%	0.790%		4,996,000.00	4,996,803.28	4,990,600.00	(6,203.28)
05/16/16	N/A	N/A	05/16/18	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	0.750%	0.801%		4,995,000.00	4,995,739.73	4,990,500.00	(5,239.73)
05/13/16	N/A	N/A	05/21/18	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	0.875%	0.768%		5,010,700.00	5,009,090.65	5,003,650.00	(5,440.65)
05/24/16	N/A	N/A	06/08/18	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	11,000,000	1.250%	0.995%		11,056,540.00	11,048,950.74	11,064,350.00	15,399.26
06/29/16	One Time	12/29/16	06/29/18	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	10,000,000	1.000%	0.679%		10,016,000.00	10,014,597.26	9,979,300.00	(35,297.26)
05/30/15	N/A	N/A	04/30/36	NR	Direct Muni	ETWD	8,562,088	4.570%	4.570%	4.570%	8,562,087.84	8,562,087.84	8,562,087.84	
<b>SUB-TOTAL</b>							<b>\$200,562,088</b>				<b>\$200,838,667.94</b>	<b>\$200,649,484.94</b>	<b>\$200,702,923.60</b>	<b>\$53,438.66</b>
<b>RESTRICTED CASH (Swap Collateral Deposits)<sup>(5)</sup></b>														
03/01/16					Collateral Deposit	Citi-Group	\$8,884,644		0.400%		\$8,884,643.57	\$8,884,643.57	8,884,643.57	
02/28/16					Collateral Deposit	Merrill Lynch	\$4,900,000		0.400%		\$4,900,000.00	\$4,900,000.00	4,900,000.00	
<b>SUB-TOTAL</b>							<b>\$13,784,644</b>				<b>\$13,784,643.57</b>	<b>\$13,784,643.57</b>	<b>\$13,784,643.57</b>	
<b>TOTAL INVESTMENTS</b>							<b>\$214,346,731</b>				<b>\$214,623,311.51</b>	<b>\$214,434,128.51</b>	<b>\$214,487,567.17</b>	
			August		Petty Cash Ck Balance	Bank of America					3,400.00 1,095,252.69			
											<b>\$215,721,964.20</b>			

<sup>(1)</sup> 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.

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

<sup>(3)</sup> Real estate rate of return is based on most recent quarter end return

<sup>(4)</sup> Calculation excludes Direct Muni - ETWD

<sup>(5)</sup> Swap Collateral Deposits assumes 6 month maturity; dependent on interest rate changes

This Investment Summary Report is in conformity with the 2016 Investment Policy and provides sufficient liquidity to meet the next six months estimated expenditures.

\*S - Step up

Outstanding Variable Rate Debt	\$316,200,000
Net Outstanding Variable Rate Debt (Less \$130 million fixed-payer swaps)	\$186,200,000
Investment Balance:	\$215,721,964
Investment to Variable Rate Debt Ratio:	116%
Portfolio - Average Number of Days To Maturity <sup>(4)</sup>	244

	Investment Portfolio	Real Estate <sup>(3)</sup> Portfolio	Weighted Avg. Return
August	0.85%	13.92%	4.14%
July	0.84%	13.92%	3.99%
Change	0.01%		

IRVINE RANCH WATER DISTRICT  
SUMMARY OF MATURITIES

08/31/16

DATE	TOTAL	%	LAIF	Agency Notes	Agency Discount Notes	Collateral Deposit	Direct Muni
08/16	\$62,000,000	28.93%	\$62,000,000				
09/16	10,000,000	4.67%		10,000,000			
10/16	5,000,000	2.33%		5,000,000			
11/16							
12/16	5,000,000	2.33%		5,000,000			
01/17	18,784,644	8.76%		5,000,000		\$13,784,644	
02/17	5,000,000	2.33%		5,000,000			
03/17	5,000,000	2.33%		5,000,000			
04/17	10,000,000	4.67%		5,000,000	5,000,000		
05/17	10,000,000	4.67%		5,000,000	5,000,000		
06/17	5,000,000	2.33%		5,000,000			
07/17							
<b>SUB-TOTAL</b>	<b>\$135,784,644</b>	<b>63.35%</b>	<b>\$62,000,000</b>	<b>\$50,000,000</b>	<b>\$10,000,000</b>	<b>\$13,784,644</b>	
<b>13 Months - 3 YEARS</b>							
08/01/17-10/31/17	15,000,000	7.00%		15,000,000			
11/01/17 - 1/31/2018	9,000,000	4.20%		9,000,000			
02/01/18 - 4/30/2018	15,000,000	7.00%		15,000,000			
05/01/2018-07/30/2018	31,000,000	14.46%		31,000,000			
08/01/2018-10/31/18	-						
	-						
04/30/2036	8,562,088	3.99%					8,562,088
<b>TOTALS</b>	<b>\$214,346,731</b>	<b>100.00%</b>	<b>\$62,000,000</b>	<b>\$120,000,000</b>	<b>\$10,000,000</b>	<b>\$13,784,644</b>	<b>\$8,562,088</b>

% OF PORTFOLIO

28.93%

55.98%

4.67%

6.43%

3.99%

Irvine Ranch Water District  
 Summary of Real Estate  
 6/30/2016

	<u>ACQUISITION DATE</u>	<u>PROPERTY TYPE</u>	<u>OWNERSHIP INTEREST</u>	<u>ORIGINAL COST</u>	<u>RATE OF RETURN QUARTER ENDED Jun-16</u>
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 43,550,810	18.45%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	8.60%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,739,845	8.64%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,630,577	3.56%
Sand Canyon Professional Center	Jul-12	Medical Office	Fee Simple	\$ 8,648,594	8.62%
				<u>\$ 72,569,826</u>	<u>13.92%</u>

**IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT  
 INVESTMENT ACTIVITY  
 Aug-16**

**MATURITIES/SALES/CALLS**

**PURCHASES**

DATE	SECURITY TYPE	PAR	YIELD	Settlement Date	Maturity Date	SECURITY TYPE	PAR	YIELD TO MATURITY
8/25/2016	FHLMC - Note	\$10,000,000	0.47%					

IRVINE RANCH WATER DISTRICT  
INTEREST RATE SWAP MONTHLY SUMMARY REPORT - DETAIL  
August 31, 2016

LIBOR Avg %	Prior Mo. 0.48%	Current Mo. 0.51%	12-Mo Avg 0.38%
-------------	--------------------	----------------------	--------------------

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	(Since 6/06)			Current Mark to Market	Notional Difference	
								Prior Month	Current Month	Fiscal YTD			Cumulative Cash Flow
<b>Fixed Payer Swaps - By Effective Date</b>													
6/4/2006	6/4/2019	2.8	ML	\$ 20,000,000	FXP	LIBOR	6.200%	(92,400)	(101,250)	\$ (193,650)	\$ (10,020,826)	\$ 16,565,893	\$ (3,434,107)
6/4/2006	6/4/2019	2.8	CG	20,000,000	FXP	LIBOR	6.200%	(92,400)	(101,250)	(193,650)	(10,020,826)	16,565,893	(3,434,107)
6/17/2006	6/17/2019	2.8	CG	30,000,000	FXP	LIBOR	6.140%	(137,213)	(150,171)	(287,384)	(14,865,835)	25,677,070	(4,322,930)
3/10/2007	3/10/2029	12.5	ML	30,000,000	FXP	LIBOR	5.687%	(126,191)	(137,932)	(264,123)	(13,379,152)	13,674,753	(16,325,247)
3/10/2007	3/10/2029	12.5	CG	30,000,000	FXP	LIBOR	5.687%	(126,191)	(137,932)	(264,123)	(13,379,152)	13,674,753	(16,325,247)
Totals/Weighted Avgs				7.3	\$ 130,000,000		5.949%	\$ (574,395)	\$ (628,535)	\$ (1,202,930)	\$ (61,665,792)	\$ 86,158,362	\$ (43,841,638)
Total Current Year Active Swaps					\$ 130,000,000			\$ (574,395)	\$ (628,535)	\$ (1,202,930)	\$ (61,665,792)	\$ 86,158,362	\$ (43,841,638)

Current Fiscal Year Terminated Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date		Counter Party	Notional Amt	Type	Base Index	Fixed Rate	(Since 6/06)			Current Mark to Market	Notional Difference	
								Prior Month	Current Month	Fiscal YTD			Cumulative Cash Flow
Total Current Year Terminated Swaps								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Current Fiscal Year - Total Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date		Counter Party	Notional Amt	Type	Base Index	Fixed Rate	(Since 6/06)			Current Mark to Market	Notional Difference	
								Prior Month	Current Month	Fiscal YTD			Cumulative Cash Flow
Total Current Year Active & Terminated Swaps					\$ 130,000,000			\$ (574,395)	\$ (628,535)	\$ (1,202,930)	\$ (61,665,792)	\$ 86,158,362	\$ (43,841,638)

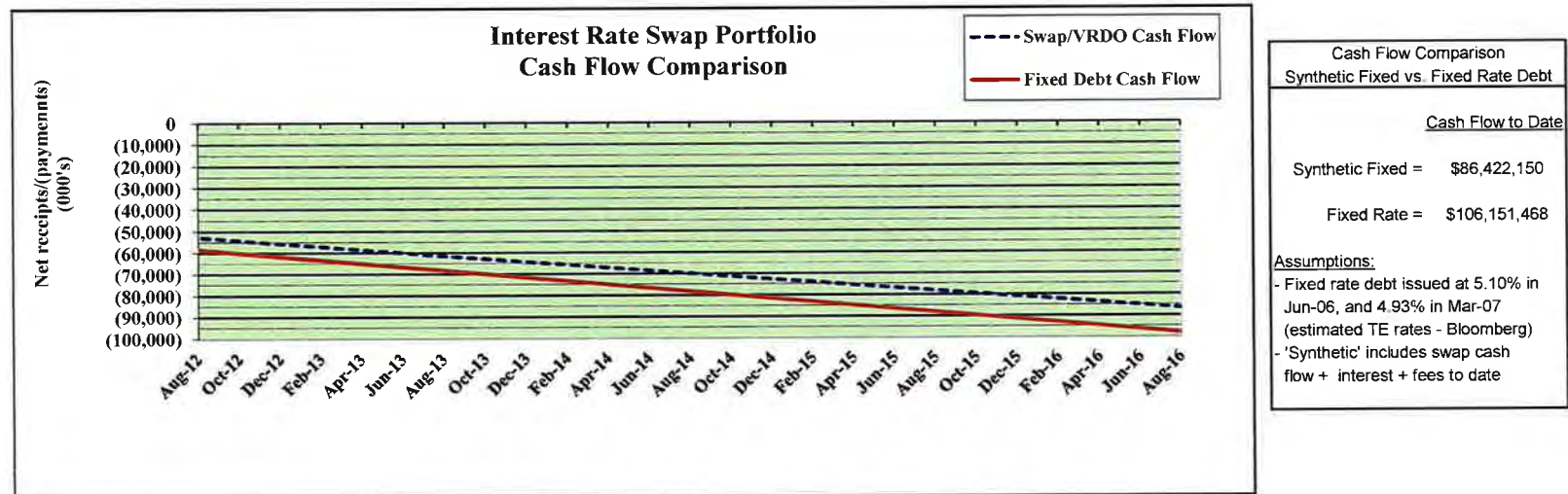


Exhibit "C"

**MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS**

**August  
2016**

	AMOUNT	VENDOR	PURPOSE
8/5/2016	811,233.94	BANK OF AMERICA	ACH Payments for Payroll
8/19/2016	846,006.62	BANK OF AMERICA	ACH Payments for Payroll
	<u><b>\$1,657,240.56</b></u>		



Exhibit "D"

>

IRWD Ledger

Void Payment Register

Report Date: 02-SEP-2016 14:08

Include Zero Amount Payments: Yes  
 Display Payee Address: No

Period From: 01-AUG-16

Page: 1  
 To: 31-AUG-16  
 Date: Void Date

Bank: Bank of America N.A.

Branch: Los Angeles

Account: Checking AP and PR

Bank Account Currency: USD

Payment Currency: USD ( US Dollar )

Payment Number	Date	Payee Name	Site	Address	Payment Amount	Void Date
Payment Document: IRWD CHECK						
367622	19-MAY-16	MASSEY, STACY	PAY		74.24	25-AUG-16
367644	19-MAY-16	PARK WEST LANDSCAPE	PAY		30.87	31-AUG-16
367720	26-MAY-16	ANTHONY N. LARSEN	26852 VIA GRAND		400.00	29-AUG-16
368514	23-JUN-16	HUNG, MIRANDA	PAY		178.79	05-AUG-16
368897	30-JUN-16	SUN, TAO	PAY		777.72	02-AUG-16
369430	28-JUL-16	OEN, MEGA INTAN	PAY		21.04	04-AUG-16
369627	04-AUG-16	SHI, QI	PAY		36.02	22-AUG-16

Payment Document Subtotal 1,518.68

Bank Account Subtotal 1,518.68

Report Total 1,518.68

Voids

Report Count: 7

\*\*\* End of Report \*\*\*

>

IRWD Ledger Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02  
 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								
369497		02-AUG-16	JCI JONES CHEMICALS INC	CINCINNATI	3,012.03	05-AUG-16	3,012.03	Reconciled
369498		04-AUG-16	McNulty, Amy K (Amy)		79.59	22-AUG-16	79.59	Reconciled
369499		04-AUG-16	Shih, Han-Tsuei (Josephine)		329.02	08-AUG-16	329.02	Reconciled
369500		04-AUG-16	Navarro, Hector R		159.71	08-AUG-16	159.71	Reconciled
369501		04-AUG-16	Pan, Jenny W (Jenny)		86.13	08-AUG-16	86.13	Reconciled
369502		04-AUG-16	Nash, Joel		160.26	10-AUG-16	160.26	Reconciled
369503		04-AUG-16	ADS LLC		1,936.50	08-AUG-16	1,936.50	Reconciled
369504		04-AUG-16	ALSTON & BIRD LLP		68,405.24	11-AUG-16	68,405.24	Reconciled
369505		04-AUG-16	AM CONSERVATION GROUP, INC.		1,270.59	08-AUG-16	1,270.59	Reconciled
369506		04-AUG-16	AMERICAN GEOTECHNICAL, INC.		1,035.00	08-AUG-16	1,035.00	Reconciled
369507		04-AUG-16	ANDREWS, ERICA		29.10			Negotiable
369508		04-AUG-16	AQUA-METRIC SALES COMPANY		31,553.07	10-AUG-16	31,553.07	Reconciled
369509		04-AUG-16	ARORA, MONA		1,323.44			Negotiable
369510		04-AUG-16	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA		32,437.16	15-AUG-16	32,437.16	Reconciled
369511		04-AUG-16	AT&T		19.30	10-AUG-16	19.30	Reconciled
369512		04-AUG-16	AUSTIN HARDWOODS, INC		59.69	10-AUG-16	59.69	Reconciled
369513		04-AUG-16	AUTOZONE PARTS, INC.		463.84	09-AUG-16	463.84	Reconciled
369514		04-AUG-16	BASTANI, MIKE		69.32	16-AUG-16	69.32	Reconciled
369515		04-AUG-16	BATTERY SPECIALTIES		4,162.40	12-AUG-16	4,162.40	Reconciled
369516		04-AUG-16	BEE EMERGENCY RESPONSE TEAM		175.00	10-AUG-16	175.00	Reconciled
369517		04-AUG-16	BEST MANAGEMENT CONSTRUCTION, INC		798.77	08-AUG-16	798.77	Reconciled
369518		04-AUG-16	BIOMAGIC INC		11,802.23	10-AUG-16	11,802.23	Reconciled
369519		04-AUG-16	BLAIRS TOWING INC		215.00	10-AUG-16	215.00	Reconciled
369520		04-AUG-16	BOYD & ASSOCIATES		93.00	09-AUG-16	93.00	Reconciled
369521		04-AUG-16	C WELLS PIPELINE MATERIALS INC		5,294.16	12-AUG-16	5,294.16	Reconciled
369522		04-AUG-16	CALIFORNIA BARRICADE RENTAL, INC.		11,285.00	12-AUG-16	11,285.00	Reconciled
369523		04-AUG-16	CALIFORNIA MUNICIPAL STATISTICS INC		25.00			Negotiable

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 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								
369524		04-AUG-16	CALIFORNIA URBAN WATER CONSERVATION COUNCIL		6,985.04	10-AUG-16	6,985.04	Reconciled
369525		04-AUG-16	CANON SOLUTIONS AMERICA, INC.		1,291.54	08-AUG-16	1,291.54	Reconciled
369526		04-AUG-16	CDW GOVERNMENT LLC		156.07	10-AUG-16	156.07	Reconciled
369527		04-AUG-16	CHEM TECH INTERNATIONAL INC		14,361.60	15-AUG-16	14,361.60	Reconciled
369528		04-AUG-16	CHOI, WOCHOL		9.92	17-AUG-16	9.92	Reconciled
369529		04-AUG-16	CHURLEY, PAGE		196.47	22-AUG-16	196.47	Reconciled
369530		04-AUG-16	CLEARINGHOUSE		477.67	09-AUG-16	477.67	Reconciled
369531		04-AUG-16	CNC ENGINEERING		10,395.66	11-AUG-16	10,395.66	Reconciled
369532		04-AUG-16	COX COMMUNICATIONS, INC.		3,482.23	08-AUG-16	3,482.23	Reconciled
369533		04-AUG-16	CSAC EXCESS INSURANCE AUTHORITY		368,742.00	08-AUG-16	368,742.00	Reconciled
369534		04-AUG-16	CUELLAR, HECTOR J		1,311.86	19-AUG-16	1,311.86	Reconciled
369535		04-AUG-16	CUMMINS PACIFIC, LLC		450.00	08-AUG-16	450.00	Reconciled
369536		04-AUG-16	DANGELO CO		7,293.24	08-AUG-16	7,293.24	Reconciled
369537		04-AUG-16	DINH, ANH		150.18	10-AUG-16	150.18	Reconciled
369538		04-AUG-16	DMS FACILITY SERVICES, INC.		16,516.93	11-AUG-16	16,516.93	Reconciled

369539	04-AUG-16	DOMAN, KARA	34.46	15-AUG-16	34.46	Reconciled
369540	04-AUG-16	E.J. MEYER COMPANY, INC.	950.00	09-AUG-16	950.00	Reconciled
369541	04-AUG-16	E.J. MEYER COMPANY, INC.	18,050.00	11-AUG-16	18,050.00	Reconciled
369542	04-AUG-16	ECO SERVICES LLC	5,439.02	08-AUG-16	5,439.02	Reconciled
369543	04-AUG-16	EHS INTERNATIONAL, INC	1,180.00	08-AUG-16	1,180.00	Reconciled
369544	04-AUG-16	EL&C ENGINEERING INC	46,160.00	17-AUG-16	46,160.00	Reconciled
369545	04-AUG-16	EMD MILLIPORE CORPORATION	1,487.52	09-AUG-16	1,487.52	Reconciled
369546	04-AUG-16	ENVIRONMENTAL SCIENCE ASSOCIATES	1,266.85	09-AUG-16	1,266.85	Reconciled
369547	04-AUG-16	EXECUTIVE LIGHTING & ELECTRIC	596.54	09-AUG-16	596.54	Reconciled
369548	04-AUG-16	FARRELL & ASSOCIATES	589.96	11-AUG-16	589.96	Reconciled
369549	04-AUG-16	FERGUSON ENTERPRISES, INC.	243.00	08-AUG-16	243.00	Reconciled
369550	04-AUG-16	FERNANDO M SANCHEZ	160.00	08-AUG-16	160.00	Reconciled

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 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 3  
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 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								
369551		04-AUG-16	FESSENDEN, CLAUDIA		1,119.71	10-AUG-16	1,119.71	Reconciled
369552		04-AUG-16	FIDELITY SECURITY LIFE INSURANCE COMPANY		6,519.78	09-AUG-16	6,519.78	Reconciled
369553		04-AUG-16	FIRE EXTINGUISHING SAFETY & SERVICE		10,097.09	12-AUG-16	10,097.09	Reconciled
369554		04-AUG-16	FISHER SCIENTIFIC COMPANY LLC		8,639.65	08-AUG-16	8,639.65	Reconciled
369555		04-AUG-16	FOWLER, ANN		519.13	12-AUG-16	519.13	Reconciled
369556		04-AUG-16	GCI CONSTRUCTION, INC.		18,200.00	10-AUG-16	18,200.00	Reconciled
369557		04-AUG-16	GM SAGER CONSTRUCTION CO, INC.		17,200.00	10-AUG-16	17,200.00	Reconciled
369558		04-AUG-16	GRAINGER		4,342.98	08-AUG-16	4,342.98	Reconciled
369559		04-AUG-16	GRAYBAR ELECTRIC COMPANY		721.66	08-AUG-16	721.66	Reconciled
369560		04-AUG-16	GUERRERO, GUILLERMO		39.73	16-AUG-16	39.73	Reconciled
369561		04-AUG-16	HAAKER EQUIPMENT COMPANY		1,147.62	09-AUG-16	1,147.62	Reconciled
369562		04-AUG-16	HACH COMPANY		1,535.89	09-AUG-16	1,535.89	Reconciled
369563		04-AUG-16	HACKETT PRINTING		415.14	12-AUG-16	415.14	Reconciled
369564		04-AUG-16	HARRINGTON INDUSTRIAL PLASTICS LLC		7,825.68	08-AUG-16	7,825.68	Reconciled
369565		04-AUG-16	HARRIS & ASSOCIATES, INC.		1,540.00	08-AUG-16	1,540.00	Reconciled
369566		04-AUG-16	HEIDARI, BABAK		798.21	05-AUG-16	798.21	Reconciled
369567		04-AUG-16	HELPMATES STAFFING SERVICES		9,660.57	05-AUG-16	9,660.57	Reconciled
369568		04-AUG-16	HILL BROTHERS CHEMICAL COMPANY		6,044.60	10-AUG-16	6,044.60	Reconciled
369569		04-AUG-16	HOME DEPOT USA INC		820.50	15-AUG-16	820.50	Reconciled
369570		04-AUG-16	HYM ENGINEERING, INC.		139.55	16-AUG-16	139.55	Reconciled
369571		04-AUG-16	IBM CORPORATION		4,075.00	09-AUG-16	4,075.00	Reconciled
369572		04-AUG-16	IRVINE CHAMBER OF COMMERCE		1,250.00	08-AUG-16	1,250.00	Reconciled
369573		04-AUG-16	IRVINE PIPE & SUPPLY INC		705.41	05-AUG-16	705.41	Reconciled
369574		04-AUG-16	IRWD EMPLOYEE ASSOCIATION		840.00	05-AUG-16	840.00	Reconciled
369575		04-AUG-16	IRWD-PETTY CASH CUSTODIAN		1,589.42	05-AUG-16	1,589.42	Reconciled

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 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 4  
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 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								
369576		04-AUG-16	J.G. TUCKER & SON INC		387.40	08-AUG-16	387.40	Reconciled
369577		04-AUG-16	JALILI, EHSAN		758.40	15-AUG-16	758.40	Reconciled
369578		04-AUG-16	JOHN MICHAEL COVAS		195.80	16-AUG-16	195.80	Reconciled
369579		04-AUG-16	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES		2,925.00	08-AUG-16	2,925.00	Reconciled

369580	04-AUG-16	KIMBALL MIDWEST	3,041.95	09-AUG-16	3,041.95	Reconciled
369581	04-AUG-16	KLEINFELDER, INC.	11,342.00	11-AUG-16	11,342.00	Reconciled
369582	04-AUG-16	KPMG LLP	286,155.00	12-AUG-16	286,155.00	Reconciled
369583	04-AUG-16	LANDCARE HOLDINGS, INC.	3,070.00	08-AUG-16	3,070.00	Reconciled
369584	04-AUG-16	LIAO, HUANJIE	339.94	08-AUG-16	339.94	Reconciled
369585	04-AUG-16	LIBERTY, BARBARA	56.41	29-AUG-16	56.41	Reconciled
369586	04-AUG-16	LIN, YUCHI	11.29			Negotiable
369587	04-AUG-16	LITTLE, KURT	45.82			Negotiable
369588	04-AUG-16	LIU, ISABELLA	480.37	08-AUG-16	480.37	Reconciled
369589	04-AUG-16	LU'S LIGHTHOUSE, INC.	779.18	09-AUG-16	779.18	Reconciled
369590	04-AUG-16	MARINA LANDSCAPE MAINTENANCE, INC.	6,152.82	15-AUG-16	6,152.82	Reconciled
369591	04-AUG-16	MC MASTER CARR SUPPLY CO	3,920.71	08-AUG-16	3,920.71	Reconciled
369592	04-AUG-16	MOTION INDUSTRIES INC	2,442.18	08-AUG-16	2,442.18	Reconciled
369593	04-AUG-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	1,114,786.65	09-AUG-16	1,114,786.65	Reconciled
369594	04-AUG-16	NATARAJAN, ABENAV	17.09	08-AUG-16	17.09	Reconciled
369595	04-AUG-16	NATIONAL READY MIXED CONCRETE CO.	691.80	08-AUG-16	691.80	Reconciled
369596	04-AUG-16	NATURALWELL, LLC	990.00	05-AUG-16	990.00	Reconciled
369597	04-AUG-16	NATURES IMAGE INC	1,122.76	05-AUG-16	1,122.76	Reconciled
369598	04-AUG-16	NCH CORPORATION	673.04	08-AUG-16	673.04	Reconciled
369599	04-AUG-16	NCH CORPORATION	1,053.35	10-AUG-16	1,053.35	Reconciled
369600	04-AUG-16	NORTHERN SAFETY CO INC	90.25	08-AUG-16	90.25	Reconciled
369601	04-AUG-16	O'HAREN GOVERNMENT RELATIONS	6,500.00	09-AUG-16	6,500.00	Reconciled
369602	04-AUG-16	OLIN CORPORATION	17,012.78	10-AUG-16	17,012.78	Reconciled
369603	04-AUG-16	ONESOURCE	591.95	08-AUG-16	591.95	Reconciled
369604	04-AUG-16	DISTRIBUTORS LLC ORANGE COUNTY AUTO PARTS CO	1,316.09	05-AUG-16	1,316.09	Reconciled

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 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 5  
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 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								
369605		04-AUG-16	ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT		2,309.94	19-AUG-16	2,309.94	Reconciled
369606		04-AUG-16	ORANGE COUNTY SHERIFF'S OFFICE		62.50	12-AUG-16	62.50	Reconciled
369607		04-AUG-16	OUTSOURCE TECHNICAL LLC		14,787.00	09-AUG-16	14,787.00	Reconciled
369608		04-AUG-16	PACIFIC COAST BOLT CORP		1,358.90	09-AUG-16	1,358.90	Reconciled
369609		04-AUG-16	PACIFIC PARTS & CONTROLS INC		3,486.92	08-AUG-16	3,486.92	Reconciled
369610		04-AUG-16	PAULUS ENGINEERING INC		94,642.73	15-AUG-16	94,642.73	Reconciled
369611		04-AUG-16	PERS LONG TERM CARE		920.04	11-AUG-16	920.04	Reconciled
369612		04-AUG-16	PHAN, HENRY		32.87			Negotiable
369613		04-AUG-16	PINNACLE CUSTOM HOMES, INC.		770.08	09-AUG-16	770.08	Reconciled
369614		04-AUG-16	PRAXAIR DISTRIBUTION INC		1,772.92	10-AUG-16	1,772.92	Reconciled
369615		04-AUG-16	PRUDENTIAL OVERALL SUPPLY		5,109.93	05-AUG-16	5,109.93	Reconciled
369616		04-AUG-16	PURE EFFECT INC		5,955.00	09-AUG-16	5,955.00	Reconciled
369617		04-AUG-16	QUINCY COMPRESSOR LLC		4,619.85	11-AUG-16	4,619.85	Reconciled
369618		04-AUG-16	RAM AIR ENGINEERING INC		7,376.06	05-AUG-16	7,376.06	Reconciled
369619		04-AUG-16	REED, JAMES D		1,930.00	12-AUG-16	1,930.00	Reconciled
369620		04-AUG-16	REFRIGERATION SUPPLIES DISTRIBUTOR		244.01	05-AUG-16	244.01	Reconciled
369621		04-AUG-16	RINCON TRUCK CENTER INC.		1,002.15	05-AUG-16	1,002.15	Reconciled
369622		04-AUG-16	ROBERT HALF INTERNATIONAL, INC.		3,151.93	08-AUG-16	3,151.93	Reconciled
369623		04-AUG-16	SANTA MARGARITA FORD		2,457.94	08-AUG-16	2,457.94	Reconciled
369624		04-AUG-16	SANTIAGO AQUEDUCT COMMISSION		64,463.00	08-AUG-16	64,463.00	Reconciled
369625		04-AUG-16	SERRANO WATER DISTRICT		30,705.08	16-AUG-16	30,705.08	Reconciled
369626		04-AUG-16	SHAMROCK SUPPLY CO INC		4,324.95	08-AUG-16	4,324.95	Reconciled
369627		04-AUG-16	SHI, QI		36.02			Voided

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 Payment Type: All

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 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								
369628		04-AUG-16	SITEONE LANDSCAPE SUPPLY, LLC		52.38	09-AUG-16	52.38	Reconciled
369629		04-AUG-16	SOUTH COAST WATER CO.		151.68	08-AUG-16	151.68	Reconciled
369630		04-AUG-16	SOUTH COAST WATER DISTRICT		2,456.00	08-AUG-16	2,456.00	Reconciled
369631		04-AUG-16	SOUTH ORANGE COUNTY WASTEWATER AUTHORITY		72,316.00	11-AUG-16	72,316.00	Reconciled
369632		04-AUG-16	SOUTHERN CALIFORNIA EDISON COMPANY		658,373.83	05-AUG-16	658,373.83	Reconciled
369633		04-AUG-16	SOUTHERN CALIFORNIA SECURITY CENTERS, INC.		302.40	17-AUG-16	302.40	Reconciled
369634		04-AUG-16	SOUTHERN CALIFORNIA WATER COMMITTEE INC		5,000.00	08-AUG-16	5,000.00	Reconciled
369635		04-AUG-16	SPARKLETTS		541.95	11-AUG-16	541.95	Reconciled
369636		04-AUG-16	STACIE MESSNER AND ANTHONY FAJARDO		44.42	08-AUG-16	44.42	Reconciled
369637		04-AUG-16	STANDARD REGISTER, INC.		2,197.15	09-AUG-16	2,197.15	Reconciled
369638		04-AUG-16	STANTEC CONSULTING SERVICES INC.		3,105.00	08-AUG-16	3,105.00	Reconciled
369639		04-AUG-16	STRADLING YOCCA CARLSON & RAUTH		756.00	05-AUG-16	756.00	Reconciled
369640		04-AUG-16	SUEZ TREATMENT SOLUTIONS INC.		800.49	22-AUG-16	800.49	Reconciled
369641		04-AUG-16	SYN-TECH SYSTEMS INC		24,339.38	11-AUG-16	24,339.38	Reconciled
369642		04-AUG-16	TESTAMERICA LABORATORIES, INC		317.10	09-AUG-16	317.10	Reconciled
369643		04-AUG-16	TETRA TECH, INC		15,287.11	11-AUG-16	15,287.11	Reconciled
369644		04-AUG-16	THE FURMAN GROUP, INC.		12,600.00	11-AUG-16	12,600.00	Reconciled
369645		04-AUG-16	THE GAS COMPANY		19.59	09-AUG-16	19.59	Reconciled
369646		04-AUG-16	THERMO ELECTRON NORTH AMERICA LLC		13,970.00	11-AUG-16	13,970.00	Reconciled
369647		04-AUG-16	THOMPSON INDUSTRIAL SUPPLY		152.88	08-AUG-16	152.88	Reconciled
369648		04-AUG-16	THYSSENKRUPP ELEVATOR CORPORATION		179.64	08-AUG-16	179.64	Reconciled
369649		04-AUG-16	TRAILS4ALL		750.00	08-AUG-16	750.00	Reconciled
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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 )			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								
369650		04-AUG-16	TRANSCAT, INC		1,119.74	08-AUG-16	1,119.74	Reconciled
369651		04-AUG-16	TRIPAC MARKETING INC		557.25	09-AUG-16	557.25	Reconciled
369652		04-AUG-16	TROPICAL PLAZA NURSERY INC		28,584.95	10-AUG-16	28,584.95	Reconciled
369653		04-AUG-16	TRUCPARCO		1,387.86	15-AUG-16	1,387.86	Reconciled
369654		04-AUG-16	U.P. LANDSCAPE MAINTENANCE, INC.		883.55			Negotiable
369655		04-AUG-16	UNITED PARCEL SERVICE INC		135.77	16-AUG-16	135.77	Reconciled
369656		04-AUG-16	UNITED SITE SERVICES OF CALIFORNIA INC		478.25	10-AUG-16	478.25	Reconciled
369657		04-AUG-16	UNITED WATER WORKS, INC.		235.44	05-AUG-16	235.44	Reconciled
369658		04-AUG-16	VERIZON WIRELESS SERVICES LLC		6,014.81	09-AUG-16	6,014.81	Reconciled
369659		04-AUG-16	VIBRALIGN INC.		27,569.89	11-AUG-16	27,569.89	Reconciled
369660		04-AUG-16	VRIDE INC		10,713.33	11-AUG-16	10,713.33	Reconciled
369661		04-AUG-16	WALTERS WHOLESALE ELECTRIC		12,260.59	11-AUG-16	12,260.59	Reconciled
369662		04-AUG-16	WASTE MANAGEMENT OF ORANGE COUNTY		1,849.59	08-AUG-16	1,849.59	Reconciled
369663		04-AUG-16	WAXIE'S ENTERPRISES, INC		1,458.17	08-AUG-16	1,458.17	Reconciled
369664		04-AUG-16	WECK LABORATORIES INC		664.00	08-AUG-16	664.00	Reconciled
369665		04-AUG-16	WEST COAST SAFETY		1,044.25	15-AUG-16	1,044.25	Reconciled

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
369666	04-AUG-16		SUPPLY INC WEST COAST SAND & GRAVEL INC.		568.31	09-AUG-16	568.31	Reconciled
369667	04-AUG-16		WESTERN AV		4,872.16	08-AUG-16	4,872.16	Reconciled
369668	04-AUG-16		WU, XIAO		19.12	18-AUG-16	19.12	Reconciled
369669	04-AUG-16		ZHA, QINYU		39.55	08-AUG-16	39.55	Reconciled
369670	04-AUG-16		FISERV CITY INDUSTRY		16,378.24	05-AUG-16	16,378.24	Reconciled
369671	04-AUG-16		DRAEGER SAFETY INCLOCKBOX 13369		1,408.18	09-AUG-16	1,408.18	Reconciled
369672	05-AUG-16		UNITED STATES POSTIRVINE OFFICE		50,000.00	09-AUG-16	50,000.00	Reconciled
369673	05-AUG-16		W.M. LYLES CO FRESNO		702,581.15	11-AUG-16	702,581.15	Reconciled
369674	05-AUG-16		W.M. LYLES CO ESCR 35110399		36,977.95	10-AUG-16	36,977.95	Reconciled
369675	05-AUG-16		JCI JONES CINCINNATI CHEMICALS INC		4,404.40	09-AUG-16	4,404.40	Reconciled

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 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								
369676	08-AUG-16		AT&T	CAROL STREAM 1	5,328.18	15-AUG-16	5,328.18	Reconciled
369677	11-AUG-16		Spangenberg, Carl W (Carl)		297.00	16-AUG-16	297.00	Reconciled
369678	11-AUG-16		Perez, Cesar (Cesar)		265.00	15-AUG-16	265.00	Reconciled
369679	11-AUG-16		McBride, Damien J		171.00	15-AUG-16	171.00	Reconciled
369680	11-AUG-16		Doyle, Earl W		200.00	22-AUG-16	200.00	Reconciled
369681	11-AUG-16		Garcia, Jose		105.00	15-AUG-16	105.00	Reconciled
369682	11-AUG-16		Stuvick, Lindsey R		916.01	11-AUG-16	916.01	Reconciled
369683	11-AUG-16		Cortez, Malcolm A (Malcolm)		45.36			Negotiable
369684	11-AUG-16		Cano, Marco T (Marco)		120.00	22-AUG-16	120.00	Reconciled
369685	11-AUG-16		Daniel, Matthew (Matthew)		245.00	31-AUG-16	245.00	Reconciled
369686	11-AUG-16		Swan, Peer		420.84	29-AUG-16	420.84	Reconciled
369687	11-AUG-16		LaMar, Steven E		257.64	22-AUG-16	257.64	Reconciled
369688	11-AUG-16		3M COMPANY		1,405.48	15-AUG-16	1,405.48	Reconciled
369689	11-AUG-16		A & Y ASPHALT CONTRACTORS INC		22,802.00	19-AUG-16	22,802.00	Reconciled
369690	11-AUG-16		A&A WIPING CLOTH CO		1,136.16	15-AUG-16	1,136.16	Reconciled
369691	11-AUG-16		A.J. KLEIN, INC. T. DENATALE, B. GOLDNER		980.00	15-AUG-16	980.00	Reconciled
369692	11-AUG-16		ADVANCED AQUATIC TECHNOLOGY, INC.		717.28	15-AUG-16	717.28	Reconciled
369693	11-AUG-16		ADVANCED ELECTRONICS INC		2,234.12	16-AUG-16	2,234.12	Reconciled
369694	11-AUG-16		AIRGAS, INC.		4,357.39	15-AUG-16	4,357.39	Reconciled
369695	11-AUG-16		ALEXANDER'S CONTRACT SERVICES, INC.		111,643.30	17-AUG-16	111,643.30	Reconciled
369696	11-AUG-16		ALLIED ELECTRONICS INC		164.21	18-AUG-16	164.21	Reconciled
369697	11-AUG-16		ALVARADO, ALEX		12.85	22-AUG-16	12.85	Reconciled
369698	11-AUG-16		ALY, TRACY		56.24			Negotiable
369699	11-AUG-16		ANTHEM BLUE CROSS		1,089.40	16-AUG-16	1,089.40	Reconciled
369700	11-AUG-16		ANTHEM BLUE CROSS		415.62	16-AUG-16	415.62	Reconciled
369701	11-AUG-16		APTEAN, INC.		562.50	15-AUG-16	562.50	Reconciled
369702	11-AUG-16		AQUA BEN CORPORATION		27,890.47	18-AUG-16	27,890.47	Reconciled
369703	11-AUG-16		ARCADIS U.S., INC.		72,833.84	19-AUG-16	72,833.84	Reconciled
369704	11-AUG-16		AT&T		53.39	17-AUG-16	53.39	Reconciled
369705	11-AUG-16		AT&T		5,133.03	16-AUG-16	5,133.03	Reconciled

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 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								
369706	11-AUG-16		AT&T		48.51	15-AUG-16	48.51	Reconciled
369707	11-AUG-16		AT&T		1,879.23	16-AUG-16	1,879.23	Reconciled
369708	11-AUG-16		BANK OF AMERICA		22,429.84	17-AUG-16	22,429.84	Reconciled
369709	11-AUG-16		BANK OF NEW YORK MELLON TRUST COMPANY NA		7,500.00	19-AUG-16	7,500.00	Reconciled
369710	11-AUG-16		BARRON, JAY		834.91			Negotiable
369711	11-AUG-16		BECKMAN COULTER INC		1,917.00	16-AUG-16	1,917.00	Reconciled
369712	11-AUG-16		BEST DRILLING AND		2,450.00	15-AUG-16	2,450.00	Reconciled

369713	11-AUG-16	PUMP, INC. BOUDREAU PIPELINE CORPORATION	19,400.00	19-AUG-16	19,400.00	Reconciled
369714	11-AUG-16	BRUCE NEWELL	1,250.00	17-AUG-16	1,250.00	Reconciled
369715	11-AUG-16	BRUCE, JAMES	63.09			Negotiable
369716	11-AUG-16	CALIFORNIA BARRICADE RENTAL, INC.	455.00	12-AUG-16	455.00	Reconciled
369717	11-AUG-16	CALIFORNIA MUNICIPAL STATISTICS INC	5,575.00			Negotiable
369718	11-AUG-16	CANON FINANCIAL SERVICES, INC	1,315.44	15-AUG-16	1,315.44	Reconciled
369719	11-AUG-16	CANON SOLUTIONS AMERICA, INC.	70.00	15-AUG-16	70.00	Reconciled
369720	11-AUG-16	CDW GOVERNMENT LLC	3,273.22	18-AUG-16	3,273.22	Reconciled
369721	11-AUG-16	CHEM TECH INTERNATIONAL INC	17,957.70	29-AUG-16	17,957.70	Reconciled
369722	11-AUG-16	CHEN, MINGFENG	9.23			Negotiable
369723	11-AUG-16	CITIGROUP GLOBAL MARKETS INC.	7,197.08	15-AUG-16	7,197.08	Reconciled
369724	11-AUG-16	CITY OF TUSTIN	225.37	16-AUG-16	225.37	Reconciled
369725	11-AUG-16	COMPUTER AIDED SOLUTIONS, LLC	34.10	16-AUG-16	34.10	Reconciled
369726	11-AUG-16	CORNELL COURT APTS CR & R	48.05	29-AUG-16	48.05	Reconciled
369727	11-AUG-16	INCORPORATED CREDENTIAL CHECK CORPORATION	146.34	18-AUG-16	146.34	Reconciled
369728	11-AUG-16	CURT PRINGLE AND ASSOCIATES	77.50	15-AUG-16	77.50	Reconciled
369729	11-AUG-16	DBB ENGINEERING, INC.	6,000.00	16-AUG-16	6,000.00	Reconciled
369730	11-AUG-16	DEACON CORP.	540.00	12-AUG-16	540.00	Reconciled
369731	11-AUG-16	DEE JASPAR & ASSOCIATES, INC.	1,014.72	15-AUG-16	1,014.72	Reconciled
369732	11-AUG-16		61,437.28	18-AUG-16	61,437.28	Reconciled

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 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 10  
 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								
369733	11-AUG-16	DEPAULA, LUIZ			131.15			Negotiable
369734	11-AUG-16	DEX MEDIA INC.			82.25	18-AUG-16	82.25	Reconciled
369735	11-AUG-16	DUDLEY RIDGE WATER DISTRICT			11,686.48	19-AUG-16	11,686.48	Reconciled
369736	11-AUG-16	EAST ORANGE COUNTY WATER DISTRICT			3,906.08	19-AUG-16	3,906.08	Reconciled
369737	11-AUG-16	EHS INTERNATIONAL, INC			1,620.00	15-AUG-16	1,620.00	Reconciled
369738	11-AUG-16	ELITE EQUIPMENT, INC.			21,473.49	18-AUG-16	21,473.49	Reconciled
369739	11-AUG-16	EMPLOYEE BENEFIT SPECIALIST, INC			1,110.00	16-AUG-16	1,110.00	Reconciled
369740	11-AUG-16	ENTERPRISE INFORMATION SYSTEMS, INC.			2,500.00			Negotiable
369741	11-AUG-16	ENVIRONMENTAL RESOURCE ASSOCIATES			361.46	16-AUG-16	361.46	Reconciled
369742	11-AUG-16	ESPARZA, EMILY			6.30	23-AUG-16	6.30	Reconciled
369743	11-AUG-16	EVANS-HYDRO INC			18,912.01	24-AUG-16	18,912.01	Reconciled
369744	11-AUG-16	FARRELL & ASSOCIATES			258.67	16-AUG-16	258.67	Reconciled
369745	11-AUG-16	FEDEX			973.87	17-AUG-16	973.87	Reconciled
369746	11-AUG-16	FERGUSON ENTERPRISES, INC.			826.20	15-AUG-16	826.20	Reconciled
369747	11-AUG-16	FERNANDO M SANCHEZ			320.00	15-AUG-16	320.00	Reconciled
369748	11-AUG-16	FIRE EXTINGUISHING SAFETY & SERVICE			577.27	18-AUG-16	577.27	Reconciled
369749	11-AUG-16	FIRST AMERICAN TITLE CO.			1,000.00	22-AUG-16	1,000.00	Reconciled
369750	11-AUG-16	FISHER SCIENTIFIC COMPANY LLC			13,707.85	17-AUG-16	13,707.85	Reconciled
369751	11-AUG-16	FRANK LA PLACA EXTERMINATING, INC.			175.00	12-AUG-16	175.00	Reconciled
369752	11-AUG-16	FRONTIER CALIFORNIA INC.			959.92	16-AUG-16	959.92	Reconciled
369753	11-AUG-16	GARZA INDUSTRIES, INC			1,295.58	15-AUG-16	1,295.58	Reconciled
369754	11-AUG-16	GHD INC.			40,332.82	22-AUG-16	40,332.82	Reconciled
369755	11-AUG-16	GOLDMAN, SACHS & CO			16,161.20	22-AUG-16	16,161.20	Reconciled
369756	11-AUG-16	GRAINGER			2,700.53	15-AUG-16	2,700.53	Reconciled
369757	11-AUG-16	GREEN, KEVIN J			74.50	25-AUG-16	74.50	Reconciled
369758	11-AUG-16	HACH COMPANY			9,251.64	15-AUG-16	9,251.64	Reconciled
369759	11-AUG-16	HANSA SUITES LLC			1,299.76	19-AUG-16	1,299.76	Reconciled

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 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 11

Bank Account Currency: USD ( US Dollar )  
 Payment Type: All

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								
369760		11-AUG-16	HATHAWAY DINWIDDIE		610.25	26-AUG-16	610.25	Reconciled
369761		11-AUG-16	HDR ENGINEERING INC		13,478.73	19-AUG-16	13,478.73	Reconciled
369762		11-AUG-16	HEALTH SCIENCE ASSOCIATES, INC.		13,375.00	24-AUG-16	13,375.00	Reconciled
369763		11-AUG-16	HELP/SYSTEMS, LLC		13,250.00	18-AUG-16	13,250.00	Reconciled
369764		11-AUG-16	HELPMATES STAFFING SERVICES		13,419.55	17-AUG-16	13,419.55	Reconciled
369765		11-AUG-16	HILL BROTHERS CHEMICAL COMPANY		7,370.90	15-AUG-16	7,370.90	Reconciled
369766		11-AUG-16	HINSILBLON LTD		5,992.00	18-AUG-16	5,992.00	Reconciled
369767		11-AUG-16	HOME DEPOT USA INC		62.68	17-AUG-16	62.68	Reconciled
369768		11-AUG-16	IBM CORPORATION		925.00	15-AUG-16	925.00	Reconciled
369769		11-AUG-16	INDUSTRIAL SHOE CO		6,052.03	17-AUG-16	6,052.03	Reconciled
369770		11-AUG-16	INGERSOLL RAND CO		4,204.06	15-AUG-16	4,204.06	Reconciled
369771		11-AUG-16	INNOVYZE, INC.		15,000.00	17-AUG-16	15,000.00	Reconciled
369772		11-AUG-16	IRVINE COMMUNITY DEVELOPMENT COMPANY LLC		110,541.35	22-AUG-16	110,541.35	Reconciled
369773		11-AUG-16	IRVINE PIPELINE COMPANY INC		748.33	16-AUG-16	748.33	Reconciled
369774		11-AUG-16	JOHN ROBINSON CONSULTING, INC.		21,270.75	22-AUG-16	21,270.75	Reconciled
369775		11-AUG-16	JOHN S. ADAMS & ASSOCIATES, INC.		9,000.00	15-AUG-16	9,000.00	Reconciled
369776		11-AUG-16	JOHNSON, BRUCE		108.00			Negotiable
369777		11-AUG-16	KAYUGA SOLUTION INC		48,495.00	26-AUG-16	48,495.00	Reconciled
369778		11-AUG-16	KHALILI, ELLIE		363.81	25-AUG-16	363.81	Reconciled
369779		11-AUG-16	KIM, JUN-SOO		30.31	26-AUG-16	30.31	Reconciled
369780		11-AUG-16	KLEINFELDER, INC.		5,062.23	15-AUG-16	5,062.23	Reconciled
369781		11-AUG-16	KPMG LLP		171,720.00	22-AUG-16	171,720.00	Reconciled
369782		11-AUG-16	KROTHAPALLI, RAMANA K		305.13	22-AUG-16	305.13	Reconciled
369783		11-AUG-16	L. G. SUPPLY COMPANY		2,808.00	22-AUG-16	2,808.00	Reconciled
369784		11-AUG-16	LANDCARE HOLDINGS, INC.		495.00	15-AUG-16	495.00	Reconciled
369785		11-AUG-16	LOTUS CONSULTING		8,640.00	15-AUG-16	8,640.00	Reconciled
369786		11-AUG-16	MARINA LANDSCAPE MAINTENANCE, INC.		6,952.82	15-AUG-16	6,952.82	Reconciled
369787		11-AUG-16	MATT-CHLOR, INC.		942.65	15-AUG-16	942.65	Reconciled
369788		11-AUG-16	MC MASTER CARR SUPPLY CO		1,005.86	15-AUG-16	1,005.86	Reconciled
369789		11-AUG-16	MEDORA CORPORATION		21,258.00	19-AUG-16	21,258.00	Reconciled
IRWD Ledger Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02								
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								
369790		11-AUG-16	MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED		17,367.08	19-AUG-16	17,367.08	Reconciled
369791		11-AUG-16	MOODY'S INVESTORS SERVICE INC		15,500.00	15-AUG-16	15,500.00	Reconciled
369792		11-AUG-16	MOTION INDUSTRIES INC		2,835.07	15-AUG-16	2,835.07	Reconciled
369793		11-AUG-16	MRO ELECTRIC & SUPPLY CO.		3,796.00	16-AUG-16	3,796.00	Reconciled
369794		11-AUG-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY		10,080.88	17-AUG-16	10,080.88	Reconciled
369795		11-AUG-16	MUTUAL PROPANE		133.45	15-AUG-16	133.45	Reconciled
369796		11-AUG-16	NATIONAL READY MIXED CONCRETE CO.		1,990.60	15-AUG-16	1,990.60	Reconciled
369797		11-AUG-16	NATURES IMAGE INC		198.00	15-AUG-16	198.00	Reconciled
369798		11-AUG-16	NEXLEVEL INFORMATION TECHNOLOGY, INC.		10,762.50	22-AUG-16	10,762.50	Reconciled
369799		11-AUG-16	NORMAN A. OLSSON CONSTRUCTION, INC.		85,887.22	19-AUG-16	85,887.22	Reconciled
369800		11-AUG-16	NOVOA, JULIA		15.91	15-AUG-16	15.91	Reconciled
369801		11-AUG-16	NUMAN, AMAL		7.21			Negotiable
369802		11-AUG-16	OLIN CORPORATION		19,934.98	18-AUG-16	19,934.98	Reconciled
369803		11-AUG-16	OMEGA INDUSTRIAL SUPPLY, INC.		303.74	15-AUG-16	303.74	Reconciled
369804		11-AUG-16	ONESOURCE DISTRIBUTORS LLC		8,854.69	15-AUG-16	8,854.69	Reconciled
369805		11-AUG-16	ORANGE COUNTY FIRE AUTHORITY		414.00	17-AUG-16	414.00	Reconciled



369806	11-AUG-16	ORANGE COUNTY TREASURER	2,900.00	15-AUG-16	2,900.00	Reconciled
369807	11-AUG-16	OTTILO, JOSEPH	12.00	30-AUG-16	12.00	Reconciled
369808	11-AUG-16	PACIFIC PARTS & CONTROLS INC	9,237.44	15-AUG-16	9,237.44	Reconciled
369809	11-AUG-16	PAPER DEPOT DOCUMENT DESTRUCTION LLC	720.00	19-AUG-16	720.00	Reconciled
369810	11-AUG-16	PENHALL COMPANY	800.00	12-AUG-16	800.00	Reconciled
369811	11-AUG-16	PERKINELMER HEALTH SCIENCES INC	37,524.00	19-AUG-16	37,524.00	Reconciled
369812	11-AUG-16	POLLARDWATER.COM	2,306.55	15-AUG-16	2,306.55	Reconciled
369813	11-AUG-16	PRO MOBILE AUTO DETAILING	500.00	15-AUG-16	500.00	Reconciled
369814	11-AUG-16	PROCARE WORK INJURY CENTER	885.00	16-AUG-16	885.00	Reconciled

IRWD Ledger  
BANK: Bank of America N.A. Branch : Los Angeles  
Bank Account Currency: USD ( US Dollar )  
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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
369815		11-AUG-16	PYRO-COMM SYSTEMS INC		373.99	12-AUG-16	373.99	Reconciled
369816		11-AUG-16	QUINCY COMPRESSOR LLC		206.36	19-AUG-16	206.36	Reconciled
369817		11-AUG-16	RAINBOW DISPOSAL CO INC		357.36	18-AUG-16	357.36	Reconciled
369818		11-AUG-16	RAM AIR ENGINEERING INC		12,522.69	19-AUG-16	12,522.69	Reconciled
369819		11-AUG-16	REDGRAVE, VINCENT		8.76	18-AUG-16	8.76	Reconciled
369820		11-AUG-16	RESILIENT COMMUNICATIONS INC.		17,879.40			Negotiable
369821		11-AUG-16	RICHARD C. SLADE & ASSOCIATES LLC		10,437.35	29-AUG-16	10,437.35	Reconciled
369822		11-AUG-16	RINGCLEAR LLC		98.04	16-AUG-16	98.04	Reconciled
369823		11-AUG-16	SAMAAN, PETER		9.12	15-AUG-16	9.12	Reconciled
369824		11-AUG-16	SANDERS PAVING INC		10,987.25	18-AUG-16	10,987.25	Reconciled
369825		11-AUG-16	SANNER, DAVID		712.33	19-AUG-16	712.33	Reconciled
369826		11-AUG-16	SANTA ANA BLUE PRINT		974.20	16-AUG-16	974.20	Reconciled
369827		11-AUG-16	SEAL ANALYTICAL INC		10,290.00	19-AUG-16	10,290.00	Reconciled
369828		11-AUG-16	SHAMROCK SUPPLY CO INC		1,222.71	15-AUG-16	1,222.71	Reconciled
369829		11-AUG-16	SIEMENS INDUSTRY INC		566.49	15-AUG-16	566.49	Reconciled
369830		11-AUG-16	SIGN MART / PLASTIC PLUS		346.36	15-AUG-16	346.36	Reconciled
369831		11-AUG-16	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		5,888.14	18-AUG-16	5,888.14	Reconciled
369832		11-AUG-16	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT		3,504.02	31-AUG-16	3,504.02	Reconciled
369833		11-AUG-16	SOUTH COAST WATER CO.		40.00	18-AUG-16	40.00	Reconciled
369834		11-AUG-16	SOUTHERN CALIFORNIA EDISON COMPANY		8,256.67	15-AUG-16	8,256.67	Reconciled
369835		11-AUG-16	SOUTHERN CALIFORNIA SECURITY CENTERS, INC.		138.60	17-AUG-16	138.60	Reconciled
369836		11-AUG-16	SUN, TAO		719.88	22-AUG-16	719.88	Reconciled
369837		11-AUG-16	SUWANAGORN, SUE		151.21			Negotiable
369838		11-AUG-16	TETRA TECH, INC		1,090.00	15-AUG-16	1,090.00	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-AUG-16 To 31-AUG-16  
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Payment Currency: USD ( US Dollar )  
Display Supplier Address: No

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
369839		11-AUG-16	THE GAS COMPANY		161.71	15-AUG-16	161.71	Reconciled
369840		11-AUG-16	THERMO ELECTRON NORTH AMERICA LLC		3,226.00	15-AUG-16	3,226.00	Reconciled
369841		11-AUG-16	THOMAS HARDER & CO		1,312.50	15-AUG-16	1,312.50	Reconciled
369842		11-AUG-16	TROPICAL PLAZA NURSERY INC		213.00	15-AUG-16	213.00	Reconciled
369843		11-AUG-16	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA		1,042.50	17-AUG-16	1,042.50	Reconciled
369844		11-AUG-16	UNITED PARCEL		178.34	15-AUG-16	178.34	Reconciled

369845	11-AUG-16	SERVICE INC US BANK NAT'L ASSOC N.DAKOTA	1,750.00	17-AUG-16	1,750.00	Reconciled
369846	11-AUG-16	US BANK NAT'L ASSOC N.DAKOTA	11,312.84	22-AUG-16	11,312.84	Reconciled
369847	11-AUG-16	VERIZON WIRELESS SERVICES LLC	38.01	16-AUG-16	38.01	Reconciled
369848	11-AUG-16	VULCAN MATERIALS COMPANY	1,392.93	15-AUG-16	1,392.93	Reconciled
369849	11-AUG-16	WALLRAFF, CHELSEA	24.26	18-AUG-16	24.26	Reconciled
369850	11-AUG-16	WALTERS WHOLESALE ELECTRIC	4,643.30	17-AUG-16	4,643.30	Reconciled
369851	11-AUG-16	WANG, DEJUN	363.38	12-AUG-16	363.38	Reconciled
369852	11-AUG-16	WANG, XIAOHONG	1,206.71	31-AUG-16	1,206.71	Reconciled
369853	11-AUG-16	WARE MALCOMB	11,898.47	12-AUG-16	11,898.47	Reconciled
369854	11-AUG-16	WASTE MANAGEMENT OF ORANGE COUNTY	2,538.68	16-AUG-16	2,538.68	Reconciled
369855	11-AUG-16	WATER SYSTEMS OPTIMIZATION, INC.	2,492.50	16-AUG-16	2,492.50	Reconciled
369856	11-AUG-16	WAXIE'S ENTERPRISES, INC	550.28	15-AUG-16	550.28	Reconciled
369857	11-AUG-16	WEST COAST SAND & GRAVEL INC.	936.21	15-AUG-16	936.21	Reconciled
369858	11-AUG-16	WEST ENVIRONMENTAL SERVICES & TECHNOLOGY, INC.	17,636.25	17-AUG-16	17,636.25	Reconciled
369859	11-AUG-16	WESTAMERICA COMMUNICATIONS, INC.	19,780.00	17-AUG-16	19,780.00	Reconciled
369860	11-AUG-16	WESTERN AV	6,997.36	15-AUG-16	6,997.36	Reconciled
369861	11-AUG-16	WILLIAMS, JOANNE	172.08			Negotiable
369862	11-AUG-16	WIRELESS	500.00	18-AUG-16	500.00	Reconciled
369863	11-AUG-16	WATCHDOGS, LLC WOKCANO TUSTIN, LLC	691.39	19-AUG-16	691.39	Reconciled

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
369864		11-AUG-16	YORK INSURANCE SERVICES GROUP INC - CA		7,936.25	15-AUG-16	7,936.25	Reconciled
369865		11-AUG-16	YP LLC		123.50	15-AUG-16	123.50	Reconciled
369866		11-AUG-16	ZACHARIA, ANNMARIE		30.58	29-AUG-16	30.58	Reconciled
369867		15-AUG-16	HOLT, SCOTT	PAY	862.99	17-AUG-16	862.99	Reconciled
369868		15-AUG-16	JCI JONES	CINCINNATI	9,050.60	18-AUG-16	9,050.60	Reconciled
369869		18-AUG-16	Cascelli, Craig M (Craig)		250.00			Negotiable
369870		18-AUG-16	Blaska, Erika M (Erika)		101.08	18-AUG-16	101.08	Reconciled
369871		18-AUG-16	Seesangrit, Melody M		591.37	18-AUG-16	591.37	Reconciled
369872		18-AUG-16	Drzymkowski, Michele A (Michele)		222.14			Negotiable
369873		18-AUG-16	Perez, Rodolfo (Rudy)		11.88			Negotiable
369874		18-AUG-16	COUNTY OF ORANGE	1241 E DYER RD	10,034.00	31-AUG-16	10,034.00	Reconciled
369875		18-AUG-16	COUNTY OF ORANGE	1241 E DYER RD	6,356.00	30-AUG-16	6,356.00	Reconciled
369876		18-AUG-16	COUNTY OF ORANGE	1241 E DYER RD	3,440.00	29-AUG-16	3,440.00	Reconciled
369877		18-AUG-16	A & K DEBURRING AND TUMBLING INC.		2,636.20	29-AUG-16	2,636.20	Reconciled
369878		18-AUG-16	AERATION INDUSTRIES INTERNATIONAL INC		8,146.95	22-AUG-16	8,146.95	Reconciled
369879		18-AUG-16	AGILENT TECHNOLOGIES, INC.		37,565.64	24-AUG-16	37,565.64	Reconciled
369880		18-AUG-16	AIRGAS, INC.		959.04	22-AUG-16	959.04	Reconciled
369881		18-AUG-16	ALPHA TRAFFIC SERVICES, INC.		570.00	29-AUG-16	570.00	Reconciled
369882		18-AUG-16	AMERICAN WATER CHEMICALS, INC.		10,737.66	25-AUG-16	10,737.66	Reconciled
369883		18-AUG-16	ANTHONY N. LARSEN		600.00	19-AUG-16	600.00	Reconciled
369884		18-AUG-16	APPLIED INDUSTRIAL TECHNOLOGIES - CA LLC		340.08	22-AUG-16	340.08	Reconciled
369885		18-AUG-16	APTEAN, INC.		1,760.00	23-AUG-16	1,760.00	Reconciled
369886		18-AUG-16	ARB STRUCTURES INC		747.42	25-AUG-16	747.42	Reconciled
369887		18-AUG-16	ARB STRUCTURES INC.		695.81	19-AUG-16	695.81	Reconciled
369888		18-AUG-16	AT&T		48.51	23-AUG-16	48.51	Reconciled

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
369889		18-AUG-16	AT&T		3,823.98	24-AUG-16	3,823.98	Reconciled
369890		18-AUG-16	ATHENS SERVICES		9,074.39	23-AUG-16	9,074.39	Reconciled
369891		18-AUG-16	AUTOZONE PARTS, INC.		388.35	23-AUG-16	388.35	Reconciled
369892		18-AUG-16	BATTERIES PLUS AND BATTERIES PLUS BULBS		828.86	22-AUG-16	828.86	Reconciled
369893		18-AUG-16	BATTERY SPECIALTIES		4,162.40	25-AUG-16	4,162.40	Reconciled
369894		18-AUG-16	BECKETT, RUNGTORN T		14.93	31-AUG-16	14.93	Reconciled
369895		18-AUG-16	BELL TOWER FLORIST & GIFTS		398.48			Negotiable
369896		18-AUG-16	BENSON, LAUREN		23.02	29-AUG-16	23.02	Reconciled
369897		18-AUG-16	BEST DRILLING AND PUMP, INC.		9,400.00	24-AUG-16	9,400.00	Reconciled
369898		18-AUG-16	BILCO COMPANY		1,096.80	23-AUG-16	1,096.80	Reconciled
369899		18-AUG-16	BISARES, DAVID		6.23	25-AUG-16	6.23	Reconciled
369900		18-AUG-16	BISTLINE ENGINEERING		1,611.53	23-AUG-16	1,611.53	Reconciled
369901		18-AUG-16	BLAIRS TOWING INC		255.00	24-AUG-16	255.00	Reconciled
369902		18-AUG-16	BORCHARD SURVEYING & MAPPING, INC.		2,442.50	31-AUG-16	2,442.50	Reconciled
369903		18-AUG-16	BRENNTAG PACIFIC INC		3,680.00	22-AUG-16	3,680.00	Reconciled
369904		18-AUG-16	BROWN, RACHEL		49.75	22-AUG-16	49.75	Reconciled
369905		18-AUG-16	BURLINGTON SAFETY LABORATORY OF CALIFORNIA INC		337.02	19-AUG-16	337.02	Reconciled
369906		18-AUG-16	BUSH & ASSOCIATES INC		4,710.00			Negotiable
369907		18-AUG-16	C WELLS PIPELINE MATERIALS INC		6,489.72	26-AUG-16	6,489.72	Reconciled
369908		18-AUG-16	CALIFORNIA BARRICADE RENTAL, INC.		2,281.30	22-AUG-16	2,281.30	Reconciled
369909		18-AUG-16	CAPTIVE AUDIENCE MARKETING INC.		85.32	23-AUG-16	85.32	Reconciled
369910		18-AUG-16	CAROLLO ENGINEERS, INC		7,056.00	23-AUG-16	7,056.00	Reconciled
369911		18-AUG-16	CDW GOVERNMENT LLC		983.63	24-AUG-16	983.63	Reconciled
369912		18-AUG-16	CHANG, SUCHEN		1,574.34	22-AUG-16	1,574.34	Reconciled
369913		18-AUG-16	CHOI, WON JUN		3.36			Negotiable
369914		18-AUG-16	CHOU, FANG-KUO		29.54	23-AUG-16	29.54	Reconciled
369915		18-AUG-16	CITY OF SANTA ANA		155.89	22-AUG-16	155.89	Reconciled
369916		18-AUG-16	CITY OF TUSTIN		362.65	22-AUG-16	362.65	Reconciled
IRWD Ledger								
BANK: Bank of America N.A.			Branch : Los Angeles			Payment Register For 01-AUG-16 To 31-AUG-16		Report Date: 02-SEP-2016 14:02
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						Display Supplier Address: No		

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Payment Document : IRWD CHECK								
369917		18-AUG-16	CIVILSOURCE, INC.		35,903.00	24-AUG-16	35,903.00	Reconciled
369918		18-AUG-16	CLA-VAL COMPANY		1,341.92	19-AUG-16	1,341.92	Reconciled
369919		18-AUG-16	CLEAN ENERGY		1,631.32	25-AUG-16	1,631.32	Reconciled
369920		18-AUG-16	CLIFFORD, PAMALA		10.66			Negotiable
369921		18-AUG-16	COUNTY OF ORANGE		200.00			Negotiable
369922		18-AUG-16	COUNTY OF ORANGE		2,924.00	30-AUG-16	2,924.00	Reconciled
369923		18-AUG-16	COX COMMUNICATIONS, INC.		109.00	22-AUG-16	109.00	Reconciled
369924		18-AUG-16	CUMMINS PACIFIC, LLC		450.00	22-AUG-16	450.00	Reconciled
369925		18-AUG-16	DATASITE INC		4,242.00	29-AUG-16	4,242.00	Reconciled
369926		18-AUG-16	DB INDUSTRIAL SUPPLY CO		2,544.91	19-AUG-16	2,544.91	Reconciled
369927		18-AUG-16	DE SOUSA, ELIZABETH		11.62	22-AUG-16	11.62	Reconciled
369928		18-AUG-16	DE VAUL PAINT COMPANY		811.62	24-AUG-16	811.62	Reconciled
369929		18-AUG-16	DISCOUNT COURIER SERVICE		67.47	19-AUG-16	67.47	Reconciled
369930		18-AUG-16	DTSC		1,702.50			Negotiable
369931		18-AUG-16	EDUCATION & TRAINING SERVICES, LLC		1,497.00	29-AUG-16	1,497.00	Reconciled
369932		18-AUG-16	ENVIRONMENTAL RESOURCE ASSOCIATES		126.24	23-AUG-16	126.24	Reconciled
369933		18-AUG-16	EUROFINS EATON ANALYTICAL, INC.		700.00	22-AUG-16	700.00	Reconciled
369934		18-AUG-16	FARIBORZ, FARSI		593.91			Negotiable

369935	18-AUG-16	FARRELL & ASSOCIATES	5,308.41	22-AUG-16	5,308.41	Reconciled
369936	18-AUG-16	FEDEX	60.94	24-AUG-16	60.94	Reconciled
369937	18-AUG-16	FERGUSON ENTERPRISES, INC.	2,008.80	22-AUG-16	2,008.80	Reconciled
369938	18-AUG-16	FERNANDO M SANCHEZ	160.00	22-AUG-16	160.00	Reconciled
369939	18-AUG-16	FIRST CHOICE SERVICES	527.99	22-AUG-16	527.99	Reconciled
369940	18-AUG-16	FISERV	16,371.26	23-AUG-16	16,371.26	Reconciled
369941	18-AUG-16	FISHER SCIENTIFIC COMPANY LLC	4,907.00	22-AUG-16	4,907.00	Reconciled
369942	18-AUG-16	FLEET SOLUTIONS LLC	4,447.25	22-AUG-16	4,447.25	Reconciled
369943	18-AUG-16	FORAL, ERICA	15.54			Negotiable
369944	18-AUG-16	FRONTIER CALIFORNIA INC.	282.01	22-AUG-16	282.01	Reconciled

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
369945		18-AUG-16	GANAHL LUMBER CO.		1,718.01	24-AUG-16	1,718.01	Reconciled
369946		18-AUG-16	GARDEMAL, ROBERT		36.09			Negotiable
369947		18-AUG-16	GOODMAN, MARIETTA		6.99	25-AUG-16	6.99	Reconciled
369948		18-AUG-16	GRAINGER		1,030.96	22-AUG-16	1,030.96	Reconciled
369949		18-AUG-16	HACH COMPANY		18,095.42	25-AUG-16	18,095.42	Reconciled
369950		18-AUG-16	HADRONEX, INC		24,415.12	24-AUG-16	24,415.12	Reconciled
369951		18-AUG-16	HAMC IRVINE CENTER, LLC 215		108.00			Negotiable
369952		18-AUG-16	HARRIS & ASSOCIATES, INC.		15,830.00	24-AUG-16	15,830.00	Reconciled
369953		18-AUG-16	HARTFORD LIFE INSURANCE COMPANY		26,801.89	26-AUG-16	26,801.89	Reconciled
369954		18-AUG-16	HDR ENGINEERING INC		64,368.00	25-AUG-16	64,368.00	Reconciled
369955		18-AUG-16	HELPMATES STAFFING SERVICES		4,268.86	19-AUG-16	4,268.86	Reconciled
369956		18-AUG-16	HOHMAN, THOMAS C		96.21	29-AUG-16	96.21	Reconciled
369957		18-AUG-16	HOME DEPOT USA INC		2,193.74	30-AUG-16	2,193.74	Reconciled
369958		18-AUG-16	HSG INC		1,551.00	22-AUG-16	1,551.00	Reconciled
369959		18-AUG-16	HUNSAKER & ASSOCIATES IRVINE		336.00	22-AUG-16	336.00	Reconciled
369960		18-AUG-16	IRELAND, INC.		3,942.00	22-AUG-16	3,942.00	Reconciled
369961		18-AUG-16	IRON MOUNTAIN INFORMATION MANAGEMENT INC		1,355.83	22-AUG-16	1,355.83	Reconciled
369962		18-AUG-16	IRVINE COMMUNITY DEVELOPMENT COMPANY LLC		209.86	22-AUG-16	209.86	Reconciled
369963		18-AUG-16	IRVINE COMMUNITY DEVELOPMENT COMPANY LLC		54,481.60	29-AUG-16	54,481.60	Reconciled
369964		18-AUG-16	IRVINE COMMUNITY DEVELOPMENT LLC		178.83	22-AUG-16	178.83	Reconciled
369965		18-AUG-16	IRVINE PACIFIC		282.58	22-AUG-16	282.58	Reconciled
369966		18-AUG-16	IRVINE PIPE & SUPPLY INC		3,621.20	22-AUG-16	3,621.20	Reconciled
369967		18-AUG-16	JCI JONES CHEMICALS INC		5,505.50	22-AUG-16	5,505.50	Reconciled
369968		18-AUG-16	KAZARIANS & ASSOCIATES, INC.		9,438.75	24-AUG-16	9,438.75	Reconciled
369969		18-AUG-16	KENNY THE PRINTER		238.83	19-AUG-16	238.83	Reconciled
369970		18-AUG-16	KIGHTLINGER, DIANA		14.81			Negotiable
369971		18-AUG-16	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES		2,125.00	22-AUG-16	2,125.00	Reconciled
369972		18-AUG-16	KIMMERLE, SANDRA		8.12			Negotiable

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
369973		18-AUG-16	KIRKLAND, LAUREN		59.11	22-AUG-16	59.11	Reconciled
369974		18-AUG-16	KLEINFELDER, INC.		42,589.45	25-AUG-16	42,589.45	Reconciled
369975		18-AUG-16	KOELLER NEBEKER CARLSON & HALUCK, LLP		3,270.22	19-AUG-16	3,270.22	Reconciled
369976		18-AUG-16	KOHLER, CAROL		7.97	30-AUG-16	7.97	Reconciled
369977		18-AUG-16	KUO, IRENE		33.54			Negotiable
369978		18-AUG-16	KUPANOFF, JAMES		16.42			Negotiable
369979		18-AUG-16	LABWORKS		25,719.00	26-AUG-16	25,719.00	Reconciled
369980		18-AUG-16	LANDCARE HOLDINGS, INC.		61,799.00	25-AUG-16	61,799.00	Reconciled

369981	18-AUG-16	LCS TECHNOLOGIES, INC.	5,535.00	22-AUG-16	5,535.00	Reconciled
369982	18-AUG-16	LEE, JOSEPH	325.17	19-AUG-16	325.17	Reconciled
369983	18-AUG-16	LEET, GREGORY	42.00	29-AUG-16	42.00	Reconciled
369984	18-AUG-16	LI, SIYUN	58.75			Negotiable
369985	18-AUG-16	LOS ANGELES TIMES	170.24	22-AUG-16	170.24	Reconciled
369986	18-AUG-16	MACMASTER, JENNIFER	467.89	24-AUG-16	467.89	Reconciled
369987	18-AUG-16	MAELY CONSTRUCTION	2,148.09	25-AUG-16	2,148.09	Reconciled
369988	18-AUG-16	MEHRASSA, CECILIA	13.25	23-AUG-16	13.25	Reconciled
369989	18-AUG-16	MELILLO, STEVEN	35.45	26-AUG-16	35.45	Reconciled
369990	18-AUG-16	MILLIKIN, CHERYL	26.28	29-AUG-16	26.28	Reconciled
369991	18-AUG-16	MOBILE MODULAR MANAGEMENT CORPORATION	1,020.60	22-AUG-16	1,020.60	Reconciled
369992	18-AUG-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	107,198.00	23-AUG-16	107,198.00	Reconciled
369993	18-AUG-16	MUSAVI, MARYAM	468.82	23-AUG-16	468.82	Reconciled
369994	18-AUG-16	NATASHA, MELANIE	24.41			Negotiable
369995	18-AUG-16	NATIONAL READY MIXED CONCRETE CO.	540.00	22-AUG-16	540.00	Reconciled
369996	18-AUG-16	NIK, FATEMEH	30.00	23-AUG-16	30.00	Reconciled
369997	18-AUG-16	OC WELDING SERVICES	849.07	24-AUG-16	849.07	Reconciled
369998	18-AUG-16	OH, WAN	8.52	23-AUG-16	8.52	Reconciled
369999	18-AUG-16	OLEN COMMERCIAL REALTY GROUP	1,168.73	25-AUG-16	1,168.73	Reconciled
370000	18-AUG-16	OLIN CORPORATION	2,707.80	22-AUG-16	2,707.80	Reconciled
370001	18-AUG-16	ONESOURCE DISTRIBUTORS LLC	9,915.19	22-AUG-16	9,915.19	Reconciled
370002	18-AUG-16	ORANGE COUNTY AUTO PARTS CO	216.55	19-AUG-16	216.55	Reconciled

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
370003		18-AUG-16	ORANGE COUNTY SANITATION DISTRICT		1,570.00	24-AUG-16	1,570.00	Reconciled
370004		18-AUG-16	ORANGES, ADRIENNE		120.96	22-AUG-16	120.96	Reconciled
370005		18-AUG-16	OUTSOURCE TECHNICAL LLC		56,964.00	23-AUG-16	56,964.00	Reconciled
370006		18-AUG-16	PACIFIC CITY PROPERTIES		48.75	24-AUG-16	48.75	Reconciled
370007		18-AUG-16	PACIFIC CITY PROPERTIES		48.52	24-AUG-16	48.52	Reconciled
370008		18-AUG-16	PACIFIC GAS AND ELECTRIC COMPANY		24.42	23-AUG-16	24.42	Reconciled
370009		18-AUG-16	PACIFIC PARTS & CONTROLS INC		453.71	23-AUG-16	453.71	Reconciled
370010		18-AUG-16	PACIFIC SPECTRUM LLC		8.53	26-AUG-16	8.53	Reconciled
370011		18-AUG-16	PACIFIC SPECTRUM, LLC		34.51	26-AUG-16	34.51	Reconciled
370012		18-AUG-16	PAIK, THOMAS		21.72	22-AUG-16	21.72	Reconciled
370013		18-AUG-16	PINNACLE TOWERS LLC		666.04	22-AUG-16	666.04	Reconciled
370014		18-AUG-16	POST GRADING COMPANY		64.15	19-AUG-16	64.15	Reconciled
370015		18-AUG-16	PRAXAIR DISTRIBUTION INC		55.81	24-AUG-16	55.81	Reconciled
370016		18-AUG-16	PYOTT, DAVID		2,108.53			Negotiable
370017		18-AUG-16	RABER-N'DIAYE, JODI N		3.96	29-AUG-16	3.96	Reconciled
370018		18-AUG-16	RAM AIR ENGINEERING INC		15,748.13	23-AUG-16	15,748.13	Reconciled
370019		18-AUG-16	REACH EMPLOYEE ASSISTANCE INC		946.40	23-AUG-16	946.40	Reconciled
370020		18-AUG-16	REED, DAVID		89.73	22-AUG-16	89.73	Reconciled
370021		18-AUG-16	RICH ROBIN DENTAL SERVICE CORP		12.09	26-AUG-16	12.09	Reconciled
370022		18-AUG-16	RINCON TRUCK CENTER INC.		4,811.64	19-AUG-16	4,811.64	Reconciled
370023		18-AUG-16	RMC WATER AND ENVIRONMENT		18,763.50	24-AUG-16	18,763.50	Reconciled
370024		18-AUG-16	ROBERT HALF INTERNATIONAL, INC.		3,038.00	22-AUG-16	3,038.00	Reconciled
370025		18-AUG-16	ROSEDALE - RIO BRAVO WATER STORAGE DISTRICT		28,920.61	30-AUG-16	28,920.61	Reconciled
370026		18-AUG-16	SAINI, KANNAN		130.12	22-AUG-16	130.12	Reconciled

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
370027		18-AUG-16	SANTA ANA BLUE PRINT		1,732.41	23-AUG-16	1,732.41	Reconciled
370028		18-AUG-16	SANTA MARGARITA WATER DISTRICT		2,913.16	19-AUG-16	2,913.16	Reconciled
370029		18-AUG-16	SCHIMMEL, STEPHEN H		197.29	23-AUG-16	197.29	Reconciled
370030		18-AUG-16	SCHNEIDER, KAREN		15.00			Negotiable
370031		18-AUG-16	SEITZ, KARL		13.09	19-AUG-16	13.09	Reconciled
370032		18-AUG-16	SHAMROCK SUPPLY CO INC		1,012.87	22-AUG-16	1,012.87	Reconciled
370033		18-AUG-16	SIGMA-ALDRICH INC		583.39	23-AUG-16	583.39	Reconciled
370034		18-AUG-16	SIMI VALLEY LANDFILL AND RECYCLING CENTER		1,254.78	22-AUG-16	1,254.78	Reconciled
370035		18-AUG-16	SINGH, GHANBIR		269.70	22-AUG-16	269.70	Reconciled
370036		18-AUG-16	SITMATIC		1,255.07	23-AUG-16	1,255.07	Reconciled
370037		18-AUG-16	SOUTH COAST ANSWERING SERVICE		764.68	22-AUG-16	764.68	Reconciled
370038		18-AUG-16	SOUTHERN CALIFORNIA EDISON COMPANY		295,328.45	22-AUG-16	295,328.45	Reconciled
370039		18-AUG-16	SOUTHERN COUNTIES LUBRICANTS LLC		1,538.63	22-AUG-16	1,538.63	Reconciled
370040		18-AUG-16	SOUTHLAND WATER TECHNOLOGIES LLC		36,701.00	25-AUG-16	36,701.00	Reconciled
370041		18-AUG-16	SOUZA, CHRISTINE		138.18	22-AUG-16	138.18	Reconciled
370042		18-AUG-16	STATE BOARD OF EQUALIZATION		380.00	24-AUG-16	380.00	Reconciled
370043		18-AUG-16	STEEL UNLIMITED INC		982.80	22-AUG-16	982.80	Reconciled
370044		18-AUG-16	STERIS CORPORATION		2,048.08	22-AUG-16	2,048.08	Reconciled
370045		18-AUG-16	SZABO, EDGAR		15.98	22-AUG-16	15.98	Reconciled
370046		18-AUG-16	TANG, STANLEY		57.55	22-AUG-16	57.55	Reconciled
370047		18-AUG-16	TEETER, MARK		7.32			Negotiable
370048		18-AUG-16	TESTAMERICA LABORATORIES, INC		210.00	23-AUG-16	210.00	Reconciled
370049		18-AUG-16	THE GAS COMPANY		102.86	24-AUG-16	102.86	Reconciled
370050		18-AUG-16	THE GAS COMPANY		3,339.47	24-AUG-16	3,339.47	Reconciled
370051		18-AUG-16	THE IRVINE COMPANY		14.90	22-AUG-16	14.90	Reconciled
370052		18-AUG-16	TOLL BROS., INC		94.73			Negotiable
370053		18-AUG-16	TRUCPARCO		3,966.05	30-AUG-16	3,966.05	Reconciled
370054		18-AUG-16	TSENG, WILLIAM		15.03	22-AUG-16	15.03	Reconciled
370055		18-AUG-16	TUSTIN TOYOTA		523.80	22-AUG-16	523.80	Reconciled
370056		18-AUG-16	UNITED PARCEL SERVICE INC		200.79	22-AUG-16	200.79	Reconciled

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
370057		18-AUG-16	UNITED SITE SERVICES OF CALIFORNIA INC		478.25	24-AUG-16	478.25	Reconciled
370058		18-AUG-16	US BANK NAT'L ASSOC N.DAKOTA		1,750.00	24-AUG-16	1,750.00	Reconciled
370059		18-AUG-16	VCI UTILITY SERVICE, LLC		1,025.00	29-AUG-16	1,025.00	Reconciled
370060		18-AUG-16	VWR INTERNATIONAL, LLC		1,669.86	22-AUG-16	1,669.86	Reconciled
370061		18-AUG-16	WACO FILTERS CORPORATION		8,450.31	23-AUG-16	8,450.31	Reconciled
370062		18-AUG-16	WALTERS WHOLESALE ELECTRIC		2,040.56	24-AUG-16	2,040.56	Reconciled
370063		18-AUG-16	WATERSMART SOFTWARE, INC		17,974.42	24-AUG-16	17,974.42	Reconciled
370064		18-AUG-16	WECK LABORATORIES INC		759.00	29-AUG-16	759.00	Reconciled
370065		18-AUG-16	WEST COAST SAND & GRAVEL INC.		470.56	22-AUG-16	470.56	Reconciled
370066		18-AUG-16	WESTERN EXTERMINATOR COMPANY		11,178.50	31-AUG-16	11,178.50	Reconciled
370067		18-AUG-16	WILLIAMS, ROBERT		4.09	19-AUG-16	4.09	Reconciled
370068		18-AUG-16	YEE, JENNIFER		48.79	22-AUG-16	48.79	Reconciled
370069		18-AUG-16	YIU, YEYIN		214.69			Negotiable
370070		19-AUG-16	PERS LONG TERM CARE	PASADENA	920.04	23-AUG-16	920.04	Reconciled
370071		19-AUG-16	ORANGE COUNTY SHERIFF'S OFFICE	4601 JAMBOREE	62.50			Negotiable
370072		19-AUG-16	CLEARINGHOUSE	PHOENIX	477.67	22-AUG-16	477.67	Reconciled
370073		19-AUG-16	IRWD EMPLOYEE ASSOCIATION	15600 SC	850.00	25-AUG-16	850.00	Reconciled
370074		23-AUG-16	JCI JONES	CINCINNATI	2,981.16			Negotiable

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
370075	24-AUG-16	24-AUG-16	CHEMICALS INC FORESITE ESCROW, INC.	BARDEEN PT/PVID	50,000.00	26-AUG-16	50,000.00	Reconciled
370076	25-AUG-16	25-AUG-16	IRWD-PETTY CASH CUSTODIAN	IRVINE	1,488.00	25-AUG-16	1,488.00	Reconciled
370077	25-AUG-16	25-AUG-16	Johnson, Dane		143.00	31-AUG-16	143.00	Reconciled
370078	25-AUG-16	25-AUG-16	Johnson, Dane		2,043.82	31-AUG-16	2,043.82	Reconciled
370079	25-AUG-16	25-AUG-16	Leal, Eliberto (Eliberto)		250.00			Negotiable
370080	25-AUG-16	25-AUG-16	Solis, Henry (Henry)		172.00	29-AUG-16	172.00	Reconciled
370081	25-AUG-16	25-AUG-16	Moeder, Jacob J (Jacob)		34.02	29-AUG-16	34.02	Reconciled

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Payment Document : IRWD CHECK								
370082	25-AUG-16	25-AUG-16	Kallo, John		54.00			Negotiable
370083	25-AUG-16	25-AUG-16	Silva, Jose A (Jose)		150.66	29-AUG-16	150.66	Reconciled
370084	25-AUG-16	25-AUG-16	Matheis, Mary Aileen		810.11	30-AUG-16	810.11	Reconciled
370085	25-AUG-16	25-AUG-16	Brown, Morgan		200.00	31-AUG-16	200.00	Reconciled
370086	25-AUG-16	25-AUG-16	Lao, Richard S		110.50			Negotiable
370087	25-AUG-16	25-AUG-16	Norman, Tammy		13.12			Negotiable
370088	25-AUG-16	25-AUG-16	Schreiner, Terrance M Jr (Terrance)		270.00	29-AUG-16	270.00	Reconciled
370089	25-AUG-16	25-AUG-16	ACCURATE MEASUREMENT SYSTEMS INC		2,062.60			Negotiable
370090	25-AUG-16	25-AUG-16	ACE PROPERTY MANAGEMENT		25.15			Negotiable
370091	25-AUG-16	25-AUG-16	ACIKEL, OMER		19.19			Negotiable
370092	25-AUG-16	25-AUG-16	AFLAC		7,316.78			Negotiable
370093	25-AUG-16	25-AUG-16	AFLAC		349.70			Negotiable
370094	25-AUG-16	25-AUG-16	AGILENT TECHNOLOGIES, INC.		242.73	29-AUG-16	242.73	Reconciled
370095	25-AUG-16	25-AUG-16	AGUINADA, PEDRO		634.30	30-AUG-16	634.30	Reconciled
370096	25-AUG-16	25-AUG-16	AIR TECHNOLOGY LABORATORIES		289.00			Negotiable
370097	25-AUG-16	25-AUG-16	AIRCLEAN SYSTEMS		371.00	31-AUG-16	371.00	Reconciled
370098	25-AUG-16	25-AUG-16	AIRGAS, INC.		1,254.63	29-AUG-16	1,254.63	Reconciled
370099	25-AUG-16	25-AUG-16	AKM CONSULTING ENGINEERS, INC.		41,136.22			Negotiable
370100	25-AUG-16	25-AUG-16	AMERICAN GEOTECHNICAL, INC.		1,643.75	29-AUG-16	1,643.75	Reconciled
370101	25-AUG-16	25-AUG-16	ANDERSONPENNA PARTNERS, INC.		21,583.00	30-AUG-16	21,583.00	Reconciled
370102	25-AUG-16	25-AUG-16	ARCADIS U.S., INC.		8,135.89	29-AUG-16	8,135.89	Reconciled
370103	25-AUG-16	25-AUG-16	ARCHITECTURAL CONSTRUCTION SER		350.26	31-AUG-16	350.26	Reconciled
370104	25-AUG-16	25-AUG-16	ARONOFF, HEIDI		111.75			Negotiable
370105	25-AUG-16	25-AUG-16	AT&T		5,604.33	31-AUG-16	5,604.33	Reconciled
370106	25-AUG-16	25-AUG-16	ATHENS SERVICES		2,540.85	30-AUG-16	2,540.85	Reconciled
370107	25-AUG-16	25-AUG-16	AUTOMAX SERVICE CENTER		36.37	29-AUG-16	36.37	Reconciled
370108	25-AUG-16	25-AUG-16	AUTOZONE PARTS, INC.		727.40	31-AUG-16	727.40	Reconciled
370109	25-AUG-16	25-AUG-16	AVISTA TECHNOLOGIES, INC		8,318.50	29-AUG-16	8,318.50	Reconciled
370110	25-AUG-16	25-AUG-16	BALLINGER, NATHAN		135.38			Negotiable

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Payment Document : IRWD CHECK								
370111	25-AUG-16	25-AUG-16	BARTEL ASSOCIATES, LLC		1,841.55	29-AUG-16	1,841.55	Reconciled
370112	25-AUG-16	25-AUG-16	BERI, RITU		126.36			Negotiable
370113	25-AUG-16	25-AUG-16	BIGWIG MONSTER, LLC		5,550.00			Negotiable
370114	25-AUG-16	25-AUG-16	BILL'S SWEEPING SERVICE INC		460.00	31-AUG-16	460.00	Reconciled
370115	25-AUG-16	25-AUG-16	BIOMAGIC INC		16,028.92	31-AUG-16	16,028.92	Reconciled
370116	25-AUG-16	25-AUG-16	BLACK BOX CORP OF PENNSYLVANIA		193.64	30-AUG-16	193.64	Reconciled
370117	25-AUG-16	25-AUG-16	BLAIRS TOWING INC		300.00			Negotiable
370118	25-AUG-16	25-AUG-16	BRITHINEE ELECTRIC		3,511.81	29-AUG-16	3,511.81	Reconciled
370119	25-AUG-16	25-AUG-16	BURCHELL, SHERRY		6.13	30-AUG-16	6.13	Reconciled
370120	25-AUG-16	25-AUG-16	BUSH & ASSOCIATES INC		9,288.00			Negotiable

370121	25-AUG-16	BUTTACCIO, AARON	74.21	29-AUG-16	74.21	Reconciled
370122	25-AUG-16	C WELLS PIPELINE MATERIALS INC	1,434.24	31-AUG-16	1,434.24	Reconciled
370123	25-AUG-16	CALIFORNIA BARRICADE RENTAL, INC.	6,506.90	29-AUG-16	6,506.90	Reconciled
370124	25-AUG-16	CALIFORNIA PACIFIC HOMES	13.66			Negotiable
370125	25-AUG-16	CANON FINANCIAL SERVICES, INC	9,617.97	30-AUG-16	9,617.97	Reconciled
370126	25-AUG-16	CANON SOLUTIONS AMERICA, INC.	439.33	29-AUG-16	439.33	Reconciled
370127	25-AUG-16	CAPORICCI, BRIAN	11.86	31-AUG-16	11.86	Reconciled
370128	25-AUG-16	CARLSON, CARL	17.52			Negotiable
370129	25-AUG-16	CARLSON, TARA	21.21	30-AUG-16	21.21	Reconciled
370130	25-AUG-16	CHEN, HORNG-JAW	17.55			Negotiable
370131	25-AUG-16	CITY OF IRVINE	6,303.10			Negotiable
370132	25-AUG-16	CITY OF IRVINE	3,508.00			Negotiable
370133	25-AUG-16	CITY OF NEWPORT BEACH	192.19			Negotiable
370134	25-AUG-16	CITY OF NEWPORT BEACH	921.22			Negotiable
370135	25-AUG-16	CITY OF TUSTIN	242.36	29-AUG-16	242.36	Reconciled
370136	25-AUG-16	CIVILSOURCE, INC.	18,620.00	31-AUG-16	18,620.00	Reconciled
370137	25-AUG-16	CNC ENGINEERING	2,823.75			Negotiable
370138	25-AUG-16	COLDWELL BANKER PLATINUM PROP	4.54			Negotiable
370139	25-AUG-16	COLEY, JACQUELYN	17.14			Negotiable
370140	25-AUG-16	COLONIAL LIFE & ACCIDENT INSURANCE CO.	1,139.60			Negotiable

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Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
Payment Document : IRWD CHECK								
370141		25-AUG-16	COMMERCE ENERGY INC		242.71	29-AUG-16	242.71	Reconciled
370142		25-AUG-16	COMMERCIAL DOOR OF ORANGE COUNTY, INC.		587.57	30-AUG-16	587.57	Reconciled
370143		25-AUG-16	CORELOGIC INC		54.00	30-AUG-16	54.00	Reconciled
370144		25-AUG-16	COX COMMUNICATIONS, INC.		3,390.98	29-AUG-16	3,390.98	Reconciled
370145		25-AUG-16	CREDENTIAL CHECK CORPORATION		149.32	29-AUG-16	149.32	Reconciled
370146		25-AUG-16	CRISS, CHIE		24.19	30-AUG-16	24.19	Reconciled
370147		25-AUG-16	D & G SIGNS		6,861.28	30-AUG-16	6,861.28	Reconciled
370148		25-AUG-16	D & H WATER SYSTEMS INC.		9,895.28			Negotiable
370149		25-AUG-16	DATA CLEAN CORPORATION		855.00	30-AUG-16	855.00	Reconciled
370150		25-AUG-16	DEACON, JANET		546.14			Negotiable
370151		25-AUG-16	DECK, JULIE		12.77			Negotiable
370152		25-AUG-16	DELL MARKETING LP		1,938.18	29-AUG-16	1,938.18	Reconciled
370153		25-AUG-16	DIRECTV INC		115.98	30-AUG-16	115.98	Reconciled
370154		25-AUG-16	DISCOUNT COURIER SERVICE		89.73	29-AUG-16	89.73	Reconciled
370155		25-AUG-16	EHS INTERNATIONAL, INC		1,620.00	31-AUG-16	1,620.00	Reconciled
370156		25-AUG-16	ENVIRONMENTAL EQUIPMENT SUPPLY, INC		673.56			Negotiable
370157		25-AUG-16	ESCANO, ED		33.11			Negotiable
370158		25-AUG-16	EXECUTIVE LIGHTING & ELECTRIC		1,132.66	29-AUG-16	1,132.66	Reconciled
370159		25-AUG-16	EXTTI, INCORPORATED		6,313.55	29-AUG-16	6,313.55	Reconciled
370160		25-AUG-16	FARD, FRED		6.08			Negotiable
370161		25-AUG-16	FEDEX		240.25			Negotiable
370162		25-AUG-16	FIRST CHOICE SERVICES		729.44	30-AUG-16	729.44	Reconciled
370163		25-AUG-16	FISHER SCIENTIFIC COMPANY LLC		2,546.74	29-AUG-16	2,546.74	Reconciled
370164		25-AUG-16	FLEET SOLUTIONS LLC		466.94	29-AUG-16	466.94	Reconciled
370165		25-AUG-16	FOUSER, JAMES		11.81			Negotiable
370166		25-AUG-16	FRASER, KENNETH S		826.28	29-AUG-16	826.28	Reconciled
370167		25-AUG-16	FRIESEN, RICHARD D		129.92			Negotiable
370168		25-AUG-16	FRONTIER CALIFORNIA INC.		328.10	29-AUG-16	328.10	Reconciled

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370220	25-AUG-16	MC FADDEN-DALE INDUSTRIAL		319.22	30-AUG-16	319.22	Reconciled
370221	25-AUG-16	MC MASTER CARR SUPPLY CO		2,128.50	29-AUG-16	2,128.50	Reconciled
370222	25-AUG-16	MCGARRITY, KENNETH		23.35	30-AUG-16	23.35	Reconciled
370223	25-AUG-16	MENSING, KAITLIN		45.90			Negotiable
370224	25-AUG-16	MICHAEL BAKER INTERNATIONAL, INC.		5,783.51	29-AUG-16	5,783.51	Reconciled
370225	25-AUG-16	MICHELLE AND BRYAN SWEDA		1.45			Negotiable

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Payment Document : IRWD CHECK								
370226		25-AUG-16	MISSION COMMUNICATIONS LLC		347.40	29-AUG-16	347.40	Reconciled
370227		25-AUG-16	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY		263,000.00	30-AUG-16	263,000.00	Reconciled
370228		25-AUG-16	NATIONAL READY MIXED CONCRETE CO.		1,346.40	29-AUG-16	1,346.40	Reconciled
370229		25-AUG-16	NEWPORT WINDOW MAINTENANCE INC		2,314.00			Negotiable
370230		25-AUG-16	NINYO & MOORE		5,817.25	29-AUG-16	5,817.25	Reconciled
370231		25-AUG-16	NORTHWESTERN MUTUAL LIFE		128.54			Negotiable
370232		25-AUG-16	O'NEIL PRODUCT DEVELOPEMENT INC		104.12			Negotiable
370233		25-AUG-16	OLIN CORPORATION		8,531.95	30-AUG-16	8,531.95	Reconciled
370234		25-AUG-16	OLSON, HAGEL & FISHBURN, LLP		366.50	29-AUG-16	366.50	Reconciled
370235		25-AUG-16	ONESOURCE DISTRIBUTORS LLC		1,939.84	29-AUG-16	1,939.84	Reconciled
370236		25-AUG-16	ONSET COMPUTER CORPORATION		701.00	29-AUG-16	701.00	Reconciled
370237		25-AUG-16	ORANGE COUNTY AUTO PARTS CO		1,534.88	29-AUG-16	1,534.88	Reconciled
370238		25-AUG-16	ORANGE COUNTY SANITATION DISTRICT		1,570.00	29-AUG-16	1,570.00	Reconciled
370239		25-AUG-16	ORDONEZ, MELANIE		253.17	30-AUG-16	253.17	Reconciled
370240		25-AUG-16	OUTSOURCE TECHNICAL LLC		5,075.00	29-AUG-16	5,075.00	Reconciled
370241		25-AUG-16	PACIFIC EH&S SERVICES, INC.		1,152.00			Negotiable
370242		25-AUG-16	PACIFIC GAS AND ELECTRIC COMPANY		10.68	29-AUG-16	10.68	Reconciled
370243		25-AUG-16	PACIFIC HYDROTECH CORP		72.47	30-AUG-16	72.47	Reconciled
370244		25-AUG-16	PACIFIC MECHANICAL SUPPLY		350.99	29-AUG-16	350.99	Reconciled
370245		25-AUG-16	PACIFIC SURVEYS, LLC		3,241.00			Negotiable
370246		25-AUG-16	PAK, COLLEEN		530.02			Negotiable
370247		25-AUG-16	PARKHOUSE TIRE INC		2,883.00	30-AUG-16	2,883.00	Reconciled
370248		25-AUG-16	PAULUS ENGINEERING, INC.		1,264.88	29-AUG-16	1,264.88	Reconciled
370249		25-AUG-16	PAYNE & FEARS LLP		21,506.35	30-AUG-16	21,506.35	Reconciled
370250		25-AUG-16	PEDEGO		78.52	31-AUG-16	78.52	Reconciled
370251		25-AUG-16	PENNYVISION		157.23			Negotiable

IRWD Ledger  
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Report Date: 02-SEP-2016 14:02  
 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								
370252		25-AUG-16	PERRY, KATHY		6.19			Negotiable
370253		25-AUG-16	POST GRADING COMPANY		94.15	30-AUG-16	94.15	Reconciled
370254		25-AUG-16	PRAXAIR DISTRIBUTION INC		2,675.86	30-AUG-16	2,675.86	Reconciled
370255		25-AUG-16	PRE-PAID LEGAL SERVICES INC		1,578.90			Negotiable
370256		25-AUG-16	PURE EFFECT INC		7,293.00	29-AUG-16	7,293.00	Reconciled
370257		25-AUG-16	REAL WATER CONSULTANTS INC.		18,249.00			Negotiable
370258		25-AUG-16	REED THOMAS CO INC		914.72	30-AUG-16	914.72	Reconciled
370259		25-AUG-16	REPTA, MARGO		8.47			Negotiable
370260		25-AUG-16	RESPONSE ENVELOPE, INC		2,624.40	30-AUG-16	2,624.40	Reconciled
370261		25-AUG-16	RICHARD C. SLADE & ASSOCIATES LLC		7,219.85			Negotiable

370262	25-AUG-16	RINGCLEAR LLC	103.44	31-AUG-16	103.44	Reconciled
370263	25-AUG-16	RMC WATER AND ENVIRONMENT	764.00	29-AUG-16	764.00	Reconciled
370264	25-AUG-16	RODRIGUEZ, CHRISTINA	53.63			Negotiable
370265	25-AUG-16	RUSSELL REAL ESTATE GROUP	3.66	30-AUG-16	3.66	Reconciled
370266	25-AUG-16	SAN LEON APTS	1.11			Negotiable
370267	25-AUG-16	SANDBERG, JODY	14.12	29-AUG-16	14.12	Reconciled
370268	25-AUG-16	SANDERS PAVING INC	850.00	30-AUG-16	850.00	Reconciled
370269	25-AUG-16	SANTA ANA BLUE PRINT	304.24			Negotiable
370270	25-AUG-16	SANTA MARIA APTS	24.05			Negotiable
370271	25-AUG-16	SANTIAGO AQUEDUCT COMMISSION	1,043.00	25-AUG-16	1,043.00	Reconciled
370272	25-AUG-16	SCHINDLER ELEVATOR CORPORATION	188.97	31-AUG-16	188.97	Reconciled
370273	25-AUG-16	SEALS WEST PACKING CO.	895.85	29-AUG-16	895.85	Reconciled
370274	25-AUG-16	SHOETERIA INDUSTRIAL	1,236.87	31-AUG-16	1,236.87	Reconciled
370275	25-AUG-16	SIGMA-ALDRICH INC	87.18	29-AUG-16	87.18	Reconciled
370276	25-AUG-16	SILVERWOOD LANDSCAPE	139.90	30-AUG-16	139.90	Reconciled
370277	25-AUG-16	SITMATIC	3,703.09	29-AUG-16	3,703.09	Reconciled
370278	25-AUG-16	SNYDER, RICHARD	35.33	29-AUG-16	35.33	Reconciled
370279	25-AUG-16	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	2,271.70			Negotiable

IRWD Ledger Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02  
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 30  
 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								
370280		25-AUG-16	SOUTH COAST WATER CO.		151.68	29-AUG-16	151.68	Reconciled
370281		25-AUG-16	SOUTHERN CALIFORNIA EDISON COMPANY		134,618.86	30-AUG-16	134,618.86	Reconciled
370282		25-AUG-16	SOUTHERN CALIFORNIA SECURITY CENTERS, INC.		947.17			Negotiable
370283		25-AUG-16	STANFORD COURT APARTMENTS		11.23			Negotiable
370284		25-AUG-16	STATE WATER RESOURCES CONTROL BOARD		340.00	30-AUG-16	340.00	Reconciled
370285		25-AUG-16	STERIS CORPORATION		60,269.40	31-AUG-16	60,269.40	Reconciled
370286		25-AUG-16	STINE VILLAS, LLC		14.08			Negotiable
370287		25-AUG-16	TAYLOR, JENNIFER		22.10	31-AUG-16	22.10	Reconciled
370288		25-AUG-16	TESTAMERICA LABORATORIES, INC		192.15			Negotiable
370289		25-AUG-16	THE NEW HOME COMPANY SOUTHERN CALIFORNIA LLC		815.39			Negotiable
370290		25-AUG-16	THOMAS, DAVE S		35.06			Negotiable
370291		25-AUG-16	TIC-OFFICE PROPERTIES		160.32	31-AUG-16	160.32	Reconciled
370292		25-AUG-16	TIC-SPECTRUM OFFICE		54.48	31-AUG-16	54.48	Reconciled
370293		25-AUG-16	TOLL BROS., INC		1,680.08			Negotiable
370294		25-AUG-16	TRI POINTE HOMES, INC.		7.87	31-AUG-16	7.87	Reconciled
370295		25-AUG-16	TROPICAL PLAZA NURSERY INC		4,251.49	29-AUG-16	4,251.49	Reconciled
370296		25-AUG-16	TRUCPARCO		1,461.60			Negotiable
370297		25-AUG-16	ULTRA SCIENTIFIC		108.65	30-AUG-16	108.65	Reconciled
370298		25-AUG-16	UNITED SITE SERVICES OF CALIFORNIA INC		152.31	31-AUG-16	152.31	Reconciled
370299		25-AUG-16	US BANK NAT'L ASSOCIATION NORTH DAKOTA		79,038.27			Negotiable
370300		25-AUG-16	VASQUEZ, FERNANDO		3.90			Negotiable
370301		25-AUG-16	VAUGHAN'S INDUSTRIAL REPAIR CO INC		15,996.11	31-AUG-16	15,996.11	Reconciled
370302		25-AUG-16	VCS ENVIRONMENTAL		2,227.50	29-AUG-16	2,227.50	Reconciled

IRWD Ledger Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02  
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 31  
 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								

370303	25-AUG-16	VERIZON WIRELESS SERVICES LLC	1,815.83	31-AUG-16	1,815.83	Reconciled
370304	25-AUG-16	VIRTUAL POLYMER COMPOUNDS	7,935.00	29-AUG-16	7,935.00	Reconciled
370305	25-AUG-16	VONDENBENKEN, MICHELLE	13.35			Negotiable
370306	25-AUG-16	VULCAN MATERIALS COMPANY	1,383.87	29-AUG-16	1,383.87	Reconciled
370307	25-AUG-16	WALTERS WHOLESALE ELECTRIC	501.88	30-AUG-16	501.88	Reconciled
370308	25-AUG-16	WANIEK, MARY BETH	118.90	29-AUG-16	118.90	Reconciled
370309	25-AUG-16	WARREN, JOHN	113.30			Negotiable
370310	25-AUG-16	WATERLINE TECHNOLOGIES INC	11,360.00	30-AUG-16	11,360.00	Reconciled
370311	25-AUG-16	WATERWISE CONSULTING, INC.	175.00	29-AUG-16	175.00	Reconciled
370312	25-AUG-16	WATTS, MARCINA	5.62			Negotiable
370313	25-AUG-16	WAXIE'S ENTERPRISES, INC	516.12	29-AUG-16	516.12	Reconciled
370314	25-AUG-16	WECK LABORATORIES INC	1,140.00	30-AUG-16	1,140.00	Reconciled
370315	25-AUG-16	WELSH, GREGG	3,769.72			Negotiable
370316	25-AUG-16	WESTAMERICA COMMUNICATIONS, INC.	450.00	29-AUG-16	450.00	Reconciled
370317	25-AUG-16	WESTERN AV	3,782.72	30-AUG-16	3,782.72	Reconciled
370318	25-AUG-16	XU, JING	78.14			Negotiable
370319	25-AUG-16	XYLEM WATER SOLUTIONS USA INC	9,593.76	30-AUG-16	9,593.76	Reconciled
370320	25-AUG-16	YOO, YOONSEOK	42.43	31-AUG-16	42.43	Reconciled
370321	25-AUG-16	YSI, INC	71,726.60			Negotiable
370322	30-AUG-16	JCI JONES CHEMICALS INC	2,934.12			Negotiable

Payment Document Subtotal: 9,317,894.08 7,879,326.38

Payment Document : IRWD Wire

11642	02-AUG-16	U.S. BANK NATIONALST. LOUIS ASSOCIATION	9,957.83			Negotiable
11643	03-AUG-16	YORK INSURANCE PAY SERVICES GROUP INC - CA	5,257.37			Negotiable
11644	05-AUG-16	INTERNAL REVENUE FRESNO SERVICE	187,377.81			Negotiable

IRWD Ledger Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02  
 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								
11645		05-AUG-16	FRANCHISE TAX BOARD	SACRAMENTO	52,047.48			Negotiable
11646		05-AUG-16	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO	10,874.88			Negotiable
11647		05-AUG-16	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR	500.77			Negotiable
11648		05-AUG-16	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO	3,067.47			Negotiable
11649		05-AUG-16	EMPLOYEE BENEFIT SPECIALIST, INC	PAY	11,004.23			Negotiable
11650		05-AUG-16	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	DENVER	111,806.73			Negotiable
11651		05-AUG-16	EMPLOYEE BENEFIT SPECIALIST, INC	PAY	50,041.46			Negotiable
11652		08-AUG-16	CALPERS	SACRAMENTO 1	420,716.32			Negotiable
11653		09-AUG-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	4,314.65			Negotiable
11654		11-AUG-16	CALPERS	SACRAMENTO	88,837.41			Negotiable
11655		11-AUG-16	CITIGROUP GLOBAL MARKETS INC.	NEW YORK	236,649.03			Negotiable
11656		11-AUG-16	SUMITOMO MITSUI BANKING CORPORATION	NEW YORK	17,027.87			Negotiable
11657		11-AUG-16	U.S. BANK NATIONALPAY ASSOCIATION		6,402.95			Negotiable
11658		15-AUG-16	U.S. BANK NATIONALST. LOUIS ASSOCIATION		9,560.82			Negotiable
11659		16-AUG-16	SUMITOMO MITSUI BANKING CORPORATION	NEW YORK	3,957.30			Negotiable
11660		16-AUG-16	BANK OF AMERICA	SAN	14,491.85			Negotiable

Payment Number	Sequence Num	Date	Supplier Name	Site	Payment Amount	Cleared Date	Cleared Amount	Status
11661		16-AUG-16	FILANC-BALFOUR BEATTY JV	FRANCISCO ACT 4427724347	5,656,031.34			Negotiable
11662		16-AUG-16	FILANC-BALFOUR BEATTY JV	ESR 211084000	628,447.93			Negotiable
11663		16-AUG-16	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	36,681.55			Negotiable

IRWD Ledger  
 BANK: Bank of America N.A. Branch : Los Angeles Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02  
 Bank Account Currency: USD ( US Dollar ) Account: Checking AP and PR Page: 33  
 Payment Type: All 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								
11664		17-AUG-16	U.S. BANK NATIONALPAY ASSOCIATION		16,356.65			Negotiable
11665		17-AUG-16	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	1,781,000.00			Negotiable
11666		19-AUG-16	MUNICIPAL WATER DISTRICT OF ORANGEVALLEY COUNTY	FOUNTAIN	1,339,409.47			Negotiable
11667		19-AUG-16	INTERNAL REVENUE SERVICE	FRESNO	191,224.36			Negotiable
11668		19-AUG-16	FRANCHISE TAX BOARD	SACRAMENTO	52,502.76			Negotiable
11669		22-AUG-16	EMPLOYMENT DEVELOPMENT DEPARTMENT	W SACRAMENTO	10,931.35			Negotiable
11670		22-AUG-16	ORDONEZ, CYNTHIA MARIE	DESERT HOT SPR	500.77			Negotiable
11671		22-AUG-16	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	SACRAMENTO	3,067.47			Negotiable
11672		22-AUG-16	EMPLOYEE BENEFIT SPECIALIST, INC	PAY	11,125.82			Negotiable
11673		22-AUG-16	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	DENVER	112,197.62			Negotiable
11674		24-AUG-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	4,075.73			Negotiable
11675		24-AUG-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	9,545.67			Negotiable
11676		30-AUG-16	PCL CONSTRUCTION, INC.	ACCT 6971821722	1,886,236.20			Negotiable
11677		30-AUG-16	PCL CONSTRUCTION, INC.	ESR 141511.1	209,581.80			Negotiable
11678		31-AUG-16	YORK INSURANCE SERVICES GROUP INC - CA	PAY	9,414.44			Negotiable
11679		31-AUG-16	BANK OF NEW YORK MELLON TRUST COMPANY NA	NEWARK	1,338,372.69			Negotiable

Payment Document Subtotal: 14,540,597.85  
 IRWD Ledger Payment Register For 01-AUG-16 To 31-AUG-16 Report Date: 02-SEP-2016 14:02  
 BANK: Bank of America N.A. Branch : Los Angeles Account: Checking AP and PR Page: 34  
 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 :					23,858,491.93		7,879,326.38	

Report Count : 864

Report Total: 23,858,491.93 7,879,326.38

Disbursements

\*\*\* End of Report \*\*\*

\$ 23,858,491.93 Disbursements  
 <1,518.68> Voids  
 \$ 23,856,973.25 Total Voids and Disbursements

## Exhibit "E"

### IRWD Gov Code 53065.5 Disclosure Report

Payment or Reimbursements for Individual charges of \$100 or more per transaction for services or product received.

01-AUG-16 to 31-AUG-16

NAME	CHECK NO.	CHECK DATE	TRANSACTION	ITEM DESCRIPTION	EXPENSE JUSTIFICATION
Brown, Morgan	370085	25-Aug-16	200.00	Other(Misc)	Safety Shoe Allowance
Cano, Marco	369684	11-Aug-16	120.00	Certification Renewal	Water Distribution Operator Grade D3
Cascelli, Craig	369869	18-Aug-16	164.00	Membership Renewal	CWEA membership renewal
Daniel, Matthew	369685	11-Aug-16	164.00	Membership Renewal	CWEA membership renewal
Doyle, Earl	369680	11-Aug-16	105.00	Certification Renewal	Water Distribution Operator Grade D4
Garcia, Jose	369681	11-Aug-16	105.00	Certification Renewal	Water Distribution Operator Grade D5
Johnson, Dane	370077	25-Aug-16	130.50	Other(Misc)	OCWD Case Research certified copies
LaMar, Steven	369687	11-Aug-16	137.08	Lodging	ACWA Board mtg., Sacramento, CA - July 28, 2016
Leal, Eliberto	370079	25-Aug-16	164.00	Membership Renewal	CWEA membership renewal
Matheis, Mary Aileen	370084	25-Aug-16	324.88	Lodging	CA Water Law & Policy Conf., San Francisco - Jun 12-14, 2016
Matheis, Mary Aileen	370084	25-Aug-16	324.88	Lodging	CA Water Law & Policy Conf., San Francisco - Jun 12-14, 2016
Perez, Cesar	369678	11-Aug-16	172.00	Certification Renewal	CWEA Membership & Mechanical Tech Grade III Certification
Schreiner, Terrance	370088	25-Aug-16	270.00	Certification Renewal	Electrical/Instrumentation Grade 4 certification
Seesangrit, Melody	369871	18-Aug-16	475.12	Lodging	CUWCC Peer to Peer Conf., San Francisco, CA - June 1-2, 2016
Silva, Jose	370083	25-Aug-16	150.66	Other(Misc)	Safety Shoe Allowance
Solis, Henry	370080	25-Aug-16	172.00	Membership Renewal	CWEA Membership renewal
Spangenberg, Carl	369677	11-Aug-16	297.00	Membership Renewal	WEF 2016 Membership Renewal
Stuvick, Lindsey	369682	11-Aug-16	475.12	Lodging	CUWCC Peer to Peer Conf., San Francisco, CA - June 1-2, 2016
<b>Total Amount:</b>			<b>\$3,951.24</b>		

September 26, 2016

Prepared by: H. Cho/M. Cortez

Submitted by: K. Burton *(KLB)*

Approved by: Paul Cook *(Signature)*

## CONSENT CALENDAR

### DYER ROAD WELLFIELD WELL 3 REHABILITATION BUDGET ADDITION AND CONTRACT CHANGE ORDER

#### SUMMARY:

The Dyer Road Wellfield (DRWF) Well 3 Rehabilitation Project will rehabilitate the well to remove chemical and biological material from the well's louvers and restore its production capacity. Staff recommends that the Board:

- Authorize the addition of Project 4327 to the FY 2016-17 Capital Budget in the amount of \$1,112,100, and
- Authorize the General Manager to execute Contract Change Order No. 5 with General Pump Company in the amount of \$236,006 for the Dyer Road Wellfield Well 3 Rehabilitation.

#### BACKGROUND:

In November 2015, General Pump Company was awarded the construction contract for the Dyer Road Wellfield Well No. 3 Rehabilitation Project to remove chemical and biological material from the well's louvers and restore production capacity. A location map of Well 3 is attached as Exhibit "A". General Pump began rehabilitation activities in January 2016, and brushing and bailing, air bursting and sonar jetting activities were completed by March 2016. During chemical development of the well, the chemical injection swab became stuck near the bottom of the well due to sediment entering the well. This issue was recently resolved by General Pump and rehabilitation of the well is ready to proceed.

#### Contract Change Order (CCO) No. 5:

Video inspection of Well No. 3 has identified at least seven holes in the louvered area, as well as several cracks. The District's consultant, Richard Slade & Associates, and General Pump both recommended the installation of a liner, since proceeding with well rehabilitation work without a liner would likely cause additional damage to the well louvers and cause more sediment to enter the well.

Staff received a proposal from General Pump in the amount of \$236,006 and a second proposal from Best Drilling in the amount of \$215,000 for the installation of the well liner and associated gravel pack. Staff found that the proposals from General Pump and Best Drilling differed in scope as Best Drilling did not provide costs for sound panels, survey of the installed liner, airburst of the new gravel pack, bailing and disposal after the liner is installed, and video inspection after liner installation. Subtracting these items from General Pump's proposal for comparison, General Pump's total was \$183,404. Based on this, staff recommends the approval of CCO No. 5, which is attached as Exhibit "B", in the amount of \$236,006 with General Pump; The well liner has a delivery time of four weeks, and installation will take approximately two

weeks. Once the well liner is installed, completion of the remaining rehabilitation activities will take approximately eight weeks. Staff anticipates that construction will be completed by December 31, 2016.

FISCAL IMPACTS:

Project 4327 was originally scheduled to be completed by May 31, 2016 and was therefore excluded from the FY 2016-17 Capital Budget. Staff requests the addition of Project 4327 to the FY 2016-17 Capital Budget to fund the construction of the well liner as shown in the table below.

<u>Project No.</u>	<u>Current Budget</u>	<u>Addition &lt;Reduction&gt;</u>	<u>Total Budget</u>
4327	\$-0-	\$1,112,100	\$1,112,100

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 with the Orange County Clerk/Recorder on May 29, 2015.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF PROJECT 4327 TO THE FY 2016-17 CAPITAL BUDGET IN THE AMOUNT OF \$1,112,100; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE CONTRACT CHANGE ORDER NO. 5 WITH GENERAL PUMP COMPANY IN THE AMOUNT OF \$236,006 FOR THE DYER ROAD WELLFIELD WELL 3 REHABILITATION, PROJECT 4327.

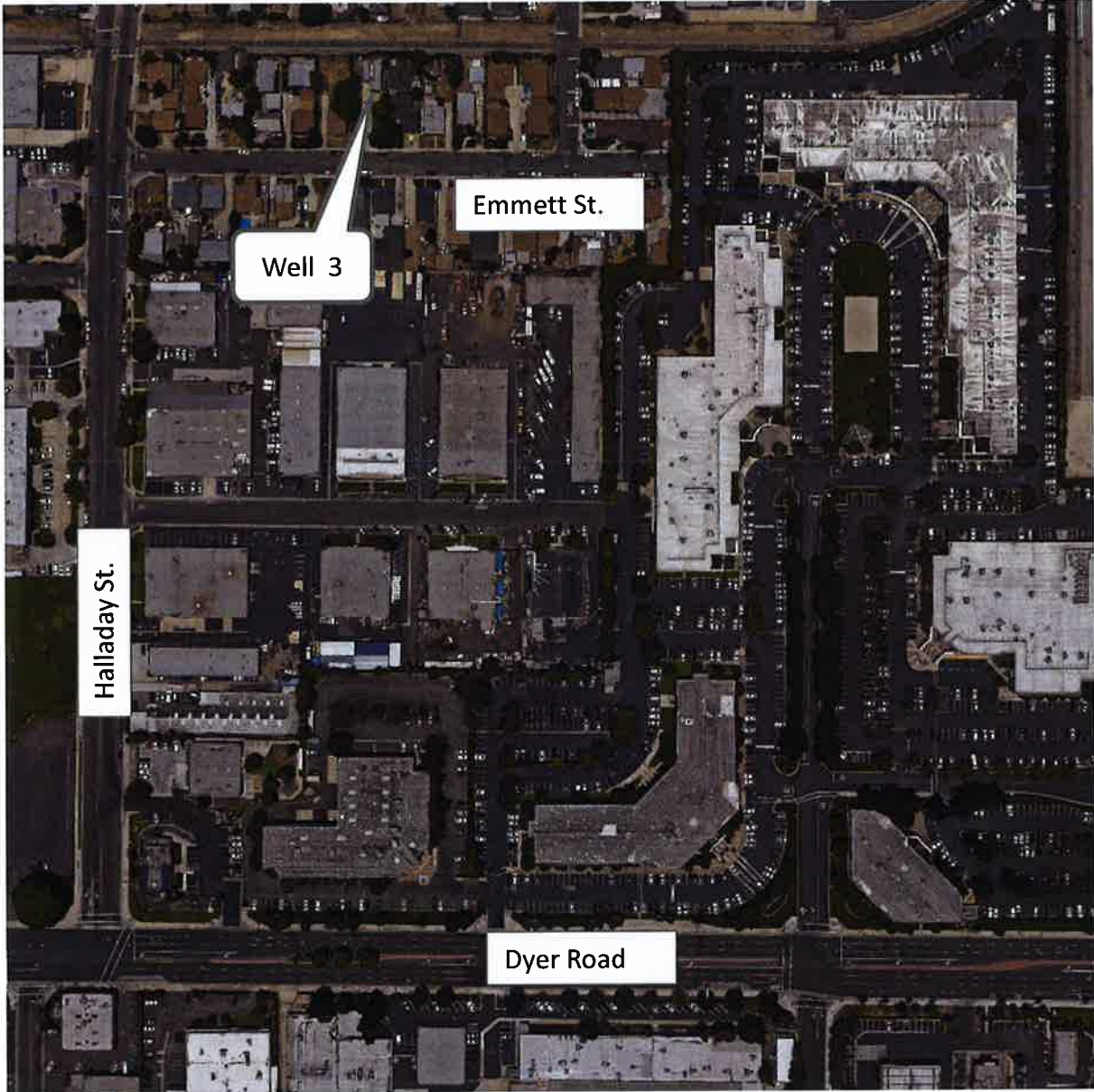
LIST OF EXHIBITS:

- Exhibit "A" – Location Map
- Exhibit "B" – Contract Change Order No. 5



# EXHIBIT "A"

DRWF Well No. 3



# EXHIBIT "B"

## CONTRACT CHANGE ORDER

IRVINE RANCH WATER DISTRICT  
 15600 Sand Canyon Avenue  
 Irvine, California 92619  
 (949) 453-5300



C.O. No. 5  
 Final

Project No. 11672 (4327)

Dyer Road Well Field Well 3 Rehabilitation  
 Project Title

Date: September 13, 2016

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	\$ ADDITIONS	\$ DELETIONS	DAYS ±
1. Additional work to install a liner in the well and perform well development after the liner is installed as described in the attached documents. Non-compensatory time extension of 144 calendar days is included for the additional work.	\$236,006.00	\$-0-	144
The project completion date shall be revised from August 8, 2016 to December 30, 2016.			
<b>TOTAL</b>	<b>\$236,006.00</b>	<b>\$-0-</b>	<b>144</b>
			DAYS ±

1. NET AMOUNT THIS CHANGE ORDER	=	\$236,006.00
2. ORIGINAL CONTRACT AMOUNT	=	\$477,657.00
3. TOTAL PREVIOUS CHANGE ORDER(S)	=	\$48,750.00
4. TOTAL BEFORE THIS CHANGE ORDER (2+3)	=	\$526,407.00
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	=	\$762,413.00

We hereby agree to make the above change subject to the terms of this change order for the sum of: \_\_\_\_\_

Two Hundred Thirty Six Thousand Six and 00/100 ----- Dollars

9/19/16                      General Pump Company Inc.                      J. R. Long  
 Date                                      Contractor                                      By

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED
<u>H. C. Wu</u> IRWD Engineer or Consulting Engineer	<u>9/19/16</u> Date	Department Director Approval Required <input type="checkbox"/>
<u>Ravin T. Burt</u> Principal Engineer	<u>9/20/16</u> Date	Executive Director Approval Required <input type="checkbox"/>
Executive Director of Engineering & Water Quality	Date	General Manager Approval Required <input type="checkbox"/>
General Manager	Date	Board Approval Required <input checked="" type="checkbox"/>
		Purchase Order No. _____

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.



159 N. ACACIA STREET \* SAN DIMAS, CA 91773  
PHONE: (909) 599-9606 \* FAX: (909) 599-6238

CAMARILLO, CA 93010 \* PHONE: (805) 482-1215  
www.genpump.com

**WELL & PUMP SERVICE SINCE 1952**  
*Serving Southern California and Central Coast*

Lic. #496765

August 18, 2016

*Via Email*

Irvine Ranch Water District  
3512 Michelson Drive  
Irvine, California 92612  
Attn: Harry Cho

**Subject: Dyer Well 3**

Dear Mr. Cho:

General Pump Company is pleased to submit our quote to reline and perform some well development after the partial liner has been installed. It is requested that the entire site with the exception of the most northern lot boundary contain sound blankets to protect the homes in close proximity to the well location. Since this is a partial liner, gravel is to be placed through the pipe used to lower the liner into place. A release tool shall be fabricated allowing for gravel pack to gravity feed around the outside of the 12" diameter. Liner gravel is to be placed from approximately 1200' bgs to 450' bgs. Also due to site constraints, the liner will have to be installed in lengths not to exceed 20'.

Listed below is a summary along with the associated cost in connection with the liner and well development work at Dyer Well 3.

Cost

- Mobilization / Demobilization (bonds, insurance, welding materials, porta potty and miscellaneous).
- Set up / tear down sound panels. (Includes rental for one month).
- Perform dual gyroscopic survey, 3 rpm caliper, and submit AWWA calculations for misalignment and effective casing diameter. Pacific Survey (*IRWD Cost*)
- Submit final calculations, survey results, and CAD drawing of proposed liner inside of original casing for approval.
- Fabricate "J" hook release assembly.
- Supply and install 16" 304L stainless steel blank .25" wall, ASTM A778, spiral welded blank casing with centralizers.
- Supply and install new 12.75" OD continuous wire wrap screen, stainless steel 304, .050" slot, .165 wire x .0217" rod, weld rings with centralizers.
- Supply and install a 16" x 12" 304 stainless steel concentric reducer.



Mr. Harry Cho  
Irvine Ranch Water District  
August 18, 2016  
Page -2-

- Supply and install 12.75" OD x .25" wall, ASTM A778, stainless steel type 304L blank pipe beveled ends per submittal.

*Cost (Continued)*

- Gravel pack well using SRI .250
- AirBurst® (no approved equal) for two (2) 8-hour days to consolidate the new gravel pack.
- Set up 18 cu/yd roll-off bin for bailed material.
- Analytical for proper disposal, plus disposal costs.
- Bail well back to bottom.
- Contain and properly dispose the bailed material.
- Video log well with two (2) DVD copies and reports using camera with slot scan capabilities.

*Total Cost (includes Freight, Sales Tax, Shop Labor & Engineering)*                      **\$ 236,006**

Should you have any questions or need additional information regarding the above summary and cost for the Dyer Well 3 project, please do not hesitate to contact us.

Thank you.

Sincerely,

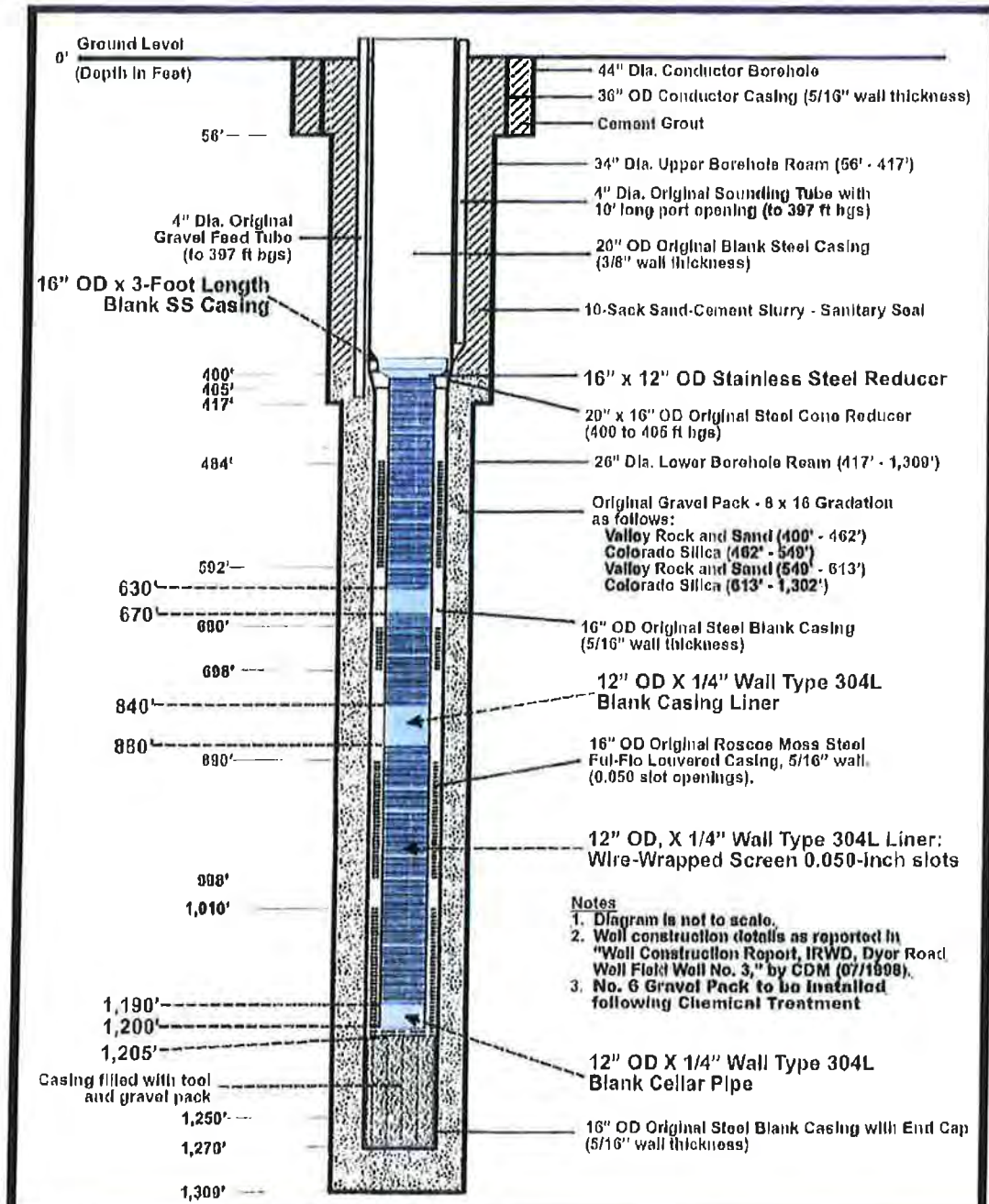
**GENERAL PUMP COMPANY, INC.**

*Tom Nanchy*

Tom Nanchy  
Sr. Project Manager / Project Engineer

*Michael Garcia*

Michael Garcia  
Asst. Project Manager / Project Engineer



**RICHARD C. SLADE & ASSOCIATES LLC**  
CONSULTING GROUNDWATER GEOLOGISTS  
14051 Burbank Blvd., Suite 300  
Sherman Oaks, CA 91401  
Southern California: 818-508-0418  
Northern California: 707-963-3914  
Fax (818) 508-1343

**FIGURE 1**  
**AS-BUILT WELL & LINER DIAGRAM**  
**IRWD DRWF WELL NO. 3**

Job No. 382-OGE15-3

August 2016

September 26, 2016

Prepared by: C. Spangenberg/M. Cortez

Submitted by: K. Burton

Approved by: Paul Cook

## CONSENT CALENDAR

### DYER ROAD WELLFIELD WELL 7 AND IRVINE DESALTER PROJECT WELL 107 REHABILITATION CONSULTANT SELECTION

#### SUMMARY:

Dyer Road Wellfield (DRWF) Well 7 and Irvine Desalter Project (IDP) Well 107 have experienced decreased production over the years and need to be rehabilitated. Staff received proposals from hydrogeology consulting firms to prepare a rehabilitation design and to provide construction oversight for the rehabilitation of both DRWF Well 7 and IDP Well 107. Staff recommends that the Board:

- Authorize the addition of IDP Well 107 Rehabilitation in the amount of \$770,000 to the FY 2016-17 Capital Budget, and
- Authorize the General Manager to execute a Professional Services Agreement in the amount of \$130,500 with Richard C. Slade & Associates for design and construction phase services for the DRWF Well 7 Rehabilitation and IDP Well 107 Rehabilitation.

#### BACKGROUND:

Two IRWD wells, DWRWF Well 7 and IDP Well 107, require immediate rehabilitation in order to improve their hydraulic performance. DRWF Well 7 was constructed in 1992 with copper bearing steel as the casing material. The specific capacity of DRWF Well 7 has decreased from 48 gallons per minute per foot (gpm/foot) of drawdown to the current specific capacity of 11.2 gpm/foot. A recent video survey has shown that the casing louvers have become plugged, and was taken offline in February 2016.

IDP Well 107 was constructed in 2012 and is one of five wells that provide a raw water source of supply to the IDP. The casing material is 316 stainless steel. Like DRWF Well 7, the specific capacity of IDP Well 107 has decreased over time. This well is located within the Irvine Sub-Basin where wells typically experience extensive bio-growth (iron-related bacteria) that result in plugging of the louvers. In addition, the sanding rate has increased fivefold since the well was constructed resulting in significant plugging and an increase in cartridge filter replacement at the Irvine Desalter membrane facility. The well completion summary report reflected that the well's original specific capacity of 8.7 gpm/foot has decreased to 4.2 gpm/foot. The average flow rate for IDP Well 107 last year was approximately 759 gpm; the current pumping rate has dropped to 588 gpm.

#### Consultant Selection:

Proposals for design and construction phase services for the rehabilitation of DRWF Well 7 and IDP Well 107 were received from Richard C. Slade & Associates (RCS), Thomas Harder & Company and Wood Rogers. Staff recommends awarding a Professional Services Agreement to RCS as its design approach and level of effort are consistent with the project goals. RCS has

extensive knowledge and experience with the geohydrology and rehabilitation of wells located in the Main Orange County Groundwater Basin and the Irvine Sub-Basin, and has worked on previous well projects including the successful rehabilitation of DRWF Wells 2 and 5, and Wells ET-1 and ET-2. Currently, RCS is providing hydrogeologist services for DRWF Wells 3 and 18. The Consultant Selection Matrix is presented as Exhibit "A". RCS's proposal is in the amount of \$130,500 and is included as Exhibit "B".

FISCAL IMPACTS:

DRWF Well 7 Rehabilitation, project 7093 is included in the FY 2016-17 Capital Budget and the existing budget is sufficient to fund the design of the project. Staff requests the addition of IDP Well 107 Rehabilitation, project 7589 to the FY 2016-17 Capital Budget as shown in the table below.

Project No.	Current Budget	Addition <Reduction>	Total Budget
7093	\$770,000	\$-0-	\$770,000
7589	\$-0-	\$770,000	\$770,000
Total	\$770,000	\$770,000	\$1,540,000

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, the appropriate environmental document will be prepared when "meaningful information" becomes available. It is expected that preliminary analysis will lead to preparation of a Notice of Exemption for the project.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF IRVINE DESALTER PROJECT WELL 107 REHABILITATION, PROJECT 7589, IN THE AMOUNT OF \$770,000 TO THE FY 2016-17 CAPITAL BUDGET, AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT IN THE AMOUNT OF \$130,500 WITH RICHARD C. SLADE & ASSOCIATES FOR THE DYER ROAD WELLFIELD WELL 7 REHABILITATION AND IRVINE DESALTER PROJECT WELL 107 REHABILITATION, PROJECTS 7093 AND 7589.

LIST OF EXHIBITS:

- Exhibit "A" – Consultant Selection Matrix
- Exhibit "B" – Richard C. Slade & Associates Scope of Work and Fee Proposal

# EXHIBIT "A"

## EXHIBIT "A"

### CONSULTANT SELECTION MATRIX

DRWF Well 7 and IDP Well 107 Rehabilitations

Item	Description	Weights	Richard C. Slade & Associates		Thomas Harder & Company		Wood Rogers	
A	<b>TECHNICAL APPROACH</b>	<b>40%</b>						
1	Overall Project Understanding / Approach	40%	1		2		3	
2	Scope of Proposal	60%	1		3		2	
	<u>Weighted Score (Technical Approach)</u>		1.0		2.6		2.4	
B	<b>QUALIFICATION AND EXPERIENCE</b>	<b>60%</b>						
1	Firm/Team	60%	1		2		3	
2	Project Manager	40%	Earl LaPensee-30 Years	1	Tom Harder-27 Years	2	Russell Kyle-19 Years	3
	<u>Weighted Score (Experience)</u>		1.0		2.0		3.0	
	<b>COMBINED WEIGHTED SCORE</b>		1.0		2.2		2.8	
	<b>Ranking of Consultants</b>		1		2		3	
C	<b>SCOPE OF WORK</b>							
TASK	Well 7		Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Review Video Surveys and Available Information		28	\$4,640	48	\$5,740	25	\$4,343
2	Prepare Technical Specifications and Project Manual		37	\$6,180	104	\$12,320	39	\$6,336
3	Provide Bid Phase Support		12	\$2,400	11	\$1,440	7	\$1,213
4	Construction Phase Services and Project Management		200	\$24,400	226	\$22,800	206	\$24,921
5	Preparation of Summary Reports		25	\$3,980	58	\$6,120	68	\$10,973
6	Miscellaneous Services			\$15,000		\$15,000		\$15,000
7	Optional Services			\$10,000		\$10,000		\$10,000
	<b>Subtotal Well 7</b>		<b>302</b>	<b>\$66,600</b>	<b>447</b>	<b>\$73,420</b>	<b>345</b>	<b>\$72,786</b>
	Well 107							
1	Review Video Surveys and Available Information		28	\$4,640	37	\$5,270	25	\$4,343
2	Prepare Technical Specifications and Project Manual		37	\$6,180	-	\$0	39	\$6,336
3	Provide Bid Phase Support		12	\$2,400	11	\$1,440	7	\$1,213
4	Construction Phase Services and Project Management		179	\$21,700	210	\$21,285	228	\$27,449
5	Preparation of Summary Reports		25	\$3,980	50	\$5,320	68	\$10,973
6	Miscellaneous Services			\$15,000		\$15,000		\$15,000
7	Optional Services			\$10,000		\$10,000		\$10,000
	<b>Subtotal Well 107</b>		<b>281</b>	<b>\$63,900</b>	<b>308</b>	<b>\$58,315</b>	<b>367</b>	<b>\$75,314</b>
<b>TOTAL</b>			<b>583</b>	<b>\$130,500</b>	<b>755</b>	<b>\$131,735</b>	<b>711</b>	<b>\$148,100</b>
D	<b>OTHER</b>							
	Sub Consultants	Hydrogeo	In-House		In-House		In-House	
	Exceptions taken to IRWD Std. Contract		None		None		None	
	Insurance (Professional & General Liability)		None		None		None	

9/15/2016



# EXHIBIT "B"



**RICHARD C. SLADE & ASSOCIATES LLC**  
**CONSULTING GROUNDWATER GEOLOGISTS**

September 6, 2016

Mr. Carl Spangenberg  
Irvine Ranch Water District  
P.O. Box 57000  
Irvine, California 92619-2016

Job No. 382-OGE16-7&107

Re: Proposal for Hydrogeologic Services  
Rehabilitation of Dyer Road Well Field Well No. 7 and  
Irvine Desalter Project Well No. 107  
Irvine Ranch Water District, California

Dear Mr. Spangenberg:

Richard C. Slade & Associates LLC, Consulting Groundwater Geologists (RCS), is pleased to submit this proposal for providing hydrogeologic office and field services for the rehabilitation of Irvine Ranch Water District (IRWD) Dyer Road Well Field (DRWF) Well No. 7 and Irvine Desalter Project (IDP) Well No. 107, located in the cities of Santa Ana and Irvine, respectively, in Orange County, California. This proposal is submitted in response to a request for proposals (RFP), dated August 18, 2016, and distributed by IRWD to various consultants. Appendix A of this proposal provides a statement of our qualifications and a summary of the various well construction and rehabilitation services that RCS has provided for many years on numerous municipal-supply wells in southern California.

RCS has considerable experience in performing evaluations of existing wells and in providing office and field monitoring services during well rehabilitation operations. Indeed, our firm has evaluated, assisted in the preparation of Technical Specifications and Bid Documents, and provided field oversight services for rehabilitation of several other IRWD wells, including DRWF Well Nos. 2 and 5, Wells ET-1 and ET-2, and Well No. 18. Currently, RCS is providing field services for the rehabilitation of IRWD Well No. 3. Further, RCS was present to oversee the original design and construction services on IDP Well No. 107 in 2011 and, thus, we are very familiar with its construction and original pumping characteristics.

We trust that our experience in well rehabilitation activities, as documented herein in Appendix 1, meets with your approval. We appreciate this opportunity to present our proposal for the rehabilitation of these two wells, and look forward to once again working with you and your staff on a groundwater-related project.

Respectfully submitted,  
RICHARD C. SLADE & ASSOCIATES LLC

A handwritten signature in black ink, appearing to read "Richard C. Slade".

Richard C. Slade, President and  
Principal Groundwater Geologist

14051 BURBANK BLVD., SUITE 300, SHERMAN OAKS, CALIFORNIA 91401  
SOUTHERN CALIFORNIA: (818) 506-0418 • NORTHERN CALIFORNIA: (707) 963-3914  
WWW.RCSLADE.COM

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**UNDERSTANDING THE PROJECT**

Well rehabilitation is a frequently necessary process to improve the efficiency and pumping capacity, and to extend the longevity of existing water-supply wells. Generally, a well may require rehabilitation for a number of observed conditions, including:

- The well loses its ability to pump at its former rate, or at the rate at which it was originally placed online, or it ceases to pump at all.
- The specific capacity of the well has declined considerably over time.
- The pumping water level in the well has declined either rather quickly or over a longer period of time, even though the pumping rate and the static water level have remained relatively constant over the same period of time.
- The well begins to pump sand and/or gravel pack.

The causes for these observed conditions can be due to many reasons, such as:

- Biological fouling of the perforations and gravel pack, resulting in plugged conditions, thereby decreasing the production rate and specific capacity.
- Development of holes in the well casing and/or enlargement of the perforations, resulting in the production of sand and/or gravel pack.
- Pump, motor, and/or electrical problems, resulting in decreased production rates.

When considering well rehabilitation, site-specific data from the well in question must be evaluated to determine possible causes of the newly-observed conditions. Therefore, it is imperative to obtain and review available data on historic and current static and pumping water levels, water quality, specific capacity tests, well construction, previous well rehabilitation work, production rates, video logs, etc. Review of such data can help identify the potential reason(s) for the decreases in well performance and the rehabilitation steps that need to be undertaken.

Generally, it is advantageous to separate the well rehabilitation program into two distinct phases and in the case of the two subject wells, possible well evaluation and rehabilitation options could be as follows:

**Phase 1 – Initial Operations**

1. Conduct a static (non-pumping) dynamic flowmeter (spinner) survey in both wells, prior to removing their respective pumps, in order to determine the current pre-rehabilitation intra-well flow regime. IRWD can perform these surveys by subcontracting a logger to perform such work.
2. Perform an initial video survey of IDP Well No. 107, after removing its pump, so a better evaluation of current downwell conditions can be made. DRWF Well No. 7 already had a video survey performed in May 2016 and that can be reviewed immediately.
3. When removing the pump motor, column and bowls from each well, inspect and measure all apparatus (both in the field and at the pumping contractor's shop);

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examine the scale from the pump apparatus and possibly send samples of the scale for specialized laboratory analysis.

4. Sound each well to determine the amount of sediment fill in the bottom of the casing, and then bail that sediment from the bottom of the casing; examine the collected sediments and possibly conduct laboratory analysis (if deemed necessary).
5. Review the video survey logs and the static and dynamic spinner surveys, and assess the current downhole condition(s) of each well. A Memorandum will then be prepared to discuss our findings, conclusions and recommendations, and to present the preliminary well rehabilitation options formulated for each well.

**Phase 2 – Tentative Operations for Rehabilitation**

The following lists specific but preliminary well rehabilitation operations that could be performed in each well. However, final well rehabilitation operations need to be determined following a more complete review of the newly-generated data and information (from the Phase 1 work). For this Phase 2 work, a set of Technical Specifications and Line Item Bid Sheets will be prepared to provide the final well rehabilitation operations that can be performed on the well. These operations may include:

1. Mechanical cleaning, including wire brushing and using the AirBursting® or Bore Blasting® methods.
2. It may be necessary to swage in patches or install a casing liner in DRWF Well No.7 and this will need to be determined prior to conducting any downwell work. However, IDP Well No. 107 will not need to have a swaged patch or casing liner.
3. Dual swab airlifting and swabbing, including chemical treatment, using appropriate available solutions or acids determined necessary by earlier findings from the initial Phase 1 operations.
4. Re-developing and re-testing the well with a temporary test pump to determine possible improvements in specific capacity.
5. Having the Contractor do the necessary repairs or replacement of the permanent pump, column, etc.
6. Installing the permanent pump, with the intake set at a depth that is deep enough for anticipated pumping levels, but still within a section of blank casing (if possible).
7. Testing the well with the permanent pump to obtain its current (new) specific capacity.

Further, it is understood that rehabilitation of the wells will be conducted in parallel. This assumes that both wells will be in a shut-down state at the same time. Such a parallel arrangement for the work might be feasible for performing video survey. However, based on our previous experience the well rehabilitation tasks will need to be performed sequentially, as the Contractor moves from site to site with equipment. Nonetheless, we are assuming in this proposal that rehabilitation of the wells will be performed in parallel.



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**SCOPE OF HYDROGEOLOGIC SERVICES**

Our proposed Scope of Hydrogeologic Services generally follows those tasks stated in the IRWD RFP. The recommended services described herein are based on our previous experience in the rehabilitation of wells with IRWD, which consequently has allowed RCS to develop, in conjunction with IRWD staff, an efficient and cost effective approach to conducting a well rehabilitation program.

**Task 1 – Review and Evaluate Well Data & Prepare Memoranda**

Under this task, RCS will prepare for and attend an initial, “kick-off” meeting with IRWD Staff with regard to discussing the goals and parameters of the rehabilitation project for the two wells. During this Kick-off meeting, RCS will conduct a visit to each site to further help assess current site-specific conditions for logistical considerations (such as access, discharge points, presence of utilities, storage room, and the presence of nearby residences).

Following the Kick-off meeting, RCS will review available data for each well, as provided by IRWD (including any video surveys), and assess previous work that may be conducted (above). Further, we will review our company files for any data and/or information on hydrogeologic conditions in the vicinity of the two wells. It is understood that Well No. 7 has a relatively recent video survey (performed in May 2016) that can be reviewed immediately by RCS. However, Well No. 107 has had no recent video survey, and it is recommended that such a video survey be performed for IRWD.

Following review of the data, a Memorandum for each well will be prepared with regard to its current observed downwell conditions. These Memoranda will include our preliminary recommendations as to what future rehabilitation options might be implemented in each well, and these will be used as guidance for our subsequent preparation of the Technical Specifications for Rehabilitation. We would like to note that RCS has already performed an evaluation of DRWF Well No. 7 and submitted a Memorandum in this regard to IRWD Staff in 2009.

**Task 2 – Prepare the Project Manual for Rehabilitation of the Two Wells**

Based on the available well data, and on the results of the site visits and on our review of the downwell surveys, RCS shall prepare the Project Manual. This document will include the Technical Specifications and Line Item Bid Sheets for well rehabilitation operations for each well. Only one Project Manual set will be prepared for the rehabilitation of both wells, and the work can then be bid out by IRWD and performed under a single contract.

The Technical Specifications portion of the Project Manual will generally include the following well rehabilitation elements:

1. Equipment to be utilized and size of work area needed.
2. The possible need for additional site security fencing.
3. The type of site preparation work needed at each site before the contractor mobilizes is equipment.
4. Sound/noise mitigation/security measures, if needed.

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5. Video surveys to be performed during and following rehabilitation of the wells.
6. The depth intervals of well casing to be rehabilitated.
7. The possible installation of a liner (to mitigate possible downwell sanding problems).
8. The type of mechanical well rehabilitation methods will be evaluated and included in the Technical Specifications, as needed. These methods could include the following:
  - o Wire brushing & bailing.
  - o Dual-swab airlifting and surging.
  - o "Air-Jetting", consisting of either the Airburst® or Bore Blast® methods.
9. The type of various chemicals and emplacement methods that might be needed during chemical rehabilitation (if deemed necessary). For each well, RCS has previously developed an effective chemical rehabilitation method for other IRWD wells using HercChemTec-formulated chemical mixes.
10. Discharge locations and treatment options/consideration for the discharge of all fluids generated from each well during all rehabilitation tasks (especially if chemicals are used).
11. Parameters for pumping development and well testing.
12. Discharge requirements and NPDES permit compliance.
13. A bid item for repair/replacement of the permanent pump by the Contractor.
14. Other work, if deemed necessary in subsequent review of well conditions (e.g., the need for well patches or liners, although these are not anticipated to be needed at IDP Well No. 107 but might possibly be necessary at DRWF Well No. 7).

A line item estimate for the probable cost of the rehabilitation work will also be prepared for each well. This will be provided to IRWD to permit comparison of bids received. The Technical Specifications will be prepared to account for the rehabilitation of both wells under a single well rehabilitation contract. We assume that IRWD will be sending out the entire well rehabilitation package for competitive bidding. This task also includes a meeting between RCS and IRWD Staff to review and discuss the final Project Manual.

**Task 3 – Provide Bid Phase Support**

RCS will provide bid phase support to IRWD. This support will consist of conducting a pre-bid meeting and the preparation of two bid addenda, as necessary. The purpose of the pre-bid meeting is to help potential bidders better understand site logistics such as access, available water supply, location of utilities, and fluids disposal options at each well site. Prime consideration will be focused on discharge of fluids from the rehabilitation and subsequent testing of each well.

RCS will prepare for and attend a single pre-bid meeting for both wells, provide pre-bid clarifications to the bidders and preparing the two bid addenda, if necessary. We will also assist IRWD in the review and analysis of bids received. Also, prior to commencement of field activities, RCS will attend an initial pre-rehabilitation meeting with the Contractor (a single

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meeting for both wells). This will be to acquaint the Contractor selected by IRWD with the project goals and discuss final scheduling issues and lines of communication.

**Task 4 – Field Monitoring of Well Rehabilitation Operations (IRWD Construction Phase Services)**

Once a contract has been awarded to the successful bidder by IRWD, RCS geologists will be available to provide field observation of Contractor activities at each well site. This observation is to provide the IRWD with a record of Contractor activities at the site and to help document that the Contractor performed the work in compliance with the Technical Specifications. Tasks that RCS will perform during the rehabilitation project for the two wells could likely consist of the following:

- Subtask 4.1: Pump Removal. Observe the removal of the permanent pump from each of the wells.
- Subtask 4.2: Brushing and Bailing. Observe the wire brushing of each well casing and removal of sediment fill, via bailing. The RCS geologist will be present to measure the brush, to check if it is of the correct diameter, and observe this brushing. It is anticipated, at this time, that only one day of brushing and bailing will be performed in each well.
- Subtask 4.3: Downwell Surveys. Observe the Casing Inspection Thickness Measurement (CITM) tool surveys of each well. It should be noted here that the CITM is a heavy tool (weighing  $\pm 250$  lbs) and will need a crane to lift it. Thus, the use of this particular tool and the necessary crane will be provided for in the Technical Specifications for this well. This subtask will also include conducting at least three (3) interim downwell video surveys during the rehabilitation of each well.
- Subtask 4.4: "Air-Jetting".  
Observe "Air-jetting" methods conducted by the Contractor, for each well. At the current time, it is anticipated that the AirBursting® or BoreBlast® methods will be utilized by the Contractors. An RCS geologist will be present onsite when the selected method is being performed.
- Subtask 4.5: Chemical Development. Performing chemical development of the well. This chemical development will involve the use of HerChemTec-formulated chemical mixtures to be injected into each well by the contractor selected by IRWD to perform the work. The onsite RCS geologist will record the volumes and types of chemicals used in the process and during use of a dual-swab tool for chemical emplacement.
- Subtask 4.6: Swage and Liner Installation. It is anticipated that the installation of patches or a full casing liner may be needed for DRWF Well No. 7. Thus, RCS will be present to observe the installation of either these patches, or the full liner. This will include RCS time for reviewing the gyroscopic alignment survey to check the deviation of the casing.
- Subtask 4.7: Swabbing & Airlifting. Monitor dual swab airlifting and swabbing to removal the chemicals and help redevelop the wells.

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- Subtask 4.8: Pumping Redevelopment. RCS will be present on a part-time basis, during startup and near the end of pumping development at each well. RCS will obtain the pumping development sheets from the pumper, on a daily basis (via FAX or email), during the development process.
- Subtask 4.9: Pumping Tests. Pumping tests will follow pumping redevelopment. This testing will consist of a 12-hour step drawdown test and a 24-hour constant rate pumping test. Near the end of testing, it is possible that a dynamic spinner survey and depth specific sampling can be performed in each well. Thus, we are including time and costs for RCS field staff to be present for these end-of-test tasks.

Further, Title 22 water samples will be collected by the onsite field geologist who will then deliver the samples to the IRWD laboratory. In addition, RCS will temporarily equip each well with a downwell pressure transducer to record changes in water levels during testing. Further, the onsite field geologist will measure specific field water quality parameters while onsite, including temperature, electrical conductivity, pH, turbidity and other key field parameters, such as dissolved oxygen (DO) and the oxidation-reduction potential (ORP). It is assumed that the Contractor will obtain a National Pollutant Discharge Elimination System (NPDES) permit and will collect samples for analysis, and fulfill the reporting requirements of the permit. Near the end of pumping, a final dynamic spinner survey will be performed in each well to help determine if any changes in downwell flow regime have occurred, as a result of the recent rehabilitation work.

- Subtask 4.10: Final Video Survey and Well Disinfection. Following test pump removal, a final video and static spinner survey of each rehabilitated well will be performed to help document the final post-rehabilitation condition of the wells. An RCS field geologist will be present at each well to observe these final surveys.
- Subtask 4.11: Re-Installation of the Permanent Pump (IDP Well No. 107 Only). Upon installation of the final pump by the Contractor, RCS will monitor/observe the installation of the permanent pump in each well. The RCS field geologist will be present on a full-time basis to document the Contractor's activities during pump installation through daily field notes and photographs and help check for compliance with the Technical Specifications.
- Subtask 4.12: Additional Services. RCS will provide IRWD with additional hydrogeologic services at the request of IRWD Staff, on an as-needed basis. These services will be used if additional and/or unanticipated services are needed on the project. It is understood, through the RFP, that we are to establish a budget of \$30,000 for this task and that written authorization from IRWD will need to be obtained prior to any work requested by its staff. Our work during this task will be on a time & expense (T&E) basis.

**Task 5 – Preparation of Summary Reports**

Prepare a separate Summary of Well Rehabilitation Operations report for each well to help document its rehabilitation operations. Each report will discuss rehabilitation operations and summarize our observations regarding the actual rehabilitation work performed on each well.



Proposal for Hydrogeologic Services  
Rehabilitation of Dyer Road Well Field Well No. 7 and  
Irvine Desalter Project Well No. 107  
Irvine Ranch Water District, Irvine, Orange County, California

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Final recommendations regarding new production rates will also be provided in the report. This report will consist of the following:

- A chronologic history of well rehabilitation operations.
- A description of each method used and the results of those methods.
- Daily field reports by the onsite field geologist.
- An evaluation/analysis of the final pumping tests in each well and an assessment of new pumping capacities and specific capacities.
- Recommendations for the pump depth setting and pumping rate for the permanent pump in each well.
- Discussion of the water quality conditions based on the final Title 22 sampling results.
- Photographs to help document rehabilitation methods.
- Supporting documentation on well rehabilitation operations, including but not limited to, the types and volumes of chemicals, the Contractor's daily records, pumping development and testing sheets, and laboratory results of collected water, bacteriological samples and/or scale samples.
- The reports will also have attendant tables, figures and drawings to help document work conducted on the two wells.

A Draft report will be submitted to the IRWD Staff for their review and comment. Following that review, IRWD comments will be incorporated and three (3) bound copies of the Final report along with an Adobe PDF file of the document will be submitted to IRWD.

**Task 6 – Miscellaneous Services**

The RFP has established a separate task for additional miscellaneous services. These services will be used only if there are additional unanticipated tasks that are not originally viewed as a part of the project. An amount of \$20,000 has been set aside by IRWD for this task and it is understood that this amount cannot be used by the consultant unless explicit approval is granted by IRWD Staff.

**RFP ITEMS UNDER “PROPOSAL CONTENTS”**

**RFP Item No. 1: Scope**

The Scope of Services proposed to be provided by RCS on this project is described in the previous section.

**RFP Item Nos. 2 & 3: Team and Experience**

The RCS Team has experience with similar types of well projects, and this experience is detailed in Appendix A.

**RFP Item No. 4: Budget**

An analysis of the estimated man-hours and costs, arranged by task and subtask, is provided in the Fee Proposal, which is submitted under separate cover per IRWD request.



Proposal for Hydrogeologic Services  
Rehabilitation of Dyer Road Well Field Well No. 7 and  
Irvine Desalter Project Well No. 107  
Irvine Ranch Water District, Irvine, Orange County, California



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**RFP Item No. 5: Joint Venture**

Office and field monitoring of contractors performed on this project will be conducted solely by RCS geologists. There is no joint venture associated with this project.

**RFP Item No. 6: Conflict of Interest**

The firm of RCS does not current have any conflict of interest associated with IRWD or any other firm that may be contracted with IRWD for work on this project.

**RFP Item No. 7: Insurance**

RCS carries both general and professional liability (errors and omissions) in the amount of \$1,000,000, each. Proof of these limits will be provided to IRWD when needed.

**RFP Item No. 8: Contract**

RCS has reviewed IRWD's Agreement for Professional Services contract and takes no exceptions to it, except with respect to the \$2M dollar aggregate limit for Professional Liability coverage. Over the years, RCS has maintained a limit of \$1M for its Professional Liability coverage. All of our prior clients have accepted this limit; it is the industry standard. Nonetheless, it is understood that IRWD requires an aggregate of \$2,000,000 and RCS does currently have this type of coverage and, thus, can meet the requirements of the IRWD professional services agreement.

**RFP Item No. 9: Public Work Requirements**

It is understood that if the "Engineer" or any tiered level of its subconsultant(s) or subcontractor(s) performs work on the project, including but not limited to "geotechnical, surveying or inspection work" or any other work determined by the California Department of Industrial Relations (DIR) to constitute "public work," then the Engineer and its subconsultants and subcontractors must be registered with the DIR.

However, review of Senate Bill 854, which was enacted in June 2014, and other online information from the Department of Industrial Relations, with regard to Public Works Projects, reveals that there are no provisions for consultants on such projects. Rather, the regulations appear to apply solely to contractors and subcontractors that perform the actual construction activities.

As such, RCS is a consultant employing degreed and licensed geologists and professional groundwater geologists, who will not be involved directly with or assist in any construction activities, and will not employ any subcontractors to perform any work at the site. Further, as such, RCS does not use inspectors but, rather, field geologists to perform monitoring of contractor activities, which is strictly observational in scope. RCS will observe and monitor the work with regard to compliance to the Technical Specifications for the project.



**RICHARD C. SLADE & ASSOCIATES LLC**  
**CONSULTING GROUNDWATER GEOLOGISTS**

**FEE PROPOSAL  
FOR HYDROGEOLOGIC SERVICES  
DYER ROAD WELLFIELD WELL NO. 7 & IRVINE DESALTER PROJECT WELL NO. 107  
IRVINE RANCH WATER DISTRICT**

This Fee Proposal provides an estimate of consulting costs prepared by Richard C. Slade & Associates LLC, Consulting Groundwater Geologists (RCS), for field and office services with regard to rehabilitation of Irvine Ranch Water District (IRWD) Dyer Road Wellfield (DRWF) Well No. 7 & Irvine Desalter Project Well No. 107, in Irvine, Orange County, California. The estimated budget for our costs is submitted in response to a recent Request for Proposal (RFP) distributed by the IRWD.

**COST ESTIMATE FOR HYDROGEOLOGIC SERVICES**

Attached Table 1 provides details of the RCS's costs for each of the tasks listed in our Scope of Services, which has been provided under separate cover. For the proposed project Tables 1 and 2 provide our man-hour and cost analysis for each of the tasks and subtasks, for each well, listed in the Proposed Scope of Hydrogeologic Services, provided under separate cover. The cost for each well is as follows:

**DRWF Well No. 7:       \$66,600.00**  
**IDP Well No. 107:     \$63,900.00**

It should be noted here that in Task 4, Subtask 4.12, a cost of \$30,000.00, and Task 6, a cost of \$20,000, has been assigned per the IRWD RFP. These amounts have been split between the two wells at \$15,000 and \$10,000 each, respectively, and adds to the overall cost of the fee for the two wells (see Tables 1 & 2). These costs will be used only if IRWD authorizes these amounts, due to potential but unforeseen cost overruns in the rehabilitation of the two wells.

Our services will be billed on a time-and materials basis, with the total estimated cost representing a not-to-exceed limit within the limits of our assumptions presented below. RCS and its geologists are committed to this project. RCS is a small company and our professional staff of six people consists of experienced groundwater geologists. Our estimated fees are realistic and well considered, and are based on our long-term experience in providing the same types of services required for your project.

Please note that we are willing and able to negotiate the cost of services on this project.

Our cost estimate for the above scope of work is virtually entirely dependent on third-party contractor operations for rehabilitation of the two wells. Invoices for the project will be submitted to IRWD on a monthly basis for review and processing. In addition to this invoice, a monthly status update report will be included outlining the work conducted to date and the percentage of the budget expended.

With regard to our on-call hydrogeologic services, our work will be billed at the same rates as shown in our attached Schedule of Charges and will be billed on a time & expense basis. It is understood that such work will not be performed unless specifically requested by IRWD and only upon written approval by IRWD Staff.



Key Assumptions & Contingencies for Well Rehabilitation

The cost estimate is based on the following key assumptions for third-party operations:

1. The costs assume and reflect that rehabilitation of the two wells are to be performed in parallel. That is, the selected contractor will have two rigs and two crews and schedule rehabilitation operations so that pump removal, brush and bailing, the CITM surveys and videos, chemical treatment, pumping development and testing, and the final pump re-installations will be performed simultaneously on the two wells.
2. RCS will only be present when actual rehabilitation work is being performed and not during setup of Contractor's equipment. Thus, RCS will keep in telephone or email communication with the Contractor during work on each well.
3. It is anticipated that the Contractor will apply for and obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges to the local storm drain system at each site. In addition, it is expected that the Contractor will provide for a laboratory, deliver the samples for laboratory analysis, and fulfill the monitoring and reporting requirements of the NPDES permit. RCS will assist the Contractor with the field sampling and monitoring.

Payment will be based on the hours worked and the hourly rates as described in the attached Tables 1 and 2, each detailing the man-hour breakdown for the listed tasks. Because the exact number of hours required to complete the different tasks for well rehabilitation are outside the direct control of RCS, we recommend that all field monitoring services be performed on a time and expense basis, and that if the periods required to complete these tasks are expected to exceed our estimates once well rehabilitation operations are underway, RCS will notify your office in a timely fashion.

**TABLE 1  
RCS MANHOUR AND COST ESTIMATE DETAIL  
INDIVIDUAL COSTS FOR IRWD DRWF WELL NO. 7 REHABILITATION  
SEPTEMBER 2016**

TASK LISTING	PRINCIPAL GROUNDWATER GEOLOGIST		SENIOR GROUNDWATER GEOLOGIST		STAFF GROUNDWATER GEOLOGIST		FIELD GROUNDWATER GEOLOGIST		CLERICAL PERSONNEL		TOTAL MANHOURS	DIRECT COSTS	TOTAL TASK COST
	BILLING RATES, HOURS AND COSTS												
	\$275		\$194		\$156		\$99		\$76				
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST			
<b>TASK 1</b>	<b>Review and Evaluate Well Data &amp; Prepare Memoranda</b>												
	2	\$550	4	\$776	20	\$3,120	0	\$0	2	\$152	28	\$42	\$4,640
<b>TASK 2</b>	<b>Prepare Project Manual for Rehabilitation of Two Wells</b>												
	2	\$550	8	\$1,552	25	\$3,900	0	\$0	2	\$152	37	\$26	\$8,180
<b>TASK 3</b>	<b>Provide Bid Phase Support</b>												
	0	\$0	12	\$2,328	0	\$0	0	\$0	0	\$0	12	\$72	\$2,400
<b>TASK 4</b>	<b>Field Monitoring of Rehabilitation Operations</b>												
<b>Subtask 4.1</b>	<b>Pump Removal</b>												
	0	\$0	1	\$194	1	\$156	4	\$396	1	\$76	7	\$62	\$884
<b>Subtask 4.2</b>	<b>Brushing and Bailing</b>												
	0	\$0	1	\$194	1	\$156	12	\$1,188	0	\$0	14	\$68	\$1,608
<b>Subtask 4.3</b>	<b>Downwell Surveys (CITM &amp; 3 Videos)</b>												
	0	\$0	1	\$194	1	\$156	10	\$990	0	\$0	12	\$176	\$1,518
<b>Subtask 4.4</b>	<b>"Air-Jetting"</b>												
	0	\$0	1	\$194	1	\$156	12	\$1,188	0	\$0	14	\$68	\$1,604
<b>Subtask 4.5</b>	<b>Chemical Treatment</b>												
	1	\$276	1	\$194	2	\$312	30	\$2,970	0	\$0	34	\$169	\$3,920
<b>Subtask 4.6</b>	<b>Swags &amp; Liner Installation (DRWF Well 7 only)</b>												
	0	\$0	1	\$194	1	\$156	16	\$1,584	0	\$0	18	\$230	\$2,170
<b>Subtask 4.7</b>	<b>Swabbing &amp; Airlifting</b>												
	1	\$276	2	\$388	2	\$312	24	\$2,376	0	\$0	29	\$270	\$3,021
<b>Subtask 4.8</b>	<b>Pumping Redevelopment</b>												
	0	\$0	2	\$388	2	\$312	8	\$792	0	\$0	12	\$122	\$1,614
<b>Subtask 4.9</b>	<b>Pumping Tests</b>												
	1	\$276	2	\$388	2	\$312	12	\$1,188	0	\$0	17	\$249	\$2,412
<b>Subtask 4.10</b>	<b>Final Video Survey &amp; Well Disinfection</b>												
	1	\$276	2	\$388	2	\$312	6	\$594	0	\$0	11	\$162	\$1,731
<b>Subtask 4.11</b>	<b>Pump Re-Installation</b>												
	0	\$0	1	\$194	1	\$156	30	\$2,970	0	\$0	32	\$0	\$3,320
<b>Subtask 4.12</b>	<b>Additional Tasks (T&amp;E Cost)</b>												
													\$16,000
<b>TASK 5</b>	<b>Preparation of Summary Reports</b>												
	1	\$276	2	\$388	20	\$3,120	0	\$0	2	\$152	25	\$45	\$3,960
<b>TASK 6</b>	<b>Miscellaneous Services</b>												
													\$10,000
<b>ESTIMATED COSTS FOR RCS FIELD SERVICES, DRWF WELL NO. 7</b>												<b>\$68,600</b>	

Irvine Ranch Water District  
RCS Job No. 362-OGE16 DRWF Well No. 7

**TABLE 2  
RCS MANHOUR AND COST ESTIMATE DETAIL  
INDIVIDUAL COSTS FOR IRWD IDP WELL NO. 107 REHABILITATION  
SEPTEMBER 2016**

TASK LISTING	PRINCIPAL GROUNDWATER GEOLOGIST		SENIOR GROUNDWATER GEOLOGIST		STAFF GROUNDWATER GEOLOGIST		FIELD GROUNDWATER GEOLOGIST		CLERICAL PERSONNEL		TOTAL MANHOURS	DIRECT COSTS	TOTAL TASK COST
	BILLING RATES, HOURS AND COSTS												
	\$275		\$194		\$156		\$99		\$75				
	HOURS	COST	HOURS	CBST	HOURS	COST	HOURS	COST	HOURS	COST			
<b>TASK 1</b> Review and Evaluate Well Data & Prepare Memoranda	2	\$550	4	\$776	20	\$3,120	0	\$0	2	\$152	28	\$42	\$4,640
<b>TASK 2</b> Prepare Project Manual for Rehabilitation of Two Wells	2	\$550	8	\$1,552	25	\$3,900	0	\$0	2	\$152	37	\$26	\$6,180
<b>TASK 3</b> Provide Bid Phase Support	0	\$0	12	\$2,328	0	\$0	0	\$0	0	\$0	12	\$72	\$2,400
<b>TASK 4</b> Field Monitoring of Rehabilitation Operations													
Subtask 4.1 Pump Removal	0	\$0	1	\$194	1	\$156	4	\$396	1	\$75	7	\$66	\$908
Subtask 4.2 Brushing and Bailing	0	\$0	1	\$194	1	\$156	12	\$1,188	0	\$0	14	\$66	\$1,808
Subtask 4.3 Downwell Surveys (CITM & 3 Videos)	0	\$0	1	\$194	1	\$156	10	\$990	0	\$0	12	\$176	\$1,618
Subtask 4.4 "Air-Jetting"	0	\$0	1	\$194	1	\$156	12	\$1,188	0	\$0	14	\$66	\$1,604
Subtask 4.5 Chemical Treatment	1	\$275	1	\$194	2	\$312	30	\$2,970	0	\$0	34	\$167	\$3,918
Subtask 4.6 Swags & Liner Installation (DRWF Well 7 only)													
Subtask 4.7 Swabbing & Airlifting	1	\$275	2	\$388	1	\$156	24	\$2,376	0	\$0	28	\$241	\$3,438
Subtask 4.8 Pumping Redevelopment	0	\$0	2	\$388	1	\$156	6	\$792	0	\$0	11	\$172	\$1,608
Subtask 4.9 Pumping Tests	0	\$0	2	\$388	2	\$312	12	\$1,188	0	\$0	16	\$200	\$2,088
Subtask 4.10 Final Video Survey & Well Disinfection	1	\$275	2	\$388	2	\$312	6	\$594	0	\$0	11	\$77	\$1,648
Subtask 4.11 Pump Re-Installation	0	\$0	1	\$194	1	\$156	30	\$2,970	0	\$0	32	\$148	\$3,468
Subtask 4.12 Additional Tasks (T&E Cost)													\$15,000
<b>TASK 5</b> Preparation of Summary Reports	1	\$275	2	\$388	20	\$3,120	0	\$0	2	\$152	25	\$45	\$3,980
<b>TASK 6</b> Miscellaneous Services													\$10,000
<b>ESTIMATED COSTS FOR RCS FIELD SERVICES IDP WELL NO. 107:</b>												<b>\$63,900</b>	

Irvine Ranch Water District  
RCS Job No. 362-OGE16 IDP Well No. 107



**SCHEDULE OF CHARGES**  
November 2015

<b>Professional Services</b>	<b>Hourly Rates</b>
Principal Groundwater Geologist	\$275.00
Senior Groundwater Geologist	\$194.00
Staff Groundwater Geologist	\$156.00
Field Geologist/Geologic Logging	\$ 99.00
Clerical, Graphics and GIS Work	\$ 76.00

<b>Field Equipment</b>	<b>Charges</b>
Pressure Transducers (water level & barometric pressure monitoring during pumping tests)	\$ 50.00/wk
Electric Tape Water Level Probe	\$ 25.00/day
Field Water Quality Probe (T, pH, EC)	\$ 50.00/day

**Litigation, Depositions and Testimony**

Depositions and trial testimony are charged at twice the hourly rate (4-hour minimum/day).

**Travel Time and Mileage**

Travel time for meetings and/or to job sites will be charged at our standard hourly rates.

Mileage is charged at the current Federal rate of \$0.575 per mile.

**Outside Services**

All services not ordinarily furnished by RCS, including subcontracted services (i.e., water quality laboratory testing), delivery services, reproduction and printing, etc., are billed at cost +15%. Reproduction costs for large format printing, and/or high volume reproduction and binding of hard copy reports performed in-house by RCS staff, will be billed at rates similar to comparable outside services.

**Conditions**

RCS reserves the right to update this Schedule of Charges on or about November 1 of each year (the beginning of our Fiscal Year). Invoices will be issued, at our option, on a monthly basis or when the work is completed. A service charge of 1 ½ % will be payable on any amount not paid within 30 days. Any attorney fees or other costs incurred in collecting delinquent charges shall be paid by the client.

Client will furnish rights-of-way to land as required for field visits and field operations, such as sampling or testing of water wells.

September 26, 2016

Prepared by: C. Kessler/K. Lew

Submitted by: K. Burton *(K.B.)*

Approved by: Paul Cook *(P. Cook)*

## CONSENT CALENDAR

### SANTIAGO HILLS II CAPITAL FACILITIES

#### SUMMARY:

Irvine Community Development Company (ICDC) is beginning development of Santiago Hills II which includes the construction of streets, storm drains, domestic water, sewer, and recycled water improvements. Staff recommends that the Board:

- Authorize the addition of the Santiago Hills II Santiago Canyon Road and Jamboree Road Capital Improvements, Projects 7451, 7452, and 7453 in the amounts of \$1,126,900, \$259,600 and \$2,228,300, respectively, to the FY 2016-17 Capital Budget;
- Authorize the General Manager to accept ICDC's design and bid support services contract with Michael Baker International in the amount of \$194,200 for the Santiago Hills II Santiago Canyon Road and Jamboree Road Capital Improvements, Projects 7451, 7452, and 7453; and
- Authorize the General Manager to accept ICDC's design and bid support services contract with Michael Baker International in the amount of \$258,212 for the Santiago Hills II, Recycled Water Capital Improvements, Projects 5823 and 7137.

#### BACKGROUND:

ICDC is moving forward with improvements in the Santiago Hills II development located between State Route 241/261 and Jamboree Road at Santiago Canyon Road. The proposed land use consists of 1,180 residential dwelling units, community parks, and natural open space as shown in the location map attached as Exhibit "A". ICDC plans to start grading in fall 2016.

The design and construction of the IRWD facilities will be performed under the terms of the Master Reimbursement Agreement and Supplemental Reimbursement Agreement between ICDC and IRWD approved by the Board in May 1997 and August 2016, respectively.

#### Santiago Hills II Santiago Canyon Road and Jamboree Road Capital Improvements:

The Santiago Hills II Santiago Canyon Road and Jamboree Road Capital Improvements project consists of installing approximately 2,000 feet of 12-inch domestic water pipeline, 300 feet of 15-inch sanitary sewer pipeline, 5,000 feet of 6-inch recycled water pipeline, 1,200 feet of 8-inch recycled water pipeline and 600 feet of 12-inch recycled water pipeline within Santiago Canyon Road and Jamboree Road. ICDC retained Michael Baker International to provide design and bid support services for Projects 7451, 7452 and 7453 in the amount of \$69,200. In addition, Michael Baker International has presented ICDC with two Contract Change Orders that reflect additional design efforts associated with revisions to the Santiago Hills II SAMP in the amount of \$102,000 and potholing and traffic control to aid design in the amount of \$23,000 for a total design and bid support of \$194,200.

Santiago Hills II Recycled Water Capital Improvements:

The Santiago Hills II Recycled Water Improvements will expand IRWD's Zone C+ recycled water system by installing approximately 9,800 feet of 42-inch diameter recycled water pipeline, 1,200 feet of 20-inch recycled water pipeline and 3,500 feet of 10-inch recycled water pipeline in Jamboree Road, Chapman Avenue and Santiago Canyon Road, and converting portions of the Irvine Lake Pipeline to the Zone C+ system. ICDC retained Michael Baker International to provide design and bid support services for Projects 5823 and 7137 in the amount of \$258,212.

FISCAL IMPACTS:

Projects 5823 and 7137 are included in the FY 2016-17 Capital Budget. Staff requests the addition of Santiago Hills II Santiago Canyon Road and Jamboree Road Improvements, Projects 7451, 7452 and 7453 to the FY 2016-17 Capital Budget in the amounts of \$1,126,900, \$259,600 and \$2,228,300, respectively. Expenditure Authorizations, attached as Exhibit "B" will be approved by the General Manager.

Project No.	Current Budget	Addition <Reduction>	Total Budget
7451	-0-	\$1,126,900	\$1,126,900
7452	-0-	\$ 259,600	\$ 259,600
7453	-0-	\$2,228,300	\$2,228,300
Total	-0-	\$2,487,900	\$2,487,900

ENVIRONMENTAL COMPLIANCE:

Construction of capital domestic water, sewer, and recycled water facilities for the Santiago Hills II Development is subject to CEQA. In conformance with the California Code of Regulations Title 14, Chapter 3, Article 7 an Environmental Impact Report (EIR) was certified by the City of Orange, the lead agency on April 11, 2000 (SCH# 2000041122). An Addendum to the EIR was approved by the City of Orange on July 15, 2016.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF THE SANTIAGO HILLS II, SANTIAGO CANYON ROAD AND JAMBOREE ROAD CAPITAL IMPROVEMENTS, PROJECTS 7451, 7452 AND 7543 TO THE FY 2016-17 IN THE AMOUNTS OF \$1,126,900, \$259,600 AND \$2,228,300, RESPECTIVELY; AUTHORIZE THE GENERAL MANAGER TO ACCEPT IRVINE COMMUNITY DEVELOPMENT COMPANY'S (ICDC'S) DESIGN AND BID SUPPORT SERVICES CONTRACT WITH MICHAEL BAKER INTERNATIONAL IN THE AMOUNT OF \$194,200 FOR THE SANTIAGO HILLS II, SANTIAGO CANYON ROAD AND JAMBOREE ROAD CAPITAL IMPROVEMENTS, PROJECTS 7451, 7452 AND 7543; AND AUTHORIZE THE GENERAL MANAGER TO



ACCEPT ICDC'S DESIGN AND BID SUPPORT SERVICES CONTRACT WITH MICHAEL BAKER INTERNATIONAL IN THE AMOUNT OF \$258,212 FOR THE SANTIAGO HILLS II, RECYCLED WATER CAPITAL IMPROVEMENTS, PROJECTS 5823 AND 7137.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – Expenditure Authorizations

# EXHIBIT "A "

## SANTIAGO HILL II - NORTH 17895

PRODUCT	UNITS	ACRES	
G-1	60x90	104	23.9
G-2	50x90	125	24.2
G-3	48x75	37	5.0
H-1	48x75	95	12.6
I-1	SIX COURT	149	17.7
I-2	FOUR COURT	110	14.6
I-3	38x92	102	15.2
<b>NORTH RESIDENTIAL TOTAL</b>		<b>777</b>	<b>113.7</b>

## SANTIAGO HILL II - SOUTH 18199

PRODUCT	UNITS	ACRES	
J-1	30x105	94	23.1
J-2	60x100	16	3.5
J-3	60x50	42	7.2
J-4	95x90	48	9.9
J-5	48x75	95	14.5
J-6	48x75	52	7.6
K	EASTWOOD TOWNS	114	11.4
<b>SOUTH RESIDENTIAL TOTAL</b>		<b>463</b>	<b>77.8</b>

**SHII RESIDENTIAL TOTAL 1180 191.5**

- PARK
- LANDSCAPE
- UNDEVELOPED NATURAL AREA



# IRVINE RANCH WATER DISTRICT EXHIBIT "B"

## Expenditure Authorization

Project Name: SHII SANTIAGO CYN (FROM D ST TO A ST) 12"DW  
 EPMS Project No: 11966 EA No: 1  
 Oracle Project No: 7451  
 Project Manager: LEW, KELLY  
 Project Engineer: RIOS, BELISARIO  
 Request Date: September 6, 2016

ID Split: Miscellaneous

### Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
153	100.0	BONDS YET TO BE SOLD**
<b>Total</b>	<b>100.0%</b>	

### Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$1,126,900
<b>Total EA Requests:</b>	<b>\$1,126,900</b>
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$1,126,900
<b>Updated Budget:</b>	<b>\$1,126,900</b>
<b>Budget Remaining After This EA</b>	<b>\$0</b>

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	60,000	0	60,000	60,000	0	60,000	7/16	7/17
ENGINEERING DESIGN - OUTSIDE	73,000	0	73,000	73,000	0	73,000	7/16	7/17
DESIGN STAFF FIELD SUPPORT	37,000	0	37,000	37,000	0	37,000	7/16	7/17
ENGINEERING - CA&I IRWD	73,000	0	73,000	73,000	0	73,000	7/16	7/17
ENGINEERING - CA&I OUTSIDE	60,000	0	60,000	60,000	0	60,000	7/16	7/17
CONSTRUCTION FIELD SUPPORT	37,000	0	37,000	37,000	0	37,000	7/16	7/17
CONSTRUCTION	730,000	0	730,000	730,000	0	730,000	7/16	7/17
LEGAL	3,000	0	3,000	3,000	0	3,000	7/16	7/17
Contingency - 5.00% Subtotal	\$53,900	\$0	\$53,900	\$53,900	\$0	\$53,900		
<b>Subtotal (Direct Costs)</b>	<b>\$1,126,900</b>	<b>\$0</b>	<b>\$1,126,900</b>	<b>\$1,126,900</b>	<b>\$0</b>	<b>\$1,126,900</b>		
Estimated G/A - 185.00% of direct labor*	\$383,100	\$0	\$383,100	\$383,100	\$0	\$383,100		
<b>Total</b>	<b>\$1,510,000</b>	<b>\$0</b>	<b>\$1,510,000</b>	<b>\$1,510,000</b>	<b>\$0</b>	<b>\$1,510,000</b>		
<b>Direct Labor</b>	<b>\$207,000</b>	<b>\$0</b>	<b>\$207,000</b>	<b>\$207,000</b>	<b>\$0</b>	<b>\$207,000</b>		

\*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:

Charity Kessler KKL 9/8/16

Department Director:

Kevin L. Burton 9/9/16

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 \$1,541,000. 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.

# IRVINE RANCH WATER DISTRICT

## Expenditure Authorization

Project Name: SHII CANYON VIEW (AT JAMBOREE RD) 15" SS  
 EPMS Project No: 21966 EA No: 1  
 Oracle Project No: 7452  
 Project Manager: LEW, KELLY  
 Project Engineer: RIOS, BELISARIO  
 Request Date: September 6, 2016

ID Split: Miscellaneous

### Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
253	100.0	BONDS YET TO BE SOLD**
<b>Total</b>	<b>100.0%</b>	

### Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$259,600
<b>Total EA Requests:</b>	<b>\$259,600</b>
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$259,600
<b>Updated Budget:</b>	<b>\$259,600</b>
<b>Budget Remaining After This EA</b>	<b>\$0</b>

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	13,000	0	13,000	13,000	0	13,000	7/16	7/17
ENGINEERING DESIGN - OUTSIDE	16,000	0	16,000	16,000	0	16,000	7/16	7/17
DESIGN STAFF FIELD SUPPORT	8,000	0	8,000	8,000	0	8,000	7/16	7/17
ENGINEERING - CA&I IRWD	16,000	0	16,000	16,000	0	16,000	7/16	7/17
ENGINEERING - CA&I OUTSIDE	13,000	0	13,000	13,000	0	13,000	7/16	7/17
CONSTRUCTION FIELD SUPPORT	8,000	0	8,000	8,000	0	8,000	7/16	7/17
CONSTRUCTION	160,000	0	160,000	160,000	0	160,000	7/16	7/17
LEGAL	2,000	0	2,000	2,000	0	2,000	7/16	7/17
Contingency - 10.00% Subtotal	\$23,600	\$0	\$23,600	\$23,600	\$0	\$23,600		
<b>Subtotal (Direct Costs)</b>	<b>\$259,600</b>	<b>\$0</b>	<b>\$259,600</b>	<b>\$259,600</b>	<b>\$0</b>	<b>\$259,600</b>		
Estimated G/A - 185.00% of direct labor*	\$83,300	\$0	\$83,300	\$83,300	\$0	\$83,300		
<b>Total</b>	<b>\$342,900</b>	<b>\$0</b>	<b>\$342,900</b>	<b>\$342,900</b>	<b>\$0</b>	<b>\$342,900</b>		
Direct Labor	\$45,000	\$0	\$45,000	\$45,000	\$0	\$45,000		

\*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:

Christina Venley K/L 9/8/16

Department Director:

Rain Z. Burt 9/9/16

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 \$350,000. 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: SHII SANTIAGO CYN AND JAMBOREE 6"8"12"16" RW  
 EPMS Project No: 31966 EA No: 1  
 Oracle Project No: 7453  
 Project Manager: LEW, KELLY  
 Project Engineer: RIOS, BELISARIO  
 Request Date: September 6, 2016

ID Split: Miscellaneous

### Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
253	100.0	BONDS YET TO BE SOLD**
<b>Total</b>	<b>100.0%</b>	

### Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$2,228,300
<b>Total EA Requests:</b>	<b>\$2,228,300</b>
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$2,228,300
<b>Updated Budget:</b>	<b>\$2,228,300</b>
<b>Budget Remaining After This EA</b>	<b>\$0</b>

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	116,000	0	116,000	116,000	0	116,000	7/16	7/17
ENGINEERING DESIGN - OUTSIDE	145,000	0	145,000	145,000	0	145,000	7/16	7/17
DESIGN STAFF FIELD SUPPORT	73,000	0	73,000	73,000	0	73,000	7/16	7/17
ENGINEERING - CA&I IRWD	145,000	0	145,000	145,000	0	145,000	7/16	7/17
ENGINEERING - CA&I OUTSIDE	116,000	0	116,000	116,000	0	116,000	7/16	7/17
CONSTRUCTION FIELD SUPPORT	73,000	0	73,000	73,000	0	73,000	7/16	7/17
CONSTRUCTION	1,450,000	0	1,450,000	1,450,000	0	1,450,000	7/16	7/17
LEGAL	4,000	0	4,000	4,000	0	4,000	7/16	7/17
Contingency - 5.00% Subtotal	\$106,300	\$0	\$106,300	\$106,300	\$0	\$106,300		
<b>Subtotal (Direct Costs)</b>	<b>\$2,228,300</b>	<b>\$0</b>	<b>\$2,228,300</b>	<b>\$2,228,300</b>	<b>\$0</b>	<b>\$2,228,300</b>		
Estimated G/A - 185.00% of direct labor*	\$753,100	\$0	\$753,100	\$753,100	\$0	\$753,100		
<b>Total</b>	<b>\$2,981,400</b>	<b>\$0</b>	<b>\$2,981,400</b>	<b>\$2,981,400</b>	<b>\$0</b>	<b>\$2,981,400</b>		
<b>Direct Labor</b>	<b>\$407,000</b>	<b>\$0</b>	<b>\$407,000</b>	<b>\$407,000</b>	<b>\$0</b>	<b>\$407,000</b>		

\*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:

*Christina Vercel* *KML* 9/8/16

Department Director:

*Kevin L. Burton* 9/9/16

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 \$3,042,000. The above-captioned project is further described in the attached staff report and additional documents, if any, which are hereby incorporated into this authorization. The official intent to reimburse costs of the above-captioned project is made under Treasury Regulation Section 1.150-2.

September 26, 2016

Prepared by: K. Lew

Submitted by: K. Burton <sup>KLB</sup>

Approved by: Paul Cook 

## CONSENT CALENDAR

### REIMBURSEMENT AGREEMENT WITH MERITAGE HOMES FOR THE COMMERCENTRE DRIVE PRESSURE REGULATING STATION

#### SUMMARY:

Meritage Homes of California, Inc. (Meritage) is beginning development of a new residential development in Lake Forest. The development includes the construction of streets, storm drains, domestic water, sewer, and recycled water improvements. Staff recommends that the Board:

- Authorize the addition of the Commercentre Drive Zone LF2 to Zone LF2Ra Pressure Regulating Station, Project 7513 in the amount of \$255,200 to the FY 2016-17 Capital Budget;
- Authorize the General Manager to execute a Reimbursement Agreement (RA) with Meritage for construction of a pressure regulating station; and
- Authorize the General Manager to accept Meritage's construction change order with Kana Pipeline for \$134,149.

#### BACKGROUND:

Meritage is beginning construction of Encanto, a new residential development consisting of 52 single family homes located on the southeast corner of Alton Parkway and Commercentre Drive in Lake Forest. Recently, IRWD re-evaluated and modified the pressure zones in this area of Lake Forest to address an area of high pressure that did not meet IRWD's pressure criteria. This recent modification affected the Encanto development by requiring two new pressure regulating stations to maintain normal service pressures to these new homes. IRWD intends to reimburse Meritage for the new primary pressure regulating station. Meritage will install the secondary pressure regulating station at its cost because there is no longer a need to install individual pressure regulators at each residence.

#### Reimbursement Agreement:

Meritage has requested that IRWD enter into an RA for construction of one primary pressure regulating station located on Commercentre Drive. Meritage will construct the Zone LF2 to Zone LF2Ra pressure regulating station as part of its water, sewer, and recycled water improvements for the entire development as shown in the location map provided as Exhibit "A".

The terms of the Meritage RA are substantially the same as IRWD's RAs with the Irvine Community Development Company and Heritage Fields El Toro. The proposed RA has been reviewed by IRWD's legal counsel and is provided as Exhibit "B". The required IRWD domestic water, sewer, and recycled water capital facilities are documented in the Lake Forest Sub-Area Master Plan Addendum for the Encanto Residential Development prepared by Huitt-Zollars, Inc. in April 2016.

Construction Change Order:

Meritage retained Huitt-Zollars to prepare the Encanto improvement plans and Kana Pipeline to construct the improvements. Since the need for the pressure regulating station was identified after receiving construction bids, Kana Pipeline submitted a change order to construct the pressure regulating station. The proposed change order cost of \$134,149 to construct a primary pressure regulating station with telemetry is comparable with other recent bids and staff finds the cost to be acceptable. A summary of the reimbursement costs is shown below.

Design (Huitt-Zollars)	\$ 6,460.00
Construction Change Order (Kana Pipeline)	\$ 134,149.00
Meritage Administration Fee (1%)	<u>\$ 1,341.49</u>
	\$ 141,950.49

FISCAL IMPACTS:

Staff recommends the addition of Commercentre Drive Zone LF2 to Zone LF2Ra Pressure Regulating Station, Project 7513 to the FY 2016-17 Capital Budget in the amount of \$255,200 as shown in the table below. The Expenditure Authorization for Project 7513 is provided as Exhibit "C" and will be approved by the General Manager.

Project No.	Current Budget	Addition <Reduction>	Total Budget
7513	\$ -0-	\$ 255,200	\$ 255,200

ENVIRONMENTAL COMPLIANCE:

Activities such as executing reimbursement agreements are 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 which have the potential for causing a significant effect on the environment.

Construction of capital domestic water, sewer, and recycled water facilities for the Meritage project is subject to CEQA. In conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, a Negative Declaration was certified by the City of Lake Forest on December 17, 2015.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF THE LAKE FOREST ENCANTO COMMERCENTRE DOMESTIC PRESSURE REGULATING STATION, PROJECT 7513 TO THE FY 2016-17 CAPITAL BUDGET IN THE AMOUNT OF \$255,200; AUTHORIZE THE GENERAL MANAGER TO EXECUTE A REIMBURSEMENT AGREEMENT WITH MERITAGE HOMES OF CALIFORNIA, INC. FOR THE CONSTRUCTION OF THE COMMERCENTRE DRIVE PRESSURE REGULATING STATION; AND AUTHORIZE THE GENERAL MANAGER TO ACCEPT MERITAGE HOMES OF CALIFORNIA, INC'S CONSTRUCTION CHANGE ORDER WITH KANA PIPELINE IN THE AMOUNT OF \$134,149 FOR PROJECT 7513.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – Reimbursement Agreement between IRWD and Meritage for the Commercentre  
Drive Pressure Regulating Station

Exhibit "C" – Expenditure Authorization





# EXHIBIT "B"

File No. 7513

REIMBURSEMENT AGREEMENT BETWEEN  
IRVINE RANCH WATER DISTRICT  
AND MERITAGE HOMES  
FOR  
A PRIMARY DOMESTIC WATER PRESSURE REGULATING STATION  
IN COMMERCENTRE DRIVE BETWEEN ALTON PARKWAY AND CALLE ELEGANTE

This Agreement is made and entered into as of this \_\_\_\_ day of \_\_\_\_\_, 2016, by and between IRVINE RANCH WATER DISTRICT, a California water district formed and existing pursuant to the California Water District Law of the State of California, hereinafter referred to as "DISTRICT," and MERITAGE HOMES OF CALIFORNIA, INC., a California corporation, hereinafter referred to as "BUILDER."

W I T N E S S E T H:

WHEREAS, BUILDER proposes to construct utility improvements within Commercentre Drive between Alton Parkway and Calle Elegante (the "Project"), within the jurisdictional boundaries of DISTRICT and the City of Lake Forest; and

WHEREAS, prior to or in conjunction with BUILDER's construction of the Project, IRWD desires to construct, within or adjacent to the street improvements that comprise the Project, the following capital facilities and appurtenances thereto: one primary pressure regulating station per the DISTRICT'S standard drawing W-15 (not including any site improvements such as demolition, grading, and retaining walls) as depicted on Exhibit "A" attached hereto incorporated by reference herein (hereinafter referred to as the "IRWD FACILITIES"); and

WHEREAS, the parties have determined that it would be more expedient for BUILDER to construct the IRWD FACILITIES rather than for DISTRICT to do so; and

WHEREAS, DISTRICT is amenable to the design and construction of the IRWD FACILITIES by BUILDER, at the cost of BUILDER, which cost is to be reimbursed by DISTRICT; and

WHEREAS, except as otherwise provided herein, upon the completion of the IRWD FACILITIES, the IRWD FACILITIES shall become the property of DISTRICT in accordance with the terms and conditions hereinafter set forth.

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

SECTION 1. IRWD FACILITIES. In conjunction with the Project, BUILDER agrees to initiate and diligently pursue to completion the design and construction of the IRWD FACILITIES.

SECTION 2. PLANS. BUILDER agrees that the IRWD FACILITIES shall be completed pursuant to approved project plans and specifications (the "Plans and Specifications") which shall be approved by DISTRICT and used in awarding the construction contract. Prior to commencement of preparation of the Plans and Specifications, BUILDER shall submit its design engineer's proposal for the design of the IRWD FACILITIES to DISTRICT. DISTRICT will have a period of five (5) calendar days from its receipt of such design proposal to review and either indicate its approval or request changes. In the event the DISTRICT does not provide approval or requested changes to BUILDER within such ten (10) calendar day period the design as provided to the DISTRICT shall be deemed approved. BUILDER shall cause its design engineer to review and respond to any requested changes. Any resubmittal of the plans following requested changes by the DISTRICT shall be governed by the process outlined above, including the time periods of review and deemed approval for failures to respond. The Plans and Specifications shall be deemed to incorporate the applicable portions of DISTRICT's latest edition of "Construction Manual for the Construction of Water, Sewer, and Reclaimed Water Facilities" (the "Construction Manual"). The IRWD FACILITIES shall be contracted by BUILDER together with non-reimbursable work to be completed by BUILDER within the Project pursuant to plans prepared by BUILDER's design engineer.

SECTION 3. BIDDING AND AWARD. The parties agree that the construction of the IRWD FACILITIES shall be included in BUILDER's contract(s) awarded for the Project and that the IRWD FACILITIES shall be bid as a separate item or items that can be deleted. During the bidding process, BUILDER shall deliver to IRWD one (1) complete set of the bid documents that include the IRWD FACILITIES, including all related addenda concurrently with the distribution thereof to prospective bidders. Upon opening of bids by BUILDER, BUILDER will

submit the bids or a spread sheet summary of the bids to DISTRICT. DISTRICT will have a period of ten (10) calendar days from its receipt of the bid results for review and approval of the IRWD FACILITIES bid item(s) submitted by the bidder identified to DISTRICT by BUILDER as BUILDER's proposed successful bidder. BUILDER agrees that bids received for the construction of the IRWD FACILITIES bid item(s) shall be subject to the approval of DISTRICT prior to award of the Project construction contract(s) that include the IRWD FACILITIES; and further agrees that in the event DISTRICT does not approve such bids, either party may terminate this Agreement upon twenty-four (24) hours' prior written notice, in which event BUILDER shall have no further obligation to construct the IRWD FACILITIES, and DISTRICT may elect to install the IRWD FACILITIES with its own contractor. If DISTRICT approves of the IRWD FACILITIES bid item(s) of BUILDER's successful bidder, BUILDER agrees to cause the IRWD FACILITIES to be constructed as part of the contract awarded to such bidder. The total estimated construction cost for the IRWD FACILITIES is \$150,000, provided, however, the amount to be reimbursed by DISTRICT shall be based on the actual costs of construction. Upon award of the construction contract, BUILDER shall provide DISTRICT with one (1) original copy of the fully executed contract documents and one (1) copy of the bid package relating to the IRWD FACILITIES received from the successful bidder.

SECTION 4. DESIGN REVISIONS AND CHANGE ORDERS. BUILDER agrees that if, during design or construction, BUILDER requests or initiates any revision to the Plans and Specifications that would increase the cost of the IRWD FACILITIES, such additional costs shall be borne by BUILDER, and shall not be reimbursed by DISTRICT, except for such revision(s) and cost(s) that are determined necessary to construct IRWD FACILITIES in accordance with the Construction Manual and could not reasonably have been foreseen at the time bids were received. The cost of any such necessary and unforeseeable revisions, and the cost of any revisions requested or initiated by DISTRICT shall be reimbursed by DISTRICT as provided herein.

BUILDER shall promptly furnish DISTRICT with copies of any proposed change orders to the Project contract within five (5) working days of initiation of changed conditions to such contract, which change orders shall be subject to DISTRICT approval if and to the extent any of the IRWD FACILITIES are affected thereby. DISTRICT will review and respond to proposed change orders affecting the IRWD FACILITIES within ten (10) working days of receipt by DISTRICT. The DISTRICT will be deemed to have approved such change orders in the event the DISTRICT does not respond with such ten (10) working day period.

SECTION 5. REIMBURSEMENT. DISTRICT agrees to reimburse BUILDER for the following costs (collectively, the "Costs"): the actual costs of design and construction of the IRWD FACILITIES, including, but not limited to all permits, bonds, and legal fees (excluding the costs of preparation of this Agreement) incurred by BUILDER for the design and construction of the IRWD FACILITIES. BUILDER shall keep a separate accounting of all Costs incurred by BUILDER in relation to the IRWD FACILITIES.

Within sixty (60) days of DISTRICT's acceptance of the IRWD FACILITIES as provided in Section 8, a final accounting of the Costs shall be made by BUILDER and submitted to DISTRICT along with an invoice for the Costs and any supporting documentation necessary to show the amounts which represent Costs of IRWD FACILITIES. Amounts paid pursuant to progress payment invoices shall be subject to adjustment in the final accounting. Within thirty (30) days of said final accounting, DISTRICT agrees to pay to BUILDER the total amount of the Costs.

SECTION 6. LAWS, ORDINANCES, RULES AND REGULATIONS. BUILDER shall require in its contract for the construction of the IRWD FACILITIES that its contractor be fully informed of and comply with all laws, ordinances, rules and regulations, including, but not limited to, all applicable requirements of the California Labor Code, prevailing wage laws, the Construction Manual, and the Rules and Regulations of DISTRICT, in connection with the construction of the IRWD FACILITIES.

SECTION 7. INSPECTION. DISTRICT shall have sole and absolute discretion as to all aspects of design and construction of the IRWD FACILITIES, and DISTRICT shall be entitled to inspect the construction of IRWD FACILITIES as it deems necessary to assure compliance with the Plans and Specifications, including shop drawing review and material inspection thereof. DISTRICT shall have access to all phases of the Project work to be performed by BUILDER for the purpose of such inspection; provided, however, all questions regarding the work being performed will be directed to BUILDER's resident engineer. DISTRICT will promptly notify BUILDER of any portion of the work on the IRWD FACILITIES which appears not to conform to the Plans and Specifications. The determination of DISTRICT as to conformity of the IRWD FACILITIES with the Plans and Specifications shall be made in DISTRICT's sole and absolute discretion. DISTRICT agrees not to unreasonably withhold its approval as to such conformity of the IRWD FACILITIES with the Plans and Specifications. BUILDER shall require its contractor to construct the IRWD FACILITIES so that the IRWD FACILITIES conform to the Plans and Specifications. BUILDER agrees to assume full

responsibility for certifying or obtaining certification of the compaction of backfill material over the IRWD FACILITIES.

SECTION 8. ACCEPTANCE. DISTRICT agrees to accept the IRWD FACILITIES when the IRWD FACILITIES have been completed by BUILDER in accordance with all requirements of the Plans and Specifications, including any change orders approved by DISTRICT as provided in Section 3 hereof. At the time of completion and acceptance of the IRWD FACILITIES, BUILDER agrees to furnish DISTRICT with one (1) copy of the contractor's redlined set of "record" drawings (showing all revisions, manufacturer and type of valves, pipe and fittings as required by DISTRICT) and one (1) copy of the compaction reports and certificate, survey notes and cut sheets.

SECTION 9. OWNERSHIP. It is mutually agreed between the parties hereto that notwithstanding the fact that BUILDER shall accomplish the construction of the IRWD FACILITIES subject to reimbursement, the IRWD FACILITIES to be completed hereunder, together with the necessary franchises, licenses, easements, rights-of-way, and other privileges, shall at all times be subject to the applicable rates, rules and regulations of DISTRICT, as modified or amended from time to time. Subject to receipt of reimbursement, BUILDER hereby disclaims any interest in the IRWD FACILITIES and does hereby transfer and assign to DISTRICT any and all right, title, and interest it may have in the IRWD FACILITIES. DISTRICT shall own, operate and maintain the IRWD FACILITIES following acceptance thereof.

SECTION 10. GUARANTEES. BUILDER will, pursuant to the requirement(s) of the Plans and Specifications, cause its contractor(s) for the IRWD FACILITIES to warrant the IRWD FACILITIES against defects in workmanship and materials for a period of one (1) year from the date of acceptance by BUILDER, which acceptance shall be given only after acceptance by DISTRICT as provided in Section 8. It is further agreed that BUILDER shall its contractor(s) to cause the IRWD FACILITIES to be brought or restored to full compliance with the requirements of the Plans and Specifications, including any test requirements, for any portions of the IRWD FACILITIES which during said one (1) year period are found not to be in conformance with the provisions of the Plans and Specifications. This warranty is in addition to any and all other warranties, express or implied, from BUILDER's contractors or material manufacturers, with respect to the IRWD FACILITIES. The warranties and obligations under this section shall in no way be relieved by DISTRICT's inspection and/or acceptance of the IRWD FACILITIES. This section sets forth the entire warranty of BUILDER with respect to the

IRWD FACILITIES. The express or implied warranties of other persons with respect to IRWD FACILITIES shall in no way be limited by the warranty of BUILDER contained in this section. If requested by DISTRICT, BUILDER agrees to assign to DISTRICT the contractor's guarantee and/or any other guarantees or warranties relating to the IRWD FACILITIES.

SECTION 11. INDEMNIFICATION. BUILDER shall indemnify, defend and hold DISTRICT, its officers, agents, employees, and engineers harmless from any expense, liability or claim for death, injury, loss, damage or expense to persons or property which may arise or is claimed to have arisen during construction of the IRWD FACILITIES as a result of any work or action performed by BUILDER or on behalf of BUILDER, save and except to the extent such expense, liability or claim is proximately caused in whole or in part by any act, omission, or negligence of DISTRICT, its officers, agents, employees or engineers or by any act or omission for which DISTRICT, its officers, agents, employees or engineers are liable without fault.

DISTRICT shall indemnify, defend and hold BUILDER, its officers, agents, and employees, harmless from any expense, liability or claim for death, injury, loss, damage or expense to persons or property which may arise or is claimed to have arisen either (i) as a result of any acts performed by DISTRICT, its officers, agents, or employees, with respect to the IRWD FACILITIES construction; or (ii) following DISTRICT acceptance of the IRWD FACILITIES, with respect to maintenance and operation of the IRWD FACILITIES, save and except to the extent such expense, liability or claim is proximately caused in whole or in part by any negligence of BUILDER, its officers, agents, employees or engineers, or by any act or omission for which BUILDER, its officers, agents, employees or engineers are liable without fault.

SECTION 12. INSURANCE AND BONDING. BUILDER shall cause its contractor(s) to provide performance and payment bonds for the construction of the Project including the IRWD FACILITIES and to obtain insurance coverage sufficiently broad to insure the matters set forth in this Agreement and to include DISTRICT, its officers, agents, employees and engineers, as additional insureds on all insurance policies that BUILDER requires its contractor(s) to provide. As evidence of such insurance coverage, BUILDER shall, prior to commencement of construction of the IRWD FACILITIES, provide DISTRICT with certificates of insurance and insurance endorsements from BUILDER's contractor(s) in a form acceptable to DISTRICT.

SECTION 13. TERMINATION. DISTRICT shall have the right to terminate this Agreement at any time, subject to the provisions of this section, by providing five (5) business

days' prior written notice to BUILDER, except as noted in Section 3. If at the request or direction of a party other than BUILDER, the construction of the IRWD FACILITIES is not accomplished or completed, DISTRICT shall remain obligated for the actual amount of the Costs incurred by BUILDER to the date of termination.

If BUILDER's Project is canceled or modified so as to eliminate the necessity of the construction of the IRWD FACILITIES, BUILDER shall have the right to terminate this Agreement and thereby terminate its obligation to construct the IRWD FACILITIES, by providing five (5) business days' prior written notice to DISTRICT. In such case, DISTRICT will not be obligated for any design or any other Costs incurred by BUILDER. If IRWD elects to construct the IRWD FACILITIES, DISTRICT may, but shall not be obligated to, acquire the design or other work from BUILDER by separate agreement.

**SECTION 14. NOTICE.** Any notice or other written instrument required or permitted by this Agreement to be given to either party shall be deemed received when personally served or twenty-four (24) hours after being deposited in the U.S. Mail, postage prepaid, registered or certified and addressed as follows:

DISTRICT: Irvine Ranch Water District  
15600 Sand Canyon Avenue  
P.O. Box 57000  
Irvine, CA 92619-7000  
Attn: General Manager

BUILDER: Meritage Homes of California  
1250 Corona Pointe Court, Suite 210  
Corona, CA 92879  
Attn: Peter Vanek

**SECTION 15. SUCCESSORS AND ASSIGNS; INTEGRATION; AMENDMENT.** This Agreement shall be binding upon and inure to the benefit of the successor and assigns of BUILDER and DISTRICT. This Agreement constitutes the entire Agreement between BUILDER and DISTRICT and supersedes all prior understandings and agreements between the parties with respect to the subjects hereof. This Agreement may be modified only in writing signed by both parties hereto.

**SECTION 16. LEGAL FEES.** In the event of any declaratory or other legal or equitable action instituted between BUILDER and DISTRICT in connection with this Agreement, the



prevailing party shall be entitled to recover from the losing party all of its costs and expenses, including court costs and reasonable attorneys' fees.

SECTION 17. DEEMED APPROVAL. Unless a period for deemed approval is otherwise expressly set forth herein (in which event such express time period shall govern and control) any approval required to be given by either party pursuant to this Agreement shall be deemed given if no response to the party's request for such approval is received by the requesting party within fifteen (15) days following the written request for such approval.

SECTION 18. SEVERABILITY. If any term, provision, covenant or condition of this Agreement is held to be invalid, void or other unenforceable, to any extent, by any court of competent jurisdiction, the remainder of this Agreement shall not be affected thereby, and each term provision, covenant or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

SECTION 19. APPLICABLE LAW. This Agreement shall be construed and enforced in accordance with the laws of the State of California.

SECTION 20. WAIVER. The waiver of any provision of this Agreement by either party shall not be deemed to be a waiver of any other provision or of any preceding or subsequent breach hereunder.

IN WITNESS WHEREOF, the parties to the Agreement have executed this Agreement on the date herein above written.

IRVINE RANCH WATER DISTRICT

By \_\_\_\_\_  
Paul Cook, General Manager

Dated \_\_\_\_\_

ATTEST:

By \_\_\_\_\_  
Secretary/Assistant Secretary

Dated \_\_\_\_\_

APPROVED AS TO FORM:

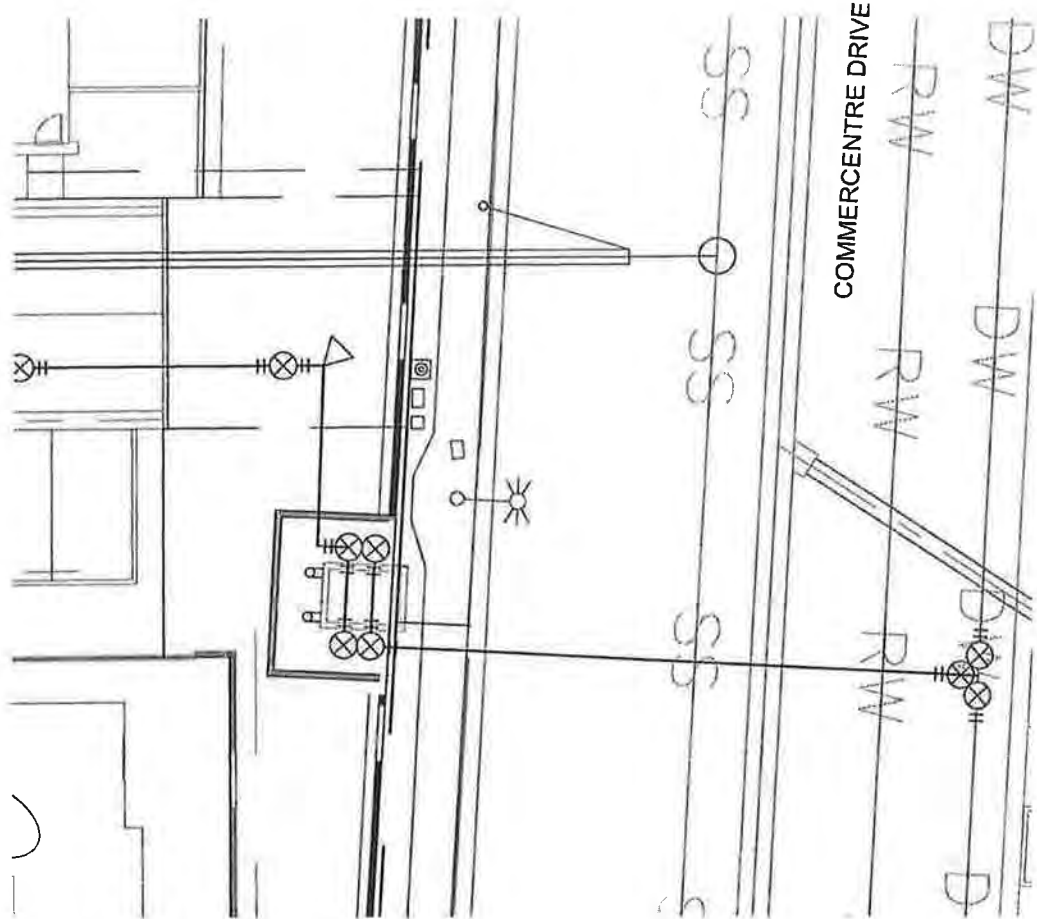
By \_\_\_\_\_  
Legal Counsel, IRWD

Dated \_\_\_\_\_

BUILDER:

By \_\_\_\_\_  
Title: \_\_\_\_\_

Dated \_\_\_\_\_



KEY MAP

PLAN PREPARED BY:  
**HUITT-ZOLIARS**  
 Huitt-Zoliars, Inc.  
 2603 Main Street, Suite 400  
 Irvine, California 92614  
 Phone (949) 988-5815 Fax (949) 988-5820

PREPARED FOR:  
  
 1250 CORONA FOOTBALL COURT, SUITE 310  
 CORONA, CA 92639  
 PHONE: (951) 542-8339  
 FAX: (951) 542-8301

**PRIMARY PRV  
 LOCATION MAP**

SHEET  
 1 OF 1  
 DATE  
 5/27/2016

R:\305119.01\10 cadd & bim\10.13 cadd\305119-SS-W.dwg, Layout: Layout, May 27 2016 8:52am

# IRVINE RANCH WATER DIS' EXHIBIT "C"

## Expenditure Authorization

Project Name: LAKE FOREST ENCANTO COMMERCENTRE DOMESTIC PRV

EPMS Project No: 11967 EA No: 1

ID Split: Miscellaneous

Oracle Project No: 7513

### Improvement District (ID) Allocations

Project Manager: LEW, KELLY

ID No.	Allocation %	Source of Funds
135	100.0	CAPITAL FUND
<b>Total</b>	<b>100.0%</b>	

Project Engineer: RIOS, BELISARIO

Request Date: August 4, 2016

### Summary of Direct Cost Authorizations

Previously Approved EA Requests:	\$0
This Request:	\$255,200
<b>Total EA Requests:</b>	<b>\$255,200</b>
Previously Approved Budget:	\$0
Budget Adjustment Requested this EA:	\$255,200
<b>Updated Budget:</b>	<b>\$255,200</b>
<b>Budget Remaining After This EA</b>	<b>\$0</b>

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING DESIGN - IRWD	10,000	0	10,000	10,000	0	10,000	6/16	8/16
ENGINEERING DESIGN - OUTSIDE	20,000	0	20,000	20,000	0	20,000	6/16	8/16
DESIGN STAFF FIELD SUPPORT	5,000	0	5,000	5,000	0	5,000	6/16	8/16
ENGINEERING - CA&I IRWD	20,000	0	20,000	20,000	0	20,000	9/16	6/17
ENGINEERING - CA&I OUTSIDE	20,000	0	20,000	20,000	0	20,000	9/16	6/17
CONSTRUCTION FIELD SUPPORT	5,000	0	5,000	5,000	0	5,000	9/16	6/17
CONSTRUCTION	150,000	0	150,000	150,000	0	150,000	9/16	6/17
LEGAL	2,000	0	2,000	2,000	0	2,000	6/16	6/17
Contingency - 10.00% Subtotal	\$23,200	\$0	\$23,200	\$23,200	\$0	\$23,200		
<b>Subtotal (Direct Costs)</b>	<b>\$255,200</b>	<b>\$0</b>	<b>\$255,200</b>	<b>\$255,200</b>	<b>\$0</b>	<b>\$255,200</b>		
Estimated G/A - 185.00% of direct labor*	\$74,100	\$0	\$74,100	\$74,100	\$0	\$74,100		
<b>Total</b>	<b>\$329,300</b>	<b>\$0</b>	<b>\$329,300</b>	<b>\$329,300</b>	<b>\$0</b>	<b>\$329,300</b>		
Direct Labor	\$40,000	\$0	\$40,000	\$40,000	\$0	\$40,000		

\*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:

Kelly Lew 8/5/16

Department Director:

Kevin L Burton 9/9/16

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 \$336,000. 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.

September 26, 2016  
Prepared by: J. Smyth/M. Cortez  
Submitted by: K. Burton *K.B.*  
Approved by: Paul Cook *[Signature]*

## CONSENT CALENDAR

### MAIN STREET DIVERSION STRUCTURE REHABILITATION CONSTRUCTION AWARD

#### SUMMARY:

Due to differential settling, the at-grade building portion of the Main Street Diversion Structure is leaning which has caused the slide gate shaft to bind. This project will level and rehabilitate the building and return it to normal operation. Staff recommends that the Board:

- Authorize a budget increase in the amount of \$426,300, from \$191,400 to \$617,700; and
- Authorize the General Manager to execute a construction contract with Pacific Hydrotech in the amount of \$341,500 for the Main Street Diversion Structure Rehabilitation.

#### BACKGROUND:

The Main Street Diversion Structure consists of an at-grade building and underground vault located in San Mateo Park in Irvine. The building houses the controls and slide gate motor operator that are used to direct sewage to either MWRP or OCSD. Due to differential settling, the building is leaning which has caused the slide gate shaft to bind as shown in Exhibit "A". This project will level the building by installing micropiles and grade beams, raising and leveling the building with jacks, and securing the building's corrected position with dowels that will tie the building slab to the new grade beams. The void space under the slab will be filled with grout. Other improvements include the rehabilitation of the slide gate shaft and motor operator, telemetry upgrades, and replacement of the vault lid with a sealed unit to reduce odors in the park.

#### Construction Award:

The project was advertised for bid to a select list of 13 contractors, and two contractors attended the pre-bid meeting. The bid opening was held September 15, 2016, with bids received from Pacific Hydrotech and Olsson Construction. Pacific Hydrotech is the apparent low bidder with a bid amount of \$341,500; the engineer's estimate was \$342,000. The Bid Summary is attached as Exhibit "B".

#### FISCAL IMPACTS:

Project 5174 is included in the FY 2016-17 Capital Budget. Staff requests a budget increase in the amount of \$426,300 to fund construction of the project as shown in the following table:

Project No.	Current Budget	Addition <Reduction>	Total Budget
5174	\$191,400	\$426,300	\$617,700

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) and in conformance with California Code of Regulations Title 14, Chapter 3, 15301. Section 15301 provides exemption for minor alterations of existing 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 with the County of Orange on August 7, 2015.

COMMITTEE STATUS:

Construction awards are not routinely taken to Committee prior to submittal to the Board.

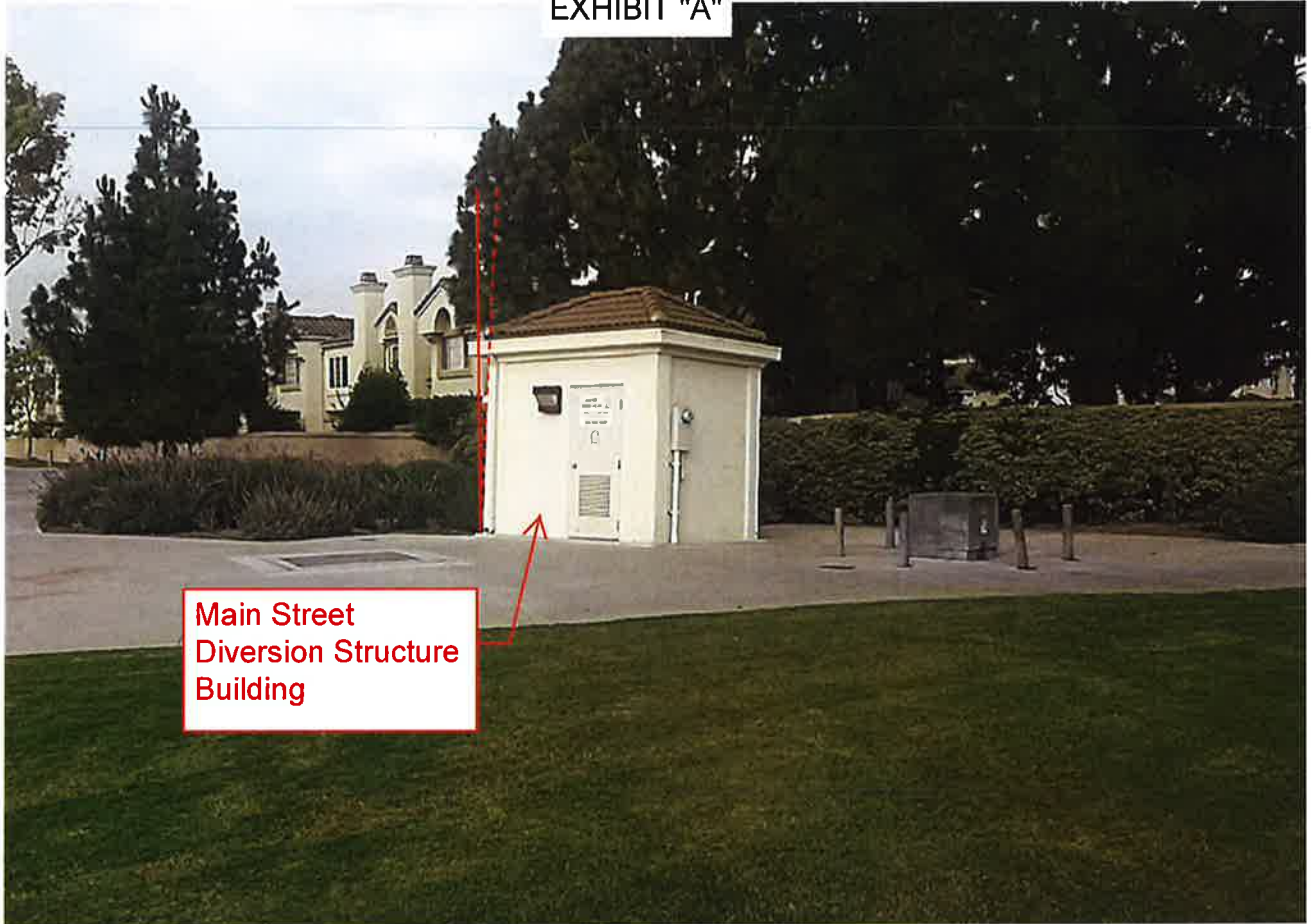
RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE FOR PROJECT 5174 IN THE AMOUNT OF \$426,300 FROM \$191,400 TO \$617,700; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH PACIFIC HYDROTECH IN THE AMOUNT OF \$341,500 FOR THE MAIN STREET DIVERSION STRUCTURE REHABILITATION, PROJECT 5174.

LIST OF EXHIBITS:

- Exhibit "A" – Photo of Leaning Main Street Diversion Structure Building
- Exhibit "B" – Bid Summary

EXHIBIT "A"



Main Street  
Diversion Structure  
Building

# EXHIBIT "B"

Bid Opening: Thursday, September 15, 2016  
1:00 P.M.

Irvir  
Main Street Diversion Structure Rehabilitation  
PR 5174, Code 6567

Entered By: J.K. Irey

Item No.	Description	Qty	Unit	Engineer's Estimate		1 Pacific Hydrotech Corp. Perris, CA		2 Norman A. Olsson Construction Orange, CA	
				Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
1	Mobilization, demobilization & cleanup	1	LS	\$ 10,000.00	\$10,000.00	\$12,000.00	\$12,000.00	\$15,000.00	\$15,000.00
2	Remove existing concrete sidewalk.	1	LS	\$ 15,000.00	\$15,000.00	\$10,000.00	\$10,000.00	\$15,000.00	\$15,000.00
3	Furnish and install micro piles including test piles and control of groundwater, ie. Dewatering, shielding, or other methods.	220	LF	\$ 200.00	\$44,000.00	\$310.00	\$68,200.00	\$600.00	\$132,000.00
4	Install grade beams	1	LS	\$ 30,000.00	\$30,000.00	\$35,000.00	\$35,000.00	\$30,000.00	\$30,000.00
5	Raise and make the building level	1	LS	\$ 15,000.00	\$15,000.00	\$17,700.00	\$17,700.00	\$20,000.00	\$20,000.00
6	Pressure grout under the building slab	1	LS	\$ 15,000.00	\$15,000.00	\$15,500.00	\$15,500.00	\$20,000.00	\$20,000.00
7	Remove and reconstruct the actuator pad	1	LS	\$ 10,000.00	\$10,000.00	\$6,400.00	\$6,400.00	\$5,000.00	\$5,000.00
8	Remove existing actuator, furnish and install a new actuator	1	LS	\$ 15,000.00	\$15,000.00	\$18,700.00	\$18,700.00	\$20,000.00	\$20,000.00
9	Excavation	1	LS	\$ 15,000.00	\$15,000.00	\$22,400.00	\$22,400.00	\$10,000.00	\$10,000.00
10	Concrete sidewalk Includes installation of two bollards.	1	LS	\$ 20,000.00	\$20,000.00	\$38,700.00	\$38,700.00	\$15,000.00	\$15,000.00
11	Remove existing hatch. Furnish and install a new aluminum access hatch	1	LS	\$ 20,000.00	\$20,000.00	\$9,600.00	\$9,600.00	\$15,000.00	\$15,000.00
12	Repair and realign slide gate stem guides	1	LS	\$ 15,000.00	\$15,000.00	\$8,200.00	\$8,200.00	\$30,000.00	\$30,000.00
13	Pedestrian traffic control	1	LS	\$ 10,000.00	\$10,000.00	\$5,000.00	\$5,000.00	\$10,000.00	\$10,000.00
14	Replace existing remote terminal unit (RTU)	1	LS	\$ 77,500.00	\$77,500.00	\$47,500.00	\$47,500.00	\$42,000.00	\$42,000.00
15	Install conduits & wires	1	LS	\$ 15,000.00	\$15,000.00	\$15,100.00	\$15,100.00	\$13,000.00	\$13,000.00
16	Testing, startup and commissioning, and training	1	LS	\$ 10,000.00	\$10,000.00	\$5,600.00	\$5,600.00	\$1,000.00	\$1,000.00
17	Final record drawings	1	LS	\$ 2,500.00	\$2,500.00	\$600.00	\$600.00	\$1,000.00	\$1,000.00
	Sub-Total				\$339,000.00		\$336,200.00		\$394,000.00
	<b>Alternative Bid Items</b>								
A1	Replace 3-inch conduit from Southern California Edison transformer to meter panel	1	LS	\$3,000.00	\$3,000.00	\$5,300.00	\$5,300.00	\$2,000.00	\$2,000.00
	Adjustment (+ or -)				\$0.00		\$0.00		\$0.00
	<b>Total Amount of Bid</b>				<b>\$342,000.00</b>		<b>\$341,500.00</b>		<b>\$396,000.00</b>
						<b>Manufacturers:</b>		<b>Manufacturers:</b>	
						Micro Piles: DSI		Micro Piles: DYWIDAG	
						Slide Gate Actuator: Auma		Slide Gate Actuator: Auma	
						Floor Hatch: Bilco		Floor Hatch: Nystrom	
						Telemetry Panel: George T Hall		Telemetry Panel: George T. Hall	
						<b>Subcontractors:</b>		<b>Subcontractors:</b>	
						Condon Johnson: Micro Pile		Condon Johnson: Micro Pile	
						Leed Electric: Electrical		Leed Electric: Electrical	



September 26, 2016

Prepared by: T. Lynch/J. McGehee/R. Mori

Submitted by: K. Burton

Approved by: Paul Cook 

## CONSENT CALENDAR

### CONSULTANT SELECTION FOR SECOND ZONE 1 RESERVOIR

#### SUMMARY:

A second Zone 1 reservoir is proposed to be located on the site of the District's existing 15 million gallon (MG) Zone 1 reservoir. Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$438,000 with Tetra Tech for engineering services for the Second Zone 1 Reservoir, Project 6401.

#### BACKGROUND:

IRWD's existing Zone 1 reservoir, located on Sand Canyon Avenue near Trabuco Road, provides storage for the Zone 1 system and serves as the forebay for both the East Irvine Zone 1-3 booster pump station (BPS) and the South County Zone 1-3 BPS. Other facilities at the site include both of the BPS facilities, associated pipelines, chloramination system, and cellular antenna tower.

In 2014, staff contracted with Harper & Associates Engineering to survey and evaluate the structural integrity and coating systems of the existing Zone 1 reservoir. The evaluation identified corrosion of the interior roof, structural members and center support cone, severe corrosion of the center rafters and access ladder, and cracking of the interior coating; Harper & Associates recommended that the reservoir interior be recoated. Staff contacted various coating contractors to determine the anticipated time it would take to complete the recoating activities as the reservoir would need to be taken out of service for the entire period. Based on feedback from the contractors, the recoating work could take up to nine months to complete.

Using the recently updated hydraulic model, staff evaluated the impacts to the Zone 1 system with the reservoir offline. The modeling analysis identified elevated pressures throughout the Zone 1 system. The model confirmed that it would be possible to operate the Zone 1 system without the reservoir for a short period of time, which has been done in the past in response to emergency situations, but that this mode of operation would not be feasible for an extended period of time. Using the model results, staff confirmed that a minimum storage volume ranging between 2.8 MG and 4.8 MG would be needed to alleviate the issues associated with elevated pressures when the existing 15 MG reservoir is offline.

As an alternative to operating Zone 1 in pressure mode during the rehabilitation efforts, the feasibility of constructing a second Zone 1 reservoir at the site was evaluated. This alternative would allow for the removal of the existing tank from service, while also improving the overall storage reliability in the Zone 1 system. Several reservoir alternatives were developed, each of which included pipeline routing alignments, associated site improvements, and conceptual cost estimates. The feasibility study confirmed that the site could support a second reservoir with a volume of 2.8 MG, and may support a reservoir with a volume of 4.8 MG. This second reservoir would be designed to operate in series or in parallel with the existing 15 MG reservoir. The preferred location of the reservoir is at the northern corner of the site as shown in Exhibit "A".

Engineering Services Consultant Selection:

Staff prepared a Request for Proposal (RFP) for the design of the project with the intention of issuing the RFP after the consultant selection process for the Santiago Hills II Zone 6 reservoir was completed. For the Zone 6 reservoir, staff received proposals from only Kleinfelder and Tetra Tech, both of which demonstrated substantial experience and proposed experienced design teams familiar with prestressed concrete reservoirs. With the selection of Kleinfelder for the Zone 6 project, staff began discussions with Tetra Tech to develop a scope of work and fee for the Zone 1 reservoir design in lieu of issuing another RFP as originally planned. Tetra Tech has since finalized the scope of work, which is attached as Exhibit "B", and staff has confirmed that the scope of work is appropriate for the work associated with this project. Staff also reviewed Tetra Tech's proposed fee in the amount of \$438,000, and confirmed that it is less than its proposed fee for the Zone 6 reservoir described above. Construction phase services are not included in the scope of work as they will be negotiated at the completion of the design phase when the project is fully defined.

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$438,000 with Tetra Tech since its design approach, schedule, and staff hours are consistent with the project goals. In addition, Tetra Tech provides substantial experience with the design of prestressed concrete reservoirs and has extensive knowledge of the existing Zone 1 reservoir site from previous experience supporting the design and construction of the South County Zone 1-3 BPS.

FISCAL IMPACTS:

The Second Zone 1 Reservoir, Project 6401, is included in the FY 2016-17 Capital Budget. The existing budget is sufficient to fund engineering services.

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, the appropriate environmental document will be prepared when "meaningful information" becomes available. It is expected that preliminary analysis will lead to preparation a Mitigated Negative Declaration for the project.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH TETRA TECH IN THE AMOUNT OF \$438,000 FOR ENGINEERING SERVICES FOR THE SECOND ZONE 1 RESERVOIR, PROJECT 6401.

LIST OF EXHIBITS:

Exhibit "A" – Site Plan

Exhibit "B" – Tetra Tech's Scope of Work and Fee for the Second Zone 1 Reservoir Project



**Exhibit "B" - Tetra Tech Scope of Work**

**ATTACHMENT**

**Engineering Services for the Second Zone 1 Reservoir Project**

**SCOPE OF WORK**

Tetra Tech will provide the following detailed scope of services:

**TASK 1 – PROJECT MANAGEMENT**

Tetra Tech will conduct project management activities to ensure adherence to scope, schedule, and budget; to promote efficient communication between Tetra Tech, IRWD, and others as required; and to implement an effective quality assurance/quality control (QA/QC) program.

- A. **Preparation of Project Status Reports.** Tetra Tech will prepare weekly and monthly status reports. Each weekly status report shall consist of a brief (one or two paragraphs) e-mail summarizing the activities completed the previous week, the activities planned for the upcoming week, and critical decisions that need to be made. Each monthly status report shall provide more detail, summarizing the work completed and reviewing work status relative to budget and schedule. The project schedule shall also be updated on a monthly basis for inclusion in the monthly status report.
- B. **Meetings and Workshops.** Tetra Tech will organize, attend, and conduct meetings and workshops as required; prepare and submit meeting agendas for IRWD review and concurrence at least three (3) days prior to the meeting; and prepare draft and final minutes for all meetings and workshops and submit them to IRWD within one week of the meeting.

For budgeting purposes, Tetra Tech will budget for the following meetings at a minimum.

MEETING/WORKSHOP	DESCRIPTION
General project management and design development meetings	Four (4) two-hour meetings
Site visits	One (1) two-hour meeting
Coordination activities with jurisdictional agencies, including but not limited to, City of Irvine, and Southern California Edison	Five (5) two-hour meetings
Preliminary Layouts and Renderings (establish constraints and criteria)	One (1) two-hour meeting
Review Preliminary Site Layouts and Recommend Site Plan	One (1) two-hour meeting
Preliminary Design workshop	One (1) two-hour workshop
Present draft PDR	One (1) two-hour meeting
Present the 60% design, discuss IRWD's comments, and discuss how the outstanding items were addressed	One (1) two-hour meeting
Present the 90% design, discuss IRWD's comments, and discuss how the outstanding items were addressed	One (1) two-hour meeting
Present the 100% design, discuss IRWD's comments, and discuss how the outstanding items were addressed	One (1) two-hour meeting

- C. **Quality Assurance/Quality Control.** Tetra Tech will develop and implement proven QA/QC measures throughout the project to ensure ongoing and consistent quality control throughout all project phases. As part of the QA/QC measures, Tetra Tech will capture comments from review meetings and submittals and thoroughly check the work product to ensure that comments are addressed.

## TASK 2 – PRELIMINARY DESIGN REPORT

Tetra Tech will perform the following subtasks as part of the preliminary design phase. The subtasks shall be documented and compiled into a Preliminary Design Report (PDR) as summarized below.

- A. **Background Information.** Tetra Tech will review the existing Siting Study, other existing reports, historic flow data, record drawings, system processes, and other information related to the project.
- B. **Site Master Plan.** As part of the PDR, Tetra Tech will provide a detailed site layout for the proposed 4.8 MG reservoir, which will include valve and meter vaults, maintenance access roads and new entry point, pipelines, storm drains and catch basins, all ancillary facilities, all facility relocations, and all existing facilities at the site. Site security will also be required for the reservoir site, which is anticipated to consist of site lighting, a motorized gate entrance, and replacement of all fencing around the perimeter of the site affected by the construction of the second reservoir. At this time, not sure a meter vault will be required (depends on location of connections).

The Site Master Plan subtask will document the proposed site configuration, site constraints, potential challenges, findings, and other information that Tetra Tech finds relevant. This task will also confirm the 4.8 MG proposed size is feasible, or recommend a different reservoir capacity that is feasible. At a minimum, Tetra Tech will develop and evaluate three (3) site layouts in collaboration with IRWD. As part of this task, Tetra Tech will conduct a workshop with IRWD to review initial findings in the Site Master Plan.

Tetra Tech will prepare preliminary renderings from Elysian (street level and from 2<sup>nd</sup> story) and from south bound side of Sand Canyon Avenue to assist in the evaluation of visual impacts of the new tank. In addition, Tetra Tech will provide preliminary options for architectural features to the tank wall and roof as well as the corresponding construction costs.

- C. **Zone I Reservoir.** IRWD anticipates using a DN Tank, partially buried, prestressed concrete reservoir. Tetra Tech will fully design and detail the reservoir and shall include all necessary plans, sections, and details in the construction plans. Performance based specifications for the reservoir will not be acceptable. The preliminary design should consider seismic requirements, performance, and ways to reduce concrete shrinkage and cracking and shall include a summary of proposed reservoir features including overflow provisions, venting, interior column sizing and spacing, subgrade preparation, foundation and footing requirements, pipe penetrations, ladders, hatches, guardrail, and reservoir sub-drain system. In addition, Tetra Tech will evaluate the key issues identified within our Approach Section of our proposal.

Tetra Tech will perform a preliminary structural design of the reservoir. The PDR will describe the design and construction of the circular pre-stressed concrete reservoir which will conform to AWWA D-110-13, Type I. Type I tanks have cast-in-place concrete core walls, internal vertical pre-stressing tendons and circumferential strand wrapping. The PDR will include: description of all design loads, including seismic requirements; features of the reservoir structure; structural calculations; steps required to obtain NSF 61 approval; proposed reservoir appurtenances; and preliminary foundation plan and typical reservoir section.

- D. **Reservoir Management System.** Tetra Tech will review record drawings associated with the existing Reservoir Management System (RMS) currently serving the 15 MG steel tank and provide recommendations, including building, piping, tanks, and electrical modifications, to add the RMS to the second zone I reservoir.
- E. **Onsite Pipelines.** Tetra Tech will provide a preliminary design for the inlet and outlet pipelines for the reservoir and associated piping for the onsite drainage and overflow pipelines including routing, sizing, and identifying connection points. We are assuming that due to congestion of utilities (electrical ducting) in front of the existing flow control facility, several of the proposed connections may be required to be made within the slope or on the east side of the existing reservoir.
- F. **Construction Phasing.** Tetra Tech will evaluate construction and siting requirements for the proposed reservoir and identify which existing facilities are required to be relocated or temporarily disabled, including but not limited to chemical and electrical lines to the RMS facility, electrical lines to the Mountain Union Telecommunications facility, and piping to the Zone 1-3 BPS and South County BPS.

Tetra Tech will prepare a phasing plan and recommend a sequence that identifies the order in which facilities will need to be relocated or temporarily disabled to minimize disruption to the Zone 1 system. As a minimum, the new access road from Elysian and the new power and telephone service for the cell tower will need to be constructed prior to excavating for the reservoir subgrade.

**G. Geotechnical Investigation.** Leighton Consulting, Inc. (as a subconsultant to Tetra Tech) will conduct a geotechnical investigation to adequately characterize the conditions at the proposed reservoir site. The following tasks, at a minimum, shall be conducted as part of the geotechnical investigation:

- Perform a geotechnical reconnaissance to observe site conditions and to locate exploratory borings.
- Leighton is proposing to drill, log, and sample two borings at the proposed reservoir location to a depth of 30 feet or auger refusal, whichever is shallower, to characterize the subsurface soils. The borings will be backfilled with soil cuttings and patched with cold mix asphalt where asphalt is penetrated.
- Plot the location of all soil borings on a map and attach the map to the Geotechnical Report.
- Conduct laboratory tests of selected samples to evaluate moisture content, density, gradation, Atterberg limits, consolidation, shear resistance, expansion, R-value, and corrosivity (chloride and sulfate content, minimum resistivity and pH).
- In addition, our structural engineer will require a site-specific response spectra for the design of the new reservoir. The site-specific response spectra will be developed for the project based on a uniform-hazard approach, which assumes the same level of hazard is uniformly applied to the entire response spectra. The spectral values will be developed for a seismic event associated with the Maximum Considered Earthquake with a return period of 2,475 years (2 percent chance of exceedance in 50 year), using attenuation relationships that describe the relation of ground motion levels with earthquake magnitude and distance (between the site and seismic source), site geology, and subsurface characterization. The response spectra will be developed for 0.5, 2 and 5 percent damping ratio and presented as tripartite plots and tabulated digitized values.
- Prepare a geotechnical report presenting findings, conclusions, and recommendations for the design and construction of the proposed facilities. The report shall include, at a minimum, (1) groundwater presence and levels, (2) construction dewatering requirements, (3) pipe bedding requirements, (4) trench shoring requirements, (5) settlement potential, (6) excavatability of soils, (7) location of rock, (8) backfill suitability, and (9) backfill compaction. The report shall emphasize specific concerns regarding construction methods and the integrity of pipelines, pavements, and structures. The report shall make recommendations regarding the design of facilities. Recommendations shall include (1) active, at-rest, passive and dynamic earth pressures, (2) foundation type, (3) allowable bearing pressure, (4) coefficient of friction between the foundation and soils/subgrade, (5) foundation design data, (6) settlement potential, (7) pipe bedding, (8) maximum cut slope requirements, (9) structural needs, (10) groundwater dewatering well(s) design criteria, and/or (11) other standard design criteria.
- The report shall also consider the existing Zone 1 Reservoir and the proposed excavation next to the existing reservoir, and if necessary, recommend options for protecting the existing reservoir in place during construction.

Three (3) copies of the draft Geotechnical Investigation Report (GIR) shall be submitted for review. Upon resolution and incorporation of review comments, three (3) copies of final GIR and one (1) electronic copy in PDF on CD will be submitted.

**H. Grading Plan.** Tetra Tech will prepare grading concepts for the site for construction of the reservoir and for the completed site, access road, pipelines, and any other required ancillary facilities. The plan shall also address any geotechnical issues, and minimize environmental and aesthetic impacts, including maintaining the existing screening berms to the maximum practical extent. The final grading concept will also show the necessary requirements to comply with the Water Quality Management Plan (WQMP) requirements from the Santa Ana Regional Water Quality Control Board. Facilities may include bio-swales, percolation basins, or other low impact development features to meet the treatment and hydro-modification requirements.

- I. **Electrical and Controls.** Tetra Tech will develop electrical and controls design requirements associated with the proposed reservoir and RMS modifications. Tetra Tech will determine specific improvements to provide power and control systems as appropriate. This subtask shall also include the related electrical work associated with the security improvements described under the "Site Master Plan" subtask.
- J. **Topographic Mapping.** The existing topographic map provided by the District will be acceptable for the preparation of the grading plans.
- K. **Utility Research.** Tetra Tech will review the existing information and identify the location of existing underground utilities and/or other physical features in the immediate vicinity of the proposed facilities and appurtenances. Information on utilities including material, size, horizontal and vertical locations shall be identified. Tetra Tech has budgeted to pothole fifteen (15) existing utilities.
- L. **Permits.** Tetra Tech will make applications and secure all permits with appropriate agencies. The permit acquisition process shall be initiated as early as practical to avoid project delay. Copies of completed permits and approvals shall be inserted in the Appendix of the Project Manual.

IRWD will reimburse Tetra Tech for actual permit fees without surcharge. Tetra Tech has included a \$5,000 allowance within our budget for the payment of permit fees in addition to the labor effort described herein. The known permits and/or coordination with other agencies that are not identified elsewhere in this RFP include:

- a. **Fire Master Plan.** The existing Zone 1 Reservoir is equipped with a Reservoir Management System (RMS) that utilizes liquid sodium hypochlorite and aqueous ammonia. The Orange County Fire Authority (OCFA) previously reviewed and issued a Fire Master Plan for the facility. IRWD anticipates updating the Fire Master Plan to account for the new improvements, including modifications to the site access. Tetra Tech will create a new updated Fire Master Plan (assuming the District will not be able to find the existing Fire Master Plan) including the proposed improvements and secure OCFA approval.
  - b. **Construction General Permit.** IRWD anticipates that the project may require a Storm Water Pollution Prevention Program (SWPPP). Tetra Tech will determine the risk level for the project and prepare the SWPPP accordingly. It is IRWD's intent to assign monitoring and reporting to the Contractor as part of the construction contract. Tetra Tech will prepare and submit the SWPPP for the project site to comply with the State Regional Water Quality Control Board General Permit for Construction Activities. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) and will be submitted to the District for review and concurrence. Based on the site location and proposed construction, it is assumed the SWPPP will qualify as a Risk Level 1 project. Tetra Tech will assist the District in registering the project on the State SMARTs system and complete the Notice of Intent (NOI) for the project. It is assumed that all registration fees will be paid by the District.
  - c. **City of Irvine Encroachment Permit.** Tetra Tech will assist IRWD in obtaining an encroachment permit from the City of Irvine for all work performed in the public right-of-way (ROW) including preparation of traffic control plans and coordination with the City staff. The access road entry point relocation will require ROW and/or encroachment permits from the City of Irvine, as well as the relocation of the power and telephone service to the existing cell tower. Tetra Tech will prepare the permit application(s), provide necessary documentation for IRWD's execution and submittal, answer all review questions, and make necessary revisions to the permit documents.
  - d. **Department of Drinking Water (DDW).** Tetra Tech will submit the reservoir plans to the Department of Drinking Water (DDW). Tetra Tech has assumed that a meeting with DDW will not be required or will not require Tetra Tech's attendance.
- M. **CEQA Documentation.** IRWD will hire a CEQA consultant separate from this contract to prepare the CEQA documentation for this project. IRWD anticipates the preparation of a Mitigated Negative Declaration (MND). Tetra Tech may need to review portions of the environmental document, prepare exhibits, attend meetings, and/or provide project specific information. Tetra Tech will budget \$5,000 for supporting IRWD and the CEQA consultant through the CEQA documentation process.



- N. **Project Schedule.** Tetra Tech will include a project schedule, which shall include estimated schedules for both design and construction activities. The schedule shall include all critical factors impacting the project schedule including implementation, permitting, and coordination activities to ensure that the project is completed in accordance with the proposed schedule. The schedule shall be prepared in Microsoft Project.
- O. **Construction Plans and Project Manual.** Tetra Tech will provide a list of anticipated construction drawings and a table of contents of technical specifications that will be required for final design.
- P. **Opinion of Probable Construction Cost.** Tetra Tech will prepare a detailed and itemized opinion of probable construction cost for the proposed facilities. For the Preliminary Design, a contingency of 30% shall be used.
- I. **Preliminary Design Report (PDR).** The work described above shall be summarized and compiled into a PDR. At a minimum, the PDR shall summarize the results of the subtasks identified above along with additional design criteria identified by Tetra Tech during the preliminary design.

Five (5) copies of Draft PDR and one (1) electronic copy in PDF shall be submitted for review. Upon resolution and incorporation of review comments, five (5) copies of the final PDR and one (1) electronic copy in PDF shall be submitted. The final PDR shall be submitted prior to proceeding with the 60 percent design deliverable.

### TASK 3 – FINAL DESIGN

The final design shall result in the preparation of the Contract Documents. In the final design phase, Tetra Tech will address the items discussed hereunder.

- A. **Project Manual.** Tetra Tech will prepare a Project Manual in standard IRWD format. IRWD's front end documents shall be utilized, and Tetra Tech will assess IRWD's documents to determine any needed supplemental general/special provisions that should be added to comply with IRWD's general provisions and front end requirements. The Project Manual shall describe the allowable shutdown durations and sequencing associated with any connections and tie-ins to existing IRWD facilities. The Project Manual shall also include the IRWD General Technical Specifications, modifications thereto, and any project specific technical specifications.
- B. **Construction Plans.** Tetra Tech will prepare detailed construction drawings in the latest version of AutoCAD and using NCS V4.0 layering standards, on 22-inch x 34-inch sheets utilizing IRWD's standard border template. Separate sheets with sheet index/location map/legend, general notes, index map, construction notes, condensed profiles, phasing, and detail connections shall be included. Construction notes shall be used (callouts on the plans are not allowed) on all construction drawings. Existing IRWD utilities shall be identified on the plan view by as-built plan set number with the pipeline material and IRWD pressure zone labeled. The index map shall include sheet legend, final alignment, valve locations, surrounding streets, and significant project site locations. Construction plans shall be prepared using the NAVD 88 and NAD 83 survey standards.

The following is a summary of the drawings that we envision for the project:

- General Sheets (4 sheets)
- Horizontal Control Plan
- Overall Site Plan
- Street Work Plan View – Phase 1 (new driveway, and electrical/telephone service to cell tower)
- Curb and Gutter Plan and Profile and Miscellaneous Details
- Demolition and Relocation Plans (electrical/telephone/and maybe RMS facilities)
- Reservoir Subgrade Grading Plan including shoring
- Reservoir Subgrade Cross Sections
- Precise Grading Plan including perimeter retaining wall and wall adjacent to access road.
- Precise Grading Reservoir Cross Sections
- Site Details (2 sheets)
- Retaining Wall Profile and Details
- Sand Canyon Avenue Final Street Plan (removal of driveway and parkway improvements)
- Miscellaneous Details including parkway improvements

- Yard Piping Plan (inlet/outlet piping; South County BPS piping; new tank interconnection piping)
- Drain, Subdrain, Overflow and Washdown Piping Plan
- Yard Piping Profiles – total of six (2 sheets)
- Subdrain Piping Details and Inspection Manhole
- RMS Conduit/Piping Plan and Details
- Connection Details (inlet/outlet; South County; future new tank interconnection; drain and overflow)
- Reservoir Piping Details (outlet; washdown; drain; level probe)
- Reservoir Inlet Piping Details (section, concrete pipe supports and thrust blocks)
- Reservoir Piping Details (overflow, overflow weir, pipe penetration, pipe supports)
- Reservoir Access Hatches/Ladders Details
- Miscellaneous Reservoir Details
- Piping Details
- General Structural Notes
- Structural Foundation Plan
- Roof Slab Plan
- Partial Roof Slab Reinforcing Plan
- Typical Tank Section
- Wall Section and Elevations
- Roof Slab Sections
- Typical Structural Details
- Foundation Details
- Wall Details
- Roof Slab Details
- Ladder and Platform Details
- Stair Elevation and Details
- Structural Details (Miscellaneous)
- Retaining Wall Structural Details
- Electrical Symbols and Abbreviations
- Relocation of Power and Control Conduits (cell tower)
- Existing Electrical Site Plan
- Electrical Site Plan (new reservoir)
- I&C Site Plan and Power Plan
- Single Line Diagram
- New Panel Schedule and Elevation
- Lighting and Grounding Plan
- Conduit and Fixture Schedules
- Electrical Details
- I&C Symbols and Abbreviations
- PLC Loop Diagrams
- P&ID
- Control Panel Layout

***Total Number of Sheets: 60 sheets***

- C. Topographic Mapping. The topographic map for the project will be provided by IRWD in AutoCAD format. NAD83 coordinates and NAVD88 county benchmark elevations were used for survey ground control and mapping at 1-foot contour intervals. Tetra Tech will confirm horizontal and vertical control and shall field locate obscured surface features as required to facilitate preparation of detailed plans. Tetra Tech will budget \$5,000 for additional field surveying as part of the topographic mapping process.

- D. Electrical/Instrumentation. Tetra Tech will prepare an operational scheme including P&IDs, single line diagrams, control equipment list, control loop descriptions, and method of integrating the proposed facilities into IRWD's existing SCADA system. Prior to this process, Tetra Tech will meet with IRWD electrical/automation staff to incorporate IRWD's standard operations, programming, and tagging requirements into the design.

Tetra Tech will develop and provide the operational scheme and functional descriptions (in plain English) for District review and approval. Tetra Tech will coordinate obtaining power and telemetry to the Project site. Tetra Tech will be responsible for obtaining SCE's approval for the proposed electrical services at the site, including the relocation of the power service to the cell tower facility.

- E. SCE Final Service Plan. Tetra Tech will coordinate with SCE early in the design process to obtain the Final Service Plan, which shall be inserted in the appendix of the Project Manual. This task shall include the coordination efforts necessary to communicate the project requirements, address any comments from SCE, and implement all requirements into the project design, including the relocation of the power service to the cell tower facility.
- F. Project Schedule. Tetra Tech will maintain and consistently update the project schedule, which shall include detailed schedules for both design and construction activities. The schedule shall include all critical factors impacting the project schedule including implementation, permitting, and coordination activities to ensure that the project is completed in accordance with the proposed schedule. The schedule shall be prepared in Microsoft Project.
- G. Liquidated Damages Spreadsheet. Tetra Tech will calculate the liquidated damages value for the construction project, should the contract time be exceeded. IRWD's standard liquid damage calculation form will be provided.
- H. Opinion of Probable Construction Cost. Tetra Tech will update and submit the opinion of probable construction cost developed during the preliminary design phase at each of the design deliverables described below.
- I. Final Design Deliverables. Deliverables will be made as follows:
1. Ten (10) 11"x17" bound copies of the 60 percent submittal and one (1) CD containing a single PDF file of the entire plan set. Show civil/site, preliminary reservoir plans and sections, mechanical, and electrical plans. Show basic mechanical equipment, structural and architectural layouts, pipeline alignments, preliminary profiles, and existing utilities at a minimum. Provide a complete table of contents for the Project Manual.
  2. Ten (10) 11"x17" bound copies of the 90 percent submittal and one (1) CD containing a single PDF file of the entire plan set. Show concepts of each component of the design such as civil, structural, mechanical, architectural, electrical and instrumentation. Show plan, profile, connections, details, and location of appurtenances. Plan and profile drawings and mechanical details/drawings will be developed to a high level of detail. Provide three (3) color coded copies of the 90 percent Project Manual, including all sections; contract documents, general provisions, special provisions, general requirements, technical specifications, and appendix.
  3. Ten (10) 11"x17" bound copies of the 100 percent submittal, one (1) CD containing AutoCAD files for the entire plan set, and one (1) CD containing a single PDF file of the entire plan set. Include complete plans and three (3) color coded copies of the Project Manual, a notebook with the design calculations (including, but not limited to, mechanical, civil, structural, electrical, pipe thickness and restraint), and one (1) CD containing all MS Word files used in the preparation of the Project Manual.
  4. One (1) full size final stamped and signed reproducible plan set on mylar and one (1) original signed Project Manual for District's signatures.
- J. Addenda Preparation and Pre-Bid Meeting. During the bidding period, Tetra Tech will assist with providing information and clarification of bid documents to prospective bidders. Tetra Tech will include budget for the preparation of up to three (3) addenda including revisions to the design plans and specifications and assistance with addressing bidder questions.

At a minimum, addenda preparation activities shall include:

- **Plan Revisions:** Tetra Tech will budget twenty (20) hours of appropriate staff time for plan revisions to the construction drawings.
- **Specification Revisions:** Tetra Tech will budget fifteen (15) hours of appropriate staff time for revisions or additions to the project specifications.
- **Bidder Questions:** Tetra Tech will budget fifteen (15) hours of appropriate staff time to address and respond to bidder questions.
- **Pre-Bid Meeting:** Tetra Tech will prepare for and conduct one (1) two-hour pre-bid meeting and will provide agendas, exhibits, sign-in sheet, and minutes for the meeting. This may include a site visit with potential bidding contractors.

## SCHEDULE

Tetra Tech has reviewed the project scope of services and understand the importance of the schedule. We are familiar with the project site and understand the purpose of the work and the extent of our efforts which will be necessary to complete the project. In addition, our project team's familiarity with IRWD standards and our past experience with reservoir design will be valuable to meeting and accelerating your schedule. Tetra Tech has reviewed the current and planned workload for our project team. They are available to immediately begin work on this project.

Tetra Tech will meet the following significant project milestones:

Notice of Award (Design)	September 2016
Kick-off Meeting	1 <sup>st</sup> week after Award
Draft PDR Submittal	1 <sup>st</sup> week in December 2016
Final PDR Submittal	Last week in January 2017
60% Design Submittal	Last week in January 2017
90% Design Submittal	Mid May 2017
100% Design Submittal	Mid June 2017
Plans Approved	Early July 2017

## FEE

Tetra Tech is proposing to perform the above scope of work on a hourly time and material basis with the following Not-to-Exceed Fee.

<i>Task No.</i>	<i>Description of Work</i>	<i>Budget Amount</i>
1	Project Management	\$ 44,000
2	Preliminary Design Report	\$ 161,400
3	Final Design	\$ 232,600
	<b>TOTAL Not-to-Exceed</b>	<b>\$ 438,000</b>

Attached is our estimated hours per task, subconsultant costs, reproduction and other direct costs. We have also included our proposed Hourly Rate Schedule.



**2016  
HOURLY CHARGE RATE AND EXPENSE REIMBURSEMENT SCHEDULE**

**Project Management**

Project Manager 1	\$210.00
Project Manager 2	\$240.00
Sr Project Manager	\$305.00
Program Manager	\$305.00
Principal in Charge	\$340.00

**Engineers**

Engineering Technician	\$37.00
Engineer 1	\$96.00
Engineer 2	\$115.00
Engineer 3	\$130.00
Project Engineer 1	\$135.00
Project Engineer 2	\$165.00
Sr Engineer 1	\$170.00
Sr Engineer 2	\$175.00
Sr Engineer 3	\$210.00
Principal Engineer	\$300.00

**Planners**

Planner 1	\$104.00
Planner 2	\$115.00
Sr Planner 1	\$125.00
Sr Planner 2	\$151.00
Sr Planner 3	\$175.00

**Designers & Technicians**

CAD Technician 1	\$65.00
CAD Technician 2	\$75.00
CAD Technician 3	\$90.00
CAD Designer	\$100.00
Sr CAD Designer 1	\$118.00
Sr CAD Designer 2	\$125.00
CAD Director	\$150.00
Survey Tech 1	\$50.00

**Health & Safety**

H&S Administrator	\$95.00
Sr H&S Administrator	\$115.00
H&S Manager	\$145.00

**Construction**

Construction Project Rep 1	\$78.00
Construction Project Rep 2	\$85.00
Sr Constr Project Rep 1	\$100.00
Sr Constr Project Rep 2	\$115.00
Construction Manager 1	\$165.00
Construction Manager 2	\$185.00
Construction Director	\$233.00

**General & Administrative**

Project Assistant 1	\$67.00
Project Assistant 2	\$75.00
Project Administrator	\$95.00
Sr Project Administrator	\$110.00
Graphic Artist	\$130.00
Technical Writer 1	\$97.00
Technical Writer 2	\$124.00
Sr Technical Writer	\$155.00

**Information Technology**

Systems Analyst / Programmer 1	\$77.00
Systems Analyst / Programmer 2	\$115.00
Sr Sys Analyst / Programmer 1	\$130.00
Sr Systems Analyst / Programmer 2	\$196.00

**Project Accounting**

Project Analyst 1	\$90.00
Project Analyst 2	\$114.00
Sr Project Analyst	\$155.00

**Reimbursable In-House Costs:**

Photo Copies (B&W 8.5"x11")	\$ 0.15/Each
Photo Copies (B&W 11"x17")	\$ 0.40/Each
Color Copies (up to 8.5"x11")	\$ 2.00/Each
Color Copies (to 11"x17")	\$ 3.00/Each
Compact Discs	\$10/each
Large format copies	\$0.40 S.F.
Computer Usage: not to exceed	\$3.55/hour
Mileage-Company Vehicle	\$0.80/mile
Mileage-POV	\$0.55/mile*

\*current GSA POV mileage rate subject to change

All other direct costs, such as production, special photography, postage, delivery services, overnight mail, printing and any other services performed by subcontractor will be billed at cost plus 15%.



September 26, 2016

Prepared by: L. Lewis

Submitted by: F. Sanchez/P. Weghorst 

Approved by: Paul Cook 

## CONSENT CALENDAR

### FATS, OILS AND GREASE PROGRAM VARIANCE NO. 1

#### SUMMARY:

IRWD has used contract services to administer its Fats, Oils and Grease (FOG) Program since 2004. Currently, the District is undertaking a study to evaluate options for implementing new Discharge Pretreatment and FOG Programs. Recommendations from the study are expected to be available in spring 2017. One year of transition time may be required for implementation of the programs, depending on recommendations of the study. To maintain the operational continuity of the FOG Program during the evaluation and transition period, a variance with the current provider of FOG Program services is recommended. Staff recommends that the Board authorize the General Manager to execute Variance No. 1 with Environmental Engineering and Contracting, Inc. (EEC) in the amount of \$165,950 to provide FOG Program services for one year and for an optional additional year at \$165,950 as may be necessary to transition to the District's new Pretreatment and FOG Programs.

#### BACKGROUND:

When the District initiated the FOG Program in 2004, EEC was retained to develop a FOG characterization study. The scope of work of the study included inspection of food service establishments (FSEs), development of hot spot maps, FOG source characterizations and the design of a database management system for the program. The District's FOG Program has expanded over the last 10 years with over 1,000 FSEs currently in the system. EEC's scope of work has evolved to include overall program management, routine FSE inspections and enforcement support on behalf of the District.

In September 2014, staff sent a Request for Proposal (RFP) for FOG services to six potential service providers. Staff received three proposals and two of the firms did not meet the minimum experience requirements specified in the RFP. Based on this competitive process, EEC was selected to provide FOG Program services. In 2015, a Professional Services Agreement was executed with EEC to continue performing the FOG Program administrative services for a one-year term. This agreement expires on October 31, 2016.

EEC has provided FOG Program management services to over 30 cities and sewer collection and treatment districts. The company is also nationally recognized as a FOG control expert and has provided excellent services to the District.

#### Evaluating Options for Pretreatment and FOG Programs:

In August 2016, staff issued an RFP for a consultant to evaluate IRWD's options for implementing new Pretreatment and FOG Programs. The evaluation will assess the resources necessary to meet regulatory requirements for both programs, and recommend whether the programs should be brought in-house, outsourced or a combination of both. The

recommendations from the evaluation are not expected to be available until early spring 2017. It is expected that it will take another year to implement the recommendations through a transition process.

Variance No. 1 with EEC:

To maintain program continuity and compliance with regulatory requirements during the evaluation and transition periods, staff recommends that EEC continue to provide FOG Program services for one additional year with an option for the District to extend the contract for a second year as may be necessary to transition to a new program. Staff has negotiated with EEC in the preparation of Variance No. 1 and a related scope of work to continue EEC's work. The variance and scope of work are attached as "Exhibit A". Staff considers the cost of the services to be fair and reasonable.

FISCAL IMPACTS:

Funding for FOG Program Services is included in the adopted FY 2016-17 Operating Budget.

ENVIRONMENTAL COMPLIANCE:

Services provided by EEC will be in compliance with the District's FOG Control Program Manual and Grease Control Rules and Regulations that are included in the District's Sewer System Management Plan, the District's Rules and Regulations for Use of District Sewerage Facilities and consistent with the State Water Resources Control Board Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order Number 2006-0003.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 1 WITH ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC. TO PROVIDE FATS, OIL AND GREASE (FOG) PROGRAM SERVICES IN THE AMOUNT OF \$165,950 FOR THE PERIOD NOVEMBER 1, 2016 TO OCTOBER 31, 2017 AND FOR AN OPTIONAL ADDITIONAL YEAR AT \$165,950 AS MAY BE NECESSARY TO TRANSITION TO THE DISTRICT'S NEW PRETREATMENT AND FOG PROGRAMS.

LIST OF EXHIBITS:

Exhibit "A" – Variance No. 1 with EEC and Related Scope of Work



## IRVINE RANCH WATER DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: Fats, Oils, and Grease (FOG) Program Services

Project No.: N/A

Date: August 22, 2016

Purchase Order No.: 527613

Variance No.: 1

Originator:     IRWD     ENGINEER/CONSULTANT     Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*):

Schedule and Cost Variance to extend FOG Program Services one year ending October 31, 2017, with an option to extend for a second year, ending October 31, 2018. See attachment.

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
See Attachment for scope of work and cost estimate FY16/17	1400					165,950
Optional FY 17/18 - also see attached scope of work	1400					165,950
<b>Total \$=</b>						<b>331,900</b>

Schedule Impact:



Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
All	FOG Program Services FY 16-17	10/31/2016	12 months	Complete by 10/31/2017
All	Optional FOG Program Services FY 17-18	10/31/2016	Up to 24 months	Complete by 10/31/2018

Required Approval Determination:

Total Original Contract	\$ <u>165,950.00</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000. <input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000. <input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.
Previous Variances \$	<u>0</u>	
This Variance	\$ <u>331,900.00</u>	
Total Sum of Variances	\$ <u>0</u>	
New Contract Amount	\$ <u>497,850.00</u>	
Percentage of Total Variances to Original Contract	<u>200</u> %	

ENGINEER/CONSULTANT: EEC Environmental

IRVINE RANCH WATER DISTRICT

  
 Project Engineer/Manager    Date: 9/19/16  
  
 Engineer's/Consultant's Management    Date: 9/19/16

\_\_\_\_\_  
 Department Director    Date \_\_\_\_\_  
 \_\_\_\_\_  
 General Manager/Board    Date \_\_\_\_\_



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## Section 3.0 – Scope

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### 3.1 FOG Program Management Support

EEC currently manages and supports FOG control programs for four Southern California agencies, including the District, utilizing comprehensive databases and GIS tools to collect, organize, analyze, and manage FOG data. Having been closely involved in the development and implementation of key FOG program tools and processes, EEC's technical and field staff is thoroughly knowledgeable with the field data acquisition systems and work flows currently employed by the District.

EEC will provide the following as-needed services under this task:

- Collect, organize, and manage the District's FOG Control Program data
- Review FSE inspection results for QA/QC
- Develop reports to summarize inspection results and compliance efforts
- Establish inspection schedules, and coordinate compliance and enforcement tasks with District staff
- Provide as-needed new FSE plan review/plan check support and District staff training
- Conduct regular meetings/calls with District staff to evaluate the FOG Control Program status, provide recommendations, and prioritize project efforts (minimum of bi-weekly)
- Provide monthly reports summarizing activities conducted and recommendations to the District's FOG Program Manager
- Provide follow-up documentation assistance and expertise to the FOG Program Manager
- Manage the FOG geodatabase and GIS files such as map documents
- Monitor the Orange County Health Care Agency's (OCHCA's) inventory of restaurants and append any updates, changes, or additions to the District's FSE inventory
- Obtain data and information to keep the FSE inventory up to date
- As needed, develop and coordinate evaluation of new and emerging grease control technologies, including GRE and chemical/biological additives
- Provide the District with experienced and knowledgeable professional staff
- Provide the district with inspectors equipped with proper identification including contractor badges

Additionally, based on our recognized FOG expertise, EEC is afforded the opportunity to work with agencies across the country, exposing the team to a variety of innovative ideas and concepts that can be shared with the District. EEC also works with some of the District's neighboring agencies and can share field intelligence regarding sewer investigations and FSE issues that might impact the District's programs.

### 3.2 FSE Inspections and Enforcement

EEC inspectors are fully trained on FOG inspection procedures and the District's specific FOG regulations. To ensure the efficiency, quality and consistency of our inspections, EEC will routinely perform QA/QC of FOG inspectors as well as the inspection data. EEC will closely monitor inspection progress to ensure the FOG control program tasks are on track to meet inspection and follow-up targets. EEC will also work

with the District's FOG Program Manager to evaluate implementation of FOG risk-based inspection prioritization processes to further optimize the District's inspection resources.

EEC will provide the following services under this task:

- Conduct on-site physical inspections of FSEs as determined by the FOG Program Manager (during the District's regular business hours)
- Provide recommendations for enforcement actions and support coordination and execution of these actions
- Provide outreach and educational materials to FSEs
- Provide the District with educational and BMP information
- Promote the importance of kitchen BMPs to the FSE community
- Require inspectors to clearly identify themselves both verbally and with proper identification badges as contract inspectors of the District
- Require inspectors to identify their vehicles as contract vehicles of the District (if requested)
- Coordinate and establish work schedules

Specific FSE inspection categories include the following:

**1. Permitting Inspections.** EEC will conduct initial permitting inspections for new, change-of-ownership, and remodeled FSEs. Through initial inspections, also referred to as FSE characterization, EEC will identify the type of food, cooking equipment, kitchen practices, and grease removal equipment utilized at each new FSE. Each FSE will be provided with educational materials and detailed verbal guidance to help the FSE understand the District's Program and minimize their risk for FOG discharge into the District's collection system.



An FSE's Cooking Equipment Inventory Undergoes FOG Inspection

**2. Grease Removal Equipment Inspections.** EEC will conduct GRE inspections for FSEs with a grease interceptor or grease trap to ensure each device is in good operational and maintenance condition and confirm that appropriate maintenance practices are implemented. The inspections are comprehensive and thorough to support potential enforcement efforts in the future.

Specifically, EEC inspectors will conduct the following:

- Measure the layer of floating FOG and settable solids
- Determine conformance with compliance criteria
- Inspect the mechanical condition of the GRE
- Review the maintenance logs and record the last pump-out date
- Evaluate GRE pumping record-keeping
- Document and capture photographic evidence of all violations



Grease Interceptor is Opened for Inspection

**3. Best Management Practice Inspections.** Having conducted over 20,000 kitchen BMP inspections, EEC understands the importance of educating FSEs on proper BMPs. EEC will conduct BMP inspections to evaluate compliance with all required kitchen BMPs, including employee education and training practices. These inspections also provide an opportunity to provide new program educational materials.

Specifically, EEC inspectors will assess the following:

- Removal of food grinder
- Drain screens installed/maintained
- Kitchen signage (BMP poster) posted
- Scraping practices
- Food waste disposal practices
- Emergency spill response materials
- Utilization of drainage additives
- Segregation and proper storage of waste cooking oil
- Grease collection log maintained
- Employee training log maintained
- Lateral cleaning and spill log maintained



A Kitchen BMP Violation is Identified During Inspection

**4. Compliance Inspections.** EEC will conduct follow-up inspections for non-compliance issues as required by the District's FOG Program Manager. This may include issuance of notices of violation (NOV) to FSEs that are found to be in non-compliance of the FOG control regulations.

EEC will assist the District in managing enforcement actions for violations of the District's Rules and Regulations. For any FSE or critical source facility identified with deficiencies, EEC will meet with FSE managers/owners or property owners to discuss violations and enforcement and to help develop an appropriate corrective action plan to achieve and maintain compliance. Based on the results of follow-up inspections and issued notices of non-compliance, EEC will review, provide recommendations, and assist the District with elevated enforcement actions required as a result of violations of the District's FOG Rules and Regulations.

EEC understands the District's FSE inventory database and key FSE details necessary to determine each FSE's potential to discharge FOG into the sewer system (e.g., cooking equipment). Inspection results collected in the field are recorded in the geodatabase and used to determine and monitor each FSE's compliance status and history.



A Probe is Used to Measure the FOG Accumulation in a Grease Interceptor

### 3.3 Safety

EEC inspectors are extensively trained in inspection safety and have an impeccable safety track record. EEC inspectors also receive training in SSO response procedures and are readily familiar with the SSO emergency response procedures implemented by the District.

With over 20,000 facility and grease interceptor inspections conducted to date, EEC understands the potential hazards associated with conducting facility inspections. EEC inspectors adhere to safety protocols and safety equipment including, but not limited to, the following:

- Anti-slip steel toed boots
- Latex gloves
- Safety glasses
- Long pants
- Traffic safety vests
- Traffic cones
- Hand sanitizer

If requested, EEC can develop a Site Safety Plan specific to this project. The Site Safety Plan would outline the steps to be taken during each inspection to not only protect inspectors/public from harm, but also satisfy the District's specific requirements (if any). Such a Site Safety Plan would be kept in each inspection vehicle and provided to the District upon request.

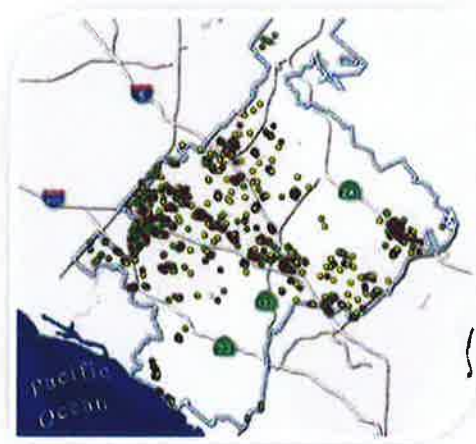
### 3.4 Mapping Services

EEC fully understands the District's use of GIS and other systems to manage FOG program data and inspection tasks. EEC understands that the District is requesting mapping and GIS support services to continue use of these systems.

Since 2004, EEC has provided GIS support services to the District, including determining the most effective way to manage the District's FOG control program. EEC created and implemented the District's Esri's ArcGIS and MS Access system to manage inspections of the more than 1,000 FSEs and more than 400 GREs.

EEC will provide the following services under this task:

- Manage and maintain FSE/GRE geodatabase
- Review FOG inspection results
- Generate reports and inspection statistics
- Maintain FSE and GRE feature classes
- Maintain map documents for Esri software



FSEs Located in IRWD's Service Area

- Conduct geospatial analysis to determine FSE inspection priorities
- Provide GIS support as specified by the District
- Identify and address problems or errors in the GIS

The FOG program Geodatabase is also used to manage issuance of NOVs and subsequent compliance inspections. Using these GIS and database resources developed in-house, EEC will continue to provide effective and efficient inspection management services for the District.

EEC has also developed customized tools to query and review copious amounts of FSE data for analysis and reporting. For example, an inspector or manager can find an SSO or sewer hotspot in the GIS and readily identify the associated FSEs. Hyperlink tools in the GIS are provided to quickly query the FSE database to return pertinent information related to an FSE's inspection history, site pictures, and inspection reports.

### **3.5 Waste Discharge Requirement and Sewer Management Plan Support**

EEC staff has comprehensive experience in conducting a wide range of program audits, including sewer system management plan (SSMP) audits. This broad experience has provided EEC with a unique insight to both a regulator's view on conducting audits and a regulated entity's view on being audited. Since the issuance of Order No. R8-2002-0014 by the California Regional Water Quality Control Board in 2002, and subsequent issuance of the current Statewide General Waste Discharge Requirements (SSS WDR) for Sanitary Sewer Systems (Order No. 2006-0003-DWQ) in 2006, EEC applied its insight to developing and implementing practical and defensible programs designed to reduce SSOs. EEC can provide continued support to the District with WDR and SSMP development and implementation as requested.



An SSO is Simulated During SSO Response Training

EEC continues to serve local governments in developing, implementing, and monitoring sensible sewer system management programs tailored to address specific local conditions and ensure compliance with applicable WDRs. EEC has extensive expertise in key SSO mitigation strategies, including FOG control programs, overflow emergency response plans (ERP), and SSMP performance assessment and audits. EEC continues to assist cities and independent special districts, including the Cities of Santa Ana, La Habra, Buena Park, El Segundo, and Anaheim, as well as CMSD, with development, implementation, and/or audit of their key SSMP strategies.

As needed, EEC can support the District with the on-going efforts toward SSMP assessment and enhancement to ensure continued compliance with the SSS WDR. EEC's service capabilities range from cursory review/discussion of specific SSMP elements to a comprehensive audit and update of the entire SSMP program.

### **3.6 Training and Miscellaneous Support**

EEC developed and currently conducts California's only Grease Interceptor Inspector Training Workshop for the California Water Environment Association (formerly conducted for CalFOG). To date, EEC has conducted seven workshops and trained more than 400 inspectors. EEC most recently provided specialized training for City Redondo Beach and South San Luis Obispo Sanitation District inspectors as well as City of Santa Ana Code Enforcement staff.

As needed, EEC can provide the District with FOG Program and inspection training services tailored to suit the District's current program needs as well as supporting the District's long-term program goals.

### **3.7 Summary of Deliverables**

Based on the scope of services, the following deliverables are anticipated for this project:

- Up-to-date insurance certificate(s) addressing all District requirements including Worker's Compensation, General Liability, and Auto Liability (current District's insurance certificate (Attachment C))
- FOG program protocols assessment reports and recommendations (as needed)
- Monthly inspection status reports summarizing inspections conducted, compliance status, and recommendations for follow-up and enforcement actions
- Quarterly program review/status meetings with District staff
- FOG outreach and educational materials procurement support and distribution (as needed)
- Updates of FSE inspection database with new FSE data from a variety of sources (as needed)
- FOG program initiative recommendations (as needed)
- Evaluation/assessment reports for emerging GRE devices and additives (as needed)
- Mapping document updates and recommendation reports (as needed)
- Work flow development recommendations (as needed)
- Memoranda/reports on emerging WDR/SSMP requirements (as needed)
- SSMP internal audit report and recommendations (as needed)
- Classroom and field training on a wide range of FOG/WDR/SSMP/GIS/CMMS topics (as needed)
- Monthly Invoices including number of hours by labor category and hourly rates (as included in the fee proposal)



**IRWD - Fats, Oils, and Grease (FOG) Program Services  
EEC Environmental**

Fee Schedule – Year 1 (11/2016-10/2017)

The charge for all time required for the performance of the Scope of Work, including administrative, office, field, and travel time will be billed at the hourly rate according to the labor tasks set forth below:

Administrative Services	Hourly Rate	<u>\$ 150</u>
FOG Program - Analytical Services	Hourly Rate	<u>\$ 180</u>
FOG Program - Plan Check Review	Hourly Rate	<u>\$ 150</u>
FSE Field Inspections	Hourly Rate	<u>\$ 105</u>
FSE Compliance Inspections	Hourly Rate	<u>\$ 115</u>
GIS/Information Technology	Hourly Rate	<u>\$ 135</u>
Emergency Response – Business hrs.	Hourly Rate	<u>\$ 125</u>
Emergency Response – Non-Business hrs.	Hourly Rate	<u>\$ 200</u>

### Projected Costs for 11/2016 - 10/2017

Labor Task	Projected Hours	Hourly Rate	Projected Year 1 Cost
<b>Administrative Services</b> <ul style="list-style-type: none"> <li>• IRWD customer call support and coordination</li> <li>• FSE inspection planning and coordination</li> </ul>	70	\$150	\$10,500
<b>FOG Program – Analytical Services</b> <ul style="list-style-type: none"> <li>• Program development and management support</li> <li>• Enforcement recommendations and support</li> <li>• Special project coordination and planning support</li> <li>• Program status updates/meetings</li> </ul>	90	\$180	\$16,200
<b>FOG Program – Plan Check Review</b> <ul style="list-style-type: none"> <li>• New FSE plan review support</li> <li>• Plan processing and comment letter support</li> </ul>	50	\$150	\$7,500
<b>Field Inspections</b> <ul style="list-style-type: none"> <li>• New FSE Initial Inspections</li> <li>• Best Management Practice (BMP) inspections</li> <li>• Grease Removal Equipment (GRE) inspections</li> <li>• Inspection data processing</li> </ul>	840	\$105	\$88,200
<b>Compliance Inspections</b> <ul style="list-style-type: none"> <li>• Non-compliance follow-up inspections</li> <li>• Non-compliance coordination and data processing</li> </ul>	240	\$115	\$27,600
<b>GIS/Information Technology</b> <ul style="list-style-type: none"> <li>• Mapping support</li> <li>• Data/database management support</li> <li>• Status report support</li> </ul>	70	\$135	\$9,450
<b>Emergency Response – Business hours</b> <ul style="list-style-type: none"> <li>• Private/Public SSO follow-up</li> </ul>	20	\$125	\$2,500
<b>Emergency Response – Non-business hours</b> <ul style="list-style-type: none"> <li>• Private/Public SSO follow-up</li> </ul>	20	\$200	\$4,000
<b>Projected Total (11/1/2016 through 10/31/2017)</b>			<b>\$165,950</b>

**IRWD - Fats, Oils, and Grease (FOG) Program Services  
EEC Environmental**

Fee Schedule – Year 2 (11/2017-10/2018)

The charge for all time required for the performance of the Scope of Work, including administrative, office, field, and travel time will be billed at the hourly rate according to the labor tasks set forth below:

Administrative Services	Hourly Rate	<u>\$ 150</u>
FOG Program - Analytical Services	Hourly Rate	<u>\$ 180</u>
FOG Program - Plan Check Review	Hourly Rate	<u>\$ 150</u>
FSE Field Inspections	Hourly Rate	<u>\$ 105</u>
FSE Compliance Inspections	Hourly Rate	<u>\$ 115</u>
GIS/Information Technology	Hourly Rate	<u>\$ 135</u>
Emergency Response – Business hrs.	Hourly Rate	<u>\$ 125</u>
Emergency Response – Non-Business hrs.	Hourly Rate	<u>\$ 200</u>

### Projected Costs for 11/2017 - 10/2018

Labor Task	Projected Hours	Hourly Rate	Projected Year 1 Cost
<b>Administrative Services</b> <ul style="list-style-type: none"> <li>• IRWD customer call support and coordination</li> <li>• FSE inspection planning and coordination</li> </ul>	70	\$150	\$10,500
<b>FOG Program – Analytical Services</b> <ul style="list-style-type: none"> <li>• Program development and management support</li> <li>• Enforcement recommendations and support</li> <li>• Special project coordination and planning support</li> <li>• Program status updates/meetings</li> </ul>	90	\$180	\$16,200
<b>FOG Program – Plan Check Review</b> <ul style="list-style-type: none"> <li>• New FSE plan review support</li> <li>• Plan processing and comment letter support</li> </ul>	50	\$150	\$7,500
<b>Field Inspections</b> <ul style="list-style-type: none"> <li>• New FSE Initial Inspections</li> <li>• Best Management Practice (BMP) inspections</li> <li>• Grease Removal Equipment (GRE) inspections</li> <li>• Inspection data processing</li> </ul>	840	\$105	\$88,200
<b>Compliance Inspections</b> <ul style="list-style-type: none"> <li>• Non-compliance follow-up inspections</li> <li>• Non-compliance coordination and data processing</li> </ul>	240	\$115	\$27,600
<b>GIS/Information Technology</b> <ul style="list-style-type: none"> <li>• Mapping support</li> <li>• Data/database management support</li> <li>• Status report support</li> </ul>	70	\$135	\$9,450
<b>Emergency Response – Business hours</b> <ul style="list-style-type: none"> <li>• Private/Public SSO follow-up</li> </ul>	20	\$125	\$2,500
<b>Emergency Response – Non-business hours</b> <ul style="list-style-type: none"> <li>• Private/Public SSO follow-up</li> </ul>	20	\$200	\$4,000
<b>Projected Total (11/1/2017 through 10/31/2018)</b>			<b>\$165,950</b>

September 26, 2016

Prepared and

Submitted by: C. Compton 

Approved by: Paul Cook 

CONSENT CALENDAR

RESOLUTION COMMENDING SUSAN HINMAN  
FOR HER DEDICATED SERVICE TO THE  
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

SUMMARY:

Mrs. Susan Hinman will be retiring as Board member from the Municipal Water District of Orange County (MWDOC). The Irvine Ranch Water District wishes to express its sincere appreciation to Ms. Hinman for her 16 years of exemplary leadership and outstanding service to her community during her tenure at MWDOC and 26 years within the water industry. A resolution has been prepared honoring Mrs. Hinman's services (provided as Exhibit "A"). Staff and the Board will be presenting a resolution at her celebration on November 2, 2016.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2016 –

RESOLUTION OF THE BOARD OF DIRECTORS OF  
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA  
COMMENDING MRS. SUSAN HINMAN FOR YEARS OF DEDICATED SERVICE  
TO MUNICIPAL WATER DISTRICT OF ORANGE COUNTY AND  
HER YEARS OF SERVICE WITHIN THE WATER INDUSTRY

LIST OF EXHIBITS:

Exhibit "A" – Resolution

RESOLUTION NO. 2016-

RESOLUTION OF THE BOARD OF DIRECTORS OF  
IRVINE RANCH WATER DISTRICT, ORANGE COUNTY, CALIFORNIA  
COMMENDING MRS. SUSAN HINMAN FOR HER YEARS OF DEDICATED SERVICE  
TO MUNICIPAL WATER DISTRICT OF ORANGE COUNTY AND HER YEARS OF  
SERVICE WITHIN THE WATER INDUSTRY

WHEREAS, Mrs. Susan Hinman is retiring from the Municipal Water District of Orange County (MWDOC) Board of Directors after 16 years of dedicate service to MWDOC and 26 years of dedicated service within the water industry; and

WHEREAS, Mrs. Hinman has served as an elected member of the MWDOC Board since November 2000 representing the communities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Mission Viejo, San Clemente, and San Juan Capistrano. Prior to joining MWDOC, Mrs. Hinman served on the South Coast Water District Board of Directors for 10 years; and

WHEREAS, during Mrs. Hinman's tenure within the water industry, she has supported projects that improve water reliability in South Orange County, reduce the region's dependence on imported water, and are environmentally sensitive; and

WHEREAS, Mrs. Hinman has represented MWDOC on the South Orange County Watershed Management Area Executive Committee and on the South Orange Coastal Ocean Desalination Project Participants Committee for many years; and

WHEREAS, Mrs. Hinman has been a leader in the water industry and a long-standing member of the Association of California Water Agencies (ACWA). She served two terms on the ACWA Region 10 Board and currently serves on the ACWA Local Government Committee. She is also an active member of the Orange County Water Association and represents Orange County's special districts on the Orange County Operational Area Executive Board; and

WHEREAS, Mrs. Hinman has shown great dedication to her community. Her dedication is exemplified by her service within the water industry, as president of the Dana Point Specific Plan Board of Review prior to the Dana Point's incorporation, as a board member of the Dana Point Civic Association, as a former staff member with the County of Orange, and as a junior high and high school teacher in Orange County.

NOW, THEREFORE, BE IT RESOLVED: The Board of Directors of Irvine Ranch Water District wishes to commend and express its sincere appreciation to Mrs. Susan Hinman for her exemplary leadership and outstanding service to her community during her 16-year tenure at MWDOC and her 26 years of service within the water community.

ADOPTED, SIGNED AND APPROVED this 26th day of September, 2016.

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President, Irvine Ranch Water District  
and of the Board of Directors thereof


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Secretary, Irvine Ranch Water District and  
of the Board of Directors thereof

APPROVED AS TO FORM:  
BOWIE, ARNESON, WILES AND GIANNONE

---

Legal Counsel

September 26, 2016  
Prepared by: Gretchen Ronin  
Submitted by: Jenny Roney  
Approved by: Paul Cook 

## ACTION CALENDAR

### LONG-TERM DISABILITY, LIFE, AND DEPENDENT LIFE INSURANCE COVERAGE FOR CALENDAR YEAR 2017

#### SUMMARY:

Staff has worked with IRWD's broker, Mercer, to conduct a marketing study for Long-Term Disability insurance(LTD), Accidental Death and Dismemberment insurance (AD&D), Group Term Life insurance (GTL), and Dependent Life insurance coverage. Based on the results of the marketing study, staff is requesting that the Committee recommend that the Board:

- Authorize the General Manager to cancel IRWD's current contract with Hartford.
- Authorize the General Manager to contract with Reliance Standard for LTD coverage.
- Authorize the General Manager to contract with Reliance Standard for AD&D coverage.
- Authorize the General Manager to contract with Reliance Standard for GTL and Dependent Life coverage.

#### BACKGROUND:

Group Term Life insurance, Dependent Life insurance, and Long-Term Disability insurance coverage has been provided by Hartford Insurance for the past two years. Prior to the contract with Hartford in 2015, the District contracted with Principal Financial for seven years.

The District's Group Term Life insurance program provides coverage in the amount of three times or four times an employee's annual salary up to \$1,000,000, depending on the employee's base annual salary. It also provides retirees coverage in an amount equal to their final salary. The retiree benefit applies only to retirees employed prior to January 2008. All GTL coverage ends at age 70 for active and retired members.

The District's Long-Term Disability coverage replaces 66.67% of an employee's lost wages up to \$10,000 per month. There is a 90-day elimination period for this coverage.

Dependent Life provides up to \$25,000 coverage due to the death of an employee's spouse or dependent child over the age of 6 months. Children are covered from birth to six months of age for \$1,000.

Accidental Death and Dismemberment insurance covers different losses at different amounts, based on the amount of an employee's life insurance coverage. See Exhibit "C" for a schedule of benefits.

Prior to 2008, the District had, for many years, included AD&D coverage as part of the standard life insurance benefit for all employees. At that time, after further evaluation of the then-in-place Split Dollar Life plan, it was discovered that the plan components created a disparate benefit by providing a lower level of AD&D coverage for longer term employees and a higher level of



coverage for newly hired staff. Due to this disparity the decision was made to remove the AD&D coverage from the Split Dollar Life plan. Eventually, in 2008, the Split Dollar Life plan was canceled completely and replaced by Principal Financial. Typically, industry standard for life insurance benefits does include AD&D coverage. Because the Split Dollar Life plan that Principal Financial was replacing in 2008 did not include AD&D at that time, it was overlooked to be reinstated as a standard District provided benefit. This occurred again when Hartford replaced Principal Financial for this line of coverage in 2015. Due to the nature of the work performed by the majority of District employees, this type of coverage is important to ensure the protection to our valued staff. For the reasons stated herein, staff is recommending that AD&D coverage be reinstated.

#### Insurance Renewal Process:

Initially, Hartford proposed a 36.9% increase in premiums for GTL from \$0.13 to \$0.178 per \$1,000 of coverage and a 46.2% increase in LTD premiums from 0.34% to 0.497% of insured payroll. Staff subsequently requested that Mercer perform a marketing study for LTD, Life, and Dependent Life insurance coverage for 2017. Staff also requested each carrier to provide a quote for AD & D coverage, which the District had provided to employees in the past. Quotes were requested from eight carriers and Hartford was notified of the marketing study and asked to provide their final renewal quote. Three carriers declined to quote and one did not respond. See Exhibit "A" for all carriers included in the marketing study and specific information on quotes.

After negotiations with Mercer, Hartford reduced their initial proposals to a 10% increase in premiums for GTL from \$0.13 to \$0.143 per \$1,000 of coverage and a 20.6% increase in LTD premiums from 0.34% to 0.41% of insured payroll.

After reviewing the marketing results, Reliance Standard emerged as the carrier offering the most competitive quote for the District's needs. District staff and representatives from Mercer met with two representatives from Reliance Standard to discuss the details of the coverage and the operations of their claims processing, administration, reporting capabilities and other important components of a successful business partnership.

The coverage offered by Reliance Standard is comparable to the coverage the District currently has and meets all of our benefit programs designs. See Exhibit "B" comparing the details of the current coverage with Hartford and the coverage offered by Reliance Standard. Staff also believes that have a local client service specialist who is available to meet with staff and conduct periodic claims review will be an improvement over the service that the District currently receives from Hartford.

#### FISCAL IMPACTS:

The IRWD Operating Budget includes approximately \$155,800 for GTL, LTD, and Dependent Life for the second half of FY16/17. The estimated coverage with Reliance Standard for GTL, LTD and Dependent Life will be approximately \$133,000 for the same period of time. The addition of AD&D coverage will add approximately \$15,000 to this six-month cost. Estimated annual costs for Reliance Standard GTL, LTD and Dependent Life premiums are \$266,000.

Estimated annual cost for AD&D premiums are \$30,000, bringing the annual total cost for the Reliance Standard proposal to \$296,000, an estimated 5% under budgeted projections. The 3-year rate guarantee will result in additional savings over projected costs for 2018 and 2019.

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 September 19, 2016.

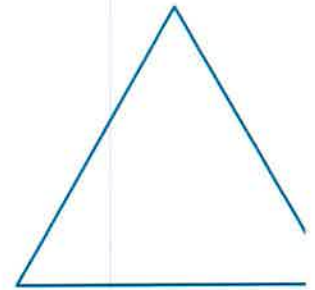
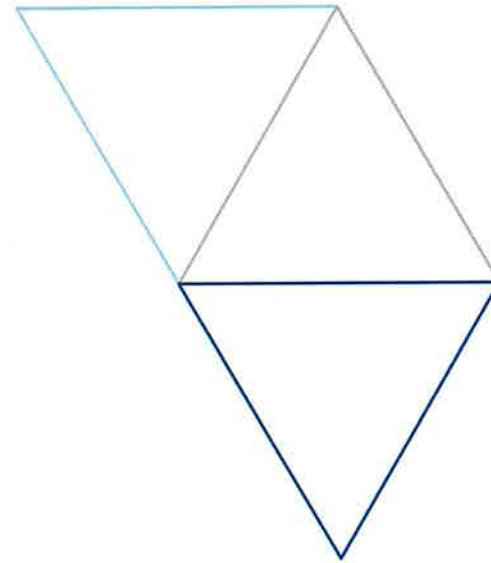
RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE CANCELTION OF COVERAGE THROUGH HARTFORD AND AUTHORIZE THE GENERAL MANAGER TO CONTRACT WITH RELIANCE STANDARD FOR THE DISTRICT'S LONG-TERM DISABILITY, LIFE, ACCIDENTAL DEATH AND DISMEMBERMENT, AND DEPENDENT LIFE INSURANCE COVERAGE FOR 2017, 2018, AND 2019.

LIST OF EXHIBITS:

- Exhibit "A" – Marketing Study Results
- Exhibit "B" – Comparison of Hartford and Reliance Standard Life and LTD Benefits
- Exhibit "C" – Schedule of AD&D benefit amounts

**MARKETING RESULTS**  
BASIC LIFE, DEP LIFE,  
LTD



## MARKETING RESULTS

### BASIC LIFE, DEPENDENT LIFE, LONG TERM DISABILITY

- Mercer solicited Basic Life, Dependent Life and LTD quotes from 8 carriers; 4 provided a quote, 2 declined to quote and 1 did not respond
  - Cigna
  - Liberty Mutual (declined to quote)
  - MetLife (declined to quote)
  - Prudential (declined to quote)
  - Reliance Standard
  - The Standard
  - Unum
  - Voya (no response)
- Cigna, Unum and The Standard provided quotes in the ballpark of the initial Hartford renewal (39% - 49% vs. 37%); however, Reliance Standard proposed 15% below current (assumes a 3 year rate guarantee)

# MARKETING RESULTS

## BASIC LIFE, DEPENDENT LIFE, LONG TERM DISABILITY

Plan Name	Tier	Volume	Current 2016	Initial Renewal		Cigna		Reliance Standard		The Standard		Unum	
				2017	% Change	2017	% Change	2017	% Change	2017	% Change	2017	% Change
The Hartford Employer-Paid Life	Per \$1,000 of covered benefit	\$123,818,000	\$0.130	\$0.178	36.9%	\$0.207	59.2%	\$0.100	-23.1%	\$0.195	50.0%	\$0.200	53.8%
	Est. Monthly Cost		\$16,096	\$22,040		\$25,630		\$12,382		\$24,145		\$24,764	
	Est. Annual Cost		\$193,156	\$264,475		\$307,564		\$148,582		\$289,734		\$297,168	
	Cost / (Savings)			\$71,319		\$114,408		-\$44,574		\$96,578		\$104,007	

Plan Name	Tier	Volume	Current 2016	Initial Renewal		Cigna		Reliance Standard		The Standard		Unum	
				2017	% Change	2017	% Change	2017	% Change	2017	% Change	2017	% Change
The Hartford Employer-Paid Long Term Disability	Per \$100 of monthly covered payroll	\$2,411,089	\$0.340	\$0.497	46.2%	\$0.333	-2.1%	\$0.328	-3.5%	\$0.430	26.5%	\$0.550	61.8%
	Est. Monthly Cost		\$8,198	\$11,983		\$8,029		\$7,908		\$10,368		\$13,261	
	Est. Annual Cost		\$98,372	\$143,797		\$96,347		\$94,900		\$124,412		\$159,132	
	Cost / (Savings)			\$45,425		-\$2,025		-\$3,472		\$26,040		\$60,759	

Plan Name	Tier	Volume	Current 2016	Initial Renewal		Cigna		Reliance Standard		The Standard		Unum	
				2017	% Change	2017	% Change	2017	% Change	2017	% Change	2017	% Change
The Hartford Dependent Life	Per Unit	281	\$7.050	\$7.050	0.0%	\$10.590	50.2%	\$6.750	-4.3%	\$7.050	0.0%	\$3.734	-47.0%
	Est. Monthly Cost		\$1,981	\$1,981		\$2,976		\$1,897		\$1,981		\$1,049	
	Est. Annual Cost		\$23,773	\$23,773		\$35,709		\$22,761		\$23,773		\$12,591	
	Cost / (Savings)			\$0		\$11,937		-\$1,012		\$0		-\$11,182	

	Current 2016	Initial Renewal		Cigna		Reliance Standard		The Standard		Unum	
		2017	% Change	2017	% Change	2017	% Change	2017	% Change	2017	% Change
<b>Grand Monthly Totals:</b>	\$26,275	\$36,004	37.0%	\$36,635	39.4%	\$22,187	-15.6%	\$36,493	38.9%	\$39,074	48.7%
<b>Grand Annual Totals:</b>	\$315,301	\$432,045		\$439,621		\$266,243		\$437,919		\$468,886	

# MARKETING RESULTS

## BASIC LIFE, DEPENDENT LIFE, LONG TERM DISABILITY

Life Policy Details	Current (The Hartford)	Reliance Standard	Cigna	The Standard
<b>Basic Death Benefit</b>				
Class 1: Active Full-Time Employee earning \$50,000 or more, working at least 40 hours per week on a regularly scheduled basis (30 for Reliance Standard and UNUM)	4x Base Pay up to \$1,000,000	4x Base Pay up to \$1,000,000	4x Base Pay up to \$1,000,000	4x Base Pay up to \$1,000,000
Class 2: Active Full-Time Employee earning less than \$50,000, working at least 40 hours per week on a regularly scheduled basis (30 for Reliance Standard and UNUM)	3x Base Pay up to \$150,000	3x Base Pay up to \$150,000	3x Base Pay up to \$150,000	3x Base Pay up to \$150,000
Class 3: Bond Members	\$35k	\$35k	N/A	\$35k
Class 4: Retirees	1x Base Pay up to \$250,000	1x Base Pay	1x Base Pay up to \$250,000	1x Base Pay up to \$250,000
Accelerated Benefit	Included - TBD	75% up to \$500,000	50% up to \$500,000	75% up to \$500,000
Conversion	Included	Included	Included	Included
Portability	Included	N/A	Not Included	Included
Waiver of Premium	Included	Included	Included	Included
Age Reduction				
@ Age 65	0%	0%	None	65% (For Class 1)
@ Age 70	100%	100%	None	50%
Premium Waiver				
Benefit	To age 65 if disabled under age 60	If disabled under age 60	To age 65 if disabled under age 60	To age 65 if disabled under age 60
Elimination Period	9 months	9 Months	9 Months	9 months
Definition of Disability	Any Gainful Occupation	Any Gainful Occupation	Any Gainful Occupation	Any Gainful Occupation

# MARKETING RESULTS

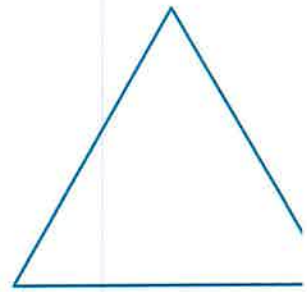
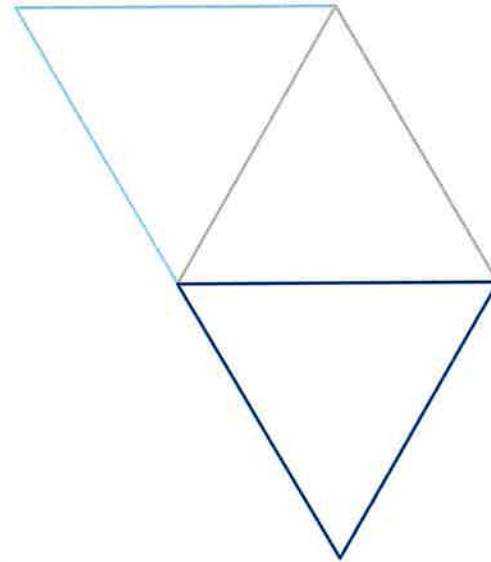
## BASIC LIFE, DEPENDENT LIFE, LONG TERM DISABILITY

LTD Benefit	Current	Reliance Standard	Cigna	The Standard	UNUM
Definition of Earnings	Base Pay	Base Pay	Base Pay	Base Pay	Base Pay
Benefit Percentage	67%	67%	67%	67%	67%
Maximum Monthly Benefit	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Minimum Monthly Benefit	\$100	\$100	The greater of \$100 and 10%	\$100	The greater of \$100 and 10%
Guarantee Issue (initial enrollment)	Full Benefit Amount	Full Benefit Amount	Full Benefit Amount	Full Benefit Amount	Full Benefit Amount
Definition of Disability	24 Month Own Occ AND 20% earnings loss; then Any Gainful Occupation	24 Month Own Occ AND 20% earnings loss; then Any Gainful Occupation	24 Month Own Occ AND 20% earnings loss; then Any Gainful Occupation	24 Month Own Occ AND 20% earnings loss; then Any Gainful Occupation	24 Month Own Occ; zero-day partial; work incentive benefit during first 12 months of disability payments
Elimination Period	90 days	90 days	90 days	90 days	90 days
COLA	Not included	Not included	Not included	Not included	Not included
Maximum Period of Payment					
Question	SSNRA, or 60 Months	SSNRA, or 60 Months	SSNRA	SSNRA	SSNRA

Dependent Life	Current	Reliance Standard	Cigna	The Standard	UNUM
Spouse Life	\$25,000	\$10,000-\$500,000, increments of \$10,000	\$25,000	\$25,000	\$25,000
Limits/Notes	No higher than 50% of EE basic life	Guaranteed issue: \$30,000 Coverage ends at 75	Coverage ends at 70	-	Coverage ends at 70 No coverage for Class 4
Child Life	Birth-6 months: \$1,000 6 months-26 years: \$25,000	Birth- 14 days: \$0 15 days-6 months: \$1,000 6 months-20 years: \$2,500-\$10,000	Birth- 14 days: \$500 15 days-6 months: \$1,000 6 months-26 years: \$25,000	\$25,000	Birth- 14 days: \$1,000 15 days-6 months: \$1,000 6 months-26 years: \$1,000
Limits/Notes	-	Can be 26 if full-time student guaranteed issue: all amounts	-	-	-

# MARKETING RESULTS

## AD&D





## MARKETING RESULTS

### ACCIDENTAL DEATH AND DISMEMBERMENT

- IRWD requested that we request a quote for employer paid AD&D coverage (not offered today)
  - Hartford was requested to mirror the basic life eligibility for the new basic AD&D benefit
    - Does not include coverage for retirees; possible but would be a separate policy and would be more than \$0.03 per \$1,000
    - Dependent AD&D is \$0.03 per \$1,000; different rate basis from Dependent Life (\$7.05 per unit) – estimated monthly premium of \$500
  - All carriers matched the basic life benefit for their AD&D proposals; all carriers quoted active employees only

Plan Name	Tier	Volume	The Hartford 2017	Cigna 2017	Reliance Standard 2017	The Standard 2017	Unum 2017
<b>The Hartford Employer-Paid AD&amp;D - ACTIVES</b>	<b>Per \$1,000 of covered benefit</b>	<b>\$123,818,000</b>	<b>\$0.030</b>	<b>\$0.030</b>	<b>\$0.020</b>	<b>\$0.025</b>	<b>\$0.030</b>
	<b>Est. Monthly Cost</b>		<b>\$3,715</b>	<b>\$3,715</b>	<b>\$2,476</b>	<b>\$3,095</b>	<b>\$3,715</b>
	<b>Est. Annual Cost</b>		<b>\$44,574</b>	<b>\$44,574</b>	<b>\$29,716</b>	<b>\$37,145</b>	<b>\$44,574</b>

\*volume only takes into consideration active employees



## Irvine Ranch Water District Comparison (Summary)

LTD Summary of Benefits	Reliance Standard	Hartford
<b>Financial Ratings</b>	<b>A.M. Best A+ Standard &amp; Poors A+</b>	<b>A.M. Best A- Standard &amp; Poors AA-</b>
<b>Eligible Employees</b>	All Active Full-time Employees who are U.S. citizens or U.S. residents, excluding temporary and seasonal employees working at least 40 hours weekly.	All Active Full-time Employees who are U.S. citizens or U.S. residents, excluding temporary and seasonal employees working at least 40 hours weekly.
<b>Contribution</b>	100% Employer Paid	100% Employer Paid
<b>Benefit Percentage</b>	66.67%	66.67%
<b>Maximum Benefit Paid</b>	\$10,000	\$10,000
<b>Minimum Benefit</b>	\$100	\$100
<b>Elimination Period/ Qualifying Period</b>	90 Days	90 Days
<b>Own Occ applies during Elimination Period?</b>	No	No
<b>Own Occ Period</b>	24 Months	24 months
<b>Days to satisfy elimination period?</b>	30	15
<b>Maximum Duration</b>	ADEA - B (SSNRA)	SSNRA - Disabled prior to the age of 63
<b>Social Security Integration?</b>	Primary and Family	Primary and Family
<b>3rd Party/ Subrogation</b>	Not Included	Included
<b>Pre-EX</b>	3/12	3/12
<b>Prudent Person Wording</b>	No	Yes
<b>Mental and Nervous Limitation</b>	24 Months	24 Months
<b>Drug &amp; Alcohol Limitation</b>	24 Months	24 Months
<b>Self-Reported/Specified Illness Limitation</b>	Not Limited	Not Limited
<b>Requires Loss of Duties, Loss of Income or Either</b>	Loss of Duties Only - Reliance Standard does not have an earning test on our LTD Contract	Loss of one will meet EP. Will pay claims if loss of Income is within 12 months of date of Disability
<b>Zero Day Residual</b>	Yes	Yes
<b>RTW Incentive</b>	100% for 12 months only - From date of Disability - Not date returned to work	100% for 12 months only after 12 months, they will subtract 50% of your Current Monthly Earnings
<b>Partial Disability Formula</b>	50% Offset	For the first 12 months that benefits are payable while working, We will only reduce Your Monthly Benefit by that amount of Your Current Monthly Earnings, which when combined with Your Monthly Benefit amount exceed 100% of Your Indexed Pre-disability Earnings. After 12 months We will subtract 50% of Your Current Monthly Earnings.
<b>Family Income Benefit/Dependent Care</b>	Included	Included
<b>Survivor Benefit</b>	3 Months	Included
<b>Reasonable Accommodation</b>	Included	Included
<b>Recurrent Disability</b>	6 months	6 months
<b>Vocational Rehabilitation</b>	Voluntary	Mandatory
<b>FICA Match</b>	Yes	Yes
<b>Partial Disability Income Test</b>	No	No
<b>Indexing of Monthly Benefit</b>	No Earnings test	If a reduction to Your Monthly Benefit is applied for Current Monthly Earnings, we will adjust your Pre-disability Earnings for inflation annually by the percentage change in the Consumer Price Index (CPI-W) prior to taking that reduction. The adjustment will be made January 1st each year after you have been Disabled for 12 consecutive months, and if you are receiving benefits at the time the adjustment is made.
<b>Social Security Award Assistance</b>	Yes	Yes
<b>Travel Assistance</b>	Yes	No Mention
<b>Auto Filing of Life Waiver</b>	Yes	Yes
<b>Extended Disability Benefit</b>	Included, if cognitively impaired or has a loss of 2 or more ADL's after the maximum benefit duration then RSL will continue your benefit at 85% of the net benefit for up to 5 years.	Not Available
<b>Specific Indemnity</b>	Pays a specific benefit amount for accidental dismemberment. Benefits are not offset by any income regardless of when you return to work.	Not Available

All statements made above are based on the received benefit summaries and are subject to interpretation.

EXHIBIT "C"

# Plan Details

Prepared For Irvine Ranch Water District  
Date: June 30, 2016

Proposal Expiration Date: September 28, 2016

### Accidental Death and Dismemberment

In the event of death, loss of limbs, loss of eyesight, loss of speech or hearing due to an accidental injury, we will pay the following benefits, based on the benefit amount shown in the proposal summary:

For Accidental Loss of:	Amount Payable:
Life	Full benefit amount
Both hands	Full benefit amount
Both feet	Full benefit amount
Sight of both eyes	Full benefit amount
One hand and one foot	Full benefit amount
One hand and sight of one eye	Full benefit amount
One foot and sight of one eye	Full benefit amount
Speech and hearing	Full benefit amount
One hand	One half the benefit amount
One foot	One half the benefit amount
Sight of one eye	One half the benefit amount
Speech	One half the benefit amount
Hearing	One half the benefit amount

We pay this benefit in addition to any other benefits provided by the Plan, subject to the terms of the Group Insurance Policy.

*Limitation:* These benefits are payable provided the death or dismemberment results from bodily injury caused solely by an accident which occurs while the person is insured and results in loss within 365\* days of the accident.

- \* May vary by state. In Pennsylvania, no time limit if death results from an accident.

Only one benefit, the larger one, will be paid for more than one loss resulting from any one accident.

See Exclusions section.

September 26, 2015

Prepared by: A. McNulty

Submitted by: F. Sanchez/P. Weghorst *FW*

Approved by: Paul Cook *PC*

## ACTION CALENDAR

### FIRST AMENDMENT TO WATER CONSERVATION PARTICIPATION AGREEMENT WITH THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

#### SUMMARY:

In July 2015, IRWD executed a multi-year Water Conservation Participation Agreement with the Municipal Water District of Orange County (MWDOC) that governs the regional incentive water conservation program that is administered by the Metropolitan Water District of Southern California (Metropolitan). An amendment to the agreement has been prepared to incorporate new procedures required by Metropolitan and MWDOC for verifying customer eligibility. Staff and IRWD legal counsel provided comments during development of the amendment and consider the requirements to be fair and reasonable. Staff recommends that the Board authorize the General Manager to execute the First Amendment to the Water Conservation Participation Agreement with MWDOC.

#### BACKGROUND:

Since 2005, IRWD has executed agreements with MWDOC to facilitate participation in the Metropolitan regional incentive programs that encourage installation of water conservation devices. Through these agreements, IRWD has provided supplemental funding in the form of tactical incentives for specific water efficiency devices. The tactical incentives are deemed to be cost-effective based on avoided costs that result from the installation of the various devices.

Prior to 2015, individual agreements governed each incentive program that were executed or amended on an annual basis. In July 2015, a multi-year Water Conservation Participation Agreement Between MWDOC and IRWD (Participation Agreement) was executed to serve as the governing document for all incentive programs. This agreement is provided as Exhibit "A". The Participation Agreement defines the terms for long-term participation in the incentive programs and simplifies the participation and supplemental funding process. The Participation Agreement will expire on June 30, 2025.

#### Establishing Funding Levels:

The Participation Agreement allows IRWD's supplemental funding commitments to be set annually through addendums to the Participation Agreement. These addendums provide flexibility in making interim adjustments in response to changes in available regional funds and other program changes. IRWD has executed addendums that provide funding for devices such as:

- High efficiency toilets;
- High efficiency clothes washers;
- Weather based irrigation controllers; and
- Turf removal.

New Inspection and Verification Procedures:

Starting in Fiscal Year 2016-17, new inspection and verification procedures are required for Member Agency Administered (MAA) incentive programs that are funded by Metropolitan. Staff and IRWD legal counsel provided comments during the development of the First Amendment to the Participation Agreement that will facilitate implementation of these requirements. The affected MAA programs which are administered by MWDOC include the Turf Removal Rebate and the Spray to Drip Rebate programs. At the Board meeting, staff will provide an overview of the new inspection and verification procedures. Staff considers the inspection and verification procedures to be fair and reasonable and recommends that the Board authorize the General Manager to execute the First Amendment with MWDOC.

FISCAL IMPACTS:

Adhering to the requirements of the First Amendment will not affect IRWD staffing requirements or tactical incentive program funding which is included in the FY 2016-17 Operating Budget.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Due to time constraints, this item was not reviewed by committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE THE FIRST AMENDMENT TO THE WATER CONSERVATION PARTICIPATION AGREEMENT BETWEEN THE MUNICIPAL WATER DISTRICT OF ORANGE COUNTY AND IRVINE RANCH WATER DISTRICT.

LIST OF EXHIBITS:

Exhibit "A" –Water Conservation Participation Agreement between the Municipal Water District of Orange County and Irvine Ranch Water District  
Exhibit "B" – First Amendment to the Water Conservation Participation Agreement

# EXHIBIT "A"

## **Water Conservation Participation Agreement between the Municipal Water District of Orange County and Irvine Ranch Water District**

This Water Conservation Participation Agreement ("Agreement") is made between the Municipal Water District of Orange County ("MWDOC") and Irvine Ranch Water District ("Participant Agency"). MWDOC and Participant Agency may be collectively referred to as "Parties" and individually as "Party."

### Recitals

- A. The Metropolitan Water District of Southern California ("Metropolitan") provides incentive funding to residential, commercial, and industrial water users in its service area for a variety of water conservation activities, including, but not limited to, rebates for the purchase and installation of water-saving devices ("Metropolitan Base Incentives").
- B. MWDOC is a member agency of Metropolitan and has agreements with Metropolitan that enable residential, commercial, and industrial water users in MWDOC's service area, and for the benefit of MWDOC's member agencies, to participate in and take advantage of Metropolitan's Base Incentives.
- C. Participant Agency, as a MWDOC member agency or a direct Metropolitan member agency, may elect to participate in Metropolitan's program to replace non-conserving items within its service area.
- D. The Metropolitan Base Incentives amounts for each eligible device or program available to MWDOC and Metropolitan member agencies are listed in the attached Addendums 1A and 1B. It is expected that Metropolitan will establish funding for additional water conservation items and to change some or all of the existing funding rates throughout the term of this Agreement. Any such changes will be incorporated herein by amendment to Addendums 1A and 1B.
- E. Metropolitan and MWDOC each have fiscal responsibility to manage their individual budgets, and hence may have a need to limit availability of funds.
- F. MWDOC and Metropolitan member agencies may also choose to provide additional supplemental funding of their own to augment the Metropolitan Base Incentives. Based on the terms and conditions of this Agreement, MWDOC will facilitate supplemental funding for Participant Agency through the Metropolitan rebate contractor ("Rebate Contractor") or MWDOC directly. Metropolitan member agencies will coordinate any supplemental funding directly with Metropolitan.
- G. In addition to the Metropolitan Base Incentives, MWDOC has developed and arranged additional local, state, and federal grant funding ("Grant Funding") for eligible devices in a number of water conservation programs ("MWDOC Administered Programs") that MWDOC offers to Participant Agency and Metropolitan member agencies. This grant funding may be used to enhance the Metropolitan Base Incentives. Granting agencies

include, but are not limited to, the Department of Water Resources and the United States Bureau of Reclamation.

- H. Participant Agency may also operate customized, local water conservation incentive programs in their respective service areas (“Participant Agency Administered Programs”) and may have access to the Metropolitan Base Incentives and Grant Funding for such, subject to MWDOC and Metropolitan approval and the terms and conditions of this Agreement and any MWDOC and/or Metropolitan agreements.
- I. The purpose of this Agreement is to create a master water conservation participation agreement between MWDOC and Participant Agency that combines all of the conservation programs and incentives (“Programs”) into one agreement. Addendums to this Agreement will be issued for changes involving Metropolitan approved items, MWDOC Board approved items, Grant Funding, adding and subtracting MWDOC Administered Programs and Participant Agency Administered Programs as identified in Section 2, and changes to incentive programs, including funding and incentive levels.

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

#### Section I: Agreement Term and Administration

- 1.1 This Agreement will be effective on July 1, 2015 or upon execution of this Agreement by all Parties, whichever is later, and shall terminate on June 30, 2025 (“Term”). Continuance of this Agreement will be subject to annual budget approval by MWDOC’s Board of Directors.
- 1.2 This Agreement may be amended at any time by written mutual agreement of the Parties, or by Addendums issued by MWDOC as set forth in Recital I.
- 1.3 This Agreement may be terminated by either Party for any reason upon thirty (30) days written notice to the other Party.
- 1.4 All Addendums are enforced for the duration of this Agreement unless the Addendums are amended or terminated by either Party.
- 1.5 In the event the Agreement is terminated early, Participant Agency is responsible for payment of any funding contributions required by this Agreement that that were initiated prior to the effective date of the termination. For purposes of this Agreement, an application is deemed initiated when an application has been received by Metropolitan’s rebate vendor, EGIA, by MWDOC, or a reservation has been made within any of MWDOC’s online application portals that is pursuant to any of the programs described within this Agreement and the attached Addendums.
- 1.6 Notwithstanding any other provision in this Agreement, funds for all of the programs described within this Agreement and the attached Addendums are conditioned upon the



availability of funds and MWDOC is under no obligation to provide funding for any of the programs if MWDOC determines, in its own discretion, that such funding is exhausted, reduced, eliminated, or unavailable from any funding source, for any reason.

## Section 2: Program Funding

### **2.1 Supplemental Funding**

2.1.1 In addition to the Metropolitan Base Incentives, Participant Agency may provide additional funding to augment the Metropolitan Base Incentives amounts for those programs and devices that Participant Agency identifies, and in the amounts indicated, in the appropriate locations in Addendums 2A, 2B, and 2C (“Supplemental Funding”). The Supplemental Funding listed in Addendums 2A through 2C shall specify the amount of Supplemental Funding Participant Agency will provide per device or program, as well as the total maximum Supplemental Funding amount committed to each category of device or program. If the Participant Agency does not complete, sign, and return Addendums 2A through 2C to MWDOC, notwithstanding any other provision of this Agreement, the Participant Agency will not be bound by this Section or the provisions in Addendums 2A through 2C. In general, Supplemental Funding Addendums submitted by the 15<sup>th</sup> of a month will become effective the first of the following month.

2.1.2 If Participant Agency elects to provide Supplemental Funding or enhanced incentives under this Agreement for any device or program, Participant Agency is responsible for tracking the use of and the remaining availability of those funds. MWDOC will assist, in every way possible, but the ultimate responsibility for tracking all Participant Agency funding is the responsibility of Participant Agency. Participant Agency will ultimately be responsible for any overuse of Participant Agency Supplemental Funding.

2.1.3 Any requests for changes or revisions to Participant Agency’s Supplemental Funding, including funding transfers between Programs, must be submitted by Participant Agency to MWDOC in the form of revised Addendum 2s listing the new funding amounts/limits.

2.1.4 The Participant Agency may elect to participate in the Supplemental Funding Program and be bound by the provisions of this Section 2.1, Sections 3, 5, 6, 7, and 8 of this Agreement, and Addendum 2A through 2C by having its authorized representative complete and sign Addendum 2A through 2C in the spaces provided.

### **2.2 MWDOC Administered Programs**

2.2.2 Participant Agency may elect to take advantage of the MWDOC Administered Programs by having its authorized representative complete and sign Addendums 3A through 3C in the spaces provided. If Participant Agency completes and signs Addendums 3A through 3C, Participant Agency agrees to be bound by the provisions of this Section 2.2, Sections 3, 5, 6, 7, and 8 of this Agreement, and Addendums 3A through

3C. If the Participant Agency does not complete, sign, and return Addendums 3A through 3C, notwithstanding any other provision of this Agreement, the Participant Agency will not be bound by this Section or the provisions in Addendums 3A through 3C.

## **2.3 Participant Agency Administered Programs**

2.3.1 From time to time, funding may be made available for Participant Agency to operate a customized member agency administered local water conservation incentive program or programs (“Participant Agency Administered” “PA” or “MAA Program”) in its service area and access the Metropolitan Base Incentives for such, subject to MWDOC approval of the program and the terms and conditions of this Agreement and Addendum 4. The Participant Agency Administered Program(s) and requirements in connection with it are described in more detail in Addendum 4.

2.3.2 Upon receipt of approval of a Participant Agency Administered Program by MWDOC, Participant Agency is bound by the provisions of Sections 3, 5, 6, 7, and 8 of this Agreement and Addendum 4.

## **2.4 Exhaustion of Funding**

2.4.1 In the event Participant Agency provided funding for any Program or device is exhausted, and Participant Agency does not elect to add additional funding or transfer available funding from another Program or device, MWDOC will discontinue offering the additional rebate funding for that Program or device in Participant Agency’s service area. Notwithstanding any other provision in this Agreement, MWDOC may terminate this Agreement as it relates to Section 2 at any time without prior notice in the event that MWDOC determines that funding for any device or program on Addendums 2 through 4 or MWDOC Grant Funding is exhausted, reduced, eliminated, or unavailable from any funding source, for any reason.

## **Section 3: Participant Agency Responsibility and Ownership**

- 3.1 Participant Agency, at its sole discretion, may independently contract with its own agents under separate agreements for program administration and management for any Participant Agency Administered Program provided that doing so does not compromise program performance, create or present a conflict of interest, or violate the terms of this Agreement.
- 3.2 Participant Agency and/or its agent shall provide all necessary services and materials for such Participant Agency Administered Programs including, but not limited to the following: program administration, promotion, marketing materials, data collection, and analysis, installation verification, and reporting.
- 3.3 All materials and supplies necessary to implement a Participant Agency Administered Program shall be the exclusive property of Participant Agency. MWDOC shall have no

ownership, right, title, security interest, or other interest in any Participant Agency Administered Program materials or supplies, nor any rights duties, or responsibilities, therefor.

- 3.4 Participant Agency is responsible for assuring that any Participant Agency Administered Program complies with all federal, state, and local requirements.
- 3.5 Participant Agency agrees to cooperate with MWDOC's data management activities related to assessing device saturation and program success.
- 3.6 As part of any Participant Agency Administered Program, Participant Agency shall use, maintain, and submit to MWDOC within the designated timeframe an electronic database, to be approved by MWDOC prior to use, for any conservation items installed, distributed, or rebated by Participant Agency or its agents to avoid duplicate distributions and to determine the saturation rate of items by the appropriate geographic delineation.
- 3.7 Participant Agency is solely responsible for the performance of its staff or representatives in complying with the terms of this Agreement and for the proper allocation and appropriate use of funds provided by Metropolitan and/or MWDOC for the purpose of achieving water conservation savings under this Agreement.

#### Section 4: MWDOC's Obligations

- 4.1 MWDOC will be response to Participant Agency for ensuring that timely reports on the Programs' results are prepared by MWDOC's staff.
- 4.2 MWDOC will develop a database of information regarding participation in the Programs and provide monthly electronic and/or written reports of activity to Participant Agency.
- 4.3 MWDOC will invoice Participant Agency for any Participant Agency funding obligations on a monthly basis for rebates issued in the previous month.
- 4.4 MWDOC does not guarantee any minimum number of rebates will be available for Participant Agency's service area.

#### Section 5 Marketing.

- 5.1 Participant Agency agrees to assist in the marketing of programs it participates in under this Agreement. With regard to Participant Agency Administered Programs, Participant Agency will be solely responsible for marketing its Participant Agency Administered Program to customers in its service area.

#### Section 6: Installation Verification

- 6.1 Participant Agency shall be responsible for conducting installation verifications of items installed, distributed, and/or rebated by Participant Agency under Participant Agency

Administered Programs, and/or for paying all costs associated with this verification. Installation verification measures for program devices must be designed to ensure that materials, installation verifications of eligible program devices, and services meet requirements established by Metropolitan, which requirements will be provided to Participant Agency by MWDOC.

- 6.2 Participant Agency may be responsible for conducting installation verifications of items installed, distributed, and/or rebated by Participant Agency or MWDOC under MWDOC Administered Programs, and/or for paying all costs associated with this verification. Installation verification measures for program devices must be designed to ensure that materials, installation verifications of eligible program devices, and services meet requirements established by Metropolitan, which requirements will be provided to Participant Agency by MWDOC.
- 6.3 MWDOC reserves the right to conduct installation verification of items within Participant Agency's service area.
- 6.4 Participant Agency acknowledges that any device receiving funding from Metropolitan may be subject to an installation verification to be performed by Metropolitan, or its agent(s), at Metropolitan's discretion.
- 6.5 Participant Agency shall promptly refund to MWDOC any amounts paid under any Participant Agency Administered Program or MWDOC Administered Program for installed or distributed devices in the event MWDOC or Metropolitan establishes via installation verification that the program devices were not installed.

#### Section 7: Reporting and Invoicing

- 7.1 For any and all Supplemental Funding provided by Participant Agency and/or Participant Agency provided funding or inspection costs under the MWDOC Administered Programs pursuant to Section 2 of this Agreement, and as more particularly described in Addendums 2 and 3, MWDOC will invoice Participant Agency on a monthly basis for the cost of such funding, and Participant Agency must pay the full amount of such invoice within thirty (30) days of receipt of any such invoice.
- 7.2 For any and all Participant Agency Administered Program(s), Participant Agency will invoice MWDOC on a monthly basis, by the 10<sup>th</sup> of each month, for any approved funding and costs associated with the Participant Agency Administered Program(s) as indicated in and subject to the provisions of Addendum 4. MWDOC is under no responsibility to reimburse Participant Agency for any costs incurred by Participant Agency that are not approved by MWDOC consistent with the terms and conditions of this Agreement and Addendum 4. The invoice package shall include a fully completed, to the satisfaction of MWDOC, Excel customer/applicant spreadsheet showing program activity, and an invoice, signed by the General Manager or designee of Participant Agency, certifying the information provided as accurate. Participant Agency shall use the Excel customer/applicant spreadsheet and Invoice forms approved by MWDOC.

- 7.3 Participant Agency shall maintain all Participant Agency Administered Program information, including Participant Agency applications, water bills, and purchase receipts, for a period of seven years from the end date of this Agreement.
- 7.4 Payment of Participant Agency invoices shall be in the form of either a credit on MWDOC's water bill to Participant Agency or a check made payable to Participant Agency. Method of payment shall be at MWDOC's discretion.

#### Section 8: Confidentiality

- 8.1 MWDOC agrees to maintain the confidentiality of Participant Agency's customer names, addresses, and other information gathered in connection with this Agreement. MWDOC will not cause or permit the disclosure of such information except as necessary to carry out any of the MWDOC Administered or Participant Agency Administered Programs, or as required by law. To the extent that MWDOC contracts with third party contractors to carry out all or any portion of any of the Programs, MWDOC will require such contractors to maintain the confidentiality of such customer information.
- 8.2 Notwithstanding anything to the contrary in this Agreement, Participant Agency acknowledges and agrees that MWDOC may request and use historical water consumption data for purposes of satisfying any grant water use and water quality evaluation requirements of any of the Programs. Participant Agency also acknowledges and agrees that MWDOC may also request to use Program applicant information, such as name, mailing address, site photos, and email address to market other water use efficiency programs to past applicants. A similar provision will be required of every individual applicant.

#### Section 9. Indemnification.

- 9.1 The parties agree that each Party shall be responsible for its own actions, and the actions of its officers, employees, and agents, in performing services under this Agreement. Except as provided in this Agreement and its Addendums, each Party agrees to indemnify and hold the other Party and its officers and agents harmless and agrees to defend the other Party against any claim or asserted liability arising out of its actions, either willful or negligent, or the actions of its officers, employees, and agents, in performing services pursuant to this Agreement. Such indemnity will include any losses relating to any claim made, whether or not a court action is filed, and will include attorney fees and administrative and overhead costs related to or arising out of such claim or asserted liability.
- 9.2 Participant Agency shall include the following language in its agreement with any consultant or contractor retained by Participant Agency to work on any of the Program" "(Consultant) agrees at is sole cost and expense to protect, indemnify, defend, and hold harmless Metropolitan, MWDOC, and their associated Boards of Directors, officers, representatives, agents and employees from and against any and all claims and liability

of any kind (including, but not limited to, any claims or liability for injury or death to any person, damage to property, natural resources or to the environment, or water quality problems) that arise out of or related to Participant Agency's approval, construction, operation, repair, or ownership of any Program. Such indemnity shall include all damages and losses related to any claim made, whether or not a court action is filed, and shall include attorneys' fees, administrative and overhead costs, engineering and consulting fees, and all other costs related to our arising out of such claim or asserted liability."

Section 10. Certification re Lobbying (43 CFR 18)

- 10.1 The undersigned hereby certifies on behalf of Participant Agency that no Federal appropriated funds have been paid or will be paid, by or on behalf of the Participant Agency, to any person for influencing or attempting to influence an officer or employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions. To the extent federal funds are involved, the Participant Agency shall require that the language of this certification be included in the awards documents for any sub-awards by the Participant Agency at all tiers (including sub-contracts, sub-grants, and contracts under grants, loans and cooperative agreements) and that sub-recipients, if any, shall certify accordingly.

Section 11. Other Terms

- 11.1 Any alteration or variation of the terms of this Agreement will not be valid unless made in writing and signed by both Parties.
- 11.2 This Agreement will inure to the benefit of and be binding upon the Parties and their respective successors.
- 11.3 The partial or total invalidity of one or more parts of this Agreement will not affect the intent or validity of this Agreement.
- 11.4 This agreement shall be deemed a contract made under the laws of the State of California, and for all purposes will be interpreted in accordance with such laws. The Parties hereby agree and consent to the exclusive jurisdiction of the courts of the State of California, and that the venue of any action brought hereunder will be in Orange County, California.

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11.5 This Agreement constitutes the entire agreement between the Parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.


MUNICIPAL WATER DISTRICT  
OF ORANGE COUNTY

IRVINE RANCH WATER DISTRICT

By:   
Robert J. Hunter  
General Manager  
Date: 7-14-15

By:   
Paul Cook  
General Manager  
Date: 7-9-15

**Approved as to Form:**  
Bowie, Arneson, Wiles & Giannone

  
Joan C. Arneson  
Legal Counsel  
Date: 6/25/15

# EXHIBIT "B"

## FIRST AMENDMENT TO WATER CONSERVATION PARTICIPATION AGREEMENT

This First Amendment to Water Conservation Participation Agreement ("First Amendment") is effective on July 1, 2016 ("Effective Date"), by and between the Municipal Water District of Orange County ("MWDOC") and Irvine Ranch Water District ("Participant Agency") MWDOC and Participant Agency may be collectively referred to as "Parties" and individually as "Party."

### RECITALS

- A. MWDOC and Participating Agency entered into a Water Conservation Participation Agreement regarding the Participating Agency's participation in certain water conservation programs ("Agreement").
- B. The Parties now desire to amend the Agreement to make certain changes to provisions regarding verification of the installation of items and devices installed as part of certain water conservation incentive programs.

### TERMS

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree to amend the Agreement as follows:

1. Amendment. Section J is added to the Recitals to read as follows:
  - "J. The purpose of this Agreement is also to acknowledge that Participating Agency is participating in MWDOC's Choice Water Use Efficiency Program ("WUE Program") and in doing so is agreeing to pay for its proportionate share of MWDOC's administrative and direct program costs of the WUE Program."
2. Amendment. Section 1.7 is added to the Agreement to read as follows:
  - "1.7 Participating Agency understands that by entering into this Agreement it is participating in MWDOC's Choice Water Use Efficiency Program ("WUE Program") and agrees to pay MWDOC for its proportionate share of MWDOC's costs for administering the WUE Program based on Participating Agency's level of participation in the WUE Program. MWDOC will annually invoice Participating Agency."



3. Amendment. Section 6 is amended in its entirety to read as follows:

“Section 6: Installation Verification/Inspection

- 6.1 Participant Agency shall be responsible for conducting installation verifications/inspections of items and devices installed, distributed, and/or rebated by Participant Agency under Participant Agency Administered Programs to ensure compliance with program requirements, and/or for paying all costs associated with this verification/inspection. Installation verification/inspection measures must be designed to ensure that materials, installation verifications/inspections of eligible program items and devices, and services meet requirements established by Metropolitan and MWDOC, which requirements will be provided to Participant Agency by MWDOC as Attachment A.
- 6.2 Participant Agency shall be responsible for conducting installation verifications/inspections of items or devices installed, distributed, and/or rebated by Participant Agency or MWDOC under MWDOC Administered Programs to ensure compliance with program requirements, and/or for paying all costs associated with this verification/inspection. Installation verification/inspection measures for program items and devices must be designed to ensure that materials, installation verifications/inspections of eligible program items and devices, and services meet requirements established by Metropolitan and MWDOC, which requirements will be provided to Participant Agency by MWDOC as Attachment A.
- 6.3 Participant Agency may elect to (1) conduct its own installation verifications/inspections by either utilizing its in-house staff or contracting with a third party vendor of its choice; or (2) utilize MWDOC’s installation verification/inspection contractor to conduct the installation verification/inspections. If Participant Agency elects to utilize MWDOC’s verification/inspection vendor, Participant Agency may elect to contract directly with MWDOC’s verification/inspection vendor. If Participant Agency elects not to enter into such contract, MWDOC, in MWDOC’s sole discretion, may require that Participant Agency contract directly with MWDOC’s verification/inspection vendor.
- 6.3.1 Notwithstanding any other provision in this Agreement, Participant Agency understands and agrees that if Participant Agency utilizes MWDOC’s verification/inspection vendor, Participant Agency must still comply with all of the requirements of this Agreement, including the refund requirements in Section 6.6, and MWDOC is in no way liable or responsible for the acts or omissions of such vendor and makes no

representations or warranties regarding the quality of such vendor's work. Participant's sole recourse as to any action, claims or damages arising out of the acts or omissions of MWDOC's verification/inspection vendor is with the vendor and not with MWDOC.

- 6.4 MWDOC reserves the right to conduct installation verification/inspection of items and devices within Participant Agency's service area.
- 6.5 Participant Agency acknowledges that any item or device receiving funding from Metropolitan may be subject to an installation verification/inspection to be performed by Metropolitan, or its agent(s), at Metropolitan's discretion.
- 6.6 Participant Agency shall promptly refund to MWDOC any amounts paid under any Participant Agency Administered Program or MWDOC Administered Program for installed or distributed items or devices, including any grant funds, in the event MWDOC or Metropolitan establishes via installation verification/inspection and/or audit that the program items or devices were not installed in compliance with the requirements established by Metropolitan and MWDOC pursuant to this Agreement. If such a refund is not provided to MWDOC within thirty (30) days of request, the requested amount may be debited by MWDOC on Participating Agency's next water service invoice.
- 6.7 "Items" and "devices" includes, but is not limited to, plumbing fixtures, irrigation devices, turf (removal and replacement), and any other items, devices or materials that are installed in connection with a program covered by this Agreement.

4. Authority to enter into First Amendment. Each Party represents to the other that the person executing this First Amendment has the requisite power and authority to execute the First Amendment and to bind each respective Party.

5. Continuing Effect of Agreement. Except as amended by this First Amendment, all other provisions of the Agreement remain in full force and effect. From and after the date of this First Amendment, whenever the term "Agreement" appears in the Agreement, it shall mean the Agreement as amended by this First Amendment.

6. Execution in Counterparts. This First Amendment may be executed in duplicate counterparts, each of which shall be deemed an original.

MWDOC and Participating Agency have each caused this First Amendment to be executed by its duly authorized representative as of the date set forth below the authorized signature.

IN WITNESS WHEREOF, the Parties hereto have executed this First Amendment.

MUNICIPAL WATER DISTRICT  
OF ORANGE COUNTY

PARTICIPANT AGENCY

By: \_\_\_\_\_  
Robert Hunter  
General Manager

By: \_\_\_\_\_  
Name \_\_\_\_\_  
Title \_\_\_\_\_


Date: \_\_\_\_\_

Date: \_\_\_\_\_

Approved as to Form:

Approved as to Form:

\_\_\_\_\_  
Joseph Byrne  
General Counsel

  
\_\_\_\_\_  
Joan C. Arneson  
General Counsel

Date: \_\_\_\_\_

Date: September 8, 2016

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MUNICIPAL WATER DISTRICT OF  
ORANGE COUNTY  
INSPECTION AND VERIFICATION  
PROCEDURES

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## I. Purpose of this document

It is the practice of the Municipal Water District of Orange County (MWDOC) to ensure that public funds used to administer Rebate Programs are utilized for its intended purposes. Therefore, the purpose of this Inspection and Verification Procedures document (Inspection Procedures) is to establish a clear set of inspection procedures to be followed by MWDOC and/or its member agencies (hereafter "Participant Agency") and inspection contractors when conducting pre- and/or post-installation verification inspections for all MWDOC-Administered and or Participant Agency-Administered Rebate Programs. These procedures are required regardless of the funding source (Grant funded, Metropolitan Water District of Southern California funded (Metropolitan), or fully funded by Participant Agency, etc.) and/or regardless of program administrator (MWDOC or Participant Agency). This Inspection Procedures document will be updated as needed to reflect new or modified inspection requirements, techniques, or procedures as they arise.

## II. Program Implementation Process

For ease of explanation, this document categorizes the MWDOC Rebate Programs into the following rebate program types:

- Device-Based Rebate Programs
  - Residential
  - Commercial
  - Spray to Drip - Residential
- Area-Based Rebate Programs
  - Turf Removal
  - Spray to Drip - Commercial

The inspection procedures contained in this document have been developed in coordination with requirements from Metropolitan pursuant to its Residential and Commercial Water Conservation Funding Agreements and Addendums thereto, MWDOC, and/or supplemental grant funding agreements.

The following general rules apply for all programs types.

### Application Package

When receiving an application package, **all** components should be examined before requesting an inspection. The application package currently requires, at a minimum, a fully completed application signed by the property owner and containing the following:

- Current water bill to determine
  - Participant Agency is participating in the program
  - Project site is located within Orange County
  - Payee name matches the application name
- Device eligibility, if a device-based program
- Site plan for area-based rebates
  - Indicate the project area, location, and project intent
- Pictures of the site for area-based and spray-to-drip rebates. Pictures to show

- Current site condition
- Complete area to be removed
- Area complies with eligibility criteria

It is recommended that the application, terms and conditions, and program guidelines each contain language stating that on-site inspections will be performed and are required for participation in any rebate programs.

### Invoice Submission

Rebates may not exceed the total project/equipment costs nor the reserved rebate amount. For a receipt/invoice to be considered eligible it must include the following:

- Dated within the project period
- Scope of work performed
- Signed by the customer/applicant/property owner and references site location (if applicable)
- Itemized to include make, model, sku, quantity, price per item, total price
- If labor is to be considered, it must be listed on a separate line item and must be accompanied by the California State Contractor License Board (CSCLB) contractor license number

Once projects are completed, invoices and receipts are submitted to the program administrator and MWDOC, all invoices and receipts are to be carefully tabulated by program administrator and MWDOC to prevent payment for materials/costs not associated with the program; specific program eligible material/costs are based on program type.

### Labor Costs

Due to California state law, all sites that are invoiced at \$500.00 or more require that work be performed by a contractor licensed by the California State Contractor License Board (CSCLB). If labor costs are invoiced by someone who is not licensed, those costs are not eligible. This labor cost provision is consistent with state law but, most importantly, protects Orange County consumers from unlicensed contractors. Materials utilized by the unlicensed contractor may be considered eligible costs. Additionally, there have been some instances where costs for landscape architectural drawings were submitted, but the drawings were not performed by a California State Licensed Landscape Architect. Those costs are also not rebate-eligible.

### Federal, State, and Local Laws and Ordinances

All projects, including projects at historic sites, are subject to the terms of their local agency's ordinances and must comply with all applicable federal, state, and local laws, as well as applicable Covenants, Conditions & Restrictions (CC&R) and/or Homeowners Association (HOA) restrictions. Applicants should obtain any necessary approvals for their projects from their city's/county's code enforcement and/or HOA/CC&R board. It is the responsibility of the each applicant to ensure their project is in compliance. Customers must agree to adhere to their local rules and provisions in order to accept funding. Questions from program participants regarding compliance with any of

the above laws, ordinances, and/or restrictions will be directed to Participant Agency for guidance.

### Supplemental Inspections

Some sites may need to be re-inspected by MWDOC and/or Metropolitan when unique circumstances arise. At these times, communication with the customer is vital in order to remain in adherence with the program intent while ensuring that projects are successfully completed. All inspection and verification procedures and invoice criteria described in this document must be adhered to.

### Inspection Confirmation Quality Control

Each Participant Agency performing their own inspections/verifications will be required to adopt these Inspection Procedures as their own or, alternatively, to develop and submit for approval by Metropolitan and/or MWDOC Participant Agency's own inspection and verification procedures document in line with the requirements and procedures contained in this document. All projects that require inspection must be inspected prior to Participant Agency invoicing MWDOC. MWDOC/Metropolitan may request inspection reports from Participant Agency at any time. Installation vendors hired for project implementation cannot inspect their own installations.

Metropolitan and/or MWDOC reserve the right to verify and perform onsite inspections of any projects at any time. This can be before, during, and/or after project installation, and/or after the rebate payment, and results of these inspections may affect payment made to Participant Agency or require a refund to be paid by Participant Agency to MWDOC. If installation cannot be verified, Participant Agency must reimburse MWDOC and/or Metropolitan depending on the source of funds.

## III. Device-Based Inspection Procedures

For residential and commercial devices rebated through Metropolitan's regional rebate program, device-based inspections will be conducted solely by Metropolitan, at its discretion. For devices rebated through a MWDOC and/or a Participant Agency-Administered Program (MAA Program), the inspection procedures are set forth below.

### Residential Devices

Residential device inspections must satisfy both the Metropolitan and MWDOC inspection procedures in place at the time of the post-inspection or issuance of the rebate check. Currently, those inspection procedures are as follows:

In order for Participant Agency to be reimbursed for incentives from MWDOC/Metropolitan, Participant Agency must certify on each invoice that the terms and conditions within each project have been met, all devices have been installed, and all work has been performed. The party signing each invoice must have signing authority to certify the invoice.

For residential device-based MAA Programs, Participant Agency will utilize the sample size calculator provided by MWDOC to assist in determining the appropriate number of devices to



inspect to ensure a 98% installation rate given the overall quantity of devices. Participant Agency must report verification/inspection method employed on each invoice submitted.

Participant Agency must:

- a. Validate quantity of devices installed.
- b. Verify new device type, make, and model with Project information.
- c. Verify Installation address or specific locations within the address with Project documentation.
- d. With permission from the customer, take photographs relating to the devices installed to be included in Inspection report.
  - i. Indoor Inspection: Indoor inspection includes detailed fixture count of toilets and clothes washer(s). Access to fixture locations (such as bathrooms and laundry facilities) are required to perform the inspection, and property owner/applicant person should be made aware of this through the application.
  - ii. Outdoor Inspection: Outdoor inspection includes detailed fixture counts of installed and operating landscape devices such as rain barrels, cisterns, irrigation controllers, residential drip, and nozzles. For irrigation controllers, inspect the model to ensure it matches the rebate application, verify that it is operating as a “smart device” and is communicating with the onsite weather station or is receiving offsite/remote weather data and, if possible, have the contact person show the inspector how the controller has been programmed, and confirm quantity of stations of timer model.

## Commercial Devices

Commercial MAA Program device inspections must satisfy both the Metropolitan and MWDOC inspection procedures in place at the time of the post-inspection or issuance of the rebate check. Metropolitan may require Participant Agency to submit inspection reports for specific projects, and Metropolitan/MWDOC reserves the right to perform onsite inspections of projects/sites prior to payment.

**To determine the amount of inspections required for commercial devices, Participant Agency must apply the following criteria (a-e below) to the project(s):**

- a. Automatic Inspection: Regardless of the 5% rule listed in Section d below, Participant Agency must first determine if any site within the MAA Program Project requires an Automatic Inspection. Automatic Inspections are triggered when any site within an MAA Program Project has been approved for Metropolitan’s funding in excess of \$10,000. All sites receiving \$10,000 or more in funding must be automatically inspected by Participant Agency. Participant Agency must also notify MWDOC/Metropolitan within 3 to 5 business days of upcoming inspection by Participant Agency for site(s) exceeding \$10,000. MWDOC, Metropolitan or a designated representative may attend inspection. Notification of upcoming inspection to be sent to [bfahl@mwdoc.com](mailto:bfahl@mwdoc.com) and [maconservation@mwdh2o.com](mailto:maconservation@mwdh2o.com)

To determine how many devices need to be inspected at a \$10,000+ site, follow the next two points.

- i. If the site triggering an Automatic Inspection also meets the criteria for a Large Project, as described below, then Participant Agency must inspect a minimum of 10% of the devices installed.
  - ii. If the site triggering an Automatic Inspection does not meet the criteria for a Large Project, then the Participant Agency must inspect 100% of devices at the site.
- b. Large Project/Sites: Participant Agency must next determine if any of the sites meet the definition of a Large Project/Site. Regardless of the 5% rule listed in Section d below, any site with less than \$10,000 in funding but that receives the designation of Large Project/Site **must** be inspected. The total number of devices to be inspected for Large Projects/Sites will be a minimum of 10% of the total devices installed at each site. If any site within your overall MAA Program Project installs any combination of the following number of devices, you must conduct an inspection of a minimum 10% of any combination of the devices installed.

Large Projects/Sites are defined as:

- i. For plumbing devices – 50 device units or more at one installation address.
  - ii. For irrigation controllers – 20 controllers or more at one installation address. Note that irrigation controllers may be installed in different landscape areas inside a single complex.
  - iii. For sprinkler nozzles – 100 nozzles or more at one installation address.
- c. Regular Projects/Sites: For sites not meeting: (a) \$10,000+ in funding per site or (b) the Large Project/Site criteria above, Participant Agency must inspect 100% of devices at the site.
- d. For each MAA Program Project that Participant Agency submits a Request for, Participant Agency must physically inspect a minimum of 5% of the value of each device-based MAA Program Project approved by MWDOC/Metropolitan before invoicing. For example if the MAA Program Project is approved for \$100,000, then a minimum of \$5,000 worth of devices must be inspected per MAA Program Project.
- e. Inspections for Regular Projects/Sites, sites defined as Automatic Inspections (mandatory), as well as those defined as Large Projects/Sites (mandatory) count towards the 5% (section d above) minimum of the value of each device-based MAA Program Project to be inspected. Participant Agency will report progress toward the 5% inspection requirement on each invoice for all inspections required by MWDOC/Metropolitan. The party signing each invoice must have signing authority to certify the invoice.

#### Inspection Requirements

Participant Agency inspection at a minimum will:

- a. Validate quantity of devices installed.

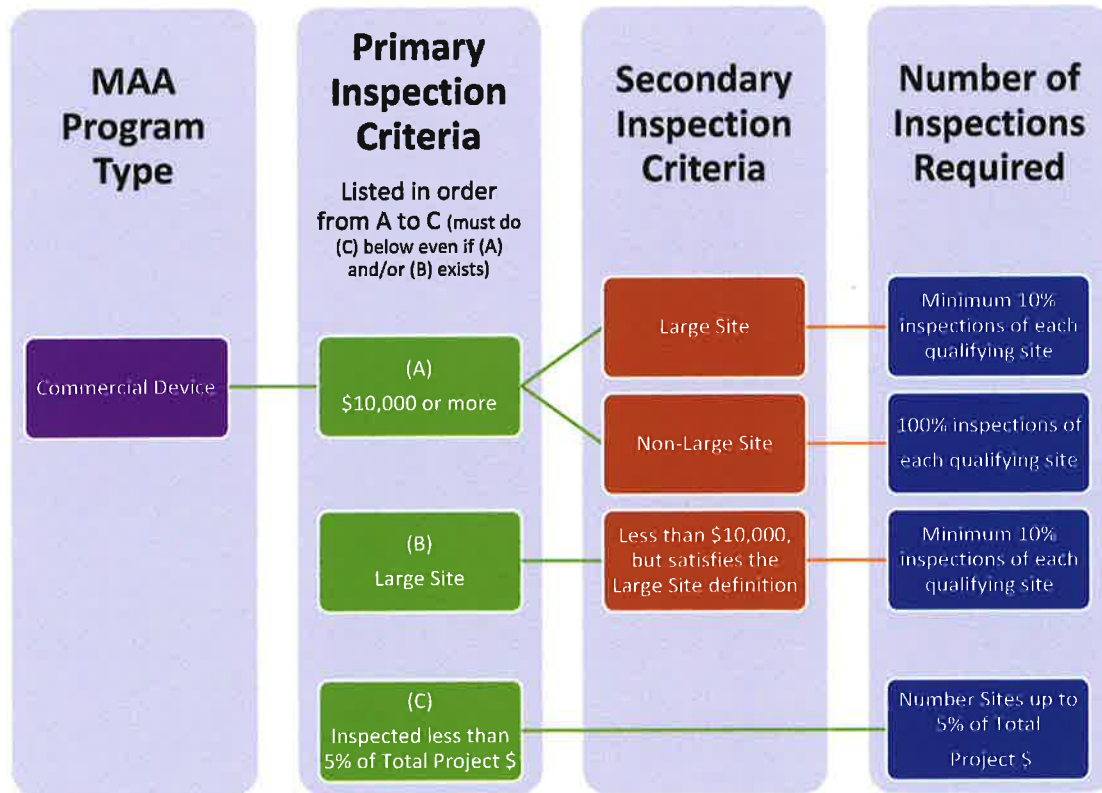
- b. Verify new device type, make, and model with Project information.
- c. Verify Installation address or specific locations within the address with Project documentation.
- d. With permission from the customer, take photographs relating to the devices installed to be included in Inspection report.
  - i. Indoor Inspection: Indoor inspection includes detailed fixture count of toilets, urinals, dry vacuum pumps, food steamers, ice machines. Access to bathrooms, kitchens, eating facilities, and medical facilities are required to perform the inspection and property owner/applicant should be made aware of this at the application stage.
  - ii. Outdoor Inspection: Outdoor inspection includes count of installed and operating landscape devices such as irrigation controllers and nozzles; and cooling tower controllers. Access to either landscape area or rooftop is required to perform the inspection. For irrigation controllers, inspect the model to ensure it matches the rebate application, verify that it is operating as a “smart device” and is communicating with the onsite weather station or is receiving offsite/remote weather data and, if possible, have the contact person show the inspector how the controller has been programmed, and confirm quantity of stations of timer model.

#### Potential Inspection Results

- a. Partial fail: Inspection completed with discrepancies between Project information and inspection process. Participant Agency to only bill MWDOC for verified quantity.
- b. Device(s) installed at a different location: the installation must be inspected prior to billing MWDOC. A substitute device cannot be included. If installation is verified at the different location, Project information must be revised to reflect new information.
- c. Device count is different from the application:
  - i. If the count is more, only the amount approved in the Project will be reimbursed.
  - ii. If the inspection count is less, only the verified count will be billed to MWDOC. For Large Projects where the inspection count is less, the Participant Agency inspector will increase the inspection from 10% to 20% of total installations. The percentage found to be installed for Large Projects will be applied against the total and the total quantity will be reduced by that percentage. For example, after inspecting 20% of the total installations of 100 toilets, 15 out of 20 toilets were verified installed (75% installed); then the final approved count would be 75 toilets (75% of the 100 = 75), rather than 100. If inspection reveals a discrepancy as described in the example, Participant Agency may choose to inspect 100% of the project, otherwise the extrapolation as shown on the example must be taken and the amount revised prior to billing MWDOC.

- d. The make/model is different from the application: verify that different make/model is a Metropolitan approved device. If so, inspect as usual and revise information on Project documentation prior to billing MWDOC.
- e. Failed inspections will not be billed to MWDOC. Reasons for failure:
- Device(s) not installed
  - Device(s) installed, but no working properly
  - For “smart” irrigation controllers, device(s) not operating as a “smart” device
  - Installed device(s) has been removed
  - Access to property not allowed
  - Device(s) installed at a different site.

MWDOC/Metropolitan reserves the right to verify and inspect any approved projects at any time. If installation cannot be verified, Participant Agency must reimburse MWDOC.



## Spray to Drip - Residential

The residential portion of the Spray-to-Drip Rebate Program is a device-based program with different inspection requirements and criteria than other device-based inspections. The inspection requirements for residential Spray-to Drip Rebate projects are described below:

### Pre-Inspection Procedure

Once an application is received, a project cannot be accepted and no funding is reserved until a “pre-inspection” is conducted, as follows:

MWDOC reviews the application to confirm:

- Program application is completed in full
- A copy of a current water bill is attached and confirms that
  - Participant agency is participating in the program
  - Project site is located within Orange County
  - Payee name matches the application name
- Applicant has attached 3 to 5 photos of the project area taken with the existing sprinkler system turned on. Photos must clearly show the sprinkler system in use and that the spray heads are functional. Photos must also contain identifying features (house in background, unique landscape/decorating features, etc.) to confirm that photos submitted are for the property/site listed in the application.
- The number of drip “kits” the applicant is applying/eligible for.
- A simple site plan has been attached indicating the proposed spray-to-drip conversion areas
- Any supplemental documents included have been reviewed.

Once MWDOC confirms that the application is complete and satisfies the above requirements, MWDOC forwards the application to the Participant Agency to conduct its own review and approval utilizing the steps listed above.

If the application has satisfied all of the above requirements, a Project Approval Notice is generated by MWDOC/Participant Agency and emailed to the applicant. The funding is reserved at this point and cannot increase. However, the funding amount may decrease if the applicant installs less drip equipment than was specified on the application or if the costs of the equipment are less than anticipated. Should the application fail the pre-inspection process, the application will be denied. MWDOC reserves the right to conduct, or to require Participant Agency to conduct, an on-site pre-inspection of any Spray-to Drip application should MWDOC, in its best judgment, deem it necessary to do so.

### Post-Inspection Procedure

Once the Spray-to-Drip Project is complete, applicant completes the Spray to Drip Completion form to request an on-site post-inspection. Prior to scheduling the post-inspection, the Completion Form will be reviewed by MWDOC to confirm the following:

- Completion Form is completed in full.
- Payee Name and Mailing Address for Rebate Check is provided.
- Applicant has attached at least 3 completed conversion area pictures showing:

- Wide angle view of completed project area(s)
- Close-up(s) of installed pressure regulation/filtration component(s)
- Close-up(s) of installed drip tubing
- Applicant has attached copies of any project related receipts or invoices. For a receipt/invoice to be considered eligible it must include the following:
  - Dated within the project period.
  - Signed by the customer/applicant/property owner and includes the site location, scope of work, and costs.
  - Itemized to include make, model, sku, quantity, price per item, total price.
  - The actual quantity of drip “kits” purchased and the quantity of kits eligible for rebate.
  - Labor is not reimbursable and must be listed as a separate line item.

If the Completion Form is missing or does not comply with the requirements of any of the above, MWDOC/Participant Agency shall work with the applicant to obtain the information and or appropriate photos/documents prior to scheduling the post-inspection. If applicant is unable to provide receipts/invoices that meet the requirements set forth above, the post-inspection will be considered a fail, the application will be denied, no rebate will be issued, and no on-site post-inspection should be scheduled.

If the Completion Form has satisfied all of the above requirements, MWDOC/Participant Agency and/or its inspector will work with Applicant to schedule the mandatory on-site post-inspection. The purpose of the on-site post-inspection is to serve as an independent verification of the information contained in the Completion Form. As part of the on-site post-inspection, Participant Agency/inspector must verify the following:

- That drip irrigation equipment has been installed. For residential on-site post-inspection, if microspray, point-source emitters, or any other type of drip irrigation other than embedded emitter tubing has been installed, this must be noted and photographed. Only embedded emitter tubing installations are eligible for rebates in residential settings.
- That pressure regulation/filtration components have been installed as part of the drip conversion. Manufacturer/make, model, model number/sku, and quantity should be documented, and the equipment should be photographed.
- That drip tubing has been installed. The drip tubing should be photographed. If covered, a minimum of a 10-foot section must be uncovered for the photograph.
- That spray irrigation is no longer functional in the drip conversion area(s). Any remaining spray heads in the conversion area must be capped (no exceptions).

Once the on-site post inspection is complete, Participant Agency will complete the Rebate Check Authorization form, in full, and upload all photos and documentation. Once the Check Authorization form has been submitted, it will be reviewed by MWDOC, along with copies of all

receipts and invoices, and if the spray-to-drip project has satisfied all the terms, conditions, guidelines, and requirements of the program, the application will be processed for rebate. If all the terms, conditions, guidelines, and requirements of the program have not been satisfied, the post-inspection will be considered a fail, and the application will be denied and no rebate funds will be issued.

MWDOC reserves the right to conduct or attend any on-site post-inspection of any Spray-to Drip application should MWDOC, in its best judgment, deem it necessary to do so.

#### IV. Area-Based Programs

Area-based programs include any program where the rebate amount is determined by an area measurement. Such programs currently include, but are not limited to, residential and commercial Turf Removal and commercial Spray to Drip.

##### Turf Removal Participation Procedure

The Turf Removal Rebate Process, as it currently exists, is depicted in the following chart. The process flow is broken down into 11 distinct steps starting with the Customer Application Submittal and ending with Metropolitan and Participant Agency Invoicing. The 11 steps are as follows:

**Step 1: On-line Application and Document Submittal Process**

*Performed by the Customer*

**Step 2: Application Review Process and Pre Inspection Distribution**

*Performed by MWDOC*

**Step 4: Pre-Installation Inspection Process**

*Performed by Participant Agency or Inspection Vendor and sent to MWDOC for review*

**Step 5: Notice to Proceed or Denial Letter to Customer Process**

*Performed by MWDOC*

**Step 6: Participant Project Installation and Project Completion Notification**

*Performed by Customer*

**Step 7: Initial Project review, Post-Work Order Generation and Distribution**

*Performed by MWDOC*

**Step 8: Post-Installation Inspection Process**

*Performed by Participant Agency, MWDOC, or Inspection Vendor and sent to MWDOC for review*

**Step 9: Application Approval or Denial and Invoice Review Process**

*Performed by MWDOC*

*Step 10: The Rebate Check Run and W-9 Request Process*

*Performed by MWDOC*

*Step 11: Metropolitan Water District and Participant Agency Invoicing Process*

*Performed by MWDOC*

## General Inspection Procedures

For all customer types, all sites will be measured by the Participant Agency and or its inspector for 100% of the sites for 100% of the project areas during both the pre- and post-inspections. Required minimum techniques for area measurements are described in Section V - Measurement Techniques. All inspection procedures/verifications must adhere to the following additional inspection and certification requirements:

- Residential Area-Based Inspections: For residential area-based customers with an approved Metropolitan rebate amount exceeding \$5,000, Participant Agency or inspection vendor must notify MWDOC/Metropolitan within 3 to 5 business days of upcoming post-inspection(s) by Agency. MWDOC, Metropolitan or a designated representative may attend inspection. Notification of upcoming inspection to be sent to [turfremoval@mwdoc.com](mailto:turfremoval@mwdoc.com).
- Commercial Area-Based Inspections: For commercial area-based customers with an approved Metropolitan rebate amount exceeding \$10,000, Participant Agency must notify MWDOC/Metropolitan 3 to 5 business days prior to upcoming post-inspection(s) by Agency. MWDOC, Metropolitan or a designated representative may attend inspection. Notification of upcoming inspection to be sent to [turfremoval@mwdoc.com](mailto:turfremoval@mwdoc.com).
- Participant Agency will only bill MWDOC/Metropolitan for the square footage measured.
- Participant Agency must adopt these Inspection Procedures as their own or, alternatively, to develop and submit for approval by Metropolitan and/or MWDOC Participant Agency's own inspection and verification procedures document in line with the requirements and procedures contained in this document. MWDOC/Metropolitan will require Participant Agency to submit them. MWDOC/Metropolitan may perform onsite inspections of projects prior to payment. Result of the inspection may affect payment made to Participant Agency
- All projects that require inspection must be inspected prior to Participant Agency invoicing MWDOC. MWDOC may request inspection reports from Participant Agency at any time.

## Pre-Inspection Procedures – Turf Removal

After an application is received and the information has been verified, a project cannot be accepted and funding is not reserved until a "pre-inspection" is conducted by the Participant



Agency or by a vendor inspector. The pre-inspection on-site visit is a means to determine confirmation of eligibility. The pre-inspection process verifies that the project area contains live turf or sufficient evidence that live turf recently existed and that the requested square footage to be removed seems reasonable and consistent with the physical inspection. This requirement applies to both residential and commercial turf removal areas unless otherwise noted.

When establishing that areas are eligible, careful inspection with accurate, and precise measurements, as described in Section V, are always required. For Turf Removal, during the pre-inspection the total project area square footage is measured. Any non-eligible square footage is removed, such as non-turf areas including bare soil, trees, shrubs, mulch, paving, and utility box footprint, etc. Refer to specific program terms and conditions for eligibility criteria.

The square footage listed on the application is to be used as a reference, the initial project area is to be based on the square footage as measured during the pre-inspection. Once the initial project area square footage has been determined, that number is used to reserve funding, and a letter to proceed is generated and sent to the customer.

#### On-Site Inspections for Area-Based Rebates

Unless the program guidelines specifically state otherwise, on-site eligibility verification and area measurement for the pre-inspection is the method to be utilized by the inspection vendor as well as any Participant agency conducting its own inspection.

#### Measuring Large Sites by GIS

With extremely large sites (in excess of 50,000 sf) where physical measurements are difficult, aerial imagery is often employed to measure the site. In these circumstances a GIS measurement may only be used to measure the project area and a pre-inspection site visit is still required to ensure that the site meets all program conditions and requirements and is eligible to participate. This method is often referred to as a "spot-check" since the sites are checked for existing turf during the inspection, but measured separately using GIS.

If a site is measured by GIS, rather than through an on-site measurement technique, it must explicitly be noted on a work order or through an equivalent form for written communication from the Participant Agency/vendor inspector to MWDOC. Digital imagery must be saved and sent to MWDOC. There must still be confirmation that the site/area to be rebated contains live turf and that the requested footage to be removed seems reasonable and consistent with the aerial inspection

#### Condition of Turf at Pre-Inspection

If bare areas were included by the customer, the inspector must subtract those areas. In many cases, due to the drought or season, dormant or dead brown grass is present. Dormant or dead brown grass that appears to have been maintained in the recent past is still eligible. However sites where there is bare soil that appears compact and no turf was present in the recent past, are not eligible. In addition, moss areas where there is no turf or areas that have grown or mowed weeds would be ineligible. A lawn with weeds would still remain eligible. Photo documentation of the turf is required in order to approve the site. Photos of the entire area and detailed photos should

be taken showing turf and bare soil conditions. For large sites with multiple separated areas (or sub-areas), a map must be submitted identifying the area measured for each separate sub-area.

#### Multiple Applications under same Site

Residential sites have a lifetime maximum. Commercial sites have an annual maximum.

#### Modifications to Initial Project Area

In some instances a customer may want to swap turf removal areas/locations after a letter to proceed has already been sent and construction has begun. This is common in HOAs, Golf Courses, Parks, and other large sites, but occasionally occur with residential projects. There are many reasons for changes such as: HOA board decisions, public outcry, irrigation system delineation restrictions, or even finding out that some part of the property belongs to another entity (as is common in parkways along sidewalks, and around common area parks). When these changes occur, if the customer is simply removing an area to be renovated, no action is required. However, if a decision is made to swap an area with another, additional documentation and a second pre-inspection must occur and is required to ensure that the site is eligible and matches the area measurements. This documentation must include a new site plan and photos of the intended areas. At this point, because a letter to proceed has already been sent and construction has begun, the site eligible for a rebate may not increase in size. If construction has not begun, and the customer would like to increase the area of turf to be removed within program maximum square footage guidelines, a second pre-inspection must occur and is required to ensure that the site is eligible and matches the area measurements. If the swapping of one area for another occurs during the construction phase of the project and is not previously approved by MWDOC, the swapped area will not be eligible for rebate as it was not subject to the mandatory pre-inspection.

#### Post-Inspection Procedures – Turf Removal

For both residential and commercial projects, unless otherwise noted, once the letter to proceed has been issued, the initial project area square footage may not increase; however, it may decrease if the customer decides to remove less turf than what was measured.

After the customer has completed their project, a second on-site inspection (post-inspection) occurs to ensure that the renovated areas are in compliance with the program. Entire (100%) project re-measurement should occur during the post-inspection, utilizing the same techniques as employed during the pre-inspection measurement, with the exception of GIS. Negative deviations between the pre- and post-inspections area measurements, as well as swapped areas occurring without a proper pre-inspection and approval from MWDOC, will result in a reduction of the rebate eligible area (meaning the lesser area measurement will be the basis for the rebate). All projects must be inspected prior to Participant Agency invoicing MWDOC.

When establishing that areas are eligible, careful inspection with accurate, and precise measurements, as described in Section V, are always required. For Turf Removal, during the post-inspection the total converted area square footage must be measured. Any non-eligible square footage is removed, such as remaining-turf areas, bare soil, or non-permeable area including hardscape and pools. Refer to specific program terms and conditions for eligibility criteria.

The initial project area square footage established during the pre-inspection is to be used as a reference, the final project area is to be based on the square footage as measured during the post-inspection. Once the final project area square footage has been determined, that number is used to determine the actual potential rebate amount, so long as it does not exceed the total eligible project costs. Only that final project square footage measured by the Participant Agency/inspection vendor may be included in the payment request to MWDOC.

#### Project Extensions

In some instances, projects may experience delays. As all projects either have a 60 day deadline or 90 day deadline to complete their project, an extension may be requested. In all cases, extensions may only be granted to sites who are making progress to complete their project. Documentation or a site visit is often required for the purposes of verifying that progress is being made at a site. Examples of documentation are signed contracts with a landscape contractor, photos of the site with turf removed and work under way, or canceled checks to a contractor. This is an important step; if a site is not showing progress and there is no motivation to complete, it may be cancelled to allow the funding of other, more motivated, rebate customers.

#### Spray to Drip - Commercial

The commercial portion of the Spray-to-Drip Rebate Program is administered in a similar way to the residential portion, with the exception of the post-inspection requirements which are area-based. The inspection requirements for commercial Spray-to Drip Rebate projects are described below:

#### Pre-Inspection Procedure

Once an application is received, a project cannot be accepted and no funding is reserved until a "pre-inspection" is conducted, as follows:

MWDOC reviews the application to confirm:

- Program application is completed in full.
- A copy of a current water bill is attached and confirms that
  - Participant agency is participating in the program
  - Project site is located within Orange County
  - Payee name matches the application name
- Applicant has attached 5 to 10 photos of the project area taken with the existing sprinkler system turned on. Photos must clearly show the sprinkler system in use and that the spray heads are functional. Photos must also contain identifying features (buildings in the background, unique landscape/decorating features, etc.) to confirm that photos submitted are for the property/site listed in the application.
- Applicant has provided the square footage of the proposed spray-to-drip conversion area.
- A simple site plan has been attached indicating the proposed spray-to-drip conversion areas.
- Any supplemental documents included have been reviewed.

Once MWDOC confirms that the application is complete and satisfies the above requirements, MWDOC forwards the application to the Participant Agency to conduct its own review and approval utilizing the steps listed above.

If the application has satisfied all of the above requirements, a Project Approval Notice is generated by MWDOC/Participant Agency and emailed to the applicant. The funding is reserved at this point and cannot increase. However, the funding amount may decrease if the applicant installs less drip equipment than was specified on the application or if the costs of the equipment are less than anticipated. Should the application fail the pre-inspection process, the application will be denied. MWDOC reserves the right to conduct, or to require Participant Agency to conduct, an on-site pre-inspection of any Spray-to Drip application should MWDOC, in its best judgment, deem it necessary to do so.

#### Post-Inspection Procedure

Once the Spray-to-Drip Project is complete, applicant completes the Spray to Drip Completion form to request an on-site post-inspection. Prior to scheduling the post-inspection, the Completion Form will be reviewed by MWDOC to confirm the following:

- Completion Form is completed in full.
- Payee Name and Mailing Address for Rebate Check is provided.
- Applicant has attached at least 5 completed conversion area pictures showing:
  - Wide angle view of completed project area(s)
  - Close-up(s) of installed pressure regulation/filtration component(s)
  - Close-up(s) of installed drip tubing
- Applicant has attached copies of any project related receipts or invoices. For a receipt/invoice to be considered eligible it must include the following:
  - Dated within the project period
  - Signed by the customer/applicant/property owner and includes the site location, scope of work, and costs.
  - Itemized to include make, model, sku, quantity, price per item, total price. If microspray or point source emitters have been installed, the flow rate for each must be 2.5 gallons per hour or less, or per the terms and conditions of the Program.
  - Labor is not reimbursable and must be listed as a separate line item.

If the Completion Form is missing or does not comply with the requirements of any of the above, MWDOC/Participant Agency shall work with the applicant to obtain the information and or appropriate photos/documents/invoices prior to scheduling the post-inspection. If applicant is unable to provide photos/documents/invoices that meet the requirements set forth above, the post-inspection will be considered a fail, the application will be denied, no rebate will be issued, and no on-site post-inspection should be scheduled.

If the Completion Form has satisfied all of the above requirements, Participant Agency and/or its inspector will work with Applicant to schedule the mandatory on-site post-inspection. The purpose of the on-site post-inspection is to serve as an independent verification of the

information contained in the Completion Form. As part of the on-site post-inspection, Participant Agency/inspector must verify the following:

- The actual square footage of the conversion area. All commercial spray-to-drip sites will be measured by the Participant Agency and or its inspector for 100% of the sites for 100% of the spray-to-drip conversion areas during the post-inspections. The required minimum techniques for area measurements are described in Section V -Measurement Techniques.
- That drip irrigation equipment has been installed. The type of drip equipment (embedded emitter tubing/microspray/point source emitters must be noted and photographed.
- That pressure regulation/filtration components have been installed as part of the drip conversion. Manufacturer/make, model, model number/sku, and quantity should be documented, and the equipment should be photographed.
- That drip tubing has been installed. The drip tubing should be photographed. If covered, a minimum of a 20-foot section must be uncovered for the photograph.
- That spray irrigation is no longer functional in the drip conversion area(s). Any remaining spray heads in the conversion area must be capped (no exceptions).

Once the on-site post inspection is complete, Participant Agency will complete the Rebate Check Authorization form, in full, and upload all photos and documentation. Once the Check Authorization form has been submitted, it will be reviewed by MWDOC, along with copies of all receipts and invoices, and if the spray-to-drip project has satisfied all the terms, conditions, guidelines, and requirements of the program, the application will be processed for rebate. If all the terms, conditions, guidelines, and requirements of the program have not been satisfied, the post-inspection will be considered a fail, and the application will be denied and no rebate funds will be issued.

MWDOC reserves the right to conduct or attend any on-site post-inspection of any Spray-to Drip application should MWDOC, in its best judgment, deem it necessary to do so.

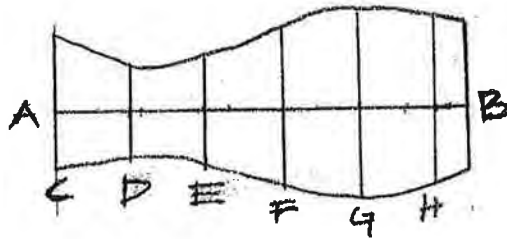
## V. Measurement Techniques

When measuring sites, tape measurers remain the most accurate method of measurement. Measuring wheels are nearly as accurate when rolling on a flat surface such as concrete or asphalt. Measuring wheels on turf or shrub areas run the risk of being inaccurate. Tape measurers are recommended whenever uneven surfaces are encountered. For large sites, a map should be provided indicating all the turf areas intended for removal and all project areas should be measured and noted with square footage.

Odd shapes are often hard to measure accurately. A series of methods of measuring odd shapes have been reviewed and below are a listing of acceptable measurement techniques of odd shapes. Alternative measuring techniques must be submitted to MWDOC for review and approval prior to implementation and must be at least as accurate as the techniques listed here.

### Non-Uniform Rectangular

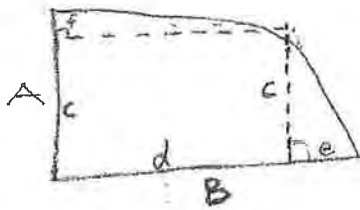
First measure the length of the longest axis of the area (line AB). This is called the *length line*. Next, divide the length line into equal sections, for example 13 ft. At each of these points, measure the distance across the area in a line perpendicular to the length line at each point (lines C through G). These lines are called *offset lines*. Finally, average the lengths of all offset lines and multiply the result times line AB (65 ft. in this example). This is most notably different from the Non-Uniform Ellipse method in that exactly one of the left or right edges is measured, in this case line "C."



Example: Non-Uniform Rectangular	
Length line (AB) = 65 ft	
Distance between offset lines is 13 ft apart	
Length of each offset line:	
C = 20 ft	F = 20 ft
D = 10 ft	G = 25 ft
E = 15 ft	H = 20 ft
Average length of offset lines = $\frac{(C + D + E + F + G + H)}{(\text{Number of offset lines})}$	
= $\frac{(20 + 10 + 15 + 20 + 25 + 20)}{6}$	
= 18.3 ft	
Total Area = (Length line)	
x (Average length of offset lines)	
= 65 ft x 18.3 ft	
= 1192 ft <sup>2</sup>	

### Irregular Rhombus or Widening Rectangular

A fast way to measure irregular rhombi is shown in the example below. Stake one end of the measuring tape at point (A, B); measure line d and then line B. Without removing the stake measure line c and then line A. Using those four measurements you will be able to find line a and line b. The areas of triangle (ad), triangle (cb), and rectangle cd) can now be calculated.



**Example: Irregular Rhombus  
or Widening Rectangular**

Length of each line:

$$\begin{aligned} A &= 20 \text{ ft} & c &= 18 \text{ ft} \\ B &= 25 \text{ ft} & d &= 21 \text{ ft} \end{aligned}$$

$$\begin{aligned} \text{Line (f)} &= A - c & \text{Line (e)} &= B - d \\ &= 20 \text{ ft} - 18 \text{ ft} & &= 25 \text{ ft} - 21 \text{ ft} \\ &= 2 \text{ ft} & &= 4 \text{ ft} \end{aligned}$$

$$\begin{aligned} \text{Area (cd)} &= c \times d \\ &= 18 \text{ ft} \times 21 \text{ ft} \\ &= 378 \text{ ft}^2 \end{aligned}$$

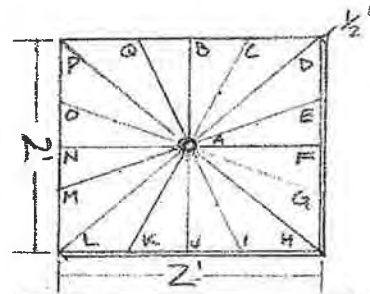
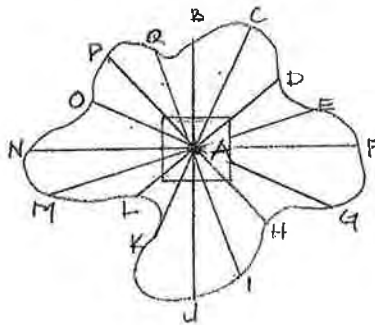
$$\begin{aligned} \text{Area (ce)} &= (c \times e) / 2 \\ &= (18 \text{ ft} \times 4 \text{ ft}) / 2 \\ &= 36 \text{ ft}^2 \end{aligned}$$

$$\begin{aligned} \text{Area (fd)} &= (f \times d) / 2 \\ &= (2 \text{ ft} \times 21 \text{ ft}) / 2 = 21 \text{ ft}^2 \end{aligned}$$

$$\begin{aligned} \text{Total Area} &= \text{Area (cd)} + \text{Area (ce)} + \text{Area (fd)} \\ &= 378 \text{ ft}^2 + 36 \text{ ft}^2 + 21 \text{ ft}^2 \\ &= 435 \text{ ft}^2 \end{aligned}$$

**Non-Uniform Round**

First measure 16 evenly spaced radii from the same center point (point A). This is called the *center point*. Next take the average of all the radii  $(B + C + D + E + F + G + H + I + J + K + L + M + N + O + P + Q) / 16$ . Use the average radii to calculate the area of a circle. (12.25 ft. in this example).

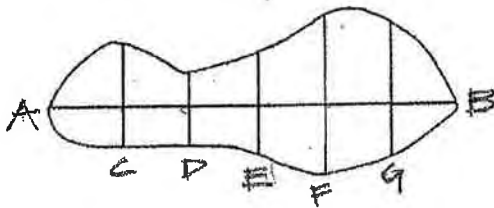


Board used for measuring

Example: Non-Uniform Round	
Length of each offset line:	
B = 10 ft	E = 12 ft    H = 10 ft    K = 9 ft    N = 16 ft    Q = 9 ft    C = 15 ft    F = 15 ft
I = 15 ft	L = 8 ft    O = 10 ft
D = 10 ft	G = 13 ft    J = 17 ft    M = 15 ft    P = 12 ft
Number of radii = 16	
Average length of offset lines	
= (B + C + D + E + F + G + H + I + J + K + L + M + N + O + P + Q)	
/ (Number of radii)	
= (10 + 15 + 10 + 12 + 15 + 13 + 10 + 15 + 17 + 9 + 8 + 15 + 16 + 10 + 12 + 9)	
/ 16	
= 12.25 ft	
Total Area = $\pi \times 12.25^2$ ft	
= 3.14 x 12.25 ft x 12.25 ft	
= 471 ft <sup>2</sup>	

### Non-Uniform Ellipses

The method used for irregular shaped areas is called the "offset method". First measure the length of the longest axis of the area (line AB). This is called the *length line*. Next, divide the length line into equal sections, for example 10 ft. At each of these points, measure the distance across the area in a line perpendicular to the length line at each point (lines C through G). These lines are called *offset lines*. Finally, add the lengths of all offset lines and multiply the result times the distance that separates these lines (10 ft. in this example). This is most notably different from Non-Uniform Rectangular in that neither the left or right edges of the shape are measured in the ellipse.

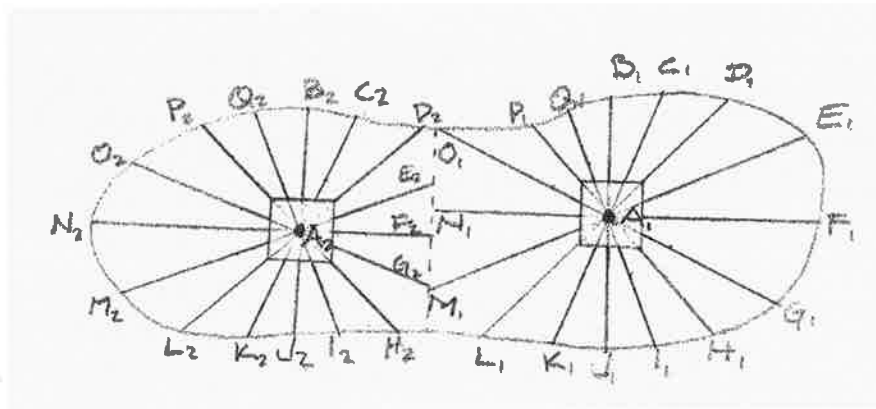


Example: Non-Uniform Ellipse	
Length line (AB) = 60 ft	
Distance between offset lines is 10 ft apart	
Length of each offset line	
C = 15 ft	F = 25 ft
D = 10 ft	G = 20 ft
E = 15 ft	
Total length of offset lines = C + D + E + F + G	
= 15 + 10 + 15 + 25 + 20	
= 85 ft	
Total Area = (Distance between offset lines)	
x (sum of the length of offset lines)	
= 10 ft x 85 ft	
= 850 ft <sup>2</sup>	



### Non-Uniform Ellipses Alternate

An alternate method of measuring non-uniform ellipses is by dividing the ellipses in uniform parts and utilizing the non-uniform round method as described above. An example is shown below.



September 26, 2016

Prepared by: S. Malloy

Submitted by: K. Burton *KLB*

Approved by: Paul Cook *PC*

## ACTION CALENDAR

### MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES VARIANCES AND BUDGET INCREASE

#### SUMMARY:

Filanc/Balfour-Beatty (FBB) is constructing the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities (Biosolids Project). The Board approved Contract Change Order No. 45 in July 2016 which, among other items, extended the contractual date for final project completion to October 31, 2017. The services of various consultants are needed to supplement the construction management team of the Biosolids project through this time extension. Staff recommends that the Board:

- Authorize the General Manager to execute Variance No. 5 with Black & Veatch in the amount of \$3,564,215 for supplemental contract administration, construction phase, and start-up and commissioning services;
- Authorize the General Manager to execute Variance No. 1 with Arcadis, Inc. in the amount of \$1,345,755 for supplemental construction inspection, construction management, and document control system services;
- Authorize the General Manager to execute Variance No. 2 with HDR Engineering, Inc. in the amount of \$496,003 for supplemental construction inspection;
- Authorize the General Manager to execute Variance No. 1 with EI&C Engineering, Inc. in the amount of \$734,600 for supplemental process control system (PCS) construction management services, start-up testing, and development of PCS operation manuals and associated training presentations; and
- Authorize a budget increase in the amount of \$19,607,600, from \$196,465,500 to \$216,073,100, to the FY 2016-17 Capital Budget for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, Project 4286.

#### BACKGROUND:

Construction of the Biosolids Project was awarded to FBB in March 2013 in the amount of \$163,513,307. The Biosolids Project will provide biosolids digestion, dewatering, energy production, and on-site sludge drying. The project includes excavation for subsurface structures; installation of 3,009 foundation piles; three egg-shaped digesters; a state-of-the-art odor control system; a biogas conditioning system and power generation using micro-turbines; a fats, oil and grease receiving station; and new utility services. These facilities are being constructed on the land north of IRWD's existing Operations Center, maintenance shops, water quality laboratory, and warehouse.

Variance No. 5 with Black & Veatch:

Black & Veatch has provided contract administration, construction inspection, and construction management services since 2013. Variance No. 5 is summarized below:

- Additional Submittal Reviews – The number of submittals (2,048) through July 8, 2016 has significantly exceeded the allowance amount of 1,200 submittals in the scope of work (171% of allowance amount). The actual expenditures are approximately 150% of budget allowance. Since the submittal reviews will continue through project completion, Variance No. 5 projects the remaining labor and expenses required through approximately April 2017 when construction should be completed;
- Additional Request for Information (RFI) Reviews – The number of RFIs (2,132) through July 8, 2016 has exceeded the allowance amount of 1,200 RFIs in the scope of work (178% of allowance amount). The actual expenditures are approximately 130% of budget allowance. Since the RFIs will continue through project completion, Variance No. 5 projects the remaining labor and expenses required through approximately April 2017;
- Additional Schedule Review – Staff requested Black & Veatch to prepare a special parallel schedule for start-up and commissioning to compare with FBB’s start-up/commissioning schedule. Staff also requested Black & Veatch to perform special evaluations for FBB’s time impact analysis and claims for extended overhead. These special reviews were not included in the original scope of work. Finally, Black & Veatch has projected the additional labor hours to cover the additional schedule reviews through December 2017;
- Additional Electrical and Automation Field Engineering – Black & Veatch will provide additional services for electrical and automation field activities as a result of the time extension;
- Electronic Operations and Maintenance (O&M) Manual Development, Installation, and Training – Staff requested Black & Veatch to conduct technology transfer sessions for MWRP O&M staff. This task was not included in Black & Veatch’s original scope of work. These additional 20 training sessions are needed due to staff turn-over, new hires, and promotions within the MWRP O&M departments, as most of the current staff did not participate in the design phase of this project. The technology transfer sessions will introduce new staff to the design basis, equipment provided, intended operations, alternate operations, and maintenance requirements. The sessions will be held in advance of and will supplement formal Black & Veatch and vendor training;
- Additional Asset Management Data Collection - Staff requested Black & Veatch to prepare 250 new computerized maintenance management software (CMMS) worksheets. The CMMS forms furnish additional information for plant staff regarding the manufacturer data, equipment details, equipment identification, maintenance summary, lubrication requirements, and spare parts data that are not included in the main asset management worksheet covered in the existing scope of work;
- Prepare New Standard Operating Procedure (SOP) Documents - Staff requested Black and Veatch to prepare SOPs for the new major biosolids systems. This was not included in the original scope of work. Black and Veatch will prepare SOPs for the following

- major systems: 1) sludge pumping, screening, thickening, and feeding to the anaerobic digesters; 2) digested sludge conveyance, digested sludge storage, centrifuge dewatering, and cake feed to the dryer; 3) heat dryer operation process control, and 4) biogas treatment and microturbines; and fats, oil and grease receiving; and
- Additional Air Quality Permit Services - Air Quality Permit Support. Black & Veatch is providing support for the South Coast Air Quality Management District (SCAQMD) permit application and Federal Aviation Agency notification activities. These activities were not included in its original scope. The final SCAQMD air permit requirements for stack testing have changed since the original scope of work, and staff has provided recent input to Black & Veatch on the current stack testing requirements. Originally, two stack tests were anticipated: heat dryer and flare. There are now six different stack types that require testing: 1) biosolids receiving, heat dryer; 2) odor scrubber; 3) venturi wet scrubber and regenerative thermal oxidizer; 4) five microturbines; 5) two boilers; and 6) one flare. Black and Veatch will prepare emissions performance test specifications for the stack testing vendor who will be a third-party contractor for IRWD. The purpose of the stack tests is to determine compliance with the SCAQMD Permit to Construct.

Variance No. 5, shown as Exhibit “A”, with Black & Veatch in the amount of \$3,564,215 is for supplemental contract administration, construction phase, and start-up and commissioning services.

Variance No. 1 with Arcadis, Inc.:

Arcadis has provided construction inspection, construction management, and document control system services since the start of the Biosolids project. Through Variance No. 1, Arcadis will negotiate and prepare change orders and provide as-needed construction management support, assist with resolving project claims and delays submitted by FBB, and assist in project close-out activities. These services will be provided through March 31, 2018. Arcadis will also provide construction inspection services through October 31, 2017. Although the project schedule shows that Milestone 4B (Methane Digesters start-up) is scheduled to be completed on August 1, 2017, additional time will likely be needed for completion of punch list items. Arcadis will provide document control services until March 31, 2018, including assistance with the archiving of vital project documents. Variance No. 1 with Arcadis, Inc., attached as Exhibit “B”, is for construction management, construction inspection services, and document control support in the amount of \$1,345,755.

Variance No. 2 with HDR Engineering, Inc.:

HDR Engineering has provided construction inspection since the start of the Biosolids project. With Variance No. 2, HDR will provide construction inspection services through December 31, 2017. Although the project is scheduled to be completed on October 31, 2017, it is assumed that close-out activities such as punch list items and record drawings will require HDR’s assistance. Variance No. 2, shown as Exhibit “C”, with HDR Engineering in the amount of \$496,003 is for construction inspection services.

Variance No. 1 with EI&C Engineering, Inc.:

EI&C Engineering has provided technical oversight of the process control system (PCS) development. EI&C will continue to provide technical oversight of the PCS development through December 31, 2017. Additionally, EI&C will provide additional automation staff to supplement the start-up testing when it is anticipated that multiple start-up tests are scheduled simultaneously. EI&C will also provide technical writing support to prepare the operation manuals and associated training presentations. Variance No. 1, shown as Exhibit “D”, with EI&C Engineering, Inc. in the amount of \$734,600 is for supplemental PCS construction management services, start-up testing, and development of PCS operation manuals and associated training presentations.

FISCAL IMPACTS:

The MWRP Biosolids and Energy Recovery Facilities, Project 4286 is included in the FY 2016-17 Capital Budget. Staff requests a budget increase in the amount of \$19,607,600 for the above variances and future construction change orders as shown in the table below.

Project No.	Current Budget	Addition <Reduction>	Total Budget
4286	\$196,465,500	\$19,607,600	\$216,073,100

ENVIRONMENTAL COMPLIANCE:

The MWRP Biosolids and Energy Recovery Facilities is subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, a Supplemental Environmental Impact Report, SCH # 2011031091, was certified by IRWD on October 22, 2012. The City of Irvine Planning Commission approved a conditional use permit for the IRWD Biosolids Project on December 6, 2012.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on September 20, 2016.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 5 WITH BLACK & VEATCH IN THE AMOUNT OF \$3,564,215 FOR SUPPLEMENTAL CONTRACT ADMINISTRATION, CONSTRUCTION PHASE, AND START-UP AND COMMISSIONING SERVICES; AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 1 WITH ARCADIS, INC. IN THE AMOUNT OF \$1,345,755 FOR SUPPLEMENTAL CONSTRUCTION INSPECTION, CONSTRUCTION MANAGEMENT, AND DOCUMENT CONTROL SYSTEM SERVICES; AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 2 WITH HDR ENGINEERING, INC. IN THE AMOUNT OF \$496,003 FOR SUPPLEMENTAL CONSTRUCTION INSPECTION; AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 1 WITH EI&C

ENGINEERING, INC. IN THE AMOUNT OF \$734,600 FOR SUPPLEMENTAL PROCESS CONTROL SYSTEM CONSTRUCTION MANAGEMENT SERVICES, START-UP TESTING, AND DEVELOPMENT OF PROCESS CONTROL SYSTEM OPERATION MANUALS AND ASSOCIATED TRAINING PRESENTATIONS; AND AUTHORIZE A BUDGET INCREASE IN THE AMOUNT OF \$19,607,600 FROM \$196,465,500 TO \$216,073,100, TO THE FY 2016-17 CAPITAL BUDGET FOR THE MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES, PROJECT 4286.

LIST OF EXHIBITS:

- Exhibit "A" – Variance No. 5 with Black & Veatch
- Exhibit "B" – Variance No. 1 with Arcadis, Inc.
- Exhibit "C" – Variance No. 2 with HDR Engineering, Inc.
- Exhibit "D" – Variance No. 1 with EI&C Engineering, Inc.

# EXHIBIT "A"

IRVINE RANCH WATER DISTRICT

## PROFESSIONAL SERVICES VARIANCE

Project Title: MWRP Biosolids & Energy Recovery Facilities – Construction Phase Services

Project No.: 21146 (4286)  
Purchase Order No.: 514248

Date: August 22, 2016  
Variance No.: 5

Originator:     IRWD     ENGINEER/CONSULTANT     Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*): At the request of IRWD provide additional services associated with (1) project management, (2) submittal reviews, (3) RFI reviews, (4) schedule reviews, (5) electrical/automation field engineering, (6) electronic O&M manual documents, (7) standard operating procedure documents, (8) asset management CMMS forms, (9) startup testing coordination, and (10) air quality permitting services. This variance is due to an anticipated contract time extension to FBB resulting in an extension of B&V services for an additional 14 months and out of scope work items requested by IRWD. See attached detailed scope of work description.

**Engineering & Management Cost Impact:**

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
See attached summary						
<b>Total \$ =</b>						<b>3,564,215</b>

**Schedule Impact:**

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
All		October 28, 2016	14 months	December 31, 2017

**Required Approval Determination:**

Total Original Contract	\$ <u>12,509,031</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000.
Previous Variances \$	2,046,835	<input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000.
This Variance	\$ <u>3,564,215</u>	
Total Sum of Variances	\$ <u>5,611,050</u>	<input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000.
New Contract Amount	\$ <u>18,120,081</u>	
Percentage of Total Variances to Original Contract	44.9%	<input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.

ENGINEER/CONSULTANT: Black & Veatch Corp.  
Company Name

IRVINE RANCH WATER DISTRICT

  
Project Engineer/Manager

August 22, 2016  
Date

  
Department Director

9/12/16  
Date

  
Engineer's/Consultant's Management

August 22, 2016  
Date

General Manager/Board

\_\_\_\_\_ Date

# IRVINE RANCH WATER DISTRICT

## PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: MWRP Biosolids and Energy Recovery Facilities – Construction Phase Services

Project No.: 21146 (4286) Project Manager: Steve Malloy

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Add a Field Electrical & Automation Engineer	02-05-14	03-25-14	\$664,600
2	Prepare an Odor Control Maintenance and Monitoring Program (OCMMP)	04-29-14	05-28-14	\$112,665
3	Add a Field Civil/Mechanical Engineer	10-06-14	11-10-14	\$899,000
4	Additional Startup Monitoring Activities	10-09-15	11-03-15	\$370,570
5	Additional Services for: (1) project management, (2) submittal reviews, (3) RFI reviews, (4) schedule reviews, (5) electrical and automation field engineering, (6) electronic O&M manual documents, (7) asset management CMMS forms, (8) SOP documents, (9) startup testing coordination, and (10) air quality permitting services.	08-22-16	pending	\$3,564,215



## Construction Phase Engineering Services Modifications - Variance #5

Variance Task	Description
Task 1 - Project Management	IRWD and Filanc-Balfour Beatty (FBB) are currently negotiating a time extension for the FBB project completion date. The current FBB completion date is October 28, 2016. IRWD has requested that Black & Veatch (B&V) submit a variance that extends the period of services to December 2017 - a 14 month time extension. Additional project management services are projected based on this time extension.
Task 2.1 - Submittal Reviews	The number of submittals to review for this project in the engineering services agreement is 1,200 total. The actual number of submittals through July 8, 2016 was 2,048 and the actual expenditures through that date are 171% of the original budget. A variance was requested by IRWD to cover the additional submittals above the contract amount through December 2017.
Task 2.2 - RFI Reviews	The number of RFIs to review for this project in the engineering services agreement is 1,200 total. The actual number of RFIs through July 8, 2016 was 2,132 and the actual expenditures through that date are 178% of the original budget. A variance was requested by IRWD to cover the additional RFIs above the contract amount through December 2017.
Task 2.4 - Schedule Reviews	IRWD requested several special schedule reviews that were not in the contract scope of work: (1) prepare a special startup schedule that could be compared with the FBB startup schedule and (2) TIA and extended overhead claim evaluations. Also, the time extension anticipated for FBB through December 2017 also impacts the level of effort for this task and IRWD has requested a variance for these additional services.
Task 3.14 - Electrical/Automation Field Engineering	The time extension anticipated for FBB through December 2017 impacts the level of effort associated with electrical/automation field engineering services. IRWD has requested a variance to extend electrical/automation field engineering services through December 2017. Shawn Rohr and Sheila Moredo will continue to perform these services through the new completion date.
Task 4.1 - Electronic O&M Manual Development, Installation, and Training	A new task was requested by IRWD to conduct technology transfer sessions with the plant O&M staff. Most of the current plant staff were not present during the design phase of this project. These technology transfer sessions will introduce staff to the design basis, equipment provided, intended operations, alternate operations, and maintenance requirements. The presentation slides will be captured for later use by IRWD staff. Twenty sessions are anticipated.
Task 4.5 - Asset Management Data Collection	A new task was requested by IRWD to develop CMMS worksheets for plant staff. There are approximately 250 worksheets that will be required. This work will take approximately 500 hours to complete.
New Task 4.7 - Prepare Standard Operating Procedure (SOP) Documents	Standard Operating Procedure (SOP) documents were not included in the original scope of work. At the request of IRWD, Black & Veatch will prepare system SOPs for only the following systems based on example SOPs given to IRWD: System #1 - sludge pumping, screening, thickening, and feeding to the anaerobic digester system, System #2 - digested sludge conveyance, digested sludge storage, centrifuge dewatering, and cake feed to the heat dryer, System #3 - heat dryer operation process control, System #4 - biogas treatment and microturbines, and System #5 - FOG receiving station.
Task 5.3 - Startup Testing Coordination	The time extension anticipated for FBB through December 2017 impacts the level of effort associated with startup testing coordination services. The original duration for startup testing coordination was 14 months. The time extension adds 10 months to this task duration. It is estimated that Neil Massart will be utilized at 62.5% during these additional 10 months.
Task 5.7 - Air Quality Permit Support	IRWD requested air permit support services that were not in the contract scope of work: (1) support the SCAQMD permit application performed by Environ and IRWD, (2) support FAA notification activities, and (3) support additional air emissions equipment stack (source) testing in accordance with the final SCAQMD permit to construct (issued September 2015). IRWD has requested these additional services.

Engineering & Management Cost Impact - Variance #5														
	Project Director/VP	Project Manager 3	Engineer 7	Engineer 6	Construction Manager 7	Construction Manager 6	O&M Specialist 8	O&M Specialist 4	Engineer 2	Clerical	Technician 3	Total Manhours	Expenses	Total \$
Hourly Rate	\$315	\$260	\$220	\$210	\$225	\$185	\$175	\$140	\$120	\$100	\$100			
Task 1 - Project Management	140	420	88	80	40					160	40	968	\$14,760	\$233,220
Task 2.1 - Submittal Reviews		200	1920	1920	800	1920			2400	120		9,280	\$28,119	\$1,740,919
Task 2.2 - RFI Reviews		240	360	480	300	540			720	96		2,736	\$1,639	\$507,439
Task 2.4 - Schedule Reviews	40	120	240		480	480			160	80		1,600	\$21,554	\$342,154
Task 3.14 - Electrical/Automation Field Engineering				800					1136			1,936	\$16,174	\$320,494
Task 4.1 - Electronic O&M Manual Development, Installation, and Training										400			\$0	\$40,000
Task 4.5 - Asset Management Data Collection								500				500	\$0	\$70,000
New Task 4.7 - Prepare Standard Operating Procedure (SOP) Documents						76	520					596	\$3,093	\$108,153
Task 5.3 - Startup Testing Coordination Services							800					800	\$11,500	\$151,500
Task 5.7 - Air Quality Permit Support		24	40	96					88			248	\$4,576	\$50,336
<b>Total - Variance #5</b>	<b>180</b>	<b>1004</b>	<b>2648</b>	<b>3376</b>	<b>1620</b>	<b>3016</b>	<b>1320</b>	<b>500</b>	<b>4504</b>	<b>856</b>	<b>40</b>	<b>18,664</b>	<b>\$101,415</b>	<b>\$3,564,215</b>

**IRVINE RANCH WATER DISTRICT  
MWRP BIOSOLIDS & ENERGY RECOVERY FACILITIES  
(BIOSOLIDS PROJECT)  
CONSTRUCTION PHASE SERVICES  
Project No. 21146 (4286)**

**VARIANCE #5**

**SCOPE OF WORK**

**BACKGROUND**

The Irvine Ranch Water District (IRWD) owns and operates the Michelson Water Recycling Plant (MWRP). New biosolids and energy recovery facilities are currently under construction by Filanc-Balfour Beatty (FBB), the construction contractor. IRWD and FBB are negotiating a time extension to FBB that apparently will extend the contract completion date such that B&V services will be extended to approximately December 2017 (14 month time extension). At the request of IRWD Black & Veatch will furnish additional project management, construction administration, construction field, electronic O&M manual, and training/commissioning/startup services to cover this additional time period granted to FBB and also cover out of scope work requested by IRWD.

**BASIS FOR VARIANCE**

The following events have occurred that resulted in this proposed variance for Black & Veatch:

- ***Additional Project Management Services ((Scope Task 1 – B&V Phase 101) -*** FBB has been in negotiations with IRWD to obtain an extension in the construction schedule. It is anticipated that the project completion date will be extended from the current date of October 2016 to December 2017 (14 month time extension). This time extension directly affects the project management services required and the additional labor hours have been projected through the new end date of December 2017.
- ***Additional Submittal Reviews (Scope Task 2.1 – B&V Phase 201) –*** The number of submittals (2,048) through July 8, 2016 has significantly exceeded the allowance amount of 1,200 submittals in the scope of work (171% of allowance amount). The actual expenditures were at approximately 150% of budget allowance on that date. Since the submittal reviews will continue through project completion there will be a significant cost overrun and a variance is necessary. B&V has projected the remaining labor and expenses required through approximately April 2017. Following are several reasons for the number of shop drawings exceeding the original estimate.
  - It is very challenging to estimate the number of submittals on large, unique, and complex projects.

- There are a large number of re-submittals that have occurred. To date, 890 re-submittals have occurred compared with 1,158 initial submittals – this represents a re-submittal rate of 77%. B&V assumed a re-submittal rate of approximately 20% during the scope/fee development for this project.
- There are a large number of programming/configuration submittals required for this project due to the very detailed specifications and specific IRWD standards – much higher than a normal B&V project. This was not fully recognized during the initial scope of work and engineering fee development.
- There have been a large number of submittals required for the Andritz heat dryer, including numerous seismic calculations that are not typical on B&V projects.
- IRWD has performed submittals reviews in parallel with B&V and this has resulted in identification of technical issues that needed to be resolved through additional research and meetings.
- ***Additional RFI Reviews (Scope Task 2.2 – B&V Phase 202)*** – The number of RFIs (2,132) through July 8, 2016 has exceeded the allowance amount of 1,200 in the scope of work (178% of allowance amount). As of March 11, 2016, the actual expenditures were at 130% of budget allowance. Since the RFI reviews will continue through project completion there will be a significant cost overrun and a variance is necessary. B&V has projected the remaining labor and expenses required through approximately April 2017. Following are several reasons for the number of RFIs exceeding the original estimate.
  - It is very challenging to estimate the number of RFIs on large, unique, and complex projects. Also, the number of RFIs experienced on projects is outside the engineer's control.
  - The number of RFIs varies significantly with individual contractors, and this contractor (FBB) has been very aggressive in submitting RFIs.
  - IRWD has initiated a number of owner generated RFIs. This provides excellent documentation but is beyond what we normally experience on our projects.
  - There are a large number of programming/configuration RFIs required for this project due to the very detailed specifications and specific IRWD standards – much higher than a normal B&V project. This was not fully recognized during the initial scope of work and engineering fee development.
  - In some cases, RFIs were submitted by the contractor just to clarify what was in the contract documents or request additional design information and did not represent a design change.
  - The contractor has initiated design revisions due to his lack of proper coordination.
  - In some cases RFIS have been submitted just to document decisions and without any changes to the project design.

- The contractor has also initiated additional RFIs because he has proceeded at risk with fabrication of some equipment without complete approved mechanical shop drawings, resulting in revisions.
- **Additional Schedule Review (Scope Task 2.4 – B&V Phase 204)** – B&V has now exceeded budget on this task due to several factors. The time extension through December 2017 directly affects the number of schedule reviews for this project. IRWD requested that B&V prepare a special parallel schedule for startup and commissioning in order to compare this with the FBB startup/commissioning schedule. IRWD also authorized B&V to perform special evaluations for FBB TIAs and FBB claims for extended overhead. These special reviews were not included in the original scope of work. B&V has projected the additional labor hours to cover the additional schedule reviews through December 2017 (14 additional months).
- **Additional Electrical and Automation Field Engineering (Scope Task 3.14 – B&V Phase 307)** – Additional services for electrical and automation field activities are a result of the time extension for FBB. The projected additional labor costs are based on assuming that Shawn Rohr will work at 40% utilization rate and that Sheila Moredo will work at a 60% utilization rate through December 2017.
- **Electronic O&M Manual Development, Installation, and Training (Scope Task 4.1 and 4.2 – B&V Phase 401)** - IRWD requested that B&V perform a new task to conduct technology transfer sessions for plant O&M staff, not included in the original scope of work. Most plant O&M staff did not participate in the design phase of this project. These technology transfer sessions will introduce the new staff to the design basis, equipment provided, intended operations, alternate operations, and maintenance requirements and these sessions will be held in advance of and supplement formal B&V and vendor training. The following sessions are anticipated:
  - Facility Electronic O&M Basics
  - Facility Electronic O&M Workshop
  - Milestone 1 Electronic O&M Workshop
  - Acid and Methane Digestion Operation Philosophy
  - Sidestream Treatment Philosophy
  - Strain Press, Thickening Centrifuges & Dewatering Centrifuges Philosophy
  - Biogas Treatment & Microturbines Philosophy
  - Cake Receiving/Loading, Pellet Loading Philosophy
  - FOG, Odor Control and Sludge Heating Philosophy
  - Acid and Methane Digestion
  - Odor Control
  - Centrifuge Operations
  - Cake Receiving/Loading and Pellet Loading
  - Biogas Treatment
  - Centrate Treatment
  - Microturbines and Heat Recovery
  - Dryer Process Control

- Dryer Air Handling Overview
- Dryer Solids Handling Overview
- Miscellaneous systems
- ***Additional Asset Management Data Collection (Scope Task 4.5 – B&V Phase 404)*** – IRWD requested a new activity associated with this task to prepare 250 new CMMS worksheets that are outside of the existing scope of work (populating the asset management worksheet). The CMMS forms furnish additional information for plant staff regarding the manufacturer data, equipment details, equipment IDs, maintenance summary, lubrication requirements, and spare parts data that is not included in the main asset management worksheet that is included in the existing scope of work. The CMMS forms are a useful tool for plant staff.
- ***Prepare New Standard Operating Procedure (SOP) Documents (New Scope Task 4.7 – New B&V Phase 406)*** – IRWD requested a new activity associated with this task – to prepare SOPs for the new major biosolids systems. This was not included in the original scope of work. B&V will prepare SOPs for the following major systems:
  - Sludge pumping, screening, thickening, and feeding to the anaerobic digesters.
  - Digested sludge conveyance, digested sludge storage, centrifuge dewatering, and cake feed to the dryer.
  - Heat dryer operation process control.
  - Biogas treatment and microturbines.
  - FOG receiving.
- ***Additional Air Quality Permit Services (Scope Task 5.7 - B&V Phase 506) – Air Quality Permit Support.*** Additional ongoing assistance has been provided per IRWD request to support the SCAQMD permit application that was not included in the original scope and fee. Also, per IRWD request, B&V provided additional services to support FAA notification activities and those activities were not included in the original scope and fee. Finally, the Final SCAQMD air permit requirements for stack testing have changed since the original scope of work and Richard Lao (IRWD) has provided recent input to B&V on the current stack testing requirements. Originally, two stack tests were anticipated (heat dryer and flare). There are now 6 different stack types that require testing: (1) biosolids receiving, heat dryer, (2) odor scrubber, (3) venturi wet scrubber & RTO, (4) five microturbines, (5) two boilers, and (6) one flare. B&V's role is to prepare emissions performance test specifications for the stack testing vendor who will be a third party contractor for IRWD. The purpose of the stack tests is to determine compliance with the SCAQMD Permit to Construct. Therefore, a variance is needed for this task as requested by IRWD.

## **SCHEDULE AND LEVEL OF EFFORT**

The level of effort has been estimated by projecting expenditures through the end of the B&V services, a projected date of December 2017 (a 14 month time extension) for the tasks identified above – see Attachment A. The assumptions made for these projections are given in the attachment. The cumulative costs for each task on this project are shown

for the thirty-two (32) project tasks. Twenty-two (22) tasks are not affected by the time extension since the work effort is the same regardless of the timing of the work – these tasks are shaded in blue. Nine (9) tasks are affected by the time extension or IRWD requests for out of scope work and one (1) new task has been added for preparing SOPs. These tasks are listed above and shaded in pink in the attachment.

It is anticipated that the following B&V staff members will continue in their current role on this project as required, or through December 2017:

- Jim Clark – Project Director
- Dan Buhrmaster – Project Manager
- Mark Wilson – Engineering Manager
- Jon Hay – Onsite Design Team Representative
- Keene Matsuda – Electrical Field Inspector.
- Marc Zamora – I&C Inspector
- Daniel Cearley – Civil/Mechanical Field Engineer.
- Shawn Rohr – Electrical/Automation Field Engineer.
- Sheila Moredo - Electrical/Automation Field Manager.
- Doug Sutter – Schedule Reviewer
- Neil Massart – Startup and Commissioning Manager

B&V Phase/Task Description	B&V Phase No.	Cumulative Costs Thru June 2016	Projected Future Costs through December 2017	Projected Cumulative Total Costs	Approved Budget	Approved Budget Cost - Projected Cumulative Total Cost	Projected Percent Complete Versus Budget	Comments Regarding Remaining Work Assumptions Through December 2017 (18 months)
<b>Task 1 - Construction Phase Project Management</b>	101	\$489,331.39	\$500,004.42	\$989,335.81	\$ 665,200.00	(\$233,219.75)	135.1%	Assume current burn rate thru December 2017
Task 1.1 - Submittal Review	211	\$3,543,968.41	\$554,838.38	\$4,098,806.79	\$ 2,257,949.00	(\$1,740,919.40)	133.3%	Assume current burn rate thru September 2016 (3 months) then ramp to 50% by April 2017 (2 months)
Task 1.2 - Requests for Information (RFIs)	222	\$3,158,729.33	\$258,871.38	\$3,417,600.71	\$ 2,217,157.00	(\$507,439.25)	133.3%	Assume current burn rate thru September 2016 (3 months) then ramp to 50% by April 2017 (2 months)
Task 1.3 - Meetings/Technical Site Visits	233	\$409,773.94	\$496,428.15	\$806,202.09	\$ 806,400.00	\$0.00	100.0%	Assume no budget overrun
Task 1.4 - Site/Value Reviews	244	\$521,124.81	\$284,879.65	\$805,954.46	\$ 213,600.00	(\$542,353.98)	280.2%	Assume current burn rate thru September 2017 (18 months)
Task 1.5 - Structural Observations	255	\$166,213.75	\$84,959.25	\$251,173.00	\$ 231,173.00	\$0.00	100.0%	Assume no budget overrun
Task 1.6 - Proposed Contractor Change Orders	266	\$52,033.75	\$42,126.25	\$94,160.00	\$ 47,310.00	\$0.00	100.0%	Assume no budget overrun
Task 1.7 - Claims Avoidance and Dispute Resolution Assistance	277	\$11,287.50	\$38,932.50	\$50,220.00	\$ 30,220.00	\$0.00	100.0%	Assume no budget overrun
Task 1.8 - Final Walk Through	288	\$0.00	\$112,560.00	\$112,560.00	\$ 112,560.00	\$0.00	100.0%	No change - work is the same but pushed out to December 2017
<b>Task 2 - Construction Administration Support Services</b>								
Task 2.1 thru 2.8 - On-Site Design Team Representative & Document Control	331	\$1,147,285.00	\$477,737.00	\$1,625,022.00	\$ 1,625,382.00	\$0.00	100.0%	Assume burn rate continues for next 18 months
Task 2.9 - Electrical Inspection	342	\$364,416.25	\$422,813.75	\$787,230.00	\$ 787,240.00	\$0.00	100.0%	No budget overrun assuming Keane Materials ramps up to 80% thru April 2017 (10 months), then 80% thru December 2017 (8 months)
Task 2.10 - Instrumentation and Control Inspections	353	\$308,033.75	\$558,148.25	\$866,182.00	\$ 866,200.00	\$0.00	100.0%	No budget overrun assuming Mairi Tamara ramps up to 80% thru April 2017 (10 months), then 80% thru December 2017 (8 months)
Task 2.11 - Emission Savings by "Desktop Greener" Application Support	364	\$18,373.75	\$20,626.25	\$39,000.00	\$ 40,000.00	\$0.00	100.0%	Assume no budget overrun
Task 2.12 - Control System Configuration & Programming Services (EIEC)	375	\$349,640.00	\$30,360.00	\$380,000.00	\$ 380,000.00	\$0.00	100.0%	EIEC work is complete and no further work under BAU needed per Steve Meloy
Task 2.13 - Mechanical Inspections	386	\$11,818.43	\$15,341.57	\$27,160.00	\$ 28,160.00	\$0.00	100.0%	Assume no budget overrun
Task 2.14 - Mechanical Instrumentation Field Engineering (Variance #1)	397	\$48,373.83	\$48,373.83	\$96,747.66	\$ 96,747.66	\$0.00	100.0%	Assume Shuman Rubel at 80% and Shaha Morado at 80% through December 2017
Task 2.15 - Civil/Mechanical Field Engineering (Variance #2)	408	\$322,538.75	\$588,471.25	\$911,010.00	\$ 899,000.00	\$0.00	100.0%	No budget overrun assuming Dan Cearley at 100% thru December 2017 (18 months)
<b>Task 3 - Construction Field Support Services</b>								
Task 3.1 thru 3.2 - Electronic O&M Manual Develop, Issue, and Training	413	\$211,778.00	\$ 183,835.00	\$395,613.00	\$ 375,593.00	(\$20,020.00)	110.0%	Assume budget is appropriate for current tasks. Add new task to cover technology transfer services for plant start-up - \$20,000
Task 3.3 - Energy Control Procedures (ECPs)	424	\$73,633.00	\$181,531.00	\$255,164.00	\$ 253,156.00	\$0.00	100.0%	Assume no budget overrun
Task 3.4 - Job Safety Analysis (JSA) Documents	435	\$43,100.00	\$377,714.50	\$420,814.50	\$ 420,857.00	\$0.00	100.0%	Assume no budget overrun
Task 3.5 - Asset Management Data Collection	446	\$4,968.38	\$ 185,537.50	\$190,505.88	\$ 114,000.00	(\$76,505.88)	163.4%	Assume budget is appropriate for current tasks. Add new task to propose 750 CHAS workweeks - \$70,000
Task 3.6 - Odor Control Maintenance & Monitoring Program (Variance #2)	457	\$55,513.58	\$41,251.42	\$96,765.00	\$ 112,668.00	\$0.00	100.0%	Assume no budget overrun
Task 3.7 - Equipment Operating Standard Operating Procedures (SOP) Documents	468	\$0.00	\$168,153.00	\$168,153.00	\$ -	(\$168,153.00)	100.0%	New task requested by PRB
<b>Task 4 - Electronic O&amp;M Manual</b>								
Task 4.1 - Contractor/ Vendor Training & Commissioning Meetings	501	\$0.00	\$81,454.00	\$81,454.00	\$ 81,454.00	\$0.00	100.0%	Assume no budget overrun
Task 4.2 - Pre-Start-Up Process Overview Training	512	\$80,921.42	\$129,362.58	\$210,284.00	\$ 210,108.00	\$0.00	100.0%	Assume no budget overrun
Task 4.3 - Start-Up Training Coordinator (working variance #1 - \$170,519)	523	\$119,980.00	\$743,819.00	\$863,799.00	\$ 546,656.00	(\$317,143.00)	127.3%	Assume no budget overrun
Task 4.4 - Factory Witness Testing	534	\$20,846.80	\$107,657.20	\$128,504.00	\$ 124,504.00	\$0.00	100.0%	Assume no budget overrun
Task 4.5 - Factory Witness Testing	545	\$120,002.88	\$68,888.00	\$188,890.88	\$ 788,896.00	\$0.00	100.0%	Assume no budget overrun
Task 4.6 - Air Quality Permit Services	556	\$81,028.75	\$64,000.00	\$145,028.75	\$ 52,713.00	(\$92,315.75)	181.5%	Estimated remaining effort per new SCRAMS permit requirements
<b>Task 5 - Training, Commissioning, and Start-Up Services</b>								
Task 5.1 - Post Start-Up Services	601	\$0.00	\$54,100.00	\$54,100.00	\$ 54,100.00	\$0.00	100.0%	Assume no budget overrun
Task 5.2 - Update Electronic O&M Manual	612	\$0.00	\$21,300.00	\$21,300.00	\$ 22,300.00	\$0.00	100.0%	Assume no budget overrun
Task 5.3 - Record Drawing & Asset System	623	\$0.00	\$170,792.00	\$170,792.00	\$ 170,792.00	\$0.00	100.0%	Assume no budget overrun
Task 5.4 - Project Closeout	634	\$0.00	\$43,712.00	\$43,712.00	\$ 43,712.00	\$0.00	100.0%	Assume no budget overrun
<b>Task 6 - Post Construction Services</b>								
		\$10,378,098.01	\$7,880,983.05	\$18,259,081.06	\$ 14,555,856.00	(\$3,662,215.06)	124.5%	

Variance #1 = \$ 3,662,215.06



# IRVINE EXHIBIT "B" ISTRICK PROFESSIONAL SERVICES VARIANCE

Project Title: MWRP Biosolids and Energy Recovery Facilities

Project No.: 4286

Date: August 29, 2016

Purchase Order No.: 521366

Variance No.: 01

Originator:      IRWD      ENGINEER/CONSULTANT      Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*):

Provide supplemental construction management services through March 31, 2018 and construction inspection services through October 31, 2017

**Engineering & Management Cost Impact:**

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Sr. Construction Manager 2	3,598	\$209-221	\$775,345			\$775,345
Sr. Construction Inspector 5	2,704	\$157-243	\$433,006			\$433,006
Document Control System			\$88,334			\$88,334
Administration/ODCs						\$107,257
Credit from Original Contract						(\$191,600)
<b>Total \$ =</b>						<b>\$1,345,755</b>

**Schedule Impact:**

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
	CM and Inspection Services	October 31, 2016	+15 months	Oct. 31, 2017 (Inspection)
				March 31, 2018 (CM)

**Required Approval Determination:**

Total Original Contract	<u>\$ 2,931,368.00</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000.
Previous Variances \$ <u>0</u>		
This Variance \$ <u>1,345,755</u>		<input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000.
Total Sum of Variances	<u>\$ 1,345,755.00</u>	
New Contract Amount	<u>\$ 4,277,123.00</u>	<input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000.
Percentage of Total Variances to Original Contract	<u>31.5%</u>	<input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.

ENGINEER/CONSULTANT: Arcadis

IRVINE RANCH WATER DISTRICT

Company Name

[Signature]  
Project Engineer/Manager

9/1/2016  
Date

[Signature]  
Department Director

9/12/16  
Date

[Signature]  
Engineer's/Consultant's Management

9/1/2016  
Date

General Manager/Board

Date



Steve Malloy  
Principal Engineer – MWRP Construction  
Michelson Water Recycling Plant  
3512 Michelson Drive  
Irvine, CA 92612

Arcadis U.S., Inc.  
320 Commerce  
Suite 200  
Irvine  
California 92602  
Tel 714 730 9052  
Fax 714 730 9345  
www.arcadis.com

Subject:  
MWRP Biosolids and Heat Recovery Facilities PR 4286  
Variance No. 1 – Service Extension to October 2017 (Inspection) and March  
2018 (Construction Management)

Water - Construction

Date:  
August 29, 2016

Dear Steve:

We are submitting Variance No. 1 to our scope of work to account for extended project duration and additional contract administration to satisfy prevailing wage requirements.

Contact:  
Ron Esmilla

Phone:  
949-231-8971

We have organized and listed the tasks below to follow the contract task numbering. This variance seeks to reconcile all remaining work items to arrive at a final project scope and budget based on the terms set forth in this letter.

Email:  
Ron.Esmilla@arcadis.com

The requested fee for Variance 1 is \$1,345,755, and is summarized in the attached Variance No. 1 Fee Summary. These attachments supplement the summary and descriptions below. Inspection services will be provided by Glenn Suchor (Senior Construction Inspector). I will provide the construction management services.

Our ref:  
01120038.0000

#### **TASK 10000 – CONSTRUCTION MANAGEMENT SUPPORT SERVICES**

I will provide construction management support services through March 31, 2018. I will negotiate and prepare change orders and provide as-needed construction management support, assist with resolving project claims and delays submitted by the Contractor, and assist in project close-out activities. My 2016 hourly rate is \$209; 2017 hourly rate is \$215; and 2018 hourly rate is \$221.

#### **TASK 20000 – CONSTRUCTION INSPECTION SERVICES**

Glenn will provide construction inspection through October 31, 2017. Although the project schedule shows that Milestone 4B is scheduled to be completed on August 1, 2017, we assumed that time is required for completion of punchlist items. We assumed full-time throughout this time period with an additional 20% of over time. His hourly wage will meet California Prevailing Wage requirements. For portion of 2016 remaining, Glenn's hourly rate is \$157 for regular time and

Malloy  
August 29, 2016

\$236 for over time at 1.5 times regular pay. For 2017, Glenn's hourly rate will be \$162 for regular time and \$243 for over time at 1.5 times regular pay.

**TASK 30000 – DOCUMENT CONTROL SYSTEM SUPPORT**

Provide DCS support through March 31, 2018 including help with the archiving of vital project documents. This effort will also be for project close-out activities, coordinating with IRWD's information services and engineering library on capturing project documentation.

**TASK 00000 – CONTRACT ADMINISTRATION/OTHER DIRECT COSTS**

Per California SB 854, Arcadis must meet California Prevailing Wage requirements that include payroll tracking, reporting, certification, and payment to apprenticeship council. The variance amount for this task incorporates these costs. The ODCs also include the maintenance of computers and servers that store the document control system.

Sincerely,

Arcadis U.S., Inc.



Ron J. Esmilla, PE

Sr. Construction Manager

Copies:

Jon Westervelt, PE

Jim Cathcart, PE

Enclosures:

**Attachments**

- 1 Variance No. 1
- 2 Variance No. 1 Fee Summary

Irvine Ranch Water District  
MWRP Biosolids and Heat Recovery Facilities  
PR 4286  
Variance No. 1 Fee Summary

Task	Description	Effort (Hrs)			Fee, Dollars			Fee, Dollars
		08-2016 to 12-2016	01-2017 to 12-2017	01-2018 to 03-2018	08-2016 to 12-2016	01-2017 to 12-2017	01-2018 to 03-2018	Total
10000	Construction Management	904	2152	542	\$ 189,840	\$ 464,832	\$ 120,673	\$ 775,345
20000	Inspection							
	Regular Time	904	1800	0	\$ 141,928	\$ 291,078	\$ -	\$ 433,006
	Overtime (20%) (1.5 X Regular)	181	378	0	\$ 42,307	\$ 91,106	\$ -	\$ 133,413
30000	DCS Support	100	240	23	\$ 21,500	\$ 53,148	\$ 13,686	\$ 88,334
	Subtotal				\$ 395,575	\$ 900,164	\$ 134,359	\$ 1,430,098
00000	Administration/ODCs (7.5%)				\$ 29,668	\$ 67,512	\$ 10,077	\$ 107,257
								\$ 1,537,355
	Credit - Remaining Budget							\$ (191,600)
	Variance No. 1 Request							\$ 1,345,755

# EXHIBIT "C"

## IRVINE RANCH WATER DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: Michelson Water Recycling Plant, Biosolids Construction Management Services

Project No.: 4286 Date: September 9, 2016  
Purchase Order No.: 521288 Variance No.: 2

Originator:  IRWD  ENGINEER/CONSULTANT  Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*):

Additional construction support services to meet the contractor's new project completion date of December 31, 2017. See attached proposal for detailed breakdown.

**Engineering & Management Cost Impact:**

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Additional Support through 12/31/17	3,999	Varies				\$496,002.50
<b>Total \$ =</b>						<b>\$496,002.50</b>

**Schedule Impact:**

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
1	Additional Support	Feb 28, 2017	10 months	Dec 31, 2017

**Required Approval Determination:**

Total Original Contract	<b>\$ <u>1,867,153.78</u></b>	<input type="checkbox"/> General Manager: Single Variance less than or equal to \$30,000.
Previous Variances \$ <u>(890,000.00)</u>		
This Variance \$ <u>496,002.50</u>		<input type="checkbox"/> Committee: Single Variance greater than \$30,000, and less than or equal to \$60,000.
Total Sum of Variances	<b>\$ <u>(393,997.50)</u></b>	<input type="checkbox"/> Board: Single Variance greater than \$60,000.
New Contract Amount	<b>\$ <u>1,473,156.28</u></b>	<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>(21.1)%</u>	

ENGINEER/CONSULTANT: HDR Engineering Inc.  
Company Name

IRVINE RANCH WATER DISTRICT

IRWD Project Manager \_\_\_\_\_ Date \_\_\_\_\_  
Paul J. ... 9/9/16  
Engineer's/Consultant's Management Date

SJM Kevin L. Beck 9/12/16  
Department Director Date  
General Manager/Comm./Board Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Michelson Water Recycling Plant, Biosolids Construction Management Services

Project No.: 4286 Project Manager: Steve Malloy

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Reduction in Scope		10/17/2014	(\$890,000.00)
2	Additional construction support through extended project duration.	9/9/2016		\$496,002.50



September 9, 2016

Mr. Steve Malloy, P.E.  
Principal Engineer  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, California 92618

Subject: MWRP Biosolids Construction Management Services - Variance No. 2

Dear Mr. Malloy:

HDR Engineering, Inc. (HDR) is requesting a variance to our scope of work to account for extended project duration and additional project management to satisfy prevailing wage requirements.

Per your request, we are preparing this additional scope of services as Variance No. 2 to the Michelson Water Recycling Plant (MWRP) Biosolids Construction Management (CM) Services contract. We have organized and listed the tasks below to follow the contract task numbering. This variance seeks to reconcile all remaining work items to arrive at a final project scope and budget based on a project completion date of December 31, 2017.

The requested fee for Variance 5 is \$496,002.50, and is summarized in the attached **Cost-to-Complete Estimate and Variance No. 2 Fee Summary**. These attachments supplement the summary and descriptions below. The estimates are based on the project completion date noted above. Inspection services will be provided by John Walker (Senior Inspector) at the rates described below.

This variance request also includes additional scope associated with Phase 2 close-out tasks that were previously allocated to an On-Call Services budget and deducted from this project budget.

**TASK 1 – PROJECT MANAGEMENT**

Project Management is a continuous activity during the project and provides project oversight, workload projections, staff management, budget, scope and schedule tracking, and on-going coordination to address project management issues.

The extended schedule is projected to have an impact on project management activities, including additional project controls and contract administration. In addition, California Prevailing Wage requirements include payroll tracking, reporting, and certification. The variance amount for Project Management incorporates these costs and estimates the fee based on a project completion of December 31, 2017.



Mr. Steve Malloy, P.E.  
September 9, 2016

**TASK 5 – INSPECTION SERVICES - 2016**

The estimated cost to complete for this task includes full-time inspection (40 hours per week) and 20% overtime inspection at 1.5x overtime. The billable rate for John Walker for the remaining portion of 2016 is established at \$148 per straight time hour and \$197 per 1.5 overtime hour. We have assumed that double overtime will not be required, however a rate of \$247 per 2.0 overtime hour is established should it be required.

**TASK 6 – INSPECTION SERVICES - 2017**

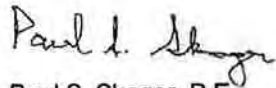
The estimated cost to complete for this task includes full-time inspection (40 hours per week) and 20% overtime inspection at 1.5x overtime. The billable rate for John Walker for 2017 is established at \$155 per straight time hour and \$207 per 1.5 overtime hour. We have assumed that double overtime will not be required, however a rate of \$258 per 2.0 overtime hour is established should it be required.

**TASK 8 –ON-CALL SERVICES**

This task is established to cover as-needed and as-requested engineering support services for on-call consultation related to construction, start-up, operations, process, or other support work.

We appreciate the opportunity to continue provided inspection services for this important project. Please do not hesitate to contact either of the undersigned if you wish to discuss the proposed scope of services further.

Sincerely,  
HDR Engineering, Inc.



Paul S. Skager, P.E.  
Associate Vice President



Gregorio Estrada, P.E.  
Project Manager

Enclosures: Professional Services Variance Form  
Cost-to-Complete Estimate  
Variance No.2 Fee Summary

Irvine Ranch Water District  
 Michelson Water Recycling Plant | Biosolids Construction Management Services  
 Cost-to-Complete Estimate



TASKS		LEVEL OF EFFORT, HOURS											FEE, DOLLARS				
No.	Description	Principal	Project Manager 2016	Project Manager 2017	Sr Insp. ST 2016	Sr Insp. 1.5 OT 2016	Sr Insp. ST 2017	Sr Insp. 1.5 OT 2017	Senior Engineer	Project Engineer	Acctg	Admin	Total Labor	Labor	Direct Costs	Total	CLIENT TOTAL
1	Project Management																
1.1	Project Management 2016, Aug-Dec	1	20									10	51	9,110	182	8,292	
1.2	Project Management 2017, Jan-Dec	1		48								24	121	21,950	438	22,388	
	<b>Subtotal, Task 1   Project Management</b>	<b>2</b>	<b>20</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>172</b>	<b>31,060</b>	<b>621</b>	<b>31,551</b>	<b>31,700</b>
5	Inspection Services 2016 (Aug - Dec)				904								904	133,792	904	134,696	
5.1	Inspection Services - Straight Time					181							181	35,857	181	36,038	
5.2	Inspection Services - 1.5 Overtime																
	<b>Subtotal, Task 5   Inspection Services 2016 (Aug - Dec)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>904</b>	<b>181</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,085</b>	<b>169,649</b>	<b>1,085</b>	<b>170,634</b>	<b>170,600</b>
6	Inspection Services 2017 (Jan - Dec)						2,152						2,152	335,580	2,152	335,712	
6.1	Inspection Services - Straight Time							430					430	89,010	430	89,440	
6.2	Inspection Services - 1.5 Overtime																
	<b>Subtotal, Task 6   Inspection Services 2017 (Jan - Dec)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,152</b>	<b>430</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,582</b>	<b>422,570</b>	<b>2,582</b>	<b>425,152</b>	<b>425,200</b>
8	On-Call Services								80	80			160	30,000	0	30,000	
8.1	On-Call Services								80	80			160	30,000	0	30,000	30,000
	<b>Subtotal, Task 8   On-Call Services</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>160</b>	<b>30,000</b>	<b>0</b>	<b>30,000</b>	<b>30,000</b>
	<b>TOTAL, hours</b>	<b>2</b>	<b>20</b>	<b>48</b>	<b>904</b>	<b>181</b>	<b>2,152</b>	<b>430</b>	<b>80</b>	<b>80</b>	<b>0</b>	<b>34</b>	<b>3,999</b>				
	<b>TOTAL, dollars</b>													<b>653,079</b>	<b>4,288</b>	<b>657,367</b>	<b>657,400</b>

**Irvine Ranch Water District  
 Michelson Water Recycling Plant | Biosolids Construction Management Services  
 Variance No. 2 Fee Summary**



<b>Original Authorization</b>	<b>\$2,834,476.00</b> a
Transfer to PO#515759 (9/3/2013)	\$400,000.00 b
Transfer to PO#515759 (10/14/2014)	\$350,000.00 c
Billed Through July 2014	\$217,322.22 d
<hr/>	
<b>Amount Authorized Under PO#521288</b>	<b>\$1,867,153.78</b> e = a - b - c - d
Scope Reduction (10/17/2014)	\$890,000.00 f
<hr/>	
<b>Available Authorization Under PO#521288</b>	<b>\$977,153.78</b> g = e - f
Total Cost-to-Date (through July 2016)	\$815,756.28 h
<hr/>	
<b>Remaining Authorization</b>	<b>\$161,397.50</b> i = g - h
Estimated Cost to Complete (Aug 2016 - Dec 2017)	\$657,400.00 j (see attached Cost-to-Complete Estimate)
<hr/>	
<b>Variance No. 2 Amount</b>	<b>\$496,002.50</b> k = j - i
Total Authorization with Variance No. 2	\$1,473,156.28 l = g + k

<b>Tasks</b>	<b>Current Budget</b>	<b>Cost to Date July 2016</b>	<b>Remaining Budget</b>	<b>Cost to Complete</b>	<b>Variance No. 2</b>	<b>New Budget</b>
Task 1 - Project Management	\$44,241.66	\$42,202.33	\$2,039.33	\$31,700.00	\$29,860.67	\$73,902.33
Task 2 - Inspection and Engineering Services - 2013	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Task 3 - Inspection and Engineering Services - 2014	\$238,500.00	\$294,242.03	-\$55,742.03	\$0.00	\$55,742.03	\$294,242.03
Task 4 - Inspection Services - 2015	\$303,012.12	\$299,610.92	\$3,401.20	\$0.00	-\$3,401.20	\$299,610.92
Task 5 - Inspection Services - 2016	\$309,900.00	\$179,701.00	\$130,199.00	\$170,500.00	\$40,301.00	\$350,201.00
Task 6 - Inspection Services - 2017	\$81,500.00	\$0.00	\$81,500.00	\$425,200.00	\$343,700.00	\$425,200.00
Task 7 - Inspection Services - 2018	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Task 8 - On-Call Services	\$0.00	\$0.00	\$0.00	\$30,000.00	\$30,000.00	\$30,000.00
<hr/>						
<b>Total</b>	<b>\$977,153.78</b>	<b>\$815,756.28</b>	<b>\$161,397.50</b>	<b>\$657,400.00</b>	<b>\$496,002.50</b>	<b>\$1,473,156.28</b>
	(g)	(h)	(i)	(j)	(k)	(l)

**EXHIBIT "D"**  
**IRVINE DISTRICT**  
**PROFESSIONAL SERVICES VARIANCE**

Project Title: MWRP Biosolids & Energy Recovery Facilities

Project No.: 4286

Date: August 16, 2016

Purchase Order No.: 518742

Variance No.: 1

Originator:      IRWD      ENGINEER/CONSULTANT      Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*):

Extend contractor for Construction Management Services due to project schedule extension. For detailed explanation of  
Scope of Work see attached.

**Engineering & Management Cost Impact:**

Classification	Hours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Process Control Startup Engineer	1440	160				\$ 230,400
Associate Automation Engineer	1440	130				\$ 187,200
Senior Automation Engineer	1680	150				\$ 252,000
Technical Writer	1300	50				\$ 65,000
<b>Total \$ =</b>						<b>\$ 734,600</b>

**Schedule Impact:**

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
1	Construction Management Support	May 2014 – April 2017	April 2017 – December 2017	May 2014 – December 2017

**Required Approval Determination:**

Total Original Contract	\$ <u>1,239,007</u>	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000. <input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000. <input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.
Previous Variances \$	<u>0</u>	
This Variance	\$ <u>734,600</u>	
Total Sum of Variances	\$ <u>734,600</u>	
New Contract Amount	\$ <u>1,973,607</u>	
Percentage of Total Variances to Original Contract	<u>59</u> %	

ENGINEER/CONSULTANT: EI&C Engineering Inc.

IRVINE RANCH WATER DISTRICT

Company Name

Jana M Thomas  
 Project Engineer/Manager  
Jana M Thomas  
 Engineer's/Consultant's Management

9/8/2016  
 Date  
9/8/2016  
 Date

St M Kevin Z Burk  
 Department Director  
9/12/16  
 Date  
 \_\_\_\_\_  
 General Manager/Board  
 \_\_\_\_\_  
 Date



**EI&C Engineering Inc.**

15635 Alton Parkway, Suite 117  
Irvine, CA 92618  
(949) 679-8760

August 16, 2016

Irvine Ranch Water District  
Steve L. Malloy, PE  
Principal Engineer, MWRP Construction  
15600 Sand Canyon Avenue  
Irvine, CA 92618-3101

Re: Proposal for Variance 1 for Purchase Order No. 518742  
for the MWRP Biosolids and Energy Recovery Facilities Project

Dear Steve,

Enclosed is a proposal for a variance to extend the role of EI&C Engineering Inc. for construction management services for the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities Project the revised completion date for the project of December 2017. This variance include 3 tasks:

- Task 1 is to extend the role of the team for Process Control System (PCS) Construction Management Services that is already working on the project for an additional 36 weeks to the end of 2017.
- Task 2 is to provide budget for an additional Automation Engineer to supplement the team for startup testing when it is anticipated multiple start-up tests will be scheduled simultaneously.
- Task 3 provides budget for a technical writer to assist with the development of the PCS Operation manuals and associated training presentations.

Task	Role	Hours	Rate	Fee
1	Process Control Startup Engineer	1440	\$160	\$230,400
	Associate Automation Engineer	1440	\$130	\$187,200
2	Senior Automation Engineer	1680	\$150	\$252,000
3	Technical Writer	1300	\$50	\$65,000
Total				\$734,600

Enclosed is the scope of work, the schedule and fee breakdown, and resumes for your consideration. If you have any questions or need additional information please call me at 714-334-8912 or email me at lthomas@eiceinc.com.

Sincerely,

*Laura Thomas*

Laura Thomas, PE  
CEO, Principal Engineer

Enclosure

---

# Section 1

## Scope of Work

## Scope of Work

The schedule for the Biosolids and Energy Recovery Facilities Project (Biosolids Project) has been extended to the end of 2017. El&C Engineering Inc. is actively working on the project to provide startup support services for the Process Control System (PCS). El&C Engineering Inc. will support the testing of the PCS software. The activities include (1) reviewing the contractor's start-up plans; (2) providing oversight of Process Control System field testing; (3) supporting for the Process Control System training; (4) reviewing as-built documentation; and 5) developing deficiency lists and punch lists specific to process control.

- **Task 1: Extension of existing support staff to December 2017.** This variance extends the services already in place for the Biosolids PCS Startup Engineer (Laura Thomas), the Associate Automation Engineer (Pavan Mutyala).
- **Task 2: Additional Automation Engineer to support compressed scheduling of startup tests.** This variance provides for the as-needed support of a Senior Automation Engineer (Reza Afshin) who will augment staff during start-up testing when it is anticipated that multiple tests will be sequenced simultaneously in order to meet the project schedule.
- **Task 3: Additional Technical Writer support training of Operations staff.** This variance provides for a technical writer (Jennifer Larson) to assist with the compilation of PCS Operation manuals and associated training presentations.

### Task 1a: Process Control Start-up Engineer

The role of Start-up Engineer would extend beyond software development to control system start-up testing and coordination. This role includes enhanced involvement during the early planning phase of construction. This role would allow the construction management team to retain the institutional knowledge gained during the Process Control System (PCS) software development throughout the field testing phase for the project.

The PCS Start-up Engineer will have the following duties:

- Participate in "Start-up testing" including but not limited to witnessed Process Control System field checks, communication network validation, and system functional testing.
- Attend project meetings.
- Coordinate key decisions with IRWD staff including operations and the CM team.



- Coordinate start-up testing with CM team members
- Review start-up submittals including test procedures and test schedules.
- Develop SCADA training program for operators including SCADA Operations and Maintenance Manual developed with as-built Process Control Descriptions, SCADA Operations and Maintenance training presentations and training videos showing operation of live SCADA screens.

**Task 1b: Associate Automation Engineer**

The Associate Automation Engineer will work under the direction of the Process Control Startup Engineer have the following duties:

- Witness the Process Control System bench-tests which test the PLC code and HMI screens again forced values.
- Witness the field testing for the Process Control System with live mechanical equipment, local control panels, and instrumentation.
- Witness functional acceptance testing of Process Control System where multiple systems are tested together under process conditions.
- Produce and maintain daily logs of test issues.
- Produce and maintain deficiency and punch lists for PCS related issues.

**Task 3: Senior Automation Engineer**

In order to meet the project schedule milestones it will be necessary for the contractor to perform field testing the PCS for several process areas simultaneously. A Senior Automation Engineer will join the team to support bench tests and field tests when it is anticipated that peak demand for staff to support witnessed testing will occur. This individual is very experienced in development and test of IRWD process control systems and will be able to efficiently be productive in these tasks and will be able to lead a separate start-up team to meet schedule when it is anticipated the roll-out of the startup testing will be compressed.

The Senior Automation Engineer will have the following duties:

- Lead witness testing for the Process Control System bench-tests which test the PLC code and HMI screens again forced values.
- Lead witness testing for the field testing for the Process Control System with live mechanical equipment, local control panels, and instrumentation.

- Lead witness functional acceptance testing of Process Control System where multiple systems are tested together under process conditions.
- Produce and maintain daily logs of test issues.
- Produce and maintain deficiency and punch lists for PCS related issues.

**Task 4: Technical Writer**

EI&C Engineering Inc. is developing the PCS Operation Manuals and conducting the training in concert with the Black and Veatch start-up team to provide training to IRWD operations staff. This technical writer will assist in writing and formatting of the PCS Operations manual which will be hyperlinked to the on-line Operations Manuals for all equipment and systems. In addition, this technical writer will assist in developing presentations that will be used during training sessions to familiarize operations staff with the operator interface for the plant controls. The following table is a list of project milestones.

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## Section 2

# Schedule and Fee Breakdown

## Schedule and Fee Breakdown

Purchase Order 518742 provides the budget for EI&C Engineering Inc. to provide support services full time until March 2017 for a Startup Engineer and Software Test Engineer. This variance includes the following three tasks:

- Task 1 is to extend the role of the team for Process Control System (PCS) Construction Management Services that is already working on the project for an additional 36 weeks to the end of 2017.
- Task 2 is to provide budget for an additional Automation Engineer to supplement the team when it is anticipated multiple start-up tests will be scheduled simultaneously.
- Task 3 provides budget for a technical writer to assist with the development of the PCS Operation manuals and associated training presentations.

**Table 1: Schedule**

Task	Role	Start	Finish	Weeks
1	Process Control Startup Engineer	April 1, 2017	December 31, 2017	36
	Associate Automation Engineer			
2	Senior Automation Engineer	December 1, 2016	December 31, 2017	56
3	Technical Writer	October 1, 2016	October 31, 2016	56

**Table 2: Hourly Estimate for Tasks 1 and 2**

The on-site resources that for Tasks 1 and 2 are anticipated to be utilized 100% until the end of the project. Therefore the estimate of the hours required is based on the number of weeks. Table 2 shows an hourly estimate for Tasks based on the scheduled number of weeks.

Task	Role	Weeks	Utilization	Hours
1	Process Control Startup Engineer	36	100%	1440
	Associate Automation Engineer	36	100%	1440
2	Senior Automation Engineer	56	75%	1680

**Table 3: Hourly Estimate for Task 3**

The Process Control System Operations Manuals and associated training materials will be required for each startup. The following table is an estimate of the hours for the technical writer for each deliverable.

IRWD MWRP Biosolids and Energy Recovery Facilities Project  
Variance 1 for PO 518742  


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EI&C Engineering Inc.

Milestone	Ops Manual (Hours)	Training Powerpoint (Hours)	Total (Hours)
Milestone 1 (Primary Sludge and WAS Processing Facilities)	120	60	180
Milestone 2 (Sludge Thickening Facilities)	160	80	240
Milestone 3 (FOG Receiving Station)	40	20	60
Milestone 4 (Anaerobic Digestion Facilities)	200	80	280
Milestone 5 (All Class B Biosolids Facilities)	120	60	180
Milestone 6 (Microturbine Power Generation)	120	60	180
Milestone 7 (Class A Biosolids Facilities and All Other Work)	120	60	180
<b>Task 3 Total</b>	<b>880</b>	<b>420</b>	<b>1300</b>

**Table 4: Fee Estimate for Variance 1**

The total fee for this variance is based on the estimated hours shown in the previous tables. The following table shows fee breakdown:

Task	Role	Hours	Rate	Fee
1	Process Control Startup Engineer	1440	\$160	\$230,400
	Associate Automation Engineer	1440	\$130	\$187,200
2	Senior Automation Engineer	1680	\$150	\$252,000
3	Technical Writer	1300	\$50	\$65,000
<b>Total</b>				<b>\$734,600</b>

September 26, 2016

Prepared by: T. Lynch/J. Moeder/R. Mori

Submitted by: K. Burton

Approved by: Paul Cook 

## ACTION CALENDAR

### INITIAL DISINFECTION FACILITY SODIUM HYPOCHLORITE STORAGE AND FEED SYSTEM DESIGN VARIANCE, CONSULTANT SELECTION, AND CONSTRUCTION AWARD

#### SUMMARY:

Carollo Engineers has completed the design for the Initial Disinfection Facility (IDF) Sodium Hypochlorite Storage and Feed System Project and bids were received from five contractors for construction of the project. During the final design phase, Carollo performed additional work that was above and beyond the initial design scope. Additionally, staff requested that Carollo submit a proposal for providing engineering services during construction. Staff recommends that the Board:

- Authorize the General Manager to execute Variance No. 2, in the amount of \$22,428, with Carollo Engineers for additional final design engineering services;
- Authorize the General Manager to execute a Professional Services Agreement, in the amount of \$183,586, with Carollo Engineers for engineering services during construction; and
- Authorize the General Manager to execute a construction contract, in the amount of \$1,829,451.20, with Pascal & Ludwig Constructors for the Initial Disinfection Facility Sodium Hypochlorite Storage and Feed System.

#### BACKGROUND:

The IDF project provides initial disinfection of groundwater from the Dyer Road Wellfield to provide chlorine residual prior to chloramination at the Primary Disinfection Facility (PDF). The existing chlorine gas system consists of 16 one-ton chlorine gas cylinders, chlorinators, chlorine booster pumps, emergency scrubber system, and a fully enclosed containment area for truck unloading of the cylinders. This project includes the removal of the existing chlorine gas system and related appurtenances, and the installation of a new sodium hypochlorite storage and feed system within the existing chlorination building.

In accordance with the IRWD Goals and Objectives, the conversion of IDF from chlorine gas to liquid sodium hypochlorite aligns with the District's goal of assessing the ongoing use of chlorine gas and converting to liquid sodium hypochlorite. After conversion of this facility, PDF will be the only remaining District facility that uses chlorine gas.

#### Variance No. 2:

Carollo submitted Variance No. 2, which is attached as Exhibit "A", which includes additional work related to modifying the lighting design in the chemical storage area and upgrading the existing programmable logic controller (PLC) to IRWD's current standards. After completing

the preliminary design, staff discovered that the two proposed vertical sodium hypochlorite storage tanks would block access to the existing ceiling mounted lighting and requested Carollo to improve the lighting by designing wall mounted lighting around the perimeter of the chemical storage room. During the design phase and after detailed review of the existing PLC, staff confirmed that the existing PLC at IDF is outdated and would benefit from upgrading to IRWD's current PLC standards by realizing a faster processing speed. Staff has reviewed the variance and recommends the Board authorize the General Manager to execute Variance No. 2 in the amount of \$22,428.

#### Engineering Services during Construction:

With the design fully defined, staff requested Carollo to submit a proposal for providing engineering services during construction. Carollo's proposal, which is attached as Exhibit "B", includes meetings, review of submittals and requests for information, plan revisions, and preparing energy control procedures. Carollo recently provided similar construction phase support services for the Rattlesnake sodium hypochlorite conversion project that was brought online this past year. Staff reviewed the proposal and recommends that the Board authorize the General Manager to execute a Professional Services Agreement with Carollo in the amount of \$183,586 for engineering services during construction.

#### Construction Award:

Staff advertised the project to a select list of 14 contractors. The bid opening was held September 14, 2016 and bids were received from Gateway Pacific Contractors, Pascal & Ludwig Constructors, Stanek Constructors, Steve P. Rados, and R. C. Foster. Bids ranged from \$1,829,451.20 to \$2,595,000.00, and the engineer's estimate of probable construction cost was \$2,450,000. Pascal & Ludwig Constructors is the apparent low bidder with a bid amount of \$1,829,451.20.

Staff reviewed Pascal & Ludwig Constructors' bid and determined that it is responsive. Even though the apparent low bid was significantly less than the engineer's estimate, the two lowest bids were separated by about \$130,000, or seven percent, which indicates that the apparent low bid amount is appropriate. Pascal & Ludwig Constructors has constructed several IRWD facilities including the DATS plant, Irvine Desalter Potable Treatment Plant, 21/22 Desalter Treatment Plant, and they were recently awarded construction of the Irvine Lake Pipeline North Conversion Santiago Hills Zone C+ Reservoir project. Staff recommends awarding a construction contract to Pascal & Ludwig Constructors in the amount of \$1,829,451.20. The Bid Summary is attached as Exhibit "C".

#### FISCAL IMPACTS:

Project 6213 is included in the FY 2016-17 Capital Budget. The existing budget is sufficient to fund the design variance, construction and engineering services during construction.

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 with the County of Orange on October 29, 2015.

COMMITTEE STATUS:

The Engineering and Operations Committee reviewed the design variance and consultant selection recommendation on September 20, 2016. Construction awards are not routinely taken to Committee prior to submittal to the Board.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 2 WITH CAROLLO ENGINEERS IN THE AMOUNT OF \$22,428 FOR ADDITIONAL FINAL DESIGN SERVICES; AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH CAROLLO ENGINEERS IN THE AMOUNT OF \$183,586 FOR ENGINEERING SERVICES DURING CONSTRUCTION; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH PASCAL & LUDWIG CONSTRUCTORS IN THE AMOUNT OF \$1,829,451.20 FOR THE INITIAL DISINFECTION FACILITY SODIUM HYPOCHLORITE STORAGE AND FEED SYSTEM, PROJECT 6213.

LIST OF EXHIBITS:

- Exhibit "A" – Variance No. 2
- Exhibit "B" – Carollo's Proposal for Engineering Services during Construction
- Exhibit "C" – Bid Summary



# IRVINE EXHIBIT "A" DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: Initial Disinfection Facility Sodium Hypochlorite Storage and Feed System  
 Project No.: 11838(6213) Date: 8/10/16  
 Purchase Order No.: \_\_\_\_\_ Variance No.: 2

Originator:  IRWD  ENGINEER/CONSULTANT  Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*):  
Current scope of supply provides preliminary and final design services for the project. Variance #2 will address added scope during the final design period.

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
Senior Engineer II	26	\$210	\$5,460			\$5,460
Project Engineer	40	\$189	\$7,560			\$7,560
Designer	64	\$147	\$9,408			\$9,408
<b>Total \$ =</b>						<b>\$22,428</b>

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
3	Final Design	180 days	30 days	210 days

Required Approval Determination:

Total Original Contract <u>\$49,450</u> Previous Variances <u>\$169,914</u> This Variance <u>\$22,428</u> Total Sum of Variances <u>\$192,342</u> New Contract Amount <u>\$241,792</u> Percentage of Total Variances to Original Contract <u>388%</u> %	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000. <input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000. <input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000. <input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.
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ENGINEER/CONSULTANT: Carollo Engineers

IRVINE RANCH WATER DISTRICT

Company Name  
Jeff Westover  
 Project Engineer/Manager  
James A. Muehler  
 Engineer's/Consultant's Management

8/10/16  
 Date  
8/10/16  
 Date

Kevin L. Burch  
 Department Director  
9/13/16  
 Date  
 General Manager/Board  
 Date

IRVINE RANCH WATER DISTRICT

PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Initial Disinfection Facility Sodium Hypochlorite Storage and Feed System

Project No.: 11838(6213) Project Manager: Jeff Weishaar, P.E.

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Final Design	10/5/15	10/12/15	\$169,914
2	Engineering Services During Construction	8/10/16		\$22,428

August 11, 2016

Mr. Jacob Moeder, P.E.  
Capital Projects Engineer  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine Ranch, CA 92619

Subject: Initial Disinfection Facility (IDF) Sodium Hypochlorite Storage & Feed System  
Variance 2 Request

Dear Mr. Moeder:

This letter is to inform you of work considered to be out of scope for the subject project. The work is related to the mechanical and structural changes to the sodium hypochlorite storage and feed system, equipment and instrumentation tagging changes, additional electrical lighting design, and PLC replacement as requested by the District after the final design scope had been developed and approved.

The base scope for the final design assumed that lighting modifications within the building would entail removal of lights that would be directly above the new vertical storage tanks as discussed in the Basis of Design Report. At the final design kickoff meeting, it was discussed that the District may desire to replace all of the overhead lights with wall packs. After multiple discussions, the District directed us to proceed with the modification to replace the lights and improve the lighting above what was existing. The 90% submittal includes details for demolition of the existing lighting system and a detailed lighting plan.

The final design scope related to PLC work is based on detailing necessary modifications the new sodium hypochlorite controls system within the existing PLC. After discussions and field meeting with the District, Carollo was directed to provide design documents detailing replacement of the PLC. The District maintained concerns for the age and condition of the PLC. This effort requires additional drawings and drawing details, as well as additional specifications. Replacement of the PLC required replicating the control strategy for the existing Well 16 pump also.

As part of the 90 percent submittal review, tagging changes were requested for the new and existing equipment and instruments. Retagging takes some effort and effects instrumentation, electrical, and mechanical plans.

Per additional comments at the 90-percent submittal review meeting, changes were made to the previously selected tank layout and pipe configuration plan. These modifications required changes to structural, mechanical, and electrical plans.

Our estimated effort to complete the out of scope items is attached to this letter as Exhibit A. We have also included IRWD's Professional Services Variance as Exhibit C. We appreciate your consideration in approving the requested funds at the time the next variance is issued.

Mr. Jacob Moeder, P.E.  
Capital Projects Engineer  
August 11, 2016  
Page 2

Sincerely,

CAROLLO ENGINEERS, INC.



Jeff Weishaar, JW

JW:JW

Enclosures: Budget Tables, Scope of Work (Exhibit A)  
Professional Services Variance (Exhibit C)

cc: Rich Mori, P.E.  
Jim Meyerhofer, P.E

Irvine Ranch Water District  
 In-Nal Disinfection Facility Sediment Hypochlorite Mixtrain Feed System  
 Estimated Out of Scope Fees

Exhibit A

Item	Task Description	Project Manager	Professional Engineer	Project Professional Engineer	Project Professional Engineer	Project Professional Engineer	Project Professional Engineer	Designer	Document Processing	Document Processing	Task Hours	Task Subtotal	Reproduction	Task Total
		Mayrhofer	Waltbaar	Boering	Morgan	Carreon	Hodjini	Designer						
	<b>Final Design Out of Scope Task Items</b>													
1	1st Storage, Condemned Area and Mechanical Feed Reconfiguration			4	4		4	12			16	\$ 4,200		\$ 4,200
2	Lighting Risk Reconfiguration						6	12			18	\$ 2,604		\$ 2,604
3	Cabling Changes					5	6	12			24	\$ 4,154		\$ 4,154
4	PLC PID Modifications					16	4	12			32	\$ 5,624		\$ 5,624
5	Panel Layout Modifications					14	4	16			34	\$ 5,434		\$ 5,434
	<b>Task Subtotal</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>36</b>	<b>22</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>106</b>	<b>\$ 22,428</b>	<b>0</b>	<b>\$ 22,428</b>
	Hours Total	0	0	4	4	36	22	64	0	0	106			
	Rate	\$ 224	\$ 125	\$ 210	\$ 189	\$ 189	\$ 210	\$ 147	\$ 111					
	<b>Project Subtotal</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 840</b>	<b>\$ 756</b>	<b>\$ 6,804</b>	<b>\$ 4,620</b>	<b>\$ 9,408</b>	<b>\$ 0</b>	<b>\$ 111</b>	<b>106</b>	<b>\$ 22,428</b>	<b>\$ 0</b>	<b>\$ 22,428</b>

## EXHIBIT "B"



August 18, 2016

Mr. Jacob Moeder, P.E.  
Capital Projects Engineer  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine Ranch, CA 92619

Subject: Initial Disinfection Facility Sodium Hypochlorite Storage and Feed System  
Proposal for Engineering Services During Construction

Dear Mr. Moeder:

Working with you and the IRWD staff, we have successfully completed the final design of the subject project. The contract documents are currently out for contractor bidding and we expect to open bids mid-September.

This letter serves as our proposal to provide engineering services during construction. Our proposed effort and fee are based on the level of effort required to complete similar services for the Rattlesnake Reservoir Sodium Hypochlorite Storage and Feed Project. We have also added tasks according to our conversations and the added scope requested.

The detailed scope is included with this letter as Exhibit A. The scope includes meeting attendance, shop drawing review, addressing requests for information, updating the conformed drawings, and preparing as-built drawings at the completion of construction. At your request, we have also included updating the facilities asset management database, preparation of energy control procedures, and as-needed general construction support.

Exhibit B provides a summary of our proposed fee. A total of \$183,586 is being requested. Your consideration in extending the project budget is very much appreciated. Please do not hesitate to contact us with questions or comments related to this request, or the overall project performance.

Sincerely,

CAROLLO ENGINEERS, INC.

Jeff Weishaar, P.E.

JM:JW

Enclosures: Exhibit A  
cc: Rich Mori, P.E.

# EXHIBIT A

## SCOPE OF SERVICES

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IRVINE RANCH WATER DISTRICT

INITIAL DISINFECTION FACILITY  
SODIUM HYPOCHLORITE STORAGE AND FEED SYSTEM  
ENGINEERING SERVICES DURING CONSTRUCTION

AUGUST 2016

### **BACKGROUND**

The Irvine Ranch Water District (District) is in the process of replacing existing chlorine gas facilities with bulk sodium hypochlorite as a disinfectant. Chlorine gas is a hazardous chemical and requires additional training, inspections, permitting and safety measures for its safe use. The purpose of this project is to replace the chlorine gas system at the District's Initial Disinfection Facility (IDF). The District also has a desire to install a new surge tank at Well 16 on the IDF site. Carollo and the District are nearing completion of the final design and beginning the bid phase period. This exhibit provides the scope of work to provide engineering services during construction for the project.

### **SCOPE OF WORK**

#### **Task 1 Project Management**

##### **Task 1.01 – Project Status Reports**

Weekly and monthly written status reports will be provided to the District. Monthly reports will accompany and supplement monthly invoices along with updated project schedules. These reports will provide a narrative summary of progress on the Project, including budget and schedule status. The report will discuss work completed on the Project for the reporting period and anticipated work for the next period. Critical decisions and outstanding action items will be documented and included with each report. Any out-of-scope work, if needed, will be identified in this progress report.

##### **Task 1 Deliverables**

- Electronic weekly status reports and monthly status reports submitted with the invoice.

#### **Task 2 Construction Phase Services**

Carollo will provide support and consultation to the District throughout the construction period, as outlined in the following tasks

**Task 2.01 - Conformed Documents**

Carollo will provide conformed documents (drawings and specifications) based on the bid documents and addenda released during the bid period. Conformed documents will be provided in electronic format (PDF). Conformed specifications will use track changes to highlight modifications made.

**Task 2.02 – Project Meetings**

Attend and conduct six (6) construction meetings throughout the duration of construction period. Draft agenda and supporting materials will be distributed for review approximately five days prior each meeting and workshop. Draft and final conference notes will be distributed to all attendees and other interested staff within one week of the meeting.

**Task 2.03 – Request for Information**

Respond to ninety (90) Requests for Information (RFIs) from the construction contractor. Clarifications, details, additional calculations for clarification or modification to original design drawings will be provided as requested by the District to provide clear and concise responses.

**Task 2.04 – Minor Plan Revisions**

A budget of up to forty (40) hours has been established to provide minor revisions to the contract construction drawings as required for Task 8.02 above or other needs.

**Task 2.05 – Site Visits**

Carollo will attend and conduct six (6) site visits throughout the construction period to review construction progress, resolve technical issues, and/or review overall project schedule, coordination, and progress with the District and the Contractor.

**Task 2.06 – Shop Drawing Reviews**

Review and approve for acceptance of at least eighty (80) shop drawing submittals. This task will include a second review of up to thirty-five (35) shop drawing submittal, if required.

**Task 2.07 – Record Drawings**

Prepare record drawings on full-size mylar at construction completion using Contractor's and IRWD's inspector's markups. Deliver final record drawings, reissued signed construction drawings in mylar hardcopy, a combined PDF electronic file, and AutoCAD electronic files.

**Task 2.08 - Energy Control Procedures**

Prepare Energy Control Procedures for each identified asset using IRWD's standard template. Procedures will be developed for new assets agreed upon between Carollo and IRWD. Procedures will be provided in Word file for IRWD review and comment. Budget is based on producing 12 ECPs, including the following:

1. SHC Tank 1
2. SHC Tank 2
3. SHC Tank 1 Isolation Valve
4. SCH Tank 2 Isolation Valve
5. SHC Pump 1
6. SHC Pump 2
7. SHC Pump 3



8. Chemical Flow Meter
9. Containment Sump Pump
10. Compressor
11. Compressor Control Panel & Solenoid Valves
12. Surge Tank

### **Task 2.09 – Asset Management Spreadsheet**

Carollo will assist in updating the existing asset management spreadsheet for the IDF site. New asset information will be added to the spreadsheet including asset location, asset description, asset classification, asset type, material, size and unit, model number and serial number. Information will be based on contractor approved submittals. Carollo will identify assets that have been removed from the facility as a result of the project and provide the list for IRWD to review and remove. Existing assets will not be modified or added to the list and it is assumed that IRWD will provide the current spreadsheet already populated with asset information headers and asset information already filled out. The budget is based on addition of approximately 150 assets.

### **Task 2.10 – Miscellaneous Construction Support**

Carollo will provide as-needed construction support as requested by IRWD. A budget of 100 hours has been established for this task.

### **Task 2 Deliverables**

- Draft and Final Construction Meeting Agenda
- Draft and Final Construction Meeting Minutes
- Submittal Review Comments
- RFI Responses
- Plan Revisions, as required
- Record Drawings as mylar, PDF electronic file, and AutoCAD electronic files
- Energy Control Procedures
- Revised Asset Inventory Database for IDF.

Exhibit B  
Irvine Ranch Water District  
Initial Disinfection Facility  
Sodium Hypochlorite Storage Feed System  
Engineering Services During Construction

Task	Task Description	Mayor/Chief	Well/Staff	Assistant Engineer	Drawn	Modified	Careon	Designer	Document Processing	Task Hours	Task Subtotal	Reproduction	Task Total
<b>1</b>	<b>Project Management</b>												
1.01	Project Status Reports	0	12	0	0	0	0	0	0	12	\$ 2,340	\$	\$ 2,340
	<b>Task Subtotal</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>\$ 2,340</b>	<b>\$</b>	<b>\$ 2,340</b>
<b>2</b>	<b>Construction Phase Services</b>												
2.01	Confirmed Drawings	0	2	12	4	8	4	24	8	58	\$ 9,008	\$	\$ 9,008
2.02	Provided Meetings (6 Total)	0	12	0	0	8	0	0	0	24	\$ 4,540	\$	\$ 4,540
2.03	Requests for Information (90 Total)	0	54	88	88	48	48	0	0	230	\$ 49,450	\$	\$ 49,450
2.04	Plan Reviews (80 Hours Total)	0	8	12	0	0	0	28	0	40	\$ 8,360	\$	\$ 8,360
2.05	Site Visits (6 Total)	0	12	8	0	6	0	0	0	24	\$ 4,440	\$	\$ 4,440
2.06	Shop Drawing Review (115 Total)	0	60	140	48	48	48	0	0	344	\$ 61,480	\$	\$ 61,480
2.07	Record Drawings	0	4	40	2	2	2	60	0	110	\$ 16,970	\$ 2,500	\$ 19,470
2.08	Energy Control Procedures	0	4	24	0	0	0	0	0	28	\$ 4,500	\$	\$ 4,500
2.09	Asset Management Spreadsheet (150 sheets)	0	4	40	0	0	0	0	0	44	\$ 6,930	\$	\$ 6,930
2.10	Miscellaneous Construction Support & Coordination	0	24	12	8	24	12	0	0	80	\$ 15,120	\$	\$ 15,120
	<b>Task Subtotal</b>	<b>0</b>	<b>184</b>	<b>372</b>	<b>102</b>	<b>138</b>	<b>114</b>	<b>104</b>	<b>8</b>	<b>1022</b>	<b>\$ 178,746</b>	<b>\$ 2,500</b>	<b>\$ 181,246</b>
	Hours Total	0	196	372	102	138	114	104	8	1034			
	Rate	\$ 229	\$ 195	\$ 155	\$ 191	\$ 198	\$ 195	\$ 147	\$ 111				
	<b>Project Subtotal</b>	<b>\$</b>	<b>\$ 38,220</b>	<b>\$ 57,660</b>	<b>\$ 19,890</b>	<b>\$ 26,910</b>	<b>\$ 22,230</b>	<b>\$ 15,288</b>	<b>\$ 888</b>		<b>\$181,086</b>	<b>\$2,500</b>	<b>\$183,586</b>

# EXHIBIT "C"

Bid Opening: Wednesday, September 14, 2016  
2:00 P.M.

Irvine Ranch Water District Bid Summary For  
IDF Sodium Hypochlorite Storage and Feed System  
PR 6213

Entered By: J.K. Irey

Item No.	Description	Qty	Unit	Engineer's Estimate		1 Pascal & Ludwig Constructors Ontario, CA		2 Gateway Pacific Contractors Sacramento, CA		3 Steve P. Rados, Inc, Santa Ana, CA		4 RC Foster Corp. Corona, CA		5 Stanek Constructors, Inc. Escondido, CA	
				Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
1	Mobilization/Demobilization	1	LS	\$73,418.71	\$73,418.71	\$50,000.00	\$50,000.00	\$55,000.00	\$55,000.00	\$60,000.00	\$60,000.00	\$65,000.00	\$65,000.00	\$50,000.00	\$50,000.00
2	Procurement and Installation of Chemical Storage Tanks	2	EA	\$334,080.02	\$668,160.04	\$87,000.00	\$174,000.00	\$50,000.00	\$100,000.00	\$50,000.00	\$100,000.00	\$62,500.00	\$125,000.00	\$100,000.00	\$200,000.00
3	Procurement and Installation of Surge Tank System	1	LS	\$626,926.23	\$626,926.23	\$265,000.00	\$265,000.00	\$300,000.00	\$300,000.00	\$400,000.00	\$400,000.00	\$210,000.00	\$210,000.00	\$270,000.00	\$270,000.00
4	Procurement and Installation of Chemical Metering Pumps through Pulsafeeder Firm Fixed-Price Proposal	1	LS	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20	\$61,451.20
5	Provide all Work as shown in the Contract Documents excluding Bid Items 1, 2, 3, 4, 6, 7, 8, and 9.	1	LS	\$942,334.15	\$942,334.15	\$1,238,000.00	\$1,238,000.00	\$1,401,499.00	\$1,401,499.00	\$1,419,000.00	\$1,419,000.00	\$1,998,000.00	\$1,998,000.00	\$1,970,548.80	\$1,970,548.80
6	Trench Safety Measures	1	LS	\$35,000.00	\$35,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$2,500.00	\$2,500.00	\$4,000.00	\$4,000.00	\$3,000.00	\$3,000.00
7	Startup Testing and Training	1	LS	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00
8	Operation & Maintenance Manuals	1	LS	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
9	Final Record Drawings	1	LS	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
	Subtotal				\$2,447,290.33		\$1,829,451.20		\$1,958,950.20		\$2,082,951.20		\$2,503,451.20		\$2,595,000.00
	Adjustment (+ or -)				\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
	<b>TOTAL AMOUNT OF BID</b>				<b>\$2,447,290.33</b>		<b>\$1,829,451.20</b>		<b>* \$1,958,950.20</b>		<b>\$2,082,951.20</b>		<b>\$2,503,451.20</b>		<b>\$2,595,000.00</b>
					<b>Manufacturers:</b>		<b>Manufacturers:</b>		<b>Manufacturers:</b>		<b>Manufacturers:</b>		<b>Manufacturers:</b>		<b>Manufacturers:</b>
*	Gateway Pacific Contractors rounded their Total Bid Amount Up to \$1,958,951.00 on their Bid					Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Edwards	Chemical Storage Tanks: Daniel Co.	Surge Tank: Pulsco	
						Surge Tank: Pressure Vessel Technology	Surge Tank: Pressure Vessel Technology	Surge Tank: Hanson Tanks	Surge Tank: Wagner Plateworks						
						<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>	<b>Subcontractors:</b>
						Penhall: Demo	MC Painting: Coating	Amber Steel: Rebar	AG Construction: Masonry	MC Painting: Painting	Penhall Co.: Demo	MC Painting: Painting	MC Painting: Painting	Penhall Co.: Demo	
						RR Lenard: Rebar	Hydrotech Electric: Electrical	Hydrotech Electric: Electrical	Hydrotech Electric: Electrical	Hydrotech Electric: Electrical	KVAC Environmental: Hazardous Material Disposal	Amber Steel: Rebar	Redhawk Fence: Fence	Southern Contracting Co.: Electrical	
						MC Painting: Paint					Precision Door: Doors				
						Precision Doors & Millwork: Doors					MC Painting: Painting				
						AG Construction: Masonry					Econo Fence: Fence & Gates				
											Hydrotech Electric: Electrical				