AGENDA
IRVINE RANCH WATER DISTRICT
ENGINEERING AND OPERATIONS COMMITTEE
TUESDAY, JULY 21, 2015

CALL TO ORDER 7:00 a.m., Operations Center, First Floor Committee Room
3512 Michelson, Irvine, California

ATTENDANCE Committee Chair: Douglas Reinhart _____
Committee Member: John Withers _____

Director Douglas Reinhart will participate telephonically. This agenda will be posted at 2530 Kearns Boulevard, Park City, Utah 84060. All votes shall be taken by roll call vote.

ALSO PRESENT

Paul Cook	____	Cheryl Clary	____	Harry Cho	____
Kevin Burton	____	Patrick Sheilds	____	Ian Swift	____
Mark Tettemer	____	Rich Mori	____	Scott Toland	____
Eric Akiyoshi	____	Randy Lee	____	Tom Roberts	____
Paul Weghorst	____	Mike Hoolihan	____	Bruce Newell	____
Kellie Welch	____	Ken Drake	____	Lars Oldewage	____
Kellie Lew	____	Ken Pfister	____	Beth Beeman	____
Steve Malloy	____	Tom Roberts	____	_____	____
Arseny Kalinsky	____	Malcolm Cortez	____	_____	____

COMMUNICATIONS

1. Notes: Burton
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted.
4. Determine which items may be approved without discussion.

ACTION

5. MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDER – STEWART/MALLOY/BURTON

   Recommendation: That the Board approve Contract Change Order No. 31 in the credit amount of <$20,837.12> for the installation of additional anchorage for the methane digesters, electrical and gas service lines modifications, acid phase piping modifications and canisters addition, pickle and passivating sludge mixers, and SCADA modifications along with credits for deletion of SCADA hardware and interior protective coating of the methane digesters, partnering costs, and other smaller items with Filanc/Balfour-Beatty for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, Project 21146 (4286).

ACTION - Continued

6. EASEMENT AGREEMENT WITH TUSTIN UNIFIED SCHOOL DISTRICT FOR TUSTIN LEGACY WELL SITE – MOEDER/THATCHER/MORI/ BURTON

   Recommendation: That the Board authorize a budget increase in the amount of $143,000, from $269,500 to $412,500, for Project 11881 (6215); approve an Expenditure Authorization in the amount $412,500 for Project 11881 (6215); and authorize the General Manager to execute the Agreement for Acquisition of Easement with Tustin Unified School District for the Tustin Legacy well site subject to completing the Domestic Water Source Assessment and Protection program with minimal water quality concerns.

7. EMBEDDED ENERGY PLAN CAPITAL BUDGET INCREASE – MCNULTY/BENNETT/SANCHEZ/WEGHORST

   Recommendation: That the Board authorize a budget increase to the FY 2015-16 Capital Budget in the amount of $42,175.50 for project 11792 (5343) and $42,175.50 for project 30499 (5344).

OTHER BUSINESS

8. A. Directors' Comments

   B. Adjourn

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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 above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee 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 Committee 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 Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance of the meeting room at the District's Operation's Committee Room at 3512 Michelson, Irvine, California. The Irvine Ranch Water District's Committee 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) 453-5312 during business hours at least seventy-two (72) hours prior to the scheduled meeting.

July 21, 2015
Prepared by: B. Stewart/S. Malloy
Submitted by: K. Burton
Approved by: Paul Cook

ENGINEERING AND OPERATIONS COMMITTEE

MICHELSON WATER RECYCLING PLANT
BIOSOLIDS AND ENERGY RECOVERY FACILITIES
CONTRACT CHANGE ORDER

SUMMARY:

Filanc/Balfour-Beatty (FBB) is constructing the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities (Biosolids Project). Contract Change Order (CCO) No. 31 includes several additions and credits. IRWD's procurement policy requires that a change order that has an absolute value greater than $100,000 be submitted for Board approval. CCO No. 31 has an absolute value of $1.36 million. It includes the installation of additional anchorage for the methane digesters, electrical and gas service lines modifications, acid phase piping modifications and canisters addition, pickle and passivating sludge mixers, and SCADA modifications along with credits for deletion of SCADA hardware and interior protective coating of the methane digesters, partnering costs, and other smaller items. Staff recommends that the Board approve CCO No. 31 in the credit amount of <$20,837.12> with FBB for the MWRP Biosolids Project.

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.

CCO No. 31:

Staff negotiated with FBB to resolve several items contained in CCO No. 31. The items are as follows:

Installation of Additional Anchorage for Methane Digesters: During submittal review of the anchorage requirements for the methane digesters, it was determined that additional anchorage is necessary to resist seismic forces. The original design required 24 anchor bolts for each methane digester. After review by the construction management team, the design engineer and the methane digester manufacturer, it was concluded that a total of 32 anchor bolts as well as 88 shear pins were necessary for each digester. A previous change order, CCO No. 21, was approved for the fabrication and material costs of the additional anchorage as provided by the

methane digester manufacturer. This item is for FBB to install the anchorage system. It also has a time impact on Milestones 4, 5, and 6 as reflected in the following Project Schedule section. The cost of this item is $118,335.54.

Electrical and Gas Modifications: Review comments from Southern California Edison (SCE) and Southern California Gas (SCG) were not received in time to be incorporated in to the construction bids documents. SCE and SCG have each submitted review comments to IRWD for implementation. This item is for an increased scope for the installation of these service lines. The SCE line extends from the Tree Hill parking lot into the Biosolids site. The SCG line will run from Michelson Drive into the project site. The costs include several new large conduits and high voltage electrical boxes. The cost of this item is $363,978.41.

Acid Phase Digester Piping Modifications and Addition of Carbon Canisters: Based on the experience of new MWRP Operations staff, the acid phase gas piping was modified to allow more flexibility in responding to foaming should it occur. Additionally, carbon canisters were added to scrub and minimize odors should off-gassing occur. The cost of this item is $88,076.01.

Pickling and Passivation of the Sludge Mixers: The two sludge holding tanks and three acid phase digesters each have stainless steel mixers. Because these five mixers will be exposed to a highly corrosive atmosphere, the mixers are constructed of stainless steel. However, the stainless steel must also be pickled and passivated to reduce corrosion. The pre-negotiated contract with the manufacturer did not include pickling and passivating the sludge mixers. This item is for the cost of pickling and passivating the five sludge mixers and is in the amount of $63,033.85.

SCADA Input/Output (I/O) Modifications: Modifications were required to resolve discrepancies in the master I/O list. These modifications included equipment in the solids handling facility, methane digesters, acid phase digesters, and decant trough. The cost of this item is $33,731.16.

Deletion of Interior Protective Coating of Methane Digesters: The lower portions of the three egg-shaped methane digesters are constructed with A36 carbon steel plates while the upper portion (about 10 feet) of the digesters are constructed with stainless steel plates. The original design included coating the interior of the A36 carbon steel plates with 15 mils of epoxy enamel.

During construction, staff reviewed the requirement to coat the interior of all three methane digesters. When the digesters are operating, all of the A36 carbon steel will be submerged in an anaerobic environment which is not conducive to corrosion. Furthermore, the carbon steel egg-shaped digesters installed in Mesa, Arizona, do not have an interior coating and have not experienced any internal corrosion. After consulting with the design engineer and the methane digester fabricator, staff concluded that the methane digesters would not require interior coating. This item is a credit of <$398,571> for the labor and material to perform the coating. The contractor is calculating the time saving for deleting this work task and it will be documented at a later date.

Deletion of Bid Item No. 18.4 – Computers and Networking Hardware for the Control System: The contract documents include a bid item allowance for SCADA computers and networking hardware. IRWD receives a significant discount from the computer hardware manufacturer (Dell), but the manufacturer would not provide the same discount to FBB. Therefore, staff decided to purchase the computers and hardware directly, saving IRWD approximately $40,000. The credit for this item is <$200,000>.

Credit for FBB's portion of Partnering: FBB agreed to split the cost of the project partnering with IRWD. The partnering services include quarterly staff partnering sessions, partnering sessions for the project executives, and monthly surveys. CCO No. 31 includes the cost through December 2016. This credit for this item is <$81,948.33>.

Credit for Other Items: Several smaller credit items included in CCO No. 31 are for 1) changing a storm drain line from ductile iron to PVC; 2) deletion of waterstops at the methane digester complex; 3) changing the heat dryer wet material mixer from a high strength A24 steel to A36 steel; and 4) the travel cost of the on-site inspection for the five sludge mixers. The Contract Documents required the Contractor to pay for the travel cost. The design engineer performed the inspection and invoiced IRWD. The total credit for these items is <$7,472.76>.

Staff recommends the Board approve CCO No. 31 in the credit amount of <$20,837.12> which is attached as Exhibit "A". The Construction Change Order Summary is attached as Exhibit "B".

Project Schedule:

CCO No. 31 includes a time extension of 17 calendar days for Milestones 1 through 7 due to weather-related delays. This weather-related extension is through June 30, 2015. Additionally, Milestones 4, 5, and 6 were extended due to the installation of the additional anchorage for the methane digesters. Milestone 4 was extended by 59 calendar days, Milestone 5 was extended by 56 calendar days, and Milestone 6 was extended by 12 calendar days. At this time, the final completion date of October 28, 2016 is unchanged.

No.	Milestone Description	Current Milestone Date	Additional days	Revised Milestone Date
	Notice of Award	4/29/2013	-	-
	Notice to Proceed	6/3/2013	-	-
1	WAS and Primary Sludge Processing	12/27/2015	17	1/13/2016
2	Sludge Thickening Facilities	2/12/2016	17	2/29/2016
3	FOG Receiving Station	3/12/2016	17	3/29/2016
4	Anaerobic Digestion Facilities	1/20/2016	76	4/05/2016
5	All Class B Biosolids Facilities	3/2/2016	73	5/14/2016
6	Microturbine Power Generation	6/30/2016	29	7/29/2016
7	Class A Biosolids Facilities	8/29/2016	17	9/15/2016
Final	All other work	10/28/2016	-	-

FISCAL IMPACTS:

The MWRP Biosolids and Energy Recovery Facilities Project 21146 (4286) is included in the FY 2015-16 Capital Budget. The existing budget is sufficient to fund CCO No. 31.

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 (SEIR), SCH # 2011031091, was certified by IRWD at its October 22, 2012 meeting. The City of Irvine Planning Commission approved a conditional use permit for the IRWD Biosolids Project at its December 6, 2012 meeting.

RECOMMENDATION:

That the Board approve Contract Change Order No. 31 in the credit amount of <$20,837.12> for the installation of additional anchorage for the methane digesters, electrical and gas service lines modifications, acid phase piping modifications and canisters addition, pickle and passivating sludge mixers, and SCADA modifications along with credits for deletion of SCADA hardware and interior protective coating of the methane digesters, partnering costs, and other smaller items with Filanc/Balfour-Beatty for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, Project 21146 (4286).

LIST OF EXHIBITS:

Exhibit "A" – Contract Change Order No. 31 with FBB
Exhibit "B" – Construction Change Order Summary

CO[illegible] EXHIBIT "A" DER

IRVINE RANCH WATER DISTRICT
15600 Sand Canyon Avenue
Irvine, California 92618
(949) 453-5300
MWRP Biosolids and Energy Recovery Facilities
Project Title

C.O. No. 31
☐ Final

Project No. 21146 (4286)

Date: July 13, 2015

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	$ ADDITIONS	$ DELETIONS	DAYS ±
1. Credit for Changing Storm Drain Line from Ductile Iron to PVC (CR-042) PR 21146 (4286) Task 3520	$0.00	$1,890.92	0
2. Installation of Additional Digester Anchorage (CR-051B) PR 21146 (4286) Task 3505	$118,335.54	$0.00	0
3. Huber Screens I/O Modifications per RFI-0391 and RFI-0525A (CR-068) PR 21146 (4286) Task 3510	$12,579.20	$0.00	0
4. Credit for FBB's Portion of Partnering (CR-090) PR 21146 (4286) Task	$0.00	$81,948.33	0
5. Deletion of Waterstops at Methane Digester Complex (CR-102) PR 21146 (4286) Task 3505	$0.00	$2,505.79	0
6. Deletion of Bid Item No. 18.4 – Computers and Networking Hardware for the Control System (CR-138) PR 21146 (4286) Task 3510	$0.00	$200,000.00	0
7. Electrical and Gas Modifications (CR-146) PR 21146 (4286) Task 3510	$363,978.41	$0.00	0
8. Credit for Changing Heat Dryer Wet Material Mixer from A24 Steel to A36 Steel (CR-157) PR 21146 (4286) Task 3520	$0.00	$2,392.66	0
9. Credit for Travel Cost of On-Site Inspection for Acid Phase Digester (CR-175) PR 21146 (4286) Task 3520	$0.00	$683.39	0
10. Heat Dryer I/O Modifications per RFI-0626 (CR-179) PR 21146 (4286) Task 3510	$11,191.41	$0.00	0
11. Decant Trough I/O Modifications per RFI-0979 (CR-202) PR 21146 (4286) Task 3510	$9,960.55	$0.00	0
12. Deletion of Interior Coating of Methane Digesters (CR-188) PR 21146 (4286) Task 3520	$0.00	$398,571.00	0
13. Piping Modifications and Addition of Carbon Canisters (CR-218) PR 21146 (4286) Task 3520	$88,076.01	$0.00	0
14. Pickling and Passivation of Sludge Mixers (CR-248) PR 21146 (4286) Task 3520	$63,033.85	$0.00	0
No extended office or field office overhead charges will result due to this change order.			
Notes: 1. Milestones 1, 2, 3 and 7 are extended by 17 calendar days for weather-related delays. Milestone 1 is extended to January 13, 2016. Milestone 2 is extended to February 29, 2016. Milestone 3 is extended to March 29, 2016. Milestone 7 is extended to September 15, 2016. 2. As a result of CR-051B and 17 calendar days for weather-related delays, Milestone 4 is extended by 59 calendar days to April 5, 2016; Milestone 5 is extended by 56 calendar days to May 14, 2016; and Milestone 6 is extended by 12 calendar days to July 29, 2016. 3. The project completion date of October 28, 2016 is unchanged by this Change Order.			
TOTAL	$667,154.97	$687,992.09	0

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 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 Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

			DAYS ±
1. NET AMOUNT THIS CHANGE ORDER	=	($20,837.12)	0
2. ORIGINAL CONTRACT AMOUNT	=	$163,465,940.00	1,278
3. TOTAL PREVIOUS CHANGE ORDERS	=	$3,373,124.40	0
4. TOTAL BEFORE THIS CHANGE ORDER (2+ 3)	=	$166,839,064.40	1,278
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	=	$166,818,227.28	1,278

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

----------A CREDIT AMOUNT OF Twenty Thousand Eight Hundred Thirty-Seven and 12/100----------Dollars

Date	Filanc/Balfour Beatty, JV Contractor	By: Harry Cosmos, President

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED	
IRWD Engineer or Consulting Engineer	7/15/15 Date	Department Director Approval Required	
		Executive Department Director Approval Required	
Principal Engineer – MWRP Construction	7-15-15 Date	General Manager Approval Required	
		Board Approval Required	X
Executive Director of Engineering and Water Quality	Date	By	Date
General Manager	Date	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 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 Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order

EXHIBIT "B"

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

					Contract Amount						Contract Days				Original Completion Date:
										Original Contract Amount: $163,465,940.00				Original Days: 1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum Total C.O. days	Revised Total Contract Days	Revised Completion Date
1		Approved by Exe. Director of Engineering and Water Quality Approved on October 24, 2013				$20,202.42	$0.00	$20,202.42	0.01%	$163,486,142.42	0	0	0	1,278	10/28/2016
	1.1	Modifications to Road to Development Area - Delete AC to Triangle, add AB to Michelson (CR-004)	A	IRWD	$ 20,202.42						0				
2		Approved by Exe. Director of Engineering and Water Quality Approved on November 13, 2013				$12,475.08	$20,202.42	$32,677.50	0.02%	$163,498,617.50	0	0	0	1,278	10/28/2016
	2.1	Street Light Conduit Modifications (CR-007)	B	IRWD	$ 12,475.08						0				
3		Approved by Board of Directors Approved on March 10, 2014				$745,503.00	$32,677.50	$778,180.50	0.48%	$164,244,120.50	0	0	0	1,278	10/28/2016
	3.1	Bid Quantity Adjustment of Bid Item 8.6 Pre-Drill	B	FBB	$ 745,503.00						0				
4		Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014				$23,029.22	$778,180.50	$801,209.72	0.49%	$164,267,149.72	0	0	0	1,278	10/28/2016
	4.1	Installation of Five Additional Groundwater Wells and Monitoring – (CR-006) PR 21146 (4286) Task 3505	A	IRWD	$11,047.81						0				
	4.2	Brace Bay Modifications at the FOG Station – (CR-015) PR 21146 (4286) Task 3505	C	FBB	$2,977.81						0				
	4.3	Grounding Extension at Nitrogen and Mineral Oil System (CR-025) PR 21146 (4286) Task 3510	C	IRWD	$9,003.60						0				
5		Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014				$24,851.73	$801,209.72	$826,061.45	0.51%	$164,292,001.45	0	0	0	1,278	10/28/2016
	5.1	Unidentified Utility - Meter Shop Discharge (CR-008) PR 21146 (4286) Task 3505	B	IRWD	$15,225.75						0				
	5.2	Connection Beam Modifications at Solids Handling Facility (CR-014) PR 21146 (4286) Task 3235	C	FBB	$8,270.86						0				
	5.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505	C	FBB	$1,355.12						0				
6		Approved by General Manager Approved on March 20, 2014				$31,815.00	$826,061.45	$857,876.45	0.52%	$164,323,816.45	0	0	0	1,278	10/28/2016
	6.1	Additional Costs to Install Piles to the Design Tip (CR-033) PR 21146 (4286) Task 3505	B	FBB	$31,815.00						0				
7		Approved by Exe Dir of Eng & Water Quality Approved on April 21, 2014				$24,725.00	$857,876.45	$882,601.45	0.54%	$164,348,541.45	0	0	0	1,278	10/28/2016
	7.1	Meter Shop Discharge Pipe Leak Investigation and Repair (CR-013) PR 21146 (4286) Task 3505	B	IRWD	$2,542.00						0				
	7.2	Additional Reinforcement and Lifting Eyes for Removable Slabs at Solids Handling Building (CR-021) PR 21146 (4286) Task 3505	C	FBB	$14,059.00						0				
	7.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505Additional Conductance Probe Materials for Relay Level Switches for Various Sumps Located at the Microturbine Area PR 21146 (4286) Task 3510	C	FBB	$8,124.00						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

					Contract Amount						Contract Days				Original Completion Date: 10/28/2016
									Original Contract Amount:	$163,465,940.00			Original Days:	1,278	
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum Total C O days	Revised Total Contract Days	Revised Completion Date
8		Approved by General Manager Approved on April 21, 2014				($49,990 00)	$882,601 45	$832,611 45	0 51%	$164,298,551 45	0	0	0	1,278	10/28/2016
	8 1	Cost Sharing for Project Partnering	A	IRWD	($14,611 00)						0				
	8.2	Credit for Primavera 7.0 Project Portfolio Management Software (CR-002) PR 21146 (4286) Task 3235	A	IRWD	($2,700 00)						0				
	8.3	Deletion of Concrete Pad near Development Area (CR-004A) PR 21146 (4286) Task 3235	A	IRWD	($3,865 00)						0				
	8.4	Deletion of Ground Test Device (CR-034) PR 21146 (4286) Task 3210	A	IRWD	($15,579 00)						0				
	8.5	Deletion of Existing T-4 Switchgear Level Indicating Switch (CR-035) PR 21146 (4286) Task 3210	A	IRWD	($9,167 00)						0				
	8.6	Change to NEMA 4X Panels and Modification to NEMA 4X Bar Graph Display (CR-046) PR 21146 (4286) Task 3210	A	IRWD	($4,068 00)						0				
9		Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				$24,840 17	$832,611 45	$857,451 62	0 52%	$164,323,391 62	0	0	0	1,278	10/28/2016
	9 1	Additional Circuits for Gas Monitors and Re-route of Conduits in Solids Handling Facility (CR-028) PR 21146 (4286) Task 3510	C	FBB	$1,187 49						0				
	9.2	Cantilevered Beam Support Modifications in the Solids Handling Facility (CR-049) PR 21146 (4286) Task 3505	C	FBB	$4,605 30						0				
	9.3	Additional Ethernet Switches (CR-062) PR 21146 (4286) Task 3510	C	IRWD	$19,047 38						0				
10		Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				$21,398 99	$857,451 62	$878,850 61	0 54%	$164,344,790 61	0	0	0	1,278	10/28/2016
	10 1	Additional Grace Ports for Various PLCs (CR-030) PR 21146 (4286) Task 3510	C	IRWD	$8,580 62						0				
	10.2	Provide H-20 Rated Hatches at WAS Pump Station and Valve Vault (CR-061) PR 21146 (4286) Task 3505	C	IRWD	$12,818 37						0				
11		Approved by Exe. Director of Eng. & Water Quality Approved on June 4, 2014				$24,739 76	$878,850 61	$903,590 37	0 55%	$164,369,530 37	#REF!	0	#REF!	#REF!	10/28/2016
	11 1	Waste Activated Sludge (WAS) Pump Station Structural Modifications (CR-023) PR 21146 (4286) Task 3505	C	IRWD	$12,905 49						0				
	11.2	Removable Slab Modifications on the Second Floor of Solids Handling Building (CR-064) PR 21146 (4286) Task 3505	C	IRWD	$11,834 27						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

					Contract Amount						Contract Days				Original Completion Date:
									Original Contract Amount:	$163,465,940.00			Original Days:	1,278	10/28/2016
Change Order		Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
12		Approved by Board of Directors Approved on July 21, 2014				$156,580.22	$903,590.37	$1,060,170.59	0.65%	$164,526,110.59	0	0	0	1,278	10/28/2016
	12.1	Final Bid Quantity Adjustment for Bid Item No. 5.2 – Undocumented Fill (suitable) – Remedial Grading – Remove and Re-compact a net increase of 8,104.7 CY from 51,700 CY to 59,804.7 CY at $5/CY. PR 21146 (4286) Task 3505	B	N/A	$40,523.37						0				
	12.2	Final Bid Quantity Adjustment for Bid Item No. 5.5 - Undocumented Fill (not suitable) - Remedial Grading - Remove and Export Offsite, a net increase of 60 CY, from 1,800 CY to 1,860 CY at $25 /CY. PR 21146 (4286) Task 3505	B	N/A	$1,500.00						0				
	12.3	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at $0.40/SF. PR 21146 (4286) Task 3505	B	N/A	($2,165.60)						0				
	12.4	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at $0.40/SF. PR 21146 (4286) Task 3505	B	N/A	($6,523.33)						0				
	12.5	Final Bid Quantity Adjustment for Bid Item No. 5.8 - Undocumented Fill - Deep Foundations – Removal, a net increase of 966 CY, from 21,650 CY to 22,616 CY at $5.50/CY. PR 21146 (4286) Task 3505	B	N/A	$5,313.00						0				
	12.6	Final Bid Quantity Adjustment for Bid Item No. 5.9 - Alluvium - Remedial Grading - Removal and Export Offsite, a net increase of 2,076 CY, from 28,154 CY to 30,230 CY at $35/CY. PR 21146 (4286) Task	B	N/A	$72,665.98						0				
	12.7	Final Bid Quantity Adjustment for Bid Item No. 5.10 - Undocumented Fill Deep Foundations - Compaction of stockpiled materials, a net increase of 3,117 CY, from 11,400 CY to 14,517 CY at $15/CY. PR 21146 (4286) Task 3505	B	N/A	$46,755.00						0				
	12.8	Final Bid Quantity Adjustment for Bid Item No. 5.11 - Undocumented Fill - Deep Foundations - Export excess offsite a net decrease of 2,151 CY, from 10,250 CY to 8,099 CY PR 21146 (4286) Task 3505	B	N/A	($30,114.00)						0				
	12.9	Final Bid Quantity Adjustment for Bid Item No. 5.12 - Geotextile Fabric - Deep Foundations, a net increase of 9,218 SF, from 51,500 SF to 60,718 SF at $0.60/SF. PR 21146 (4286) Task 3505	B	N/A	$5,530.80						0				
	12.10	Final Bid Quantity Adjustment for Bid Item No. 5.13 - Aggregate Base - Deep Foundations, a net increase of 513.2 CY, from 2,860 CY to 3,373.2CY at $45/CY. PR 21146 (4286) Task 3505	B	N/A	$23,095.00						0				
13		Approved by Exe. Director of Engineering & Water Quality Approved on July 10, 2014				$10,129.18	$1,060,170.59	$1,070,299.77	0.65%	$164,536,239.77	0	0	0	1,278	10/28/2016
	13.1	Modifications to Switchgear 16 (CR-070) PR 21146 (4286) Task 3510	A	FBB	$10,129.18						0				
14		Approved by General Manager Approved on June 24, 2014				$44,543.19	$1,070,299.77	$1,114,842.96	0.68%	$164,580,782.96	0	0	0	1,278	10/28/2016
	14.1	Slide Gates Clarification Regarding Actuators (CR-039) PR 21146 (4286) Task 3520	A	IRWD	$44,543.19						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

Change Order		Description	Category	IRWD or FBB	Contract Amount: Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days: Change Order Days	Previous Change Orders	Cum Total C.O. days	Revised Total Contract Days	Original Completion Date: Revised Completion Date
					Original Contract Amount: $163,465,940.00						Original Days: 1,278				10/28/2016
15		Approved by General Manager Approval on July 31, 2014				$45,214.40	$1,114,842.96	$1,160,057.36	0.71%	$164,625,997.36	0	0	0	1,278	10/28/2016
	15.1	Provide Masonry Shelf Angle at Digester Control Building (CR-031) PR 21146 (4286) Task 3505	C	FBB	$27,543.19						0				
	15.2	Beam Size Increase for Monorail Runway in Solids Handling Building - (CR-074) PR 21146 (4286) Task 3505	C	FBB	$1,200.47						0				
	15.3	Upsize Odor Control Circulation Pump Motor Disconnects (CR-082) PR 21146 (4286) Task 3510	B	FBB	$1,184.83						0				
	15.4	Additional Deck Support for the Solids Handling Building Roof (CR-044) PR 21146 (4286) Task 3505	C	FBB	$15,285.91						0				
16		Approved by E&O Committee Approved on August 19, 2014				$62,037.10	$1,160,057.36	$1,222,094.46	0.75%	$164,688,034.46	0	0	0	1,278	10/28/2016
	16.1	Installation of Level 3 Diesel Particulate Filter (DPF) on the Standby Generator - (CR-073) PR 21146 (4286) Task 3520	B	IRWD	$62,037.10						0				
17		Approved by Board of Directors Approved on August 25, 2014				($106,241.99)	$1,222,094.46	$1,115,852.47	0.68%	$164,581,792.47	0	0	0	1,278	10/28/2016
	17.1	Modifications to Switchgear 16 (CR-070A) PR 21146 (4286) Task 3510	A	FBB	($106,241.99)						0				
18		Approved by Board of Directors Approved on August 25, 2014				$108,087.55	$1,115,852.47	$1,223,940.02	0.75%	$164,689,880.02	0	0	0	1,278	10/28/2016
	18.1	Stormwater Drainage System Modification (CR-017) PR 21146 (4286)	A	IRWD	$108,087.55						0				
19		Approved by Executive Director of Engineering & Water Quality Approved on September 30, 2014				$72,572.86	$1,223,940.02	$1,296,512.88	0.79%	$164,762,452.88	0	0	0	1,278	10/28/2016
	19.1	Modification to Switchgear 16 (CR-070B) PR 21146 (4286) Task 3510	A	IRWD	$1,125.75						0				
	19.2	Alluvium Removal Due to 36-inch Storm Drain Installation (CR-085) PR 21146 (4286) Task 3520	B	N/A	$14,140.00						0				
	19.3	Additional Structural Support for Fats, Oils, and Grease (FOG) Grinders (CR-081) PR 21146 (4286) Task 3505	C	FBB	$8,323.99						0				
	19.4	Portable Lift Truck for 480V ABB Breakers (CR-108) PR 21146 (4286) Task 3510	A	IRWD	$2,625.12						0				
	19.5	Retaining Wall North and West of Biosolids Site (CR-010) PR 21146 (4286) Task 3505	B	IRWD	$46,358.00						0				
20		Approved by Executive Director of Engineering & Water Quality Approved on November 19, 2014				$54,485.63	$1,296,512.88	$1,350,998.51	0.83%	$164,816,938.51	0	0	0	1,278	10/28/2016
	20.1	Nitrogen Slab Modifications (CR-052) PR 21146 (4286) Task 3505	A	IRWD	$24,855.80						0				
	20.2	Additional Conduits and Circuits for the Access Control Systems for the Solids Handling Building and the Digester Control Building (CR-082) PR	A	IRWD	$3,412.13						0				
	20.3	Digital Power Meters Change for SWGR-14 and SWGR-15 (CR-109) PR 21146 (4286) Task 3510	A	IRWD	$3,863.22						0				
	20.4	Truck Unloading Panel Modifications (CR-115) PR 21146 (4286) Task 3510	A	IRWD	$12,843.50						0				
	20.5	Switchgear SWGR-14 Modifications (CR-116) PR 21146 (4286) Task 3510	A	IRWD	$9,510.98						0				
21		Approved by General Manager Approved on January 30, 2015				$ 98,506.19	$1,350,998.51	$1,449,504.70	0.89%	$164,915,444.70	0	0	0	1,278	10/28/2016
	21.1	Additional Anchorage for Methane Digesters (CR-051A) PR 21146 (4286) Task 3520	B	FBB	$92,367.44						0				
	21.2	Additional Input/Outputs Review of Master I/O List (CR-136) PR 21146 (4286) Task 3510	C	FBB	$6,138.75						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

Change Order		Description	Category	IRWD or FBB	Contract Amount: Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days: Change Order Days	Previous Change Orders	Cum Total C O days	Revised Total Contract Days	Original Completion Date: / Revised Completion Date
					Original Contract Amount	$163,465,940.00					Original Days:			1,278	10/28/2016
22		Approved by Board of Directors Approved on February 9, 2015				$964,324.51	$1,449,504.70	$2,413,829.21	1.48%	$165,879,769.21	0	0	0	1,278	10/28/2016
	22.1	Electrical Conduit Overfill (CR-055) PR 21146 (4286) Task 3510	C	FBB	$485,250.28						0				
	22.2	Heat Dryer Equipment Escalation Costs (CR-057) PR 21146 (4286) Task 3520	B	FBB	$333,477.50						0				
	22.3	Glass-lining Sludge Density Meters (CR-067) PR 21146 (4286) Task 3510	A	IRWD	$71,010.74						0				
	22.4	Switchgear-16 Enclosure (CR-040) PR 21146 (4286) Task 3510	C	FBB	$56,882.30						0				
	22.5	Propane Gas Tank Foundation Demolition (CR-084) PR 21146 (4286) Task 3505	C	IRWD	$2,004.98						0				
	22.6	Credit for travel costs related to inspection of centrifuges in Germany (CR-091) PR 21146 (4286) Task 3520	A	IRWD	($5,573.42)						0				
	22.7	Deletion of MMC Switchgear-14 Breaker (CR-092) PR 21146 (4286) Task 3510	A	IRWD	($5,032.00)						0				
	22.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	C	IRWD	$23,269.61						0				
	22.9	Overtime to perform work in the Solids Handling electrical room (CR-103) PR 21146 (4286) Task 3510	A	IRWD	$1,384.47						0				
	22.10	Credit for modification to the Uninterruptible Power System (CR-118) PR 21146 (4286) Task 3510	A	IRWD	($9,771.72)						0				
	22.11	Addition of Low Voltage Compartment in SCE Switch "C" (CR-160) PR 21146 (4286) Task 3510	A	IRWD	$2,156.20						0				
	22.12	Addition of input/output points relating to sump pumps located at the Solids Handling Building (CR-161) PR 21146 (4286) Task 3510	A	FBB	$9,265.57						0				
23		Approved by General Manager Approved on February 26, 2015				$97,005.10	$2,413,829.21	$2,510,834.31	1.54%	$165,976,774.31	0	0	0	1,278	10/28/2016
	23.1	Additional Steel Reinforcement the Pellet Storage Silos Anchor Bolts (CR-094) PR 21146 (4286) Task 3505	B	FBB	$5,514.57						0				
	23.2	Differential Pressure Transmitter (CR-094) PR 21146 (4286) Task 3510	A	IRWD	$2,535.33						0				
	23.3	Additional Aluminum Trench Grating in Digester Control Building (CR-107) PR 21146 (4286) Task 3520	A	IRWD	$7,552.11						0				
	23.4	Light Weight Concrete for Electrical Conduits Underneath the Solids Handling Building Electrical Room (CR-113) PR 21146 (4286) Task	A	IRWD	$30,535.94						0				
	23.5	Adding Energyjets Weir Plates to Dewatering Centrifuges – (CR-124) PR 21146 (4286) Task 3520	A	IRWD	$11,139.25						0				
	23.6	Provide Angle Supports for the Removable Slabs at the Solids Handling Building – (CR-137) PR 21146 (4286) Task 3520	A	IRWD	$20,671.61						0				
	23.7	Structural Modification at Solids Handling Building – (CR-140) PR 21146 (4286) Task 3520	C	FBB	$1,109.42						0				
	23.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task	A	IRWD	$5,516.45						0				
	23.9	Steel Joist Framing Modifications at Digester Control Building – (CR-151) PR 21146 (4286) Task 3505	C	FBB	$2,286.29						0				
	23.10	WAS Valve Vault and Piping Modifications (CR-100) PR 21146 (4286) Task 3520	A	IRWD	$10,144.13						0				
24		Approved by General Manager Approved on March 6, 2015				$99,122.95	$2,510,834.31	$2,609,957.26	1.60%	$166,075,897.26	0	0	0	1,278	10/28/2016
	24.1	Coating of WAS/Primary Sludge Pump Stations & Sludge Wetwells per RFI-0612A (CR-127) PR 21146 (4286) Task 3505	A	FBB	$99,122.95						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

Change Order		Description	Category	IRWD or FBB	Contract Amount: Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days: Change Order Days	Previous Change Orders	Cum Total C.O. days	Revised Total Contract Days	Original Completion Date: / Revised Completion Date
					Original Contract Amount: $163,465,940.00						Original Days: 1,278				10/28/2016
25		Approved by Board of Directors Approved on March 23, 2015				$280,575.97	$2,609,957.26	$2,890,533.23	1.77%	$166,356,473.23	0	0	0	1,278	10/28/2016
	25.1	Lightning Protection for the Methane Digesters (CR-121) PR 21146 (4286) Task 3505	C	FBB	$158,259.68						0				
	25.2	Deflagration Quench Tubes outside of the Dryer Room (CR-143) PR 21146 (4286) Task 3505	B	FBB	$122,316.29						0				
26		Approved by Exe. Dir. Of Engineering & Water Quality Approved on April 14, 2015				$74,815.79	$2,890,533.23	$2,965,349.02	1.81%	$166,431,289.02	0	0	0	1,278	10/28/2016
	26.1	UPS and Power Fail Alarms per RFI 357 (CR-056) PR 21146 (4286) Task	C	FBB	$3,646.82						0				
	26.2	I/O Points for Methane Digester Sump Pumps per RFI-356 (CR-077) PR 21146 (4286) Task 3510	C	FBB	$6,489.00						0				
	26.3	Loss of Power Alarms to the SCADA Network per RFI-0393B (CR-093)	A	FBB	$20,297.16						0				
	26.4	FOG Flushing and Rock Trap Modifications per RFI-0534 (CR-101) PR	A	IRWD	$18,093.61						0				
	26.5	Install Grounding Pig Tails in Solids Handling Building Area Electrical Room per RFI 0594 (CR-105) PR 21146 (4286) Task 3510	A	IRWD	$1,593.10						0				
	26.6	Additional Pushbuttons, Light and Relays for the FOG Receiving Control Panel (CR-114) PR 21146 (4286) Task 3510	A	IRWD	$6,892.40						0				
	26.7	Changes to the HMI Enclosures at the Sludge Receiving Area (CR-133) PR 21146 (4286) Task 3510	A	IRWD	$7,114.17						0				
	26.8	Provide Storage Shelf for Keyboard and Mouse to the HMI Enclosures at the Sludge Receiving Area (CR-135) PR 21146 (4286) Task 3510	A	IRWD	$1,163.26						0				
	26.9	Dewatering Feed Pump Station Guardrail Additions (CR-142) PR 21146 (4286) Task 3520	C	FBB	$4,204.00						0				
	26.10	Additional I/O Points for PLC-4300 (CR-156) PR 21146 (4286) Task 3510	C	FBB	$3,035.28						0				
	26.11	Shoring Revision to Roof Slab of Dewatering Feed Pump Station (CR-189) PR 21146 (4286) Task 3510	B	FBB	$1,286.99						0				
	26.12	Coating of the Sludge Receiving Bins (CR-199) PR 21146 (4286) Task 3520	A	FBB	$1,000.00						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

Change Order		Description	Category	IRWD or FBB	Contract Amount: Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days: Change Order Days	Previous Change Orders	Cum Total C O days	Revised Total Contract Days	Original Completion Date: / Revised Completion Date
					Original Contract Amount $163,465,940.00						Original Days: 1,278				10/28/2016
27		Approved by Board of Directors Approved on April 27, 2015				$107,253.26	$2,965,349.02	$3,072,602.28	1.88%	$166,538,542.28	0	0	0	1,278	10/28/2016
	27.1	Modifications to Human-Machine Interface (HMI) for the Microturbine Area (CR-078) PR 21146 (4286) Task 3510	A	IRWD	$29,744.43						0				
	27.2	Modifications to the Piping and Automation Features at Fats, Oils, and Grease (FOG) Facility (CR-129) PR 21146 (4286) Task 3510	A	IRWD	$35,771.81						0				
	27.3	Structural Support to the Monorail at the Dewatering Feed Pump Station (CR-152) PR 21146 (4286) Task 3505	C	FBB	$13,697.51						0				
	27.4	Two Additional Magnetic Flowmeters at Polymer Feed System (CR-158) PR 21146 (4286) Task 3510	A	IRWD	$9,522.81						0				
	27.5	Modifications to PLCs at Sludge Receiving Area (CR-180) PR 21146 (4286) Task 3510	A	IRWD	$18,516.70						0				
28		Approved by Exe. Dir. Of Eng. & Water Quality Approved on May 15, 2015				$74,550.35	$3,072,602.28	$3,147,152.63	1.93%	$166,613,092.63	0	0	0	1,278	10/28/2016
	28.1	Decanter Control Panel Modifications (CR-215) Task 3520	C	FBB	$22,451.01						0				
	28.2	Additional Structural Support in the Solids Handling Building (CR-075) Task 3505	C	FBB	$12,028.44						0				
	28.3	Additional Sump Pump Drain Line in the Bulk Polymer Storage Area (CR-119) Task 3520	C	FBB	$1,433.86						0				
	28.4	Install Three 5-inch conduits on Southwest Side of the Biosolids Site (CR-120) Task 3510	C	FBB	$16,033.58						0				
	28.5	Provide Power to Several Instruments Located at the Solids Handling Building and Digester Control Building (CR-154) Task 3520	C	FBB	$3,454.91						0				
	28.6	Install Foam Separator Drain at Digester Control Building (CR-167) Task 3520	C	FBB	$11,013.75						0				
	28.7	Install Support for 14-inch Plug Valve at Centrate Treatment Wetwell (CR 197) Task 3520	C	FBB	$1,715.20						0				
	28.8	Trench Modifications at the Sludge Cake Load-Out Area of the Solids Handling Building (CR-123) Task 3505	C	FBB	$6,419.60						0				
29		Approved by Board of Directors Approved on June 22, 2015				$225,971.77	$3,147,152.63	$3,373,124.40	2.06%	$166,839,064.40	0	0	0	1,278	10/28/2016
	29.1	Foul Air Pipe Supports in the Solids Handling Building Basement (CR-106) PR 21146 (4286) Task 3520	C	FBB	$119,937.87						0				
	29.2	Secondary Circuit Breaker for Transformer T-14 (CR-185) PR 21146 (4286)) Task 3510	A	IRWD	$106,033.90						0				
30		Approved by Exe. Dir. Of Eng. & Water Quality Approved on July 20, 2015				$57,970.70	$3,373,124.40	$3,431,095.10	2.10%	$166,897,035.10	0	0	0	1,278	10/28/2016
	30.1	Provide Circuit and Breaker for Standby Generator in the Microturbine	C	FBB	$4,296.86						0				
	30.2	Additional Truck Load-out Conveyor Input and Output (CR-201) PR 21146 (4286) Task 3510	A	FBB	$2,220.12						0				
	30.3	Additional Pipe Support for 14-inch Air Line at the Centrate Facility (CR-226) PR 21146 (4286) Task 3520	C	FBB	$893.78						0				
	30.4	Addition of Sample Pump Variable Frequency Drives for the Thickening Centrifuges (CR-237) PR 21146 (4286) Task 3520	A	FBB	$38,667.55						0				
	30.5	Structural Support of Jib Crane at Dewatering Feed Pump Station Stairwell (CR-243) PR 21146 (4286) Task 3520	C	FBB	$11,892.39						0				

MWRP Biosolids and Energy Recovery Facilities
PR 21146 (4286)
Construction Change Order Summary

Contractor: Filanc/Balfour-Beatty
Design Engine Black & Veatch

Change Order		Description	Category	IRWD or FBB	Contract Amount: Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days: Change Order Days	Previous Change Orders	Cum Total C O days	Revised Total Contract Days	Original Completion Date: Revised Completion Date
					Original Contract Amount: $163,465,940.00						Original Days: 1,278				10/28/2016
31		Pending approval from Board of Directors Pending approval on July 27, 2015				($20,837.12)	$3,431,095.10	$3,410,257.98	2.09%	$166,876,197.98	0	0	0	1,278	10/28/2016
	31.1	Credit for Changing Storm Drain line from Ductile Iron to PVC (CR-042) PR 21146 (4286) Task 3520	A	IRWD	($1,890.92)						0				
	31.2	Installation of Additional Digester Anchorage (CR-051B) PR21146 (4286) Task 3505	B	FBB	$118,335.54						0				
	31.3	Huber Screens I/O Modifications per RFI-0391 and RFI-0525A (CR-068) PR 21146 (4286) Task 3510	A	IRWD	$12,579.20						0				
	31.4	Credit for FBB's Portion of Partnering (CR-090) PR 21146 (4286) Task	E	FBB	($81,948.33)						0				
	31.5	Deletion of Waterstops at Methane Digester Complex (CR-102) PR 21146 (4286) Task 3505	A	IRWD	($2,505.79)										
	31.6	Deletion of Bid Item No 18 4 - Computers and Networking Hardware for the Control System (CR-138) PR 21146 (4286) Task 3510	A	IRWD	($200,000.00)						0				
	31.7	Electrical and Gas Modifications (CR-146) PR 21146 (4286) Task 3510	C	IRWD	$363,978.41						0				
	31.8	Credit for Changing Heat Dryer Wet Material Mixer from A24 Steel to A36 Steel (CR-157) PR 21146 (4286) Task 3520	E	FBB	($2,392.66)						0				
	31.9	Credit for Travel Cost of On-Site Inspection for Acid Phase Digester (CR-175) PR 21146 (4286) Task 3520	B	IRWD	($683.39)						0				
	31.10	Heat Dryer I/O Modifications per RFI-0626 (CR-179) PR 21146 (4286) Task 3510	A	IRWD	$11,191.41						0				
	31.11	Decant Trough I/O Modifications per RFI-0979 (CR-202) PR 21146 (4286) Task 3510	A	IRWD	$9,960.55						0				
	31.12	Deletion of Interior Coating of Methane Digesters (CR-188) PR 21146 (4286) Task 3520	A	IRWD	($398,571.00)						0				
	31.13	Piping Modifications and Addition of Carbon Canisters (CR-218) PR 21146 (4286) Task 3520	A	IRWD	$88,076.01						0				
	31.14	Pickling and Passivation of Sludge Mixers (CR-248) PR 21146 (4286) Task 3520	C	FBB	$63,033.85						0				

Category	Total Amount	% of Original Contract
A - District Convenience/Initiation - Project Related	$ 162,142.75	0.10%
B - Differing Site Conditions	$ 1,760,475.92	1.08%
C - Design Oversight	$ 1,571,980.30	0.96%
D - District Convenience/Initiation - Non-Project Related	$ -	0.00%
E - Contractor Conveniece/Initiation	$ (84,340.99)	-0.05%
TOTAL (A + B + C + D)	$ 3,410,257.98	2.09%

Category	Total Amount	% of Original Contract
IRWD-Initiation/Driven	$ 689,079.48	0.42%
FBB-Initiation/Driven	$ 2,550,458.28	1.56%
Not applicable	$ 170,720.22	0.10%
TOTAL	$ 3,410,257.98	2.09%

July 21, 2015
Prepared by: J. Moeder/R. Thatcher/R. Mori
Submitted by: K. Burton
Approved by: Paul Cook

ENGINEERING AND OPERATIONS COMMITTEE

EASEMENT AGREEMENT WITH TUSTIN UNIFIED SCHOOL DISTRICT
FOR TUSTIN LEGACY WELL SITE

SUMMARY:

IRWD owns Well 21P2, which is adjacent to Heritage School in the Tustin Legacy development of the City of Tustin. The well was destroyed in 2010 after reaching the end of its useful life. The existing well site is too small to accommodate the drilling of a new well. In an effort to preserve IRWD's future interest in this well site, staff negotiated an easement agreement with Tustin Unified School District (TUSD), which would allow IRWD to enlarge the existing well site. The enlarged site would provide adequate space for the construction of a replacement well and associated wellhead facilities in the future. Staff recommends that the Board:

- Authorize a budget increase in the amount of $143,000, from $269,500 to $412,500, for Project 11881;
- Approve an Expenditure Authorization in the amount of $412,500 for Project 11881; and
- Authorize the General Manager to execute the Agreement for Acquisition of Easement with TUSD for the Tustin Legacy well site.

BACKGROUND:

The District's 2014 Groundwater Work Plan identified that an additional 11,000 acre-feet (AF) of groundwater would be required by 2020, assuming development continues at its current pace and Orange County Water District (OCWD) recognizes recycled water as a supplemental source in the Basin Production Percentage calculation. The Well 21P2 site was identified in the Groundwater Work Plan as a near-term project to be completed by 2020 and is projected to meet approximately 10% of the additional 11,000 AF groundwater goal. The work plan identified two different options for the well depending on the water quality of the new well. The first option, assuming the groundwater does not need treatment, would bring the water directly into the Wells 21 and 22 Desalter product water pipeline in the intersection of Edinger Avenue and Red Hill Avenue. The second option, assuming treatment is required, would convey the water from this well to the existing Wells 21 and 22 Desalter to augment supplies from Wells 21 and 22 and possibly expand the treatment capacity if necessary.

IRWD acquired Well 21P2 from the Irvine Company in 1989. The well site is approximately 80 feet square with 30 feet currently within the Red Hill Avenue right of way. A new groundwater well on the site, which is surrounded by property owned by TUSD, is anticipated to produce about 1,000 gallons per minute. Based on water quality data from nearby monitoring wells owned by OCWD, water from a replacement well may not require treatment. If treatment is required and depending on the type of required treatment, the well site is conveniently located near the Wells 21 and 22 Desalter and could readily augment supplies to the Desalter or, depending on the water quality, blend with the finished product water from the Desalter.

Easement Agreement with TUSD:

TUSD and staff prepared an easement agreement for additional land, as shown in Exhibit "A". As part of the agreement, the existing 80 feet by 80 feet site will become 180 feet by 50 feet of usable area, which is large enough to drill and equip a new well. Based on the appraised land value, the exclusive easement from TUSD will cost $180,000 as shown in the agreement attached as Exhibit "B". Staff anticipates that the new well will be drilled on the existing well site and the new easements will be used primarily for construction, equipping, and maintenance of the new well. TUSD's Board of Directors approved the agreement at its June 22, 2015 Board meeting.

The property surrounding the existing well site was originally owned by the Department of Navy. When the Marine Corps Air Station (MCAS) Tustin closed, the property was conveyed to TUSD in 2003 with the covenant that the property be used for educational purposes with any other use being subject to approval by the Department of Education. TUSD currently uses the property as a school site named Heritage School. As part of the preparation of the easement agreement, the Department of Education has reviewed the easement agreement and issued a letter of consent that indicates upon execution of the agreement, a portion of the $180,000 shall be paid to the Department as outlined in the 2003 deed to TUSD.

Heritage School is currently utilized by TUSD as a continuation high school and adult education campus, but TUSD anticipates converting the school to a full-time elementary school in the next few years. TUSD has requested that IRWD minimize construction-related impacts once the school becomes a full-time elementary school. As such, upon execution of the easement agreement, staff will remove portions of the existing wall around the existing site and construct a new wall around portions of the new well site in an effort to minimize future construction impacts to the school.

Next Steps:

Upon receiving the Board's approval to purchase the easement from TUSD, staff will perform the following:

1. Prepare the draft Domestic Water Source Assessment and Protection program;
2. Execute the easement agreement with TUSD;
3. Finalize the payments to TUSD and the Department of Education;
4. Perform minor site-grading improvements and construct a new perimeter wall;
5. Contract with a hydrogeologist to further investigate the potential water quality of a replacement well; and
6. Contract with a consultant to prepare a preliminary well design.

FISCAL IMPACTS:

Project 11881 (6215) is included as a flagged project in the FY 2015-16 Capital Budget. Staff requests a budget increase and an Expenditure Authorization, as shown in the table below and in

Exhibit "C", to fund the land acquisition, wall improvements and preliminary well design. Staff also requests changing the funding splits to "Regional Domestic Water Split with Enhancement" because the funding split is incorrectly listed in the Capital Budget as 100% to ID 113.

Project No.	Current Budget	Addition <Reduction>	Total Budget	Existing EA	This EA Request	Total EA Request
11881 (6215)	$269,500	$143,000	$412,500	$0	$412,500	$412,500

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.

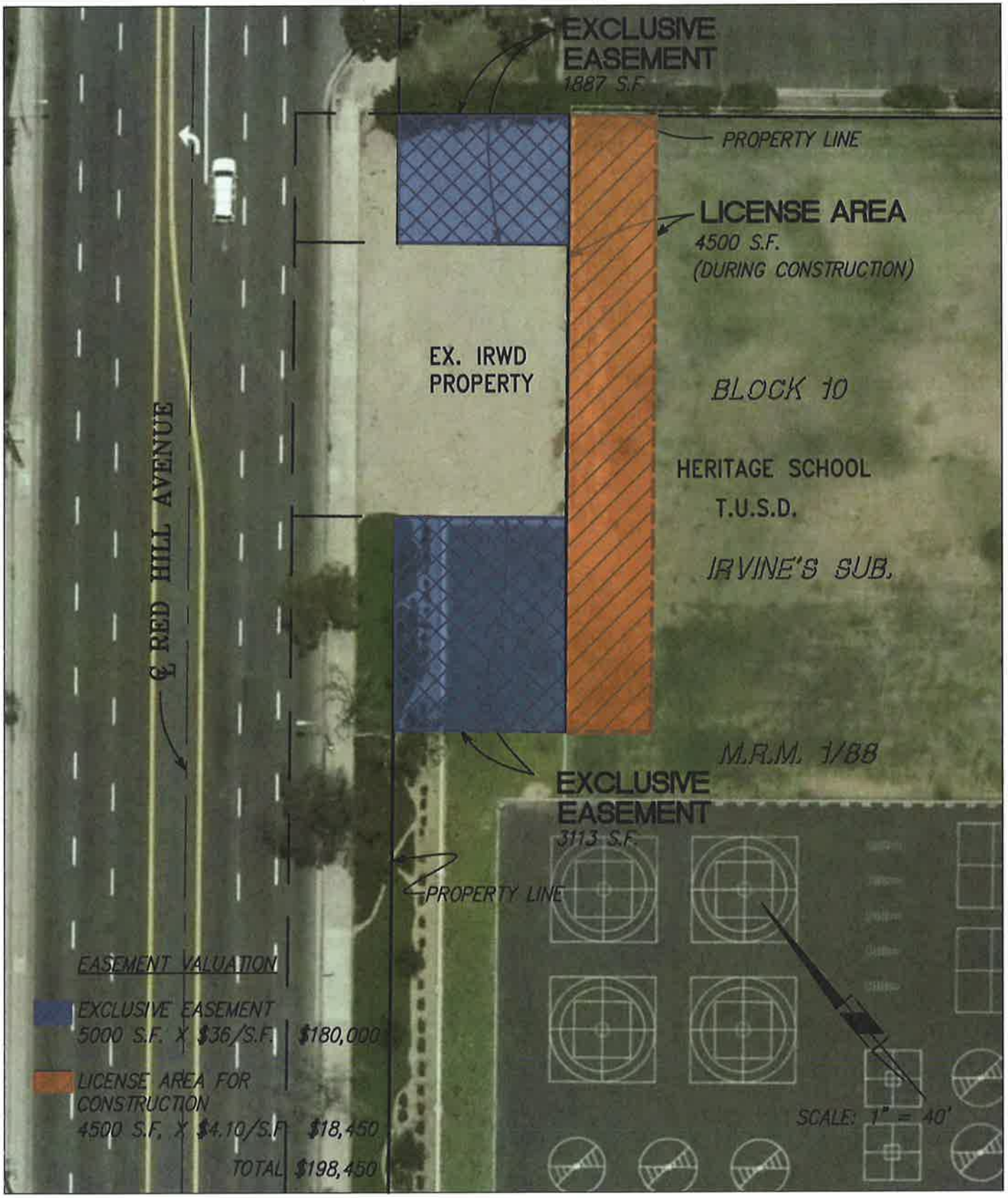
RECOMMENDATION:

That the Board authorize a budget increase in the amount of $143,000, from $269,500 to $412,500, for Project 11881 (6215); approve an Expenditure Authorization in the amount $412,500 for Project 11881 (6215); and authorize the General Manager to execute the Agreement for Acquisition of Easement with Tustin Unified School District for the Tustin Legacy well site subject to completing the Domestic Water Source Assessment and Protection program with minimal water quality concerns.

LIST OF EXHIBITS:

Exhibit "A" – Tustin Legacy Well Site at Heritage School
Exhibit "B" – Agreement for Acquisition of Easement
Exhibit "C" – Expenditure Authorization

EXHIBIT "A"



SHEET 1 OF 1 SHEET

EXHIBIT "A"

TUSTIN LEGACY WELL
EASEMENT ACQUISITION

IRVINE RANCH WATER DISTRICT
15600 SAND CANYON AVENUE, IRVINE, CA 92619

JANUARY 7, 2015

VALUATION EX 1-7-15.DWG

EXHIBIT "B"

AGREEMENT FOR
ACQUISITION OF EASEMENT

THIS AGREEMENT FOR ACUISITION OF EASEMENT ("Agreement") is made as of _____, 2015, by TUSTIN UNIFIED SCHOOL DISTRICT ("Transferor"), a California public school district organized and existing pursuant to California law, and IRVINE RANCH WATER DISTRICT, a California water district duly organized and existing under Division 13 of the California Water Code ("Transferee") (Transferor and Transferee being in some instances together referred to as the "Parties"), as follows:

1. Conveyance.

(a) Well Easement. Subject to the terms and conditions contained herein, Transferee shall accept from Transferor, and Transferor shall convey to Transferee, the perpetual, exclusive easement ("Easement") in the form of, and covering that portion of Transferor's property shown and described in, EXHIBIT "1" attached hereto, situated in Orange County, California (the "Easement Area"). Transferee shall cause the Easement to be recorded upon its receipt of this Agreement and execution and delivery by Transferee and Transferor of the Easement and Entry Permit.

(b) Temporary Right of Entry. At the time of entering into this Agreement, Transferee believes that the Easement will provide sufficient space for its proposed uses. If Transferee so requests in conjunction with its proposed commencement of the use of the Easement, Transferor agrees to reasonably consider providing to Transferee a temporary right of entry for construction purposes in the form attached as EXHIBIT "2" hereto ("Entry Permit") to permit Transferee to enter that certain portion of Transferor's property described and depicted, respectively, in Exhibits "A" and "B" of EXHIBIT "2" attached hereto, situated in Orange County, California (the "Temporary Construction Area"), provided that the Temporary Construction Area is available at that time and Transferee's use of the Temporary Construction Area would not interfere with Transferor's use of its adjacent property for school purposes. If Transferor and Transferee agree to Transferee's use of the Temporary Construction Area, Transferee and Transferor shall execute and deliver the Entry Permit, with such modifications as they may agree to make.

2. Consideration. As consideration for this Agreement and the Easement, Transferee shall, in addition to performing all of its obligations under this Agreement, (a) concurrently with the execution of this Agreement pay to Transferor the amount of One Hundred Eighty Thousand Dollars ($180,000.00), which is acknowledged by Transferor and Transferee to be the fair market value of the Easement, and (b) concurrently with execution of this Agreement, indicate, by proper execution of certificates of acceptance, its acceptance of the Easement. If and when the Entry Permit is granted pursuant to Section 1(b), Transferee shall pay to Transferor the additional amount of Eighteen Thousand Nine Hundred Dollar ($18,900.00) concurrently with the execution of the Entry Permit, which is acknowledged by Transferor and Transferee to be the fair market value of the Entry Permit at the date hereof; provided, that such amount shall, at the time the Parties execute the Entry Permit, be adjusted in the same percentage as the increase, if any, in the Consumer Price Index (All Items) for Urban Consumers for the Los Angeles Metropolitan Area, published by the United States Department of Labor, Bureau of Labor

Statistics, during the period between the date of this Agreement and execution by the Parties of the Entry Permit.

3. Costs and Prorations.

(a) Closing Costs. Transferee shall bear all of the cost of any title insurance policy that Transferee elects to obtain in connection with its acceptance of the Easement. Such title insurance shall be subject only to the exceptions agreed to by Transferee as set forth in Section 4 below and the standard printed exceptions and stipulations contained in said policy. All recording costs or fees incurred by either party in connection with the recordation of the Easement shall be paid by Transferee.

(b) Taxes. Transferee and Transferor are both exempt from property taxation on their property within their respective jurisdictions, and accordingly expect that the Easement shall result in no property taxation or taxable possessory interest. However, in the event any property tax or possessory interest tax is assessed in connection with the Easement or the Entry Permit, the Transferee shall pay any and all such taxes.

4. Condition of Property Prior to Transfer. By executing this Agreement, Transferee acknowledges and agrees that it has had unqualified opportunities to investigate and inspect the Easement Area and the Temporary Construction Area. Therefore, notwithstanding anything to the contrary, Transferee accepts, without any representation or warranty whatsoever having been made by Transferor or any agents or representatives of Transferor concerning the condition or the suitability thereof for any use by Transferee, proposed or otherwise (i) the Easement Area in its "AS-IS" and "WITH ALL FAULTS" condition existing as of the date hereof, and, (ii) if the Entry Permit is entered into, the Temporary Construction Area in its "AS-IS" and "WITH ALL FAULTS" conditions existing as of the date of the Entry Permit. Transferee hereby waives and releases any and all claims, demands, and other rights, without limitation, that Transferee now or in the future may have against Transferor relating to the condition of the Easement Area and/or the Temporary Construction Area. In connection with the foregoing waiver and release of the Transferor, the Transferee also expressly waives and releases any and all benefits and protections of California Civil Code Section 1542, which provides that:

> "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

5. Responsibility for Condition. Transferee hereby acknowledges that, in connection with matters arising from this Agreement, Transferor shall not be obligated to provide or pay for any improvement work or services related to the Easement Area or Temporary Construction Area. In connection with Transferee's actions pursuant to this Agreement, and at Transferee's sole cost and expense, Transferee shall: (a) be responsible for maintaining and repairing, reasonable wear and tear excepted, the Easement Area and, commencing upon the Commencement Date, as defined in the Entry Permit, and through the termination of the Entry Permit, the Temporary Construction Area; (b) prevent or remedy the destruction, damage or deterioration of all or any portion of the Easement Area and/or Temporary Construction Area, or any improvements located in, on or under the Easement Area and/or Temporary Construction Area, arising from or in any way related to (i) the acts or omissions of Transferee or (ii) any

breach by Transferee of any of its obligations under this Agreement, unless and to the extent any of the foregoing are held by a court of competent jurisdiction to have been caused solely by the gross negligence or willful misconduct of Transferor; and (c) comply with all applicable laws, rules and regulations pertaining to Transferee's use, enjoyment, repair and maintenance of the Easement Area and/or Temporary Construction Area.

6. No Assignment. Transferee shall not sell or assign its rights and interest under this Agreement, in whole or in part, to any person or entity except another governmental entity. Any such attempted sale or assignment made in violation of this provision shall be null and void. Transferor shall have no liability or responsibility to any authorized purchaser or assignee of Transferee prior to receipt by Transferor of written notice of sale or assignment from Transferee, which notice must specify the extent and scope of the sale or assignment. Notwithstanding anything to the contrary, this Agreement and the Easement hereby granted are subject to the provisions of that certain "Quitclaim Deed and Environmental Restriction" dated January 30, 2003, and granted by the U.S. Department of Education, including, but not limited to, the condition subsequent set forth in Section 6(2) therein. The Parties agree that pursuant to such condition subsequent, a consent instrument shall be requested from the U.S, Department of Education for the Easement Area and the Temporary Construction Area and shall be recorded with the Easement, if provided in recordable form.

7. Mutual Representations and Warranties. In addition to all other representations and warranties, if any, set forth in this Agreement, each party represents and warrants to the other as follows:

(a) Due Authorization. The execution of this Agreement by it, its delivery to the other party pursuant hereto, and the performance of its obligations under this Agreement have been duly authorized by its governing board and no further act or other authority is necessary on its part for such execution, delivery and consummation.

(b) No Action or Proceedings. There is no suit, action or legal, administrative, arbitration or other proceeding or investigation pending or, to the knowledge of such party, threatened which affects its ability to perform its obligations hereunder or under the Conveyance Documents.

(c) Legal Effect. No representations, warranties or recommendations are made by Transferor or Transferee, or their respective agents, employees or attorneys, regarding the legal sufficiency, legal effect, or tax consequences of this Agreement, and each signatory hereto is advised to submit this Agreement to his or her or its respective attorney before executing it.

8. Further Documents and Acts. Each of the parties hereto agrees to cooperate in good faith with each other, and, upon reasonable request of the other party, to execute and deliver such further documents and perform such other acts as may be reasonably necessary or appropriate to consummate and carry into effect the transactions contemplated under this Agreement. Transferee shall reimburse Transferor for any and all costs the Transferor reasonably incurs in connection with any such request by the Transferee, subject to the October 2, 2014, letter agreement between Transferee and Transferor, and the September 8, 2014 letter referenced therein.

9. Miscellaneous.

(a) Survivability. All covenants of Transferee or Transferor herein that are expressly or by their nature intended to be performed in whole or in part after recordation of the Easement, and all representations, warranties and indemnities by either party to the other, shall survive recordation of the Easement and be binding upon and inure to the benefit of the respective parties hereto and their respective heirs, successors and permitted assigns. Any agreements, understandings, warranties or representations not expressly contained herein shall in no way bind either Transferor or Transferee. Transferor and Transferee each expressly waives any right of rescission and all claims for damages by reason of any statement, representation, warranty, promise and/or agreement, if any, not contained in or attached to this Agreement.

(b) Waiver, Consent and Remedies. In order to be valid and binding, waivers of any one or more provisions or requirements of this Agreement must be in writing and signed by the waiving party. No such waiver shall constitute a further or continuing waiver of any preceding or succeeding breach of the same or any other provision, unless and to the extent specified in the written waiver. Except to the extent specified in a written waiver, a waiving party may at any time after the initial waiver require further compliance by the other party with any provision so waived. The consent by one party to any act by the other for which such consent was required shall not be deemed to imply consent or waiver of the necessity of obtaining such consent for the same or any similar acts in the future. No waiver or consent shall be implied from silence or any failure of a party to act, except as otherwise specified in this Agreement. Except as otherwise specified in this Agreement, (i) all rights, remedies, undertakings, obligations, options, covenants, conditions and agreements contained in this Agreement shall be cumulative and no one of them shall be exclusive of any other, and (ii) either party may pursue any one or more of its rights, options or remedies hereunder or may seek damages or specific performance in the event of the other party's breach hereunder, or may pursue any other remedy at law or equity, whether or not stated in this Agreement.

(c) Attorneys' Fees. In the event any declaratory or other legal or equitable action is instituted between Transferor and Transferee in connection with this Agreement, then 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.

(d) Notices. Any notice, request, demand, consent, approval or other communication required or permitted hereunder or by law shall be validly given or made only if in writing and delivered in person to an officer or duly authorized representative of the other party (with name and signature of recipient on delivery receipt) or by certified or registered United States mail (postage prepaid and return receipt requested), and addressed to the party for whom intended as follows:

Transferor:
Tustin Unified School District
Attention: Chief Financial Officer
300 South "C" Street
Tustin, CA 92780-3695

Transferee:
Irvine Ranch Water District
Attention: General Manager
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine, CA 92718

Either party may from time to time, by written notice to the other as provided above, designate a different address which shall be substituted for that specified above. A notice or other document sent pursuant to this Subsection (d) shall be deemed served or delivered only upon actual receipt by the recipient. This Subsection (d) shall not be deemed or construed to apply to communications between the Parties for purposes of the day-to-day administration of this Agreement or to service of process in accordance with any applicable law or rule of court.

(f) Gender and Number. In this Agreement (unless the context requires otherwise), the masculine, feminine and neuter genders and the singular and the plural shall be deemed to include one another, as appropriate.

(g) Entire Agreement. This Agreement and its exhibits constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and the final, complete and exclusive expression of the terms and conditions thereof. Except to the extent included herein, any and all prior agreements, representations, negotiations and understandings of the parties hereto, oral or written, express or implied, are hereby superseded. The October 2, 2014 letter agreement between Transferee and Transferor, and the September 8, 2014, letter referenced therein, are not superseded or merged herein.

(h) Captions. The captions used herein are for convenience only and are not a part of this Agreement and do not in any way limit or amplify the terms and provisions hereof.

(i) Governing Law. This Agreement and the exhibits attached hereto have been negotiated and executed in the State of California and shall be governed by and construed under the laws of the State of California.

(j) Invalidity of Provision. If any provision of this Agreement as applied to either party or to any circumstance shall be adjudged by a court of competent jurisdiction to be void or unenforceable for any reason, the same shall in no way affect (to the maximum extent permissible by law) any other provision of this Agreement, the application of any such provision under circumstances different from those adjudicated by the court, or the validity or enforceability of the Agreement as a whole.

(k) Amendments. No addition to or modification of any provision contained in this Agreement shall be effective unless fully set forth in writing that has been duly-approved and executed by both Transferee and Transferor.

(l) Counterparts. At Transferor's or Transferee's option, this Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute but one and the same instrument.

(m) Facilities. Transferee represents that the facilities to be constructed by Transferee within the Easement will not include any school building as defined in Education Code Section 17283, and as such will not be subject to approval of construction plans or supervision of construction by the Department of General Services, Division of the State Architect ("DSA") under Education Code Sections 17280 and17295. In the event such DSA approval is required, Transferee will be solely responsible to obtain the approval at its sole cost.

(n) Restoration of Existing Improvements. To the extent any actions by Transferee pursuant to this Agreement displace or damage existing improvements on or to the real property of which the Easement Area and Temporary Construction Area presently are a part, including, without limitation, any turf, sprinkler system, or other landscape improvements, Transferee shall restore the displaced or damaged improvements outside of the Easement Area to the reasonable satisfaction of Transferor.

(o) Design Review. Transferee shall submit to Transferor the plans for the well facilities and perimeter wall to be constructed within the Easement, at 60%, 90% and 100% completion of such plans. The purpose of such submittals shall be to permit Transferor to review and comment on the inclusion of provisions to address Transferor concerns such as, but not limited to, site security during construction, protection of students walking along Red Hill Avenue across construction traffic routes, dust control and site restoration. Transferor shall provide any comments on the plans to Transferee within twenty calendar days of any such submittal. Transferee and Transferor shall work together to resolve matters raised by Transferor's comments, and Transferee shall determine whether modifications can be made to the plans to address the comments without unreasonably impacting the well facilities project. In the event Transferee does not receive any comments from Transferor on the submitted plans within twenty calendar days after delivery of the same, Transferor shall be deemed to have approved the plans. In no event shall any such approval or deemed approval by the Transferor be deemed or construed to result in the Transferor having any responsibility or liability whatsoever for the matters addressed in the plans or for Transferee's actions in connection with this Agreement, including, without limitation, construction of the well facilities, site security, protection of students or others walking across or through construction traffic routes, dust control and/or site restoration, and, notwithstanding any such approval or deemed approval by Transferor, Transferee shall at all times remain solely responsible and liable in connection with such matters, except to the extent any liability arises from the active negligence or willful misconduct of Transferor, in which event, Transferor and Transferee shall be liable and responsible on a comparative basis.

The foregoing notwithstanding, Transferee agrees to (i) make reasonable efforts to schedule the drilling of the well facilities so that, to the maximum extent possible, the drilling work will occur during the summer months when a regular school year is not in session; and (ii) expeditiously complete any portion of such drilling work to be done during a regular school year when school is in session. Transferee estimates that, once commenced, the drilling work will require approximately five months to complete, subject to unforeseen circumstances beyond Transferee's control that can occur in well drilling work. To the extent any such unforeseen circumstances should occur or are revealed, Transferee shall make reasonable efforts to resolve them as quickly as possible, consistent with sound engineering and construction practices and the need to complete drilling in a single continuous effort. Except for (i) work, the timing for which Transferee has received Transferor's prior written approval, (ii) emergency work, (iii) construction of perimeter walls or temporary fencing, and (iv) site restoration, without limiting the foregoing, Transferee shall make reasonable efforts to schedule all construction, repair, maintenance, alteration and other work that will occur within the Easement Area or the Temporary Construction Area so that, to the maximum extent possible, the work shall be conducted during non-school hours. For purposes of the foregoing, the phrase "non-school hours" shall mean (i) all hours, on any day of the week, during the summer months when the regular school year is not in session; (ii) all hours, on any Saturday, Sunday or Transferor's school holiday during the regular school year; and (iii) before 7:00 a.m. and after 5:00 p.m. on

any day, other than a Saturday, Sunday or Transferor's school holiday, during the regular school year.

(p) Schedule. (i) Transferee shall not be required to commence design or construction of its facilities within the Easement within any specified time interval; and (ii) any delay by Transferee in commencing such design or construction shall not affect the rights and obligations of the parties under this Agreement or the Easement.

(q) Exhibits. All exhibits to this Agreement are incorporated herein by this reference.

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

TRANSFEROR:

TUSTIN UNIFIED SCHOOL DISTRICT

By _____

Anthony Soria, Chief Financial Officer

TRANSFEREE:

IRVINE RANCH WATER DISTRICT,
a California water district

By:_____

Name: _____
Title: _____

EXHIBIT "1"

Recording Requested by and
Return to:

Ray Thatcher, District R/W Agent
Irvine Ranch Water District
15600 Sand Canyon Avenue
P. O. Box 57000
Irvine, California 92619-7000
IRWD Doc. E

ASSESSOR'S PARCEL NO(S).:
430-282-16

FREE RECORDING REQUESTED:
Essential to Acquisition By
Irvine Ranch Water District
Government Code §6103

(SPACE ABOVE THIS LINE FOR RECORDER'S USE)

Exempt from Documentary Transfer Tax per
Revenue and Taxation Code §11922

GRANT OF EASEMENT
TO
IRVINE RANCH WATER DISTRICT
BY
TUSTIN UNIFIED SCHOOL DISTRICT

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, TUSTIN UNIFIED SCHOOL DISTRICT ("TUSD"), a public school district organized and existing pursuant to California law, hereby grants and conveys to IRVINE RANCH WATER DISTRICT, a California Water District organized under and existing pursuant to Section 34000 et seq. of the California Water Code, ("IRWD" herein) (TUSD and IRWD being in some instances referred to herein individually as a "Party" and together as the "Parties"), a perpetual, exclusive easement for water well purposes. This easement shall include, but not by way of limitation, the right to construct, reconstruct, remove and replace, renew, inspect, maintain, repair, improve, enter upon, and otherwise use the hereinafter described property for these purposes, together with incidental appurtenances and connections, in, over, under, upon, along, through and across the real property located in the City of Tustin, County of Orange, State of California, as described in Exhibit "A" and depicted in Exhibit "B", which exhibits are attached hereto and made a part hereof (the "Easement Area"), as necessary in connection with the use, operation and maintenance of the facilities within the Easement Area.

Subject to: Covenants, conditions, restrictions, easements, rights, rights-of-way and encumbrances of record or apparent.

A. Use of Property by IRWD:

1. Exclusive Use of Easement Area. IRWD shall have exclusive use of Easement Area pursuant to this Grant of Easement.

2. Permits. IRWD, at its sole cost and expense, must obtain any and all permits and/or other approvals required in connection with its activities on the Easement Area pursuant to this Grant of Easement. Upon request from IRWD, TUSD will, to the extent reasonable and at IRWD's cost and expense, cooperate with IRWD's efforts to obtain any such permit or approval.

3. Compliance with Laws. In connection with their activities on the Easement Area pursuant to this Grant of Easement, IRWD and each of its officers, employees, consultants, contractors and subcontractors (each, not including IRWD, an "IRWD Representative") must comply with any and all laws, regulations, ordinances, rules and other governmental requirements applicable to such activities.

4. Payment of Costs. IRWD shall bear any and all costs and expenses arising from the activities undertaken pursuant to this Grant of Easement, including, without limitation, any costs required to ensure compliance with law.

5. Safe and Clean Operations. IRWD must at all times: (i) conduct its activities on the Easement Area in a safe manner, free of unreasonable hazards; and (ii) keep the Easement Area free of any trash, debris and other materials resulting from IRWD's activities.

6. Use of Reasonable Care. In undertaking any and all activities on the Easement Area, IRWD must use reasonable care to ensure that no injury to any person or damage to any property results from IRWD's activities, including, without limitation, release of any hazardous materials or pollutants. In addition, IRWD must coordinate with TUSD prior to undertaking construction and other activities within the Easement Area that might cause noise, dust or other interference with the school operations undertaken on the TUSD property adjacent to the Easement Area (including, without limitation, noise during student-testing periods), and, in connection with its construction and other activities, IRWD shall make reasonable efforts to avoid any such interference.

7. Hazardous Materials. At no time and in no event shall IRWD cause or permit the release or other discharge of any Hazardous Materials (defined below) onto, in, over, under or in the vicinity of the Easement Area, or bring any Hazardous Materials onto, over or across the Easement Area. "Hazardous Materials" means any hazardous, explosive, radioactive or toxic substance, material or waste that is regulated by any local governmental authority, the State of California or the United States. Notwithstanding the foregoing, so long as the same are used in accordance with all applicable laws and regulations, the presence of gasoline, diesel fuel, chemicals and/or liquids used for well development, maintenance, and disinfection, and common vehicle lubricants in enclosed tanks of construction or delivery vehicles or equipment shall not constitute a violation of the foregoing prohibition.

8. Ownership of the Easement Area. Notwithstanding anything to the contrary, nothing in this easement shall be deemed or construed to constitute or authorize any conveyance, transfer, limitation, or other modification of TUSD's fee interest in the Easement Area and other portions of TUSD's property adjacent to the Easement Area, and TUSD shall at all times retain such fee interest in the Easement Area and other portions of TUSD's property adjacent to the Easement Area.

9. Installation of Perimeter Wall. As part of the construction of a new well within the Easement Area, IRWD must install a permanent wall, consistent with what exists as of the date of this Grant of Easement, between the Easement Area and the portion of TUSD's property adjacent to the Easement Area. This Grant of Easement shall permit temporary encroachment on property outside the Easement Area if and to the extent reasonably necessary to install such wall.

B. Non-liability of TUSD:

1. Prohibition Against Liens. IRWD must not suffer or permit to be filed, asserted, or enforced against TUSD or the Easement Area any stop notice, lien for labor or materials, or claim for damages that arises from or in connection with the activities of IRWD on the Easement Area pursuant to this easement. IRWD must pay or cause to be paid on a timely basis all bills or claims that could give rise to any such stop notice, lien or claim. If any such stop notice, lien or claim is filed or asserted, IRWD must cause the same to be fully discharged, by payment, bonding or otherwise, within 20 days of such filing or assertion, and upon any failure of IRWD to do so, TUSD shall have the right to do so, by payment, bonding (including without limitation obtaining and recording a lien release bond pursuant to California Civil Code Section 3143) or otherwise, and IRWD shall be responsible for reimbursing TUSD for all costs and expenses that it incurs in connection with obtaining such release or discharge, including, without limitation, attorneys' fees and expenses. The failure by TUSD to post or record any notices of non-responsibility shall not in any manner diminish or negate IRWD's obligations pursuant to this Section. Notwithstanding anything to the contrary contained in this paragraph, if IRWD shall in good faith contest the validity of any such lien, claim or demand, then IRWD shall, at its expense, defend itself and TUSD against the same and shall pay and satisfy any adverse judgment that may be rendered thereon before the enforcement thereof against TUSD or the Easement Area, and if TUSD shall require, IRWD shall furnish to TUSD a surety bond satisfactory to TUSD in an amount equal to such contested lien, claim or demand indemnifying TUSD against liability for same, or if TUSD shall request, IRWD shall procure and record the bond provided for in the Civil Code of the State of California, or any comparable statute hereafter enacted providing for a bond freeing the Easement Area from the effect of such lien or claim or action thereon.

2. Assumption of Risk. Except as provided by this Grant of Easement, each and every person who enters in and upon the Easement Area pursuant to this Grant of Easement does so at his or her own risk. None of TUSD, the Orange County Board of Education, or any of their respective officers, employees, consultants, contractors, or subcontractors (each, not including TUSD, a "TUSD Representative"), shall be deemed or construed to have assumed or otherwise have any liability for the actions of IRWD or any IRWD Representative in connection with their activities on or at the Easement Area pursuant to this Grant of Easement.

3. Waiver of Liability. IRWD, on behalf of itself and each IRWD Representative, and except as provided in this Section, hereby waives and releases TUSD and each TUSD Representative from any and all liability whatsoever that may arise from IRWD's activities on or at the Easement Area pursuant to this Grant of Easement. IRWD's waiver and release pursuant to this Section does not apply to the extent of any active negligence or willful misconduct of TUSD or any of TUSD Representatives, in which event TUSD and IRWD shall be liable and responsible on a comparative basis. In connection with the foregoing waiver and release, IRWD also expressly waives and releases any and all benefits and protections of California Civil Code Section 1542, which provides that:

> "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

4. IRWD Takes Property As-Is. IRWD, for itself and on behalf of any and all IRWD Representatives, shall be deemed and construed to have accepted the Easement Area on an "as-is" and "with all faults" basis. Therefore, with respect to IRWD's activities pursuant to this Grant of Easement, IRWD hereby waives and releases TUSD and each of TUSD Representatives from any and all claims, demands, costs, expenses and other liabilities of any nature whatsoever arising from, or asserted to be related to or having some connection with, any

condition of the Easement Area. In connection with the foregoing waiver and release, IRWD also expressly waives and releases any and all benefits and protections of California Civil Code Section 1542, which provides that:

> "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

5. Loss or Damage to Personal Property. IRWD shall be solely responsible for any personal property brought onto the Easement Area and/or used in connection with activities undertaken pursuant to this Grant of Easement. TUSD shall have no obligation whatsoever to provide any security with respect to any property brought onto the Easement Area by IRWD or any IRWD Representative, and none of TUSD or TUSD Representatives shall have any responsibility whatsoever for loss of or damage to any such property.

C. Miscellaneous:

1. Waiver. A waiver by a Party of any provision of this Grant of Easement shall not be deemed or construed as binding unless the waiver is set forth in writing and has been duly approved and signed by the waiving Party. A waiver by a Party of any provision of this Grant of Easement shall not constitute a waiver of any other provision of this Grant of Easement, similar or not, and no such waiver shall be construed as a continuing waiver.

2. Governing Law and Venue. This Grant of Easement shall be governed by and interpreted in accordance with the laws of the State of California. Any action, arbitration, or other proceeding arising from this Grant of Easement shall be initiated and conducted only in the County of Orange, State of California.

3. Headings. The Section and Subsection headings set forth in this Grant of Easement are for the convenience of the reader only and shall not be deemed or construed to establish, define or limit the meaning of the provisions herein.

D. Successors and Assigns:

This Grant of Easement shall be binding upon and inure to the benefit of the successors and assigns of TUSD and IRWD.

E. Acceptance and Recordation:

Upon acceptance and recordation of this Grant of Easement, the terms and conditions herein set forth shall be binding upon and inure to the benefit of the Parties.

F. Notices.

Any notice or demand given or served in connection with this Grant of Easement must be in writing, duly addressed as provided in this Section, and delivered to the receiving Party by: (i) registered or certified mail (postage prepaid and return receipt requested); or (ii) FedEx, UPS, or other reliable private delivery service (delivery charge pre-paid and signature on electronic or other receipt requested). Any such notice or demand shall be deemed to have been given or served only upon actual receipt by the addressee. A Party may change its name, address, or the person to whose attention notices and demands should be sent, by providing notice in accordance with this Section. This Section shall not be deemed or construed to apply to: (i) communications between the Parties necessary or convenient for day-to-day administration of this Grant of

Easement; or (ii) service of process pursuant to any applicable law or rule of court. Notices and demands must, as applicable, be addressed as follows:

To TUSD:

Tustin Unified School District
Attn.: Anthony Soria, CPA
Chief Financial Officer
300 South "C" Street
Tustin, CA 92780-3695

To IRWD:

Irvine Ranch Water District
Attn.: Kevin Burton, PE
Executive Director of Engineering
and Water Quality
15600 Sand Canyon Avenue
P.O. Box 5700
Irvine, CA 92619-7000

IN WITNESS WHEREOF this Grant of Easement has been executed this _____ day of _____ _____, 20___.

"TUSD"

TUSTIN UNIFIED SCHOOL DISTRICT,
a public school district organized and existing pursuant to California law

By _____

Anthony Soria, Chief Financial Officer

EXHIBIT "A"

EXCLUSIVE EASEMENT
FOR WATER WELL PURPOSES TO
IRVINE RANCH WATER DISTRICT
(APN 430-282-16)

LEGAL DESCRIPTION

Those certain parcels of land situated in the City of Tustin, County of Orange, State of California being that portion of Lot 78, Block 10 of Irvine's Subdivision as shown on a map thereof filed in Book 1, Page 88 of Miscellaneous Record Maps lying within Parcel 7 as described in the Quitclaim Deed and Environmental Restriction recorded March 21, 2003 as Instrument No. 2003000306478 of Official Records, both in the Office of the County Recorder of said County being more particularly described as follows:

Parcel 1:

BEGINNING at the most northerly corner of said Parcel 7, said corner being the northwesterly terminus of that certain course described as having a bearing and distance of "South 49°21'28" East 683.77 feet" in said deed; thence along said last described line South 49°21'28" East 50.00 feet; thence South 40°38'29" West 37.73 feet to an angle point in the general northwesterly line of said Parcel 7, said point being the most easterly corner of Well No. 21P2 as described in the Grant Deed to Irvine Ranch Water District recorded July 14, 1989 as Instrument No. 89-372391 of Official Records in said Office of the County Recorder, said point also hereinafter referred to as Point "A"; thence along said general northwesterly line and northeasterly line of said Well No. 21P2 North 49°21'28" West 50.00 feet to an angle point; thence leaving said northeasterly line and continuing along said general northwesterly line of Parcel 7 North 40°38'29" East 37.73 feet to the **POINT OF BEGINNING**.

CONTAINING: 1887 square feet, more or less.

Parcel 2:

COMMENCING at the hereinabove mentioned Point "A"; thence along said general northwesterly line of Parcel 7 and the southeasterly line of said Well No. 21P2 South 40°38'29" West 80.00 feet to the **TRUE POINT OF BEGINNING**; thence continuing South 40°38'29" West 62.27 feet; thence North 49°21'28" East 50.00 feet to said general northwesterly line of Parcel 7; thence along said general northwesterly line North 40°38'29" East 62.27 feet to an angle point in said general northwesterly line and the southwesterly line of said Well No. 21P2; thence along the last described line South 49°21'28" East 50.00 feet to the **TRUE POINT OF BEGINNING**.

CONTAINING: 3113 square feet, more or less.

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

EXHIBIT "B" attached hereto and by this reference made a part hereof.

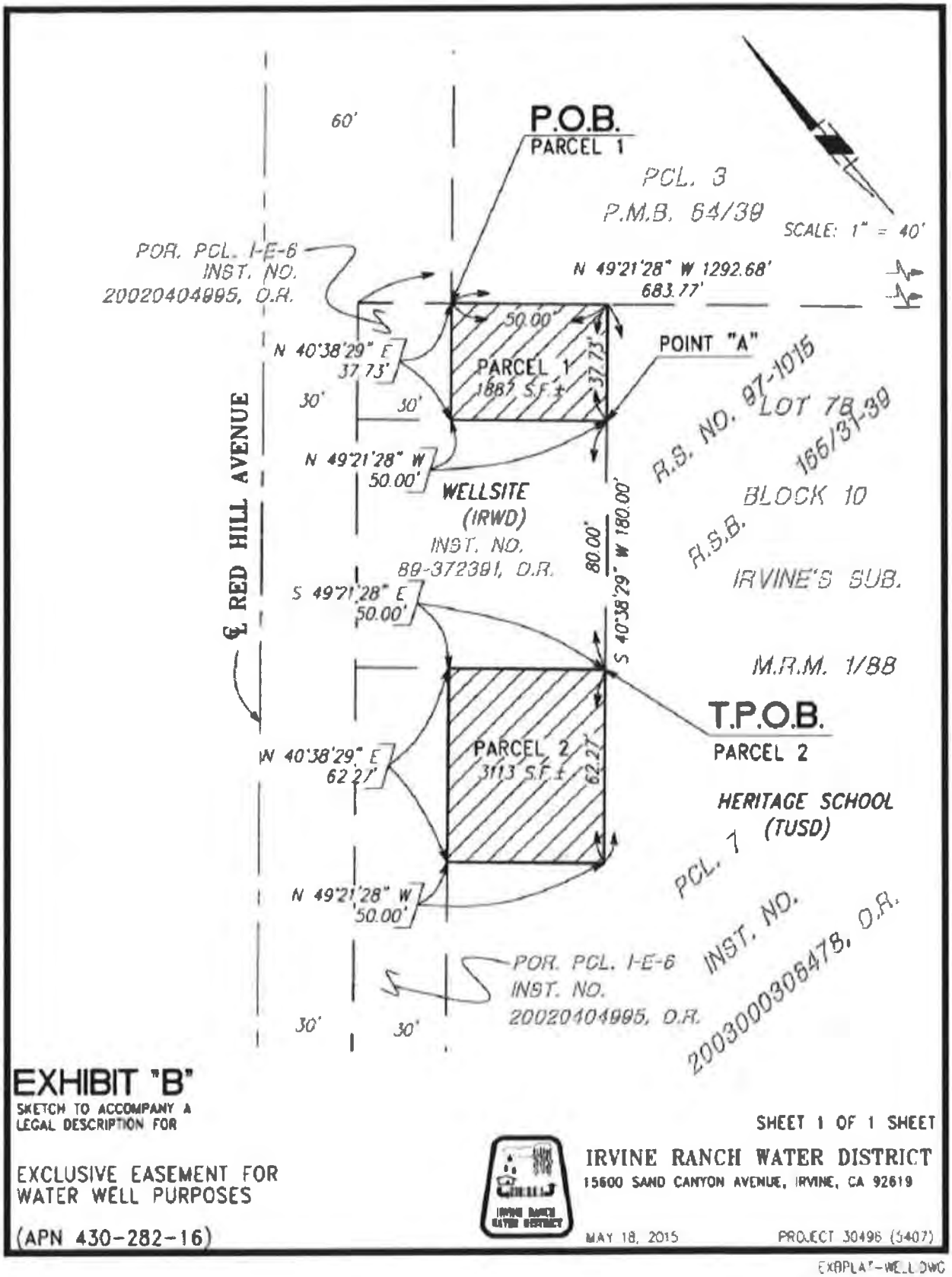
Prepared by me or under my direction:

Dated: May 18, 2015

Steven L. Malloy, R.C.E. 31926
License expires December 31, 2016

EXHIBIT "B"

DEPICTION OF EASEMENT AREA



ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

COUNTY OF_____)

On _____, 20___, before me, _____,

a Notary Public in and for said State, personally appeared _____

_____,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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

WITNESS my hand and official seal.

_____

Notary Public in and for said State

(SEAL)

IRVINE RANCH WATER DISTRICT

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by deed or grant dated_____ from TUSTIN UNIFIED SCHOOL DISTRICT, a public school district organized and existing pursuant to California law, to IRVINE RANCH WATER DISTRICT, a California Water District, is hereby accepted by the undersigned officer on behalf of the Board of Directors pursuant to authority conferred by Resolution 2014-40 of the Board of Directors, adopted on September 8, 2014, and the grantee consents to recordation thereof by its duly authorized officer.

Date:_____

IRVINE RANCH WATER DISTRICT

By: _____
Leslie Bonkowski
Secretary to Board of Directors

EXHIBIT "2"

TEMPORARY RIGHT OF ENTRY FOR CONSTRUCTION PURPOSES

This Temporary Right of Entry for Construction Purposes ("Right of Entry"), dated for reference purposes as of _____, 20__ ("Reference Date"), is made and entered into by and between the Tustin Unified School District ("TUSD") and the Irvine Ranch Water District ("IRWD"). TUSD and IRWD may be referred to herein individually as a "Party" and collectively as the "Parties."

RECITALS

A. TUSD owns real property referred to as the Heritage School that is located at 15400 Landsdowne Road, Tustin, CA 92782 ("School Site").

B. IRWD owns property that is approximately 80 foot by 80 foot in size, located along Red Hill Avenue, and adjacent to the School Site on three sides, as depicted on Exhibit "B" hereto ("Well Site"). IRWD previously operated a well on and at the Well Site, but closed that well when it reached the end of its useful life. IRWD now desires to construct a new well ("New Well") on and at the Well Site.

C. To accommodate the additional space required to operate and maintain modern wells, IRWD requested that TUSD grant an exclusive easement to IRWD ("Well Easement"), which TUSD intends to accomplish outside the scope of this Right of Entry. In addition, however, IRWD desires to use an additional portion of the School Site, on a temporary basis. The area that IRWD desires to use on a temporary basis ("Temporary Construction Area") is described in Exhibit "A" and also depicted on Exhibit "B" hereto.

D. TUSD is amenable subject to the provisions herein, to granting IRWD temporary access and use of the Temporary Construction Area solely for purposes of constructing the New Well, and the Parties intend that this Right of Entry shall constitute the exclusive terms and conditions for IRWD to enter onto and use the Temporary Construction Area for such purposes. The Parties hereby acknowledge that they have entered into that certain "Agreement for Acquisition of Easement" dated as of _____, 2015. The Parties acknowledge and agree that, to the extent of any conflict between any provision(s) of this Right of Entry and any provision(s) of the Agreement for Acquisition of Easement, the provision(s) of this Right of Entry shall govern.

Now, in consideration of the foregoing and of their respective rights and obligations pursuant to this Right of Entry, the Parties hereby agree as follows:

AGREEMENT

PART 1: GRANT OF LICENSE

Section 1.1

Subsection 1.1.1 License to Enter and Use the Temporary Construction Area. Subject to all provisions of this Right of Entry, TUSD hereby grants to IRWD a non-exclusive license for IRWD officers, employees, consultants, contractors and subcontractors (each an "IRWD Representative") to enter in and upon the Temporary Construction Area, at any and all reasonable times during the term of this Right of Entry, for purposes related to the construction of the New Well ("IRWD Work"). IRWD's rights pursuant to such license shall be subject to restrictions set forth in this Right of

Entry and in any permit, local ordinance or other requirement applicable to IRWD's activities. IRWD's activities on the Temporary Construction Area pursuant to such license shall be limited solely to: (i) activities necessary or convenient for planning and obtaining permits and/or other authorizations required for performance of IRWD Work; (ii) performance of IRWD Work; (iii) installation of a temporary fence bordering the work area sufficient to prevent unpermitted access to the remainder of the School Site during the period of this Agreement, and (iii) clean-up, restoration, and remediation of the Temporary Construction Area and other portions of the property effected by the work, and other necessary post-construction activities. Except for TUSD or any of its officers, employees, consultants, contractors, or subcontractors (each, not including TUSD, a "TUSD Representative"), any IRWD Representatives, and representatives of any other governmental entities having competent jurisdiction with respect to the foregoing authorized activities and whose presence is necessary in connection with such activities, IRWD shall not suffer or permit any third party to enter in and upon the Temporary Construction Area.

Subsection 1.1.2 Accommodation of School Operations. TUSD shall: (i) make reasonable efforts to schedule the drilling of the New Well so that, to the maximum extent possible, the portion of such drilling work to occur within the Temporary Construction Area will occur during the summer months when a regular school year is not in session; and (ii) expeditiously complete any portion of such drilling work to be done during a regular school year when school is in session. TUSD estimates that, once commenced, the drilling work will require approximately five months to complete, subject to unforeseen circumstances beyond TUSD's control that can occur in well drilling work. To the extent any such unforeseen circumstances should occur or are revealed, TUSD shall make reasonable efforts to resolve them as quickly as possible, consistent with sound engineering and construction practices and the need to complete drilling in a single continuous effort. Except for (i) work, the timing for which IRWD has received TUSD's prior written approval, (ii) emergency work, (iii) construction of perimeter walls or temporary fencing, and (iv) site restoration, without limiting the foregoing, IRWD shall make reasonable efforts to schedule all construction, repair, maintenance, alteration and other IRWD Work that will occur within the Temporary Construction Area so that, to the maximum extent possible, the work shall be conducted during non-school hours. For purposes of the foregoing, the phrase "non-school hours" shall mean (i) all hours, on any day of the week, during the summer months when the regular school year is not in session; (ii) all hours, on any Saturday, Sunday or TUSD's school holiday during the regular school year; and (iii) before 7:00 a.m. and after 5:00 p.m. on any day, other than a Saturday, Sunday or TUSD's school holiday, during the regular school year.

Section 1.2 Entry Limited to Specific Area. Notwithstanding anything to the contrary, the license specified in Subsection 1.1.1 herein shall be deemed and construed to permit IRWD to access the Temporary Construction Area only from the Well Site (as modified by the Well Easement) and not from any other portion of the School Site. Prior to commencing any of the other IRWD Work, IRWD must construct a temporary fence between the Well Site and the Temporary Construction Area on one side and the remainder of the School Site on the other side. Upon termination of this Right of Entry pursuant to the terms hereof, IRWD shall remove the temporary fence and restore any and all portions of the Temporary Construction Area impacted, damaged or otherwise altered by the installation thereof. IRWD shall be solely responsible for the cost of installing, maintaining, and removing the temporary fence.

Section 1.3 Term of Right of Entry. Prior to its first entry in and upon the Temporary Construction Area pursuant to this Right of Entry, IRWD must provide written notice to TUSD specifying the date that IRWD will first enter in and upon the Temporary Construction Area for purposes of undertaking the IRWD Work ("Commencement Notice"). The date of such first entry specified in the Commencement Notice is referred to herein as the "Commencement Date." IRWD must commence

IRWD Work on or about the Commencement Date, and must thereafter make diligent and continuous efforts to complete the IRWD Work within the term of this Right of Entry. The term of this Right of Entry shall commence on the Commencement Date and, unless this Entry Permit is earlier terminated or extended as provided herein, the term of this Entry Permit shall expire on the date the first of the following events occurs: (i) IRWD has completed all of IRWD Work, clean-up, restoration, remediation and other post-construction activities to occur on the Temporary Construction Area; or (ii) one (1) year has elapsed since the Commencement Date, regardless of whether IRWD Work, if commenced, has been completed. Notwithstanding anything to the contrary, if IRWD has not provided a Commencement Notice within two years of the Reference Date, this Entry Permit shall automatically terminate on the date that is two years after the Reference Date.

Section 1.4 Early Termination. TUSD may give written notice to IRWD of TUSD's intent to terminate this Right of Entry in response to any unreasonable failure by IRWD to perform or timely perform any of its material obligations pursuant to, or otherwise act in accordance with, this Right of Entry. In such event, IRWD shall have: (i) twenty-four hours following receipt of such written notice to cure any failure to perform or act that results in significant danger to any person or property; (ii) seventy-two hours following receipt of such written notice to cure any failure to perform or act that results in unreasonable interference with TUSD operations at the School Site; and (iii) thirty (30) days following receipt of such written notice (or such longer period as may be specified in such notice) to cure any other failure to perform or act; provided, however, in the case of any such failure to perform or act that is curable but reasonably requires more than 30 days (or more than the longer period specified in the notice) to cure, if IRWD shall have notified TUSD within such 30-day period (or longer period specified in the notice) that IRWD has commenced curing such failure within a reasonable time after receipt of the written notice from TUSD, and if IRWD is diligently prosecuting such cure to completion, then IRWD shall have a reasonable time, not in excess of 90 consecutive calendar days, to cure the failure. In the event IRWD requires a reasonable time in excess of thirty days (or such longer period specified in the notice) to cure a failure within the scope of the foregoing clause (iii), then, upon each request from TUSD, IRWD shall deliver to TUSD evidence that such failure is curable and that IRWD is diligently prosecuting such cure to completion. If IRWD fails to cure any failure to perform or act within the time permitted pursuant to this Section, TUSD may terminate this Right of Entry by giving written notice of termination to IRWD, which termination shall be effective immediately upon receipt of the notice by IRWD.

PART 2: USE OF PROPERTY BY IRWD

Section 2.1 Coordination. In undertaking activities on the Temporary Construction Area pursuant to this Right of Entry, IRWD must not unreasonably interfere with the activities of TUSD on the remainder of the School Site. Not less than 72 hours prior to first entering in and upon the Temporary Construction Area for purposes of IRWD Work, IRWD must confer, reasonably cooperate and coordinate with TUSD in order to avoid potential interference with TUSD's activities upon the School Site, and to coordinate the various activities of the Parties.

Section 2.2 Permits. IRWD, at its sole cost and expense, must obtain any and all permits and/or other approvals required in connection with its activities on the Temporary Construction Area pursuant to this Right of Entry. Upon request from IRWD, TUSD will, to the extent reasonable, cooperate with IRWD's efforts to obtain any such permit or approval.

Section 2.3 Compliance with Laws. In connection with their activities on the School Site pursuant to this Right of Entry, IRWD and each IRWD Representative must comply with any and all laws, regulations, ordinances, rules and other governmental requirements applicable to such activities.

Section 2.4 ***Payment of Costs.*** IRWD shall bear any and all costs and expenses arising from the activities undertaken pursuant to this Right of Entry, including, without limitation, any costs required to ensure compliance with law.

Section 2.5 ***Safe and Clean Operations.*** IRWD must at all times: (i) conduct its activities on the Temporary Construction Area in a safe manner, free of unreasonable hazards; and (ii) keep the School Site free of any trash, debris and other materials resulting from IRWD's activities.

Section 2.6 ***Use of Reasonable Care.*** In undertaking any and all activities on the School Site permitted or required pursuant to this Right of Entry, IRWD must use reasonable care to ensure that no injury to any person or damage to any property results from IRWD's activities, including, without limitation, release of any hazardous materials or pollutants.

Section 2.7 ***Hazardous Materials.*** At no time and in no event shall IRWD cause or permit the release or other discharge of any Hazardous Materials (defined below) onto, in, over, under or in the vicinity of the School Site, or bring any Hazardous Materials onto, over or across the Temporary Construction Area. If IRWD becomes aware of the presence of any Hazardous Materials on or at the School Site, it shall immediately provide written notice of same to TUSD. For the purposes of this Right of Entry, "Hazardous Materials" means any hazardous, explosive, radioactive or toxic substance, material or waste that is regulated by any local governmental authority, the State of California or the United States. Notwithstanding the foregoing, so long as the same are used in accordance with all applicable laws and regulations, the presence of gasoline, diesel fuel, chemicals and/or liquids used for well development and disinfection, and common vehicle lubricants in enclosed tanks of construction or delivery vehicles or equipment shall not constitute a violation of the foregoing prohibition.

Section 2.8 ***Prohibition Against Liens.*** IRWD must not suffer or permit to be filed, asserted, or enforced against TUSD or the School Site any stop notice, lien for labor or materials, or claim for damages that arises from or in connection with the activities of IRWD on the Temporary Construction Area pursuant to this Right of Entry. IRWD must pay or cause to be paid on a timely basis all bills or claims that could give rise to any such stop notice, lien or claim. If any such stop notice, lien or claim is filed or asserted, IRWD must cause the same to be fully discharged, by payment, bonding or otherwise, within 20 days of such filing or assertion, and upon any failure of IRWD to do so, TUSD shall have the right to do so, by payment, bonding (including without limitation obtaining and recording a lien release bond pursuant to California Civil Code Section 3143) or otherwise, and IRWD shall be responsible for reimbursing TUSD for all costs and expenses that it incurs in connection with obtaining such release or discharge, including, without limitation, attorneys' fees and expenses. The failure by TUSD to post or record any notices of non-responsibility shall not in any manner diminish or negate IRWD's obligations pursuant to this Section. Notwithstanding the foregoing, if IRWD shall in good faith contest the validity of any stop notice, lien or claim subject to this Section, then IRWD shall, at its sole cost and expense, defend itself and TUSD against the same and shall pay and satisfy any adverse judgment that may be rendered thereon before the enforcement thereof against TUSD or any portion of the School Site, and if TUSD shall require, IRWD shall promptly furnish to TUSD a surety bond satisfactory to TUSD, in an amount equal to such contested stop notice, lien or claim, indemnifying TUSD against liability for same, or if TUSD shall request, IRWD shall procure and record the bond provided for in California Civil Code Section 3143 or any comparable statute hereafter enacted providing for a bond freeing TUSD and the School Site from the effect of such stop notice, lien or claim, and any action or other proceeding related thereto.

Section 2.9 Ownership of the School Site. Notwithstanding anything to the contrary, nothing in this Right of Entry shall be deemed or construed to constitute or authorize any conveyance, transfer, limitation, or other modification of TUSD's fee interest in the Temporary Construction Area or other portions of the School Site, and TUSD shall at all times retain such fee interest in Temporary Construction Area and other portions of the School Site.

Section 2.10 Post-Construction Activities. Notwithstanding the early termination of this Right of Entry as provided herein or the expiration without renewal or extension of the term of this Right of Entry, whether prior to or after completion of IRWD Work, IRWD shall remain obligated pursuant to this Right of Entry, at its sole cost, to: (i) promptly remove from the Temporary Construction Area any and all materials, equipment and other personal property brought onto the Temporary Construction Area pursuant to this Right of Entry; (ii) leave the Temporary Construction Area in a safe condition, free of hazards resulting from IRWD's activities on the Temporary Construction Area; and (iii) promptly clean-up, restore and remediate the Temporary Construction Area as required for IRWD to leave the Temporary Construction Area in the condition that existed prior to IRWD undertaking its activities on the Temporary Construction Area pursuant to this Right of Entry, excluding conditions caused by TUSD or others not subject to control by IRWD.

Section 2.11 Surrender of Property. Except as provided in this Section, IRWD must cease all activities and promptly quit and surrender the Temporary Construction Area to TUSD upon the first to occur of: (i) IRWD has completed the activities authorized or permitted pursuant to this Right of Entry; (ii) the term of this Right of Entry, or duly-authorized extension thereof, has expired without renewal or extension; or (iii) this Right of Entry has been terminated in accordance with its provisions. Notwithstanding the occurrence of any of the foregoing events, to the extent any of the post-construction activities specified in Section 2.10 herein are at such time incomplete, IRWD must without delay complete such activities and, until complete, shall continue to have access to the Temporary Construction Area solely for such purposes.

PART 3: ALLOCATION OF RISKS

Section 3.1 Assumption of Risk. Except as provided by this Right of Entry, each and every person who enters in and upon the Temporary Construction Area pursuant to this Right of Entry does so at his or her own risk. None of TUSD or the TUSD Representatives shall be deemed or construed to have assumed or otherwise have any liability for the actions of IRWD or any IRWD Representative in connection with their activities on or at the Temporary Construction Area pursuant to this Right of Entry.

Section 3.2 Waiver of Liability. TUSD has executed this Right of Entry as an accommodation to IRWD and, as a material inducement for TUSD to enter into this Right of Entry, IRWD, on behalf of itself and each IRWD Representative, and except as provided in this Section, hereby waives and releases TUSD and each TUSD Representative from any and all liability whatsoever that may arise from IRWD's activities on or at the Temporary Construction Area pursuant to this Right of Entry. IRWD's waiver and release pursuant to this Section does not apply to the extent of any active negligence or willful misconduct of TUSD or any of TUSD Representatives, in which event TUSD and IRWD shall be liable and responsible on a comparative basis. In connection with the foregoing waiver and release of TUSD, IRWD also expressly waives and releases any and all benefits and protections of California Civil Code Section 1542, which provides that:

> "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

Section 3.3 IRWD Takes Property As-Is. IRWD, for itself and on behalf of any and all IRWD Representatives, shall be deemed and construed to have accepted the Temporary Construction Area on an "as-is" and "with all faults" basis. Therefore, with respect to IRWD's activities pursuant to this Right of Entry, IRWD hereby waives and releases TUSD and each of TUSD Representatives from any and all claims, demands, costs, expenses and other liabilities of any nature whatsoever arising from, or asserted to be related to or having some connection with, any condition of the Temporary Construction Area. In connection with the foregoing waiver and release of TUSD, IRWD also expressly waives and releases any and all benefits and protections of California Civil Code Section 1542, which provides that:

> "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

Section 3.4 Loss or Damage to Personal Property. IRWD shall be solely responsible for any personal property brought onto the Temporary Construction Area and/or used in connection with activities undertaken pursuant to this Right of Entry. TUSD shall have no obligation whatsoever to provide any security with respect to any property brought onto the Temporary Construction Area by IRWD or any IRWD Representative, and none of TUSD or TUSD Representatives shall have any responsibility whatsoever for loss of or damage to any such property.

Section 3.5 IRWD Insurance Coverage.

Subsection 3.5.1 Required Policies. Prior to conducting any activities on or at the Temporary Construction Area pursuant to this Right of Entry, IRWD, at its sole cost and expense, must have in effect the insurance coverage specified in this Section 3.5 and must maintain such insurance in effect at all times prior to completion of all activities to be performed on or at the Temporary Construction Area as are permitted or required pursuant to this Right of Entry. Such insurance in all circumstances shall be primary, and any insurance carried by TUSD or any of TUSD Representatives, if applicable to a loss, shall be deemed secondary and excess. The insurance required pursuant to this Section includes:

(i) *General Liability Insurance*. Commercial general liability insurance, written on an occurrence basis ("modified occurrence" and "claims-made" are not acceptable), including coverage for broad form property damage, premises-operations, products-completed operations, and contractual liability assumed by IRWD pursuant to this Right of Entry. Such general liability insurance policy or policies shall provide coverage with limits of not less than $1,000,000 per occurrence and $2,000,000 general aggregate limit, with any applicable deductible or self-insured retention not in excess of $100,000.

(ii) *Vehicle Liability Insurance*. Commercial vehicle liability insurance covering owned, non-owned and hired vehicles and any machinery or apparatus attached thereto, with limits of not less than $1,000,000 combined single limit bodily injury and property damage liability (each accident), and any applicable deductible or self-insured retention not in excess of $100,000.

(iii) *Worker's Compensation Insurance*. Worker's compensation insurance in compliance with applicable State of California law.

Subsection 3.5.2 Designation of Additional Insureds. The general liability and vehicle liability insurance policies required pursuant to this Section each must be endorsed, using ISO

Form CG 20 10 11 85 or equivalent endorsement reasonably acceptable to TUSD's risk manager, to specify that all of the following are additional insureds: (i) TUSD; (ii) the Orange County Board of Education and each member thereof; and (iii) the officers and employees of TUSD and the Orange County Board of Education. The coverage provided to the additional insureds must be at least as broad as the coverage provided to IRWD and may not contain any exclusionary language or limitations applicable only to the additional insureds. The general liability and vehicle liability insurance policies also must include provisions for severability of interests (separation of insureds) or, if no such standard provision is included, must be endorsed to include a cross-liability endorsement satisfactory to TUSD's risk manager.

Subsection 3.5.3 ***Waiver of Subrogation.*** The general liability and vehicle liability insurance policies required pursuant to this Section must be endorsed to include a waiver by each insurer of all rights of subrogation against those to be designated as additional insureds pursuant to Subsection 3.5.2 of this Right of Entry.

Subsection 3.5.4 ***Evidence of Coverage.*** Prior to entering the Temporary Construction Area pursuant to this Right of Entry, IRWD must deliver to TUSD such certificates of insurance and endorsements as are sufficient to evidence that the insurance coverage required pursuant to this Section is in effect. If any insurance coverage required pursuant to this Section will expire prior to expiration of this Right of Entry, IRWD must provide to TUSD a renewal certificate of insurance with all applicable endorsements, prior to the expiration of such coverage.

Subsection 3.5.5 ***Minimum Insurer Standards.*** IRWD must obtain and maintain the insurance policies required pursuant to this Section through one or more insurers qualified to do business in the State of California and having an A.M. Best Company financial strength rating of not less than A- and financial size category of not less than IX. Notwithstanding the foregoing, but subject to conformance with all other provisions of this Section 3.5, IRWD may obtain and maintain the insurance required pursuant to this Section through a joint-powers insurance cooperative of which IRWD is a member, in lieu of through an insurer as described in this Subsection.

Subsection 3.5.6 ***Insurance Coverage Does Not Limit Liabilities.*** The insurance coverage to be maintained by IRWD pursuant to this Section shall not be deemed or construed to limit or qualify the liabilities and obligations assumed by IRWD pursuant to this Right of Entry or applicable law, including, without limitation, any indemnification obligations and/or liability in excess of the limits of the insurance coverage required pursuant to this Section. IRWD shall be solely responsible for paying any loss amount that lies within any applicable deductible or self-insured retention.

Section 3.6 ***Indemnification.*** IRWD shall indemnify, hold-harmless and defend all of those to be designated as additional insureds pursuant to Subsection 3.5.2 herein (each a "TUSD Indemnitee"), and each of them, from and against any and all claims, demands, actions, other proceedings, losses, damages, judgments, costs and expenses (including, without limitation, attorneys' fees), and other liabilities of any nature whatsoever (each a "Liability") arising from the activities of IRWD and/or any of IRWD Representatives pursuant to this Right of Entry. However, IRWD shall not be obligated pursuant to this Section to the extent any Liability arises from the active negligence or willful misconduct of any of TUSD Representatives and, in such event, TUSD and IRWD shall be liable and responsible on a comparative basis. With respect to any act or incident that occurs prior to either the expiration of the term of this Right of Entry or the termination of this Right of Entry, the obligations of this Section shall survive such expiration or termination.

PART 4: MISCELLANEOUS PROVISIONS

Section 4.1 Notices. Any notice or demand given or served in connection with this Right of Entry must be in writing, duly addressed as provided in this Section, and delivered to the receiving Party by: (i) registered or certified mail (postage prepaid and return receipt requested); or (ii) FedEx, UPS, or other reliable private delivery service (delivery charge pre-paid and signature on electronic or other receipt requested). Any such notice or demand shall be deemed to have been given or served only upon actual receipt by the addressee. A Party may change its name, address, or the person to whose attention notices and demands should be sent, by providing notice in accordance with this Section. This Section shall not be deemed or construed to apply to: (i) communications between the Parties necessary or convenient for day-to-day administration of this Right of Entry; or (ii) service of process pursuant to any applicable law or rule of court. Notices and demands must, as applicable, be addressed as follows:

To TUSD:
Tustin Unified School District
Attn: Anthony Soria, CPA
Chief Financial Officer
300 South "C" Street
Tustin, CA 92780-3695

To IRWD:
Irvine Ranch Water District
Attn: Kevin L. Burton, PE
Executive Director of Engineering and Water Quality
15600 Sand Canyon Ave., P.O. Box 57000
Irvine, CA 92619-7000

Section 4.2 Assignment Prohibited. IRWD may not assign this Right of Entry, and any attempt to do so shall be null and void.

Section 4.3 Entire Agreement. This Right of Entry constitutes the entire agreement between the Parties with respect to IRWD's rights to enter in and upon and use the Temporary Construction Area for the purposes specified herein. This Right of Entry constitutes permission to enter in and upon the Temporary Construction Area only for the activities authorized pursuant to this Right of Entry, and it does not constitute or create for IRWD any legal interest in the Temporary Construction Area or any other portion of the School Site.

Section 4.4 Waiver. A waiver by a Party of any provision of this Right of Entry shall not be deemed or construed as binding unless the waiver is set forth in writing and has been duly approved and signed by the waiving Party. A waiver by a Party of any provision of this Right of Entry shall not constitute a waiver of any other provision of this Right of Entry, similar or not, and no such waiver shall be construed as a continuing waiver.

Section 4.5 Governing Law and Venue. This Right of Entry shall be governed by and interpreted in accordance with the laws of the State of California. Any action, arbitration, or other proceeding arising from this Right of Entry shall be initiated and conducted only in the County of Orange, State of California.

Section 4.6 Headings. The Section and Subsection headings set forth in this Right of Entry are for the convenience of the reader only and shall not be deemed or construed to establish, define or limit the meaning of the provisions herein.

Section 4.7 Counterparts. This Right of Entry may be executed in any number of counterparts, each of which shall be an original but all of which shall constitute one and the same instrument. Signature pages may be detached from counterpart originals and combined to physically form one or more original copies of this Right of Entry containing signatures of both Parties.

Section 4.8 ***Due Authority of Signatories.*** Each individual signing this Right of Entry on behalf of a Party represents and warrants that he or she has been duly authorized by such Party to sign, and thereby bind such Party to, this Right of Entry.

In Witness Whereof, this Right of Entry has been executed by the authorized representatives of the Parties, as evidenced by their signatures below.

Tustin Unified School District

By: _____
Anthony Soria, Chief Financial Officer

Irvine Ranch Water District

By: _____
Paul Cook, General Manager

EXHIBIT "A"

Description of Temporary Construction Area

EXHIBIT "B"

Depiction of Well Site and Temporary Construction Area

IRVINE RANCH WATER DIST EXHIBIT "C"

Expenditure Authorization

Project Name: TUSTIN LEGACY REDHILL WELL ACQUISITION
EPMS Project No: 11881 **EA No:** 1
Oracle Project No: 6215
Project Manager: MORI, RICHARD
Project Engineer: MOEDER, JACOB
Request Date: July 7, 2015

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

Improvement District (ID) Allocations

ID No.	Allocation %	Source of Funds
112	1.2	BONDS YET TO BE SOLD**
113	1.4	BONDS YET TO BE SOLD**
115	2.0	CAPITAL FUND
121	4.1	BONDS YET TO BE SOLD**
130	3.2	BONDS YET TO BE SOLD**
140	1.1	BONDS YET TO BE SOLD**
150	8.5	BONDS YET TO BE SOLD**
153	.9	BONDS YET TO BE SOLD**
154	.4	BONDS YET TO BE SOLD**
161	2.2	BONDS YET TO BE SOLD**
182	.8	BONDS YET TO BE SOLD**
184	.8	BONDS YET TO BE SOLD**
186	.3	BONDS YET TO BE SOLD**
188	.3	BONDS YET TO BE SOLD**
199	72.8	CAPITAL FUND ENHANCEMENT**
Total	**100.0%**	

Summary of Direct Cost Authorizations

Previously Approved EA Requests:	$0
This Request:	$412,500
Total EA Requests:	$412,500
Previously Approved Budget:	$269,500
Budget Adjustment Requested this EA:	$143,000
Updated Budget:	$412,500
Budget Remaining After This EA	$0

Comments:

Phase	This EA Request	Previous EA Requests	EA Requests to Date	This Budget Request	Previous Budget	Updated Budget	Start	Finish
ENGINEERING - PLANNING IRWD	20,000	0	20,000	0	20,000	20,000	7/15	6/16
ENGINEERING - PLANNING OUTSIDE	20,000	0	20,000	0	20,000	20,000	7/15	6/16
ENGINEERING DESIGN - IRWD	10,000	0	10,000	10,000	0	10,000	7/15	6/16
ENGINEERING DESIGN - OUTSIDE	20,000	0	20,000	20,000	0	20,000	7/15	6/16
CONSTRUCTION	100,000	0	100,000	100,000	0	100,000	7/15	7/16
LEGAL	5,000	0	5,000	0	5,000	5,000	7/15	6/16
LAND	200,000	0	200,000	0	200,000	200,000	7/15	6/16
Contingency - 10.00% Subtotal	$37,500	$0	$37,500	$13,000	$24,500	$37,500		
Subtotal (Direct Costs)	$412,500	$0	$412,500	$143,000	$269,500	$412,500		
Estimated G/A - 185.00% of direct labor*	$55,500	$0	$55,500	$18,500	$37,000	$55,500		
Total	$468,000	$0	$468,000	$161,500	$306,500	$468,000		
Direct Labor	$30,000	$0	$30,000	$10,000	$20,000	$30,000		

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

EA Originator: Jacob Moeder 7/7/15

Department Director: _____ _____

Finance: _____ _____

Board/General Manager: _____ _____

**** IRWD hereby declares that it reasonably expects those expenditures marked with two asterisks to be reimbursed with proceeds of future debt to be incurred by IRWD in a maximum principal amount of $478,000. 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.**

July 21, 2015
Prepared by: A. McNulty/R. Bennett
Submitted by: F. Sanchez/P. Weghorst
Approved by: Paul Cook

ENGINEERING AND OPERATIONS COMMITTEE

EMBEDDED ENERGY PLAN CAPITAL BUDGET INCREASE

SUMMARY:

On April 28, 2014, the Board approved the development of an Embedded Energy Plan to quantify energy use associated with each District facility involved in the production, treatment, distribution, collection, reuse and disposal of water and biosolids. The plan will include the development of an analytical tool that can be used to identify portions of the District where future water conservation and energy reduction measures should be focused and where pumping surcharges could be assessed. Staff has determined that additional analyses are required to enhance the embedded energy plan and associated tool. The additional analyses were not included in the original scope of work and a budget increase is needed to complete the work. Staff recommends that the Board authorize a budget increase to the FY 2015-16 Capital Budget in the amount of $42,175.50 for project 11792 (5343) and $42,175.50 for project 30499 (5344).

BACKGROUND:

The preparation of an Embedded Energy Plan will build on the District's Energy and Greenhouse Gas Master Plan which identified additional water conservation as the highest ranked project for reducing energy use within the District. On April 28, 2014, the Board approved a Professional Services Agreement with Navigant Consulting to prepare the Embedded Energy Plan which includes the following work:

- Developing historic and future energy use estimates (in kilowatt-hours per acre-foot) associated with the production, treatment and distribution of water within the District summarized by water service area;
- Making energy use estimates associated with the collection, sewage treatment, distribution of recycled water and the treatment and production of biosolids;
- Quantifying current and historic energy savings associated with the District's water conservation programs;
- Developing embedded energy estimates for 20 years into the future; and
- Developing an analysis tool that can be used to identify portions of the District where future energy and water conservation measures should be focused and where pumping surcharges could be assessed.

Consultant Agreement Variance No. 1:

To enhance the Embedded Energy Plan, staff has determined that additional analyses are required that were not included in Navigant's original scope of work. The additional analyses are described in the memorandum from Navigant that is attached as Exhibit "A". The scope of the work and costs that are described in the memorandum were negotiated by staff and are considered fair and reasonable.

The additional work to be performed by Navigant is associated with additional data processing, expanding the number of geographic zones used in the analysis, enhancing the embedded energy analysis tool, supporting IRWD's participation in the Southern California Edison (SCE) Preferred Resources Pilot Program and additional project management. Following is a description of each additional work item.

Additional Data Processing:

Navigant's original scope of work assumed that IRWD would provide historic pumping data associated with each IRWD facility with relatively few data gaps. Two data sets were provided that required substantially more work to fill in data gaps. The additional effort associated with processing the two data sets and estimating missing data has impacted the data collection task and a number of subsequent tasks in the development of the plan.

Expanding Number of Geographic Zones:

The original scope of work called for the spatial analysis to include approximately 50 water service areas to coincide with IRWD's 2002 Water Resources Master Plan. The spatial analysis is being expanded to track energy use in 141 different pressure zones consistent with IRWD's potable and non-potable system hydraulic models.

Enhancing Analysis Tool:

The Embedded Energy Analysis Tool will be enhanced to include additional functionality to present and analyze energy intensity, energy cost and water use by customer type. Enhancing the tool will require additional programming, quality control, coordination meetings and interim tool presentations to IRWD staff.

Supporting Preferred Resources Pilot:

At the request of staff, Navigant will provide support to IRWD's participation in SCE's Preferred Resources Pilot Program. Additional analysis results to be provided will include peak demands for each of IRWD's electrical accounts and greenhouse gas emission reductions associated with IRWD's historic water conservation programs. The Navigant team will provide up to 15 hours of on-call support of pilot program activities.

Project Management and Meetings:

In order to efficiently coordinate and review progress on the Embedded Energy Plan, additional bi-weekly coordination meetings and monthly progress meetings are required to coincide with an extended project schedule. The revised scope of work includes a seven month schedule extension to complete the additional work.

Status of Plan:

Navigant has made significant progress in the development of the Embedded Energy Plan and associated analysis tool. At the Committee meeting, staff will provide a presentation on preliminary plan results and examples from the embedded energy analysis tool.

FISCAL IMPACTS:

Project 11792 (5343) and Project 30499 (5344) are included in the FY 2015-16 Capital Budget. Staff requests a budget increase to Project 11792 (5343) in the amount of $42,175.50 and Project 30499 (5344) in the amount of $42,175.50 as shown below. Variance No. 1 with Navigant Consulting in the amount of $84,351 to complete the Embedded Energy Plan will be executed under the authority of the General Manager contingent upon Board approval of the budget increase.

Project No.	Current Budget	Addition	Total Budget
11792 (5343)	$141,070	$42,175.50	$183,245.50
30499 (5344)	$141,070	$42,175.50	$183,245.50

ENVIRONMENTAL COMPLIANCE:

This study is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15262, which provides exemption for planning studies.

RECOMMENDATION:

That the Board authorize a budget increase to the FY 2015-16 Capital Budget in the amount of $42,175.50 for project 11792 (5343) and $42,175.50 for project 30499 (5344).

LIST OF EXHIBITS:

Exhibit "A" – Navigant Consulting – Embedded Energy Plan Scope of Work for Variance No. 1

EXHIBIT "A"

NAVIGANT

1 Market Street
Spear Tower Suite 1200
San Francisco, CA 94105
415.356.7100 phone
415.356.4005 fax

Memorandum

To: **Ray Bennett, IRWD**

From: **Amul Sathe, Navigant**

Date: **July 1, 2015**

Re: **Embedded Energy Plan –Variance No. 1**

OVERVIEW

This memo documents activities to be performed under Variance No. 1 that include additional, out-of-scope work conducted for Embedded Energy Plan Project which Navigant is conducting for IRWD. The memo discusses scope in two sections; Changes to existing Scope and Additions to Scope. Following the description of scope, the last two sections of this memo document the requested additional schedule and budget to complete these scope changes.

CHANGES TO EXISTING SCOPE

This section describes the scope changes to the existing scope Tasks 2, 6, 7, 9, 8 and 1 that have been discussed with IRWD management staff.

Task 2: Historic Embedded Energy Savings

Reference to Original Scope of Work (SOW)
"Distribution pump flow data would likely come from historic SCADA data which the Navigant team can analyze. The time it takes to process SCADA data depends on the complexity and format of the data. For budgeting purposes, the Navigant team assumes SCADA data for a facility will be provided in a single file, time stamped for its entire relevant history (2005-2013)." (Page 10 of SOW)

Scope Change
Of the distribution pump flow data originally provided to Navigant, approximately 60% of the flow data was missing. The amount of missing data was more than expected. The Navigant team spent additional time filling data gaps and making estimates were data was completely missing understanding that the data provided was "best available" and analysis had to proceed. New information from IRWD indicates new/updated flow data is available and that significant portions of previous flow data will be removed from the analysis. The additional time spent cleaning initial data plus the anticipated time needed to update Task 2 analysis with new flow data will impact the project

budget. The updated results are expected to be a more accurate representation of IRWD's energy use and energy cost. Task 2 results feed into all other aspects of the study thus the overall accuracy of the entire study will improve upon completion of this scope change.

Task 6: Spatial Embedded Energy Savings

Reference to Original SOW

"This task will develop estimates of embedded energy in each of the approximately 50 water service areas within IRWD territory." (Page 17)

Scope Change

The project is currently tracking 109 Geopressure zones for potable water plus 32 non-potable water pressure zones for a total of 141 zones. Initial discussions were held with IRWD staff regarding which zone systems to use at the kickoff meeting and through subsequent project check-in meetings. These discussions concluded that the Navigant team would proceed with the required zones (109 GPZ and 32 non-potable zones) and would inform IRWD staff in the future if the budget is impacted by the change. Having conducting the surcharge analysis and made significant progress on spatial embedded energy estimates, it is now apparent the increase in number of zones and the need to use two different zone systems has impacted the project budget. The increased number of zones and use of two different zone systems increases the granularity of spatial analysis allowing IRWD to better target parts of the service area that have high energy use and high cost. This task will also combine the potable and non-potable energy data into one set of data and report the total at the GPZ level.

Task 7: Embedded Energy Management Tool

Reference to Original SOW

"Based on the defined methodology in Task 6, an Embedded Energy Management Tool will be built using Esri Model Builder tools and the GIS data developed in Tasks 4 and 6. The tool will allow user to:

- *identify a geographic region type for analysis*
- *identify the type analysis to be performed (water conservation or surcharge)*
- *(if a water conservation analysis is requested) the general type of water conservation activity to be considered (e.g. indoor or outdoor)."* (Page 26)

Scope Change

Several scope changes are documented in this variance:

- The tool operates using data from Task 6. Given the expansion of the number of zones from the original scope and the need to use up to three different modes in the tool (one for potable analysis, one for non-potable analysis and a third for combined potable and non-potable when reporting total energy intensity) the required granularity and complexity of the tool has increased and has impacted the project budget. Having to track and operate over three different sets of data has significantly increased the work required to complete the GIS tool.
- The scope of the tool has also added functionality beyond the original two functions: IRWD staff requested the ability to map data such as energy intensity, energy cost, and water use by customer type, allowing for user interface.

- The original intent of this task was to build the model in Esri Model Builder which only runs calculations based on predefined parameters with no user interaction at all. The additional functionality called for the use of a customized GIS tool, which in turn required additional effort to develop. The team is now using ArcObject with C# to accomplish the additional functionality required.
- The increased complexity and functionality of the tool also warrants additional internal quality control steps, coordination meetings, and interim tool presentations to IRWD to ensure the tool is completed on time, with high quality, and within budget.

The increased granularity and functionality of the tool will allow IRWD more refined conservation analysis, pumping surcharge analysis and user interface than allowed by the original scope. To date, the Navigant team had multiple conversations with IRWD staff about the functionality and direction of the tool. The expected functionality has been documented in great detail in a memo provided to IRWD staff, achieving that required additional meetings and iterations of the memo, beyond what was originally budgeted.

The updated scope of the tool's functionality is summarized below:

- Function 1: Data viewing
  - Water Use – use a map to display potable 2013 water use by potable zone or non-potable water use by non-potable zone. Users can select which customer types (Residential, Commercial, Agriculture, Irrigation, etc.) to be included.
  - Energy Intensity (EI) – use a map to display 2013 energy intensity in three possible cases: potable EI by potable zone, non-potable EI by non-potable zone, or total EI (potable + non-potable) by potable zone. Users can select which water systems should be included (users can select anywhere from one system to all 10 systems to be included in the results)
  - Cost Intensity (CI) – use a map to display 2013 energy intensity in two possible cases: potable CI by potable zone or non-potable CI by non-potable zone. Users can select which of the 10 water systems should be included.
- Function 2: Conservation Analysis
  - Users select to analyze potable water savings or non-potable water savings. Analysis for both potable and non-potable include all applicable water conservation measures (plus additional user defined measures) including indoor and outdoor measures. Potable and non-potable analyses is run separately.
  - Users select a defined geographic area.
  - Users input the number of each type of water conservation measure is to be installed in the defined geographic area.
  - Users can add new measures and update water savings per measure values for current measures.
  - Tool will calculate the total water savings and electric embedded energy savings resulting from the installed measures and reports results in a table.
- Function 3: Surcharge analysis
  - Users select to analyze potable or non-potable surcharge. Each analyses is run separately.
  - Tool will default display the new Navigant-recommended surcharge zones.

        - Navigant recommendations contain 3 surcharge zones each for potable and non-potable systems.
        - Each surcharge zone is a grouping of multiple pressure zones.
    - Users can make adjustments to the default surcharge zones. This is done by re-grouping the pressure zones into different surcharge zones
        - Each of the 109 potable GPZs can be assigned to one of 9 potable surcharge zones. All 9 zones do not have to be used.
        - Each of the 32 non-potable pressure zones can be assigned to one of 3 non-potable surcharge zones. All 3 zones do not have to be used.
    - Tool will calculate the surcharge in each zone and reports results in a table. A separate table will be output that identifies the user settings as to which pressure zones are grouped into which surcharge zones. Tables can be saved to the user's hard drive.
    - The Navigant team will provide a method for IRWD to save user-defined surcharge groupings and recall them for use when the tool is re-opened in the future.

Task 9: Pumping Surcharge Analysis.

Task 9 was originally scoped to be completed after the embedded energy tool was completed. The tool was to be used to conduct the surcharge analysis. The delay in receipt of key flow data combined with the urgent need to complete the surcharge analysis lead the team to produce separate analysis spreadsheets for Task 9. Additionally the increase in number of zones the project team was required to track (see the task 6 discussion) as well as the need to track potable and non-potable surcharges separately increased the complexity of the analysis. Finally, the arrival of new flow data (see Task 2 discussion) requires the team to update previously conducted surcharge analysis. These multiple factors have affected project budget. The tool developed as part of Task 7 is still scoped to have the capability of conducting surcharge analysis. These scope changes will result in a more accurate surcharge analysis.

Task 8: Water Conservation Program Energy Savings

Reference to Original Scope of Work (SOW)
"In Task 8, the Navigant team will develop embedded energy estimates for the 2005–2013 time period." (Page 27 of SOW)

Scope Change
IRWD staff have asked the team to discuss and consider water conservation activities that occurred prior to the study period (pre-2005) in its final report. IRWD has conducted water conservation programs since the 1990s and implemented a tiered rate structure which also reduced water consumption. High level analysis and a summary of past activities will be incorporated into the Task 8 report leveraging existing summary data available from IRWD. This additional analysis is beyond the original scope of the study and is expected to impact the project budget. The additional analysis will provide better historical context for IRWD's current and future conservation activities and help reaffirm its role as a leader in conservation in our analysis.

Task 1: Project Management and Meetings

The original scope of work indicated project completion by December, 2014. At the kickoff meeting the completion date was adjusted to January 2015 based on a one-month delay in hosting the kickoff meeting. Unanticipated complexities and additions to the scope have pushed back the overall timeline of the project. These delays have caused increases in overall project management costs which included bi-weekly check-in meetings with IRWD. Many of the check-in meetings from July through December 2014 were spent discussing data availability, questions about perceived inconsistencies in received data, and approaches to addressing data gaps. The delay in the overall project timeline combined with the necessity to hold bi-weekly check-in meetings to date has affected the project budget.

ADDITIONS TO SCOPE

This section describes the scope changes IRWD staff asked the Navigant team add based on comments provided by IRWD and Southern California Edison representatives at the Embedded Energy Workshop conducted on March 24, 2015. These additional analyses will require additional budget.

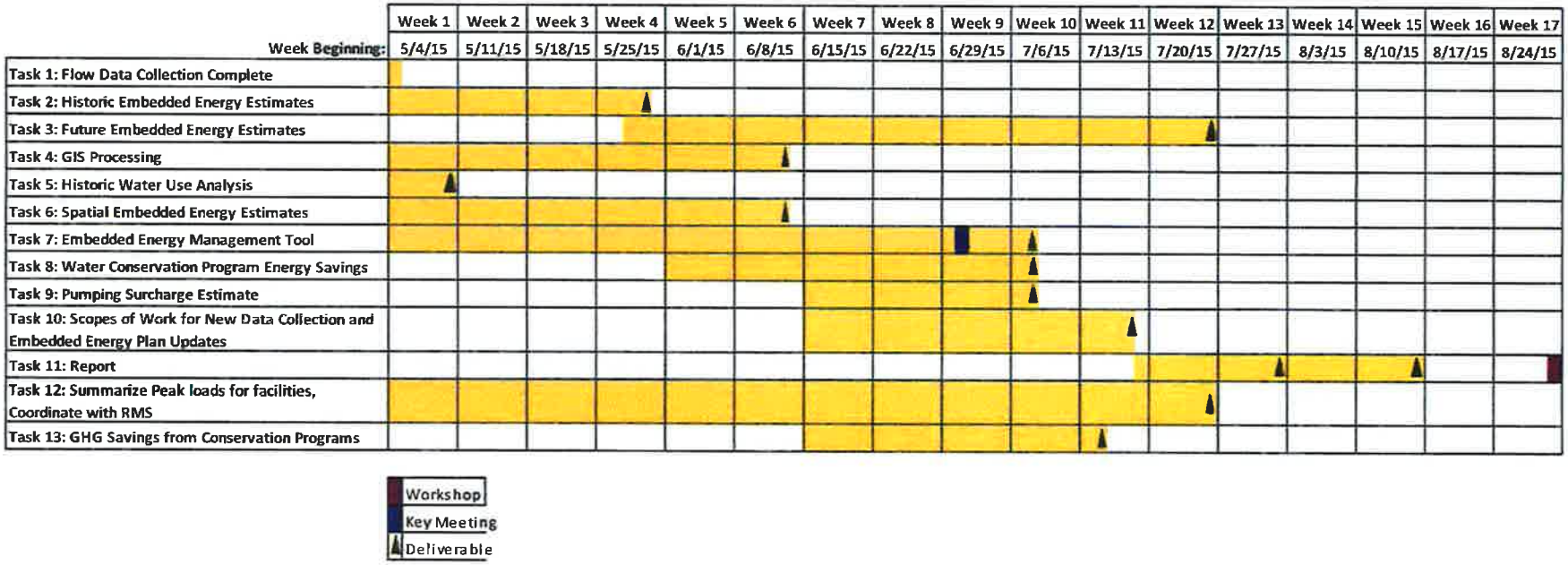
1. **Task 12: Document the peak demand for each IRWD facility and coordinate with other consulting teams analyzing IRWD data**. This analysis will be an add-on to Task 2 (Historic Embedded Energy Estimates). This analysis will identify the peak demand (kW) for each facility in 2013 based on 2013 billing data. The analysis will provide a new table to the Task 2 report listing: facility name, 2013 energy use (KWh/yr), 2013 energy intensity (KWh/AF), observed peak demand (in kilowatts), and month during which peak demand was observed. The results of this analysis will help inform IRWD's discussions with SCE regarding demand reduction opportunities and SCE's Preferred Resources Pilot Program. Additionally, IRWD has asked the Navigant team coordinate with another consulting team (RMS Energy Consulting LLC). RMS is conducting a study funded by SCE to determine energy and peak demand savings opportunities within IRWD's system. The RMS team needs access to the same raw data the Navigant team is using. IRWD staff asked Navigant to support this process. Navigant understands this is a high priority addition to the scope and has already begun to share data with RMS per direction from IRWD staff. The hours budgeted for this effort include the initial sharing of data with the RMS team as well as anticipated future coordination with the RMS team (e.g. answering questions about the data and sharing applicable knowledge). The hours budgeted for future coordination is capped at 15 hours of Navigant staff time.

2. **Task 13: Document greenhouse gas (GHG) emissions savings.** This analysis will be an add-on to Task 8 (Conservation Analysis). The analysis will estimate the GHG emissions reductions that have resulted from water conservation program activity from 2005- 2013. The analysis will present results as a new table in the Task 8 documentation that describes the GHG emission reductions by year and by conservation program activity (i.e. residential vs. commercial water savings). Total GHG emissions from IRWD's operations have been previously summarized in IRWD's *Energy and GHG Master Plan* (2012) and further detailed in

IRWD's *2012 Green House Gas Inventory* (2014). This analysis will focus on emissions savings that results from water conservation programs. Scope 1, 2, and 3 emissions reductions will be quantified where applicable. Upon review of past IRWD GHG documentation we expect the majority of GHG savings to originate from Scope 2 (purchased SCE power) and Scope 3 (energy used to import water and export sewage) with very little if any savings originating from Scope 1 (such as stationary emissions sources, vehicles, and biogas from sewage treatment plants). This task will use the same emissions factors and calculation equations previously documented in IRWD's *2012 Green House Gas Inventory* (2014). The results of this analysis will help establish IRWD as a leader in the water-energy-carbon nexus.

REVISED SCHEDULE

A revised schedule that includes Variance No. 1 activities is shown below. As presented, the project is expected to be completed in August, 2015, approximately a seven month increase from the original scope of work.



BUDGET

The table below documents the necessary budget changes to meet the above described changes in scope and schedule associated with Variance No. 1. As presented, Variance No.1 requires an $84,351 (30%) increase from the original budget of $282,140 to $366,491.

Navigant values the strong relationship we have built with IRWD and looks forward to continuing to support the District. As such, we offer a 10% discount on Navigant staff fees (as shown in the table below).

				Hours								
Staff Member	Firm	Title/Role	Rate	Task 1	Task 2	Task 6	Task 7	Task 8	Task 9	Task 12: Peak Demand	Task 13: GHG Emissions Reductions	Total
Amul Sathe	Navigant	Project Manager	$210	20	10	5	2	4	10	20	4	75
Kristin Landry	Navigant	Senior Consultant	$160		60	15	4	10	20	25	15	149
Jennifer Duffy	HDR	Area Manager	$215	12								12
Tobias Wolf	HDR	GIS Specialist	$215				8					8
Ben Porter	HDR	Subconsultant Project Manager	$170	15	6	20			30			71
Joel Engleson	HDR	Project Engineer Modeler	$125			50	10		80			140
Yuying Li	HDR	Project Engineer	$135				110					110
Subtotal Fees				**$9,330**	**$12,720**	**$13,100**	**$18,880**	**$2,440**	**$20,400**	**$8,200**	**$3,240**	**$88,310**
10% Discount on Navigant Staff Fees												**$3,959**
Total												**$84,351**