Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE MEETING OF THE BOARD OF DIRECTORS INLAND EMPIRE UTILITIES AGENCY* AGENCY HEADQUARTERS, CHINO, CALIFORNIA

WEDNESDAY, OCTOBER 10, 2018
9:45 A.M.

Or immediately following the Community & Legislative Affairs Committee Meeting

CALL TO ORDER

PUBLIC COMMENT

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to complete and submit to the Board Secretary a "Request to Speak" form which is available on the table in the Board Room. Comments will be limited to five minutes per speaker. Thank you.

ADDITIONS TO THE AGENDA

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

1. ACTION ITEMS

A. MINUTES

The Committee will be asked to approve the Engineering, Operations, and Water Resources Committee meeting minutes of September 12, 2018.

B. **RP-2 DEWATERING OF DECOMMISSIONED STRUCTURES EMERGENCY PROJECT**

Staff recommends that the Committee/Board:

1. Ratify the emergency project approval for the RP-2 Dewatering Decommissioned Structures in the amount of $500,000;

2. Approve the budget amendment in the amount of $500,000 for Project No. EN19019, RO Emergency O&M Projects FY 2018/19; and

3. Authorize the General Manager to approve the emergency task order subject to non-substantive changes and budget augmentation.

C. **CONTRACT AWARD FOR SUPPLY OF RP-1 DEWATERING POLYMER TO AQUA BEN CORPORATION**

Staff recommends that the Committee/Board:

1. Approve Contract No. 4600002632 to Aqua Ben Corporation, establishing a two-year contract for the supply of polymer with options for extensions up to three additional years, for a potential contract term of five years; and

2. Authorize the General Manager to execute the contract with potential contract extensions.

D. **RP-1 ROOF AND SKYLIGHT REPLACEMENT CONSTRUCTION CONTRACT AWARD**

Staff recommends that the Committee/Board:

1. Award a construction contract for the RP-1 PRB and MCC Building Roof and Skylight Replacement, Project No. EN19037, to Best Contracting Services Inc., in the amount of $343,555; and

2. Authorize the General Manager to execute the contract.

E. **REGIONAL RESIDENTIAL LARGE LANDSCAPE RETROFIT PROGRAM CONTRACT AWARD**

Staff recommends that the Committee/Board:

1. Award a one-year contract ($210,000), with two one-year extension options, to ConServ Inc., for the implementation and administration of the Regional Residential Landscape Retrofit Program for a not-to-exceed amount of $710,000 (three-year contract term); and

2. Authorize the General Manager to execute the Agreement, subject to non-substantive changes.

F. **IEUA & CBWM COST SHARING TASK ORDER NO. 4 FOR CHINO BASIN PROJECT SUPPORT**
Staff recommends that the Committee/Board:

1. Approve Task Order No. 4 with CBWM for Chino Basin Project Evaluation and Conceptual Design Support, for a not-to-exceed amount of $190,568, under the Master Cost Sharing Agreement; and

2. Authorize the General Manager to execute Task Order No. 4, subject to non-substantive changes.

G. **VACUUM TRUCK MASTER SERVICES CONTRACT AMENDMENT**
Staff recommends that the Committee/Board:

1. Approve an amendment to Master Service Contract 4600002293 with K-VAC for vacuum truck services in the amount of $123,000 for a total aggregate not-to-exceed amount of $266,330; and

2. Authorize the General Manager to execute the amendment subject to non-substantive changes.

2. **INFORMATION ITEM**

A. **LABORATORY SEMI-ANNUAL UPDATE (POWERPOINT)**

B. **PLANNING & ENVIRONMENTAL RESOURCES ANNUAL REPORTS (WRITTEN/POWERPOINT)**

C. **1ST QUARTER PLANNING & ENVIRONMENTAL RESOURCES UPDATE (POWERPOINT)**

RECEIVE AND FILE INFORMATION ITEM

D. **ENGINEERING AND CONSTRUCTION MANAGEMENT PROJECT UPDATES (POWERPOINT)**

3. **GENERAL MANAGER'S COMMENTS**

4. **COMMITTEE MEMBER COMMENTS**

5. **COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS**

6. **ADJOURN**

*A Municipal Water District

*A Municipal Water District

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary (909-993-1736), 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

Proofed by: _____

DECLARATION OF POSTING

I, April Woodruff, Board Secretary of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of the agenda has been posted by 5:30 p.m. in the foyer at the Agency's main office, 6075 Kimball Ave., Building A, Chino, CA on Thursday, October 4, 2018.

April Woodruff

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1A

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

MINUTES

ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE MEETING
INLAND EMPIRE UTILITIES AGENCY*
AGENCY HEADQUARTERS, CHINO, CA

WEDNESDAY, SEPTEMBER 12, 2018
9:45 A.M.

COMMITTEE MEMBERS PRESENT
Michael Camacho, Chair
Kati Parker

COMMITTEE MEMBERS ABSENT
None

STAFF PRESENT
Halla Razak, General Manager
Chris Berch, Executive Manager of Engineering/AGM
Kathy Besser, Executive Manager of External Affairs & Policy Development/AGM
Randy Lee, Executive Manager of Operations/AGM
Shaun Stone, Acting Executive Manager of Engineering/AGM
Christina Valencia, Executive Manager of Finance & Administration/AGM
Jerry Burke, Deputy Manager of Engineering
Andy Campbell, Groundwater Recharge Coordinator/Hydrogeologist
Joel Ignacio, Senior Engineer
Julio Im, Senior Associate Engineer
Lisa Morgan-Perales, Senior Water Resources Analyst
April Woodruff, Board Secretary/Office Manager
Jamal Zughbi, Senior Engineer/Project Manager, P.E.

OTHERS PRESENT
Justin Nakano, Chino Basin Watermaster
Carolina Sanchez, WEI
Mike Blazevic, WEI

The meeting was called to order at 9:45 a.m. There were no public comments received or additions to the agenda.

ACTION ITEMS
The Committee:

- Approved the Engineering, Operations, and Water Resources Committee meeting minutes of August 8, 2018.

- Recommended that the Board:

    1. Award a construction contract for the RP-5 Recycled Water Pipeline Bottleneck, Project No. EN14043, to T.E. Roberts, Inc., in the amount of $2,023,600; and

    2. Authorize the General Manager to executive the contract;

    as an Action Item on the September 19, 2018 Board meeting agenda.

- Recommended that the Board:

    1. Award a construction contract for the CBWM Pomona Extensometer Facility Construction, Project No. RW19002, to Cascade Drilling, L.P. in the amount of $1,267,462; and

    2. Authorize the General Manager to executive the construction contract subject to non-substantive changes;

    as a Consent Calendar Item on the September 19, 2018 Board meeting agenda.

- Recommended that the Board:

    1. Award a one-year contract ($250,000), with two one-year extension options, to EcoTech Services, Inc., for the implementation and administration of the Residential Pressure Regulation Program for a not-to-exceed amount of $750,000 (three-year contract term); and

    2. Authorize the General Manager to execute the contract, subject to non-substantive changes.

    as a Consent Calendar Item on the September 19, 2018 Board meeting agenda.

- Recommended that the Board ratify the contract already executed by the General Manager to JCE Equipment Inc. for the Brooks Basin Earthwork Services for a not-to-exceed amount of $246,920;

    as a Consent Calendar Item on the September 19, 2018 Board meeting agenda.

- Recommended that the Board authorize the General Manager to execute the West Valley Water District Imported Water Agreement contract subject to non-substantive changes;

    as a Consent Calendar Item on the September 19, 2018 Board meeting agenda.

- Recommended that the Board:

    1. Approve the 2018 Recharge Master Plan Update;

    2. Adopt Resolution No. 2018-9-2, adopting the 2018 Recharge Master Plan Update; and

    3. Approve the Joint Filing with Chino Basin Watermaster to the court;

    as a Consent Calendar Item on the September 19, 2018 Board meeting agenda.

INFORMATION ITEMS
The following information items were presented or received and filed by the Committee:

- Planning & Environmental Resources Update
- Engineering and Construction Management Project Updates

GENERAL MANAGER'S COMMENTS
There were no General Manager comments.

COMMITTEE MEMBER COMMENTS
There were no Committee member comments.

COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS
There were no Committee member requests for future agenda items.

With no further business, Director Camacho adjourned the meeting at 10:10 a.m.

Respectfully submitted,

April Woodruff
Board Secretary/Office Manager

*A Municipal Water District

APPROVED: October 10, 2018

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1B

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018

To: The Honorable Board of Directors **From:** Halla Razak, General Manager HHR

Committee: Engineering, Operations & Water Resources 10/10/18

Finance & Administration 10/10/18

Executive Contact: Shaun Stone, Acting Executive Manager of Engineering/AGM

Subject: RP-2 Dewatering of Decommissioned Structures Emergency Project

Executive Summary:

In July 2018, Inland Empire Utilities Agency Operations Department received written notice from West Valley Mosquito and Vector Control District that abandoned decommissioned structures located at Regional Plant No.2 contained standing water and were considered high potential areas for mosquito infestation. Operations staff requested assistance from the Engineering Department to procure a contractor to mobilize immediately to begin dewatering each affected structure and develop an overall plan to mitigate storm water accumulation and ground water infiltration into the abandoned structures.

Engineering staff issued a level three emergency call-out to qualified contractors on the Minor Construction and Emergency contractors list on September 6, 2018 with a request for a two part proposal to address the immediate mitigation plan and overall plan.

Two contractors responded with not-to-exceed proposals. Ferreira Construction was the lowest responsive bidder for the immediate and overall plans. Ferreira Construction was approved to proceed with the immediate plan work under the authority of the Engineering Department Manager. This recommendation is for the overall plan cost proposal in the amount of $460,000.

Staff's Recommendation:

1. Ratify the emergency project approval for the RP-2 Dewatering of Decommissioned Structures in the amount of $500,000;

2. Approve the budget amendment in the amount of $500,000 for Project No. EN19019, RO Emergency O&M Projects FY 2018/19; and

3. Authorize the General Manager to approve the emergency task order subject to non-substantive changes and budget augmentation.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* Y *Amount for Requested Approval:*

Account/Project Name:

EN19019 - RO Emergency O&M Projects FY 2018/19

Fiscal Impact (explain if not budgeted):

f approved, the emergency projects for the RP-2 Dewatering of Decommissioned Structures, Project No. EN19019, will be supported by the revised total project budget of $650,000 in the Regional Wastewater O&M (10800) Fund.

Full account coding (internal AP purposes only): - - - Project No.:
- - -

Prior Board Action:

None.

Environmental Determination:

Statutory Exemption

The emergency project is statutorily exempt based on Section 15269(b) of the State CEQA Guidelines.

Business Goal:

The RP-2 Dewatering of Decommissioned Structures Emergency Project is consistent with IEUA's business goal of Wastewater Management, specifically the water quality objective that IEUA will ensure that Agency systems are planned, constructed, and managed to protect public health, the environment, and meet anticipated regulatory requirements.

Attachments:

Attachment 1: PowerPoint
Attachment 2: West Valley Vector Control Inspection Report
Attachment 3: West Valley Vector Control Warning Notice

Attachment 1

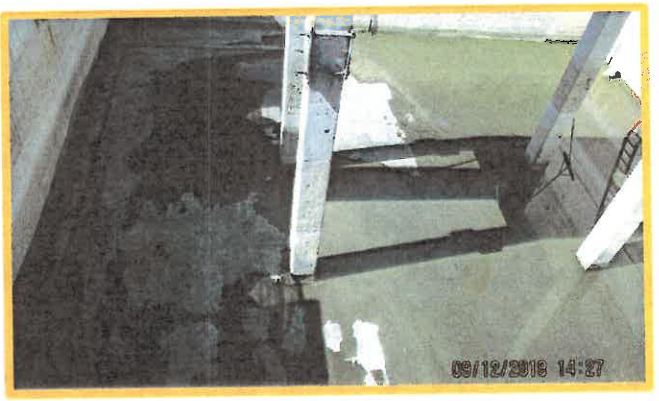
RP-2 Dewatering of Decommissioned Structures Emergency Project

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

John Scherck
Senior Project Manager

Aeration Basin No. 3

Initial Condition
09/11/18 1:26 PM

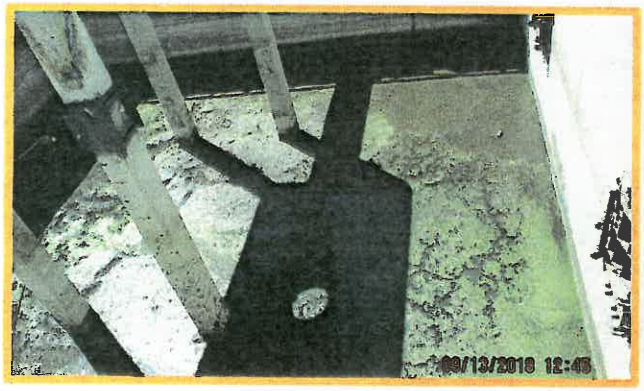


After Dewatering
09/12/18 2:47 PM

Ground Water Infiltration
09/13/18 7:37 AM

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Aeration Basin No. 4



Initial Condition
09/13/18 12:45 PM

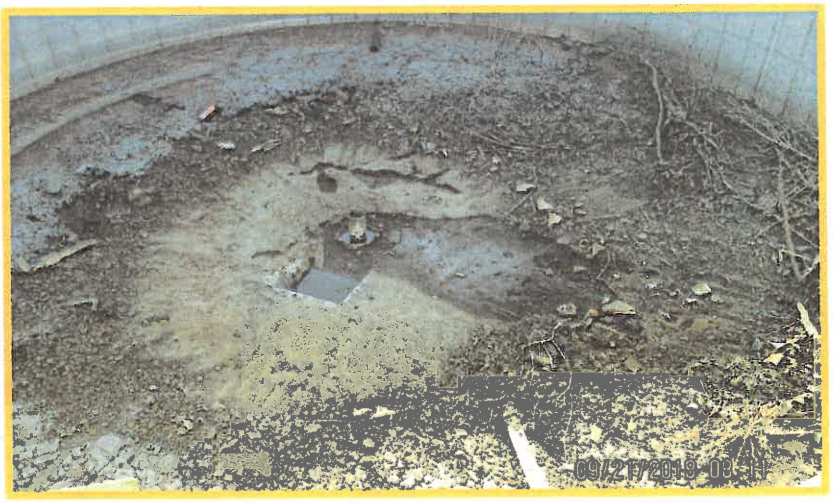
After Dewatering
09/13/18 2:40 PM

Ground Water Infiltration
09/14/18 6:55 AM

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Secondary Clarifier

After Dewatering
09/19/18 8:43 AM



Ground Water Infiltration
09/21/18 8:11 AM

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Attachment 2

WEST VALLEY MOSQUITO AND VECTOR CONTROL DISTRICT
1295 East Locust St., Ontario CA 91761
909-635-0307
PREMISES INSPECTION REPORT

Name Inland Empire Utilities Agency (RP-2) Address 16400 El Prado Rd. Chino Date 08/02/18

An inspection of the above location discloses conditions which must be corrected to assure that vector populations (mosquitoes, flies, rats) are kept to a minimum. Failure to correct the problem(s) will subject the owner to penalties as stated in the California Health and Safety Code (§2063).

MOSQUITO SOURCES:
- ☒ Stagnant Water
- ☐ Swimming Pool
- ☐ Weeds and/or debris
- ☐ Other _____

FLY SOURCES:
- ☐ Garbage
- ☐ Manure
- ☐ Feed
- ☐ Grass Clippings
- ☐ Compost
- ☐ Fruit
- ☐ Other _____

RODENT SOURCES:
- ☐ Harborage (ivy, bougainvillea, woodpile, trash, structure)
- ☐ Food (fruit, garbage, feeds)
- ☐ Other _____

OTHER VECTOR SOURCES:

Vector Breeding nuisance existed this date ☐ Yes ☒ No
Notice Issued ☐ Yes ☒ No

Remarks and Recommendations: Persistent water stagnation in the decommissioned concrete structures. Eliminate the potential for mosquito harborage by completely draining the concrete structures within 14 days. A follow up inspection will be on August 17th 2018.

Owner, Operator, or Agent

Benjamin Wasuta
Inspector

DISTRIBUTION: White – Office Copy *Pink – Inspector* *Canary – Owner, Operator or Agent*

Attachment 3

West Valley Mosquito and Vector Control District
1295 E. Locust Street
Ontario, CA 91761
(909) 635-0307
Website: www.wvmosquito.org

WARNING NOTICE

TO: Inland Empire Utilities Agency, owner/occupant/agent of the property located at 16400 El prado Rd, Chino 91708.

YOU ARE HEREBY NOTIFIED that the property described above has been determined to be a breeding site for Mosquitoes. Under the Health and Safety Code, Section 2002, any breeding site for vectors is a **PUBLIC NUISANCE**. As the owner/occupant/agent of the property, you are responsible for eliminating the conditions which allow these vectors to breed.

If you fail to correct the problem by Thursday September 13th 2018, the West Valley Mosquito and Vector Control District will take all steps necessary to see that the situation is corrected, including initiating legal proceedings against you pursuant to the Health and Safety Code. **Penalties can be One Thousand Dollars ($1,000.00) per day, plus the costs of abatement activities (Health And Safety Code Section 2061).**

In order to avoid legal proceedings, you must immediately take the following steps to eliminate the vector breeding:

1) Completely drain water in the decommissioned concrete structures or
2) Completely fill up the concrete structures

☑ Please contact this office immediately (909) 635-0307.

Acknowledged by: _____ Date: 8-27-18
Owner/Occupant/Agent

Inspected by: Benjamin Wasuta Date: 08/28/18
District Representative

Date mailed: _____

Distribution: original- Office Copy, yellow - owner copy, pink – district representative copy.

Revision-1205

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1C

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018 HHR

To: The Honorable Board of Directors **From:** Halla Razak, General Manager

Committee: Engineering, Operations & Water Resources *10/10/18*

Executive Contact: Randy Lee, Executive Manager of Operations/AGM

Subject: Contract Award for Supply of RP-1 Dewatering Polymer to Aqua Ben Corporation

Executive Summary:

Polymer is used in the dewatering process to help capture solids and increase dewatering performance of digested sludge. The current polymer contract expires on October 31, 2018. On July 31, 2018, the Agency issued a request for proposals for a new polymer supplier.

Four proposals were received claiming to meet the minimum performance requirements. All four bidders were invited to participate in a trial. To ensure impartial testing, the operators were not given the supplier's name of each polymer.

During the trial, laboratory analysis was performed to determine process effectiveness. When the trial was complete, it was determined that Aqua Ben Corporation's polymer had met performance requirements and provided the best value to the Agency at a polymer unit cost of $10.07 per gallon ($1.15 per pound).

The duration of the contract is for two years with options to extend an additional three years at the Agency's discretion.

Staff's Recommendation:

1. Approve Contract No. 4600002632 to Aqua Ben Corporation, establishing a two-year contract for the supply of polymer with options for extensions up to three additional years, for a potential contract term of five years; and

2. Authorize the General Manager to execute the contract with potential contract extensions.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* N *Amount for Requested Approval:*

Account/Project Name:

Dewatering Polymer expenditures will be funded from Fiscal Year Regional Wastewater Operations and Maintenance chemical budget for RP-1.

Fiscal Impact (explain if not budgeted):

Full account coding (internal AP purposes only): 10800 - 151151 - 560000 - 530028 Project No.:

Prior Board Action:

On October 16, 2013, the Board of Directors awarded a one-year contract to Aqua Ben Corp. with options for four additional one-year extensions for RP-1 centrifuge dewatering polymer.

On February 20, 2013, the Board of Directors awarded a two year contract to Polydyne, Inc. with options for three additional one-year extensions for RP-2 and RP-1 centrifuge dewatering polymer.

Environmental Determination:

Not Applicable

Business Goal:

The contract supports the IEUA's Business Goal of Wastewater Management, specifically the Organics Management objective that IEUA will manage organics to meet regulatory compliance standards in a fiscally prudent and environmentally sustainable manner.

Attachments:

Attachment 1 - PowerPoint
Attachment 2 - Contract No. 4600002632 to Aqua Ben Corporation

Attachment 1

Contract Award Supply of RP-1 Dewatering Polymer to Aqua Ben Corporation

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Rocky Welborn, Senior Associate Engineer-PE
October 2018

Dewatering

- IEUA uses polymer to improve the efficiency of centrifuge dewatering operation
  - Reduces hauling costs
  - Reduces off site discharge costs to the NRW system
- The current contract expires in October 2018

Inland Empire Utilities Agency
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Solicitation Process

- Request for Proposals was issued in July 2018
- All bidders were invited to a live trial at RP-1
- Aqua Ben Corporation was determined to provide the best value to the Agency

Trial Results

Name	Dose (lbs/ton)	Price ($ / 100K gal Sludge)
Aqua Ben	30.8	$ 796
	34	$ 888
Solenis	30.8	$ 915
	34	$ 1,011
Univar	30.8	$ 1,205
	34	$ 1,329

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Recommendation

- Approve Contract No. 4600002632 to Aqua Ben Corporation, establishing a two-year contract for the supply of polymer with options for extensions up to three additional years, for a potential contract term of five years; and

- Authorize the General Manager to execute the contract with potential contract extensions.

The supply of dewatering polymer aligns with the Agency's Wastewater Management goal to manage organics to meet regulator compliance standards in a fiscally prudent and environmentally sustainable manner.

Attachment 2

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CONTRACT NUMBER: 4600002632
FOR
SUPPLY OF CENTRIFUGE DEWATERING POLYMER

This CONTRACT (Contract), is made and entered into this ____ day of _____, 2018, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as Agency), and Aqua Ben Corporation of Orange, California, (hereinafter referred to as Supplier), for supply of Hydrofloc 750E Cationic Emulsion Polymer.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

A. **PROJECT MANAGER ASSIGNMENT**: All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are as follows, or as provided to the Supplier in writing at a future date:

Project Manager:	Scott Oakden Deputy Manager of Operations
Location:	6075 Kimball Avenue Chino, CA 91708
Telephone:	(909) 993-1922
Fax:	(909) 993-1987
Email:	soakden@ieua.org

B. **SUPPLIER ASSIGNMENT**: Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Supplier Representative:	Jeff Wallace
Address:	1390 N. Manzanita Street Orange, CA 92867
Telephone:	(714) 771-6040
Facsimile:	(714) 771-1465
E-mail:	jwallace@aquaben.com

C. **ORDER OF PRECEDENCE**: The documents referenced below represent the Contract Documents. Where any conflicts exist between the general terms and

conditions, addenda, attachment(s), or other contractual documents, the governing order of precedence shall be as follows:

1. Amendment(s) to Contract No. 4600002632.
2. Contract No. 460000263.2 General Terms and Conditions.
3. Agency Request for Proposal No. RFP-SM-18-014
4. Supplier's Proposal dated 08/20/2018.

D. SCOPE OF WORK:

GENERAL: The centrifuge dewatering building at RP-1 was constructed in 2013. The dewatering process dewaters anaerobically digested domestic solids (phased or direct feed). The sludge has a minimum detention time of 15 days at either thermophilic or mesophilic temperatures. The centrifuge is a Alfa Laval model G2-120, with polymer addition near the feed tube from a Velodyne Veloblend model VM-30P-6000-RP-3D-A-2, dewatered sludge is moved to a conveyor system for truck loading and hauling and centrate is diverted to a pump station for off site processing.

The polymer delivered by the Supplier must not contain solidified masses of polymer and must be 100 percent in solution when mixed. Polymer not meeting this specification can cause clogging in the Agency's polymer feed system and will be rejected by the Agency. The Supplier shall provide detailed instructions on the proper procedures for using the polymer in the Agency's centrifuges and shall provide any necessary assistance in setting up the feed system.

Throughout performance under long-term supply contract, Supplier shall provide polymer identical to the product submitted in the bid. The polymer will be routinely monitored for the following:

- Density (lbs/gal)
- Percent Total Solids
- Percent Volatile Solids
- Percent Active Solids

Solution polymer shall be delivered in 275 gallon tote bins. The Supplier shall supply and install any specialized fittings and equipment necessary to transfer the solution polymer from the bins to the mixing/feeding units/holding tank. Solution polymer may be stored onsite in a covered storage area for up to 30 days and must maintain its performance characteristics for that storage duration.

Should the Supplier be unable to deliver the requested quantity(s) of polymer within the terms stated within the contract, the Agency may purchase polymer on the open market. If the cost of the polymer purchased to replace the successful bidder's polymer results in increased operating costs, the successful bidder shall be responsible for the added costs.

The Agency will pay for the actual pounds of polymer delivered in the tote bins. Invoices shall reflect the loaded gross weight, empty tare weight, and net weight delivered. Pounds invoiced will be the net pounds of polymer delivered, loaded gross weight minus the empty gross weight.

A certified laboratory analysis indicating the percent total solids, percent volatile solids and percent active must be provided by the Supplier for each delivery of polymer. The laboratory analysis must accompany the delivery notice (packing slip). The invoice must indicate any

product that is delivered containing less percent dry solids than has been specified. Periodic quality control tests will be performed by the Agency on the delivered product to ensure that Contract specifications are maintained and reported quality is accurate.

Polymer purchased under this solicitation shall comply in all respects with federal, state, and local rules and regulations in effect at the time of delivery.

ESTIMATED QUANTITIES: The Supplier shall supply all polymer for Regional Plant No.1 centrifuge process, to be used by the Agency, during the term of any Contract entered into. Estimated usage quantities will be supplied by the supplier, calculations shall be provided to the Agency for verification. The Agency's annual usage for the subject centrifuge polymer will be based on the following criteria:

- Minimum polymer dose rate that achieves 24% total solids dewatered cake for Regional Plant No. 1
- Minimum acceptable Solids Capture of 95 percent
- Solids loading rate of approximately 25.2 dry tons/day at RP- 1
- Percent Active Solids of polymer as provided by the Supplier
- Density of polymer as provided by the Supplier

The Agency shall not be obligated to purchase any specific minimum nor maximum quantities and reserves the right to purchase either more or less product, based on the facility's Solids Loading Rate and the effectiveness/efficiency of the selected polymer product, at the agreed upon firm-fixed unit price established by the Contract.

The feed sludge is anaerobically domestic solids with the following characteristics:

Feed Sludge Parameter	Value/Range*
Primary to waste activated sludge ratio	Primary (55% - 70%) to WAS (30% - 45%)
Volatile Solids Destruction in digesters	40% to 65%
Total Suspended Solids	1.6% to 2.2%
Volatile Solids	65% to 75%

*All provided values and ranges are based on historical data and may change during the contract period. Sludge characteristic changes that may impact contract compliance will be communicated to the supplier.

SHIPPING INSTRUCTIONS: Shipments shall be made within three calendar days, upon receipt of either a verbal or written shipping order from the Agency. Orders will be placed on an as-needed basis to suit the Agency's requirements throughout the Contract period. Deliveries shall be made between the hours of 7:00 a.m. and 1:30 p.m. Monday through Friday only.

DELIVERY LOCATIONS: Polymer shall be delivered to the following locations, as designated at the time of order placement:

Regional Water Recycling Plant No. 1
2662 E. Walnut Avenue

Ontario, CA 91761

The Agency reserves the right to add any additional delivery destinations, within its' designated service area, as may subsequently be required. Any added location(s) shall receive the same product, service, pricing, etc. as required by the Contract.

LOADING AND UNLOADING: Upon arrival, the delivery person will report to the Regional Plant clerk. Subsequent to notification by the Regional Plant clerk, an Agency operator will observe and approve all loading and unloading of shipments. The Supplier shall allow a reasonable period of time, up to one-half hour, between notification to clerk and approval by Agency operators to unload shipment. Procedures for loading and unloading of all shipments shall comply with Cal-OSHA and AWWA Standards. Loading and unloading of all shipments will not commence without an Agency Operator present. The Supplier's delivery equipment **must** be fully compatible with Agency facilities and equipment. Deliveries shall be executed without any spillage of material. **Any** spilled material, however minor, shall immediately be contained and properly removed by the Supplier. Any damage or disfigurement to Agency property caused by a spill shall be corrected by the Supplier immediately.

TERMINATION: The Agency may reject delivery or terminate the Contract if the quality of the delivered polymer deteriorates, the delivered product is different from the product that was tested, the performance of the chemical is significantly different from the product used for testing, or if the delivered products total solids measured is less than the tested product listed in the specifications. In the event delivered product is rejected for failure to meet the product specifications, it shall be the sole responsibility of the Supplier to immediately remove said product and provide acceptable replacement product. In such event, if requested by the Agency, the Supplier shall help maintain the Agency's operations by providing temporary facilities in the event the Agency's existing polymer system(s) is/are damaged by Supplier's non-conforming polymer. Temporary facilities may include installing polymer storage tanks, pumps, piping, and miscellaneous appurtenances, as directed by the Agency. Removal and replacement of rejected polymer, and provision of the above-mentioned temporary facilities, shall be at the sole expense of the Supplier. The Agency may terminate the Contract should two or more deliveries of polymer be rejected in a one year period.

EMERGENCY TELEPHONE NUMBER: The Supplier shall provide a telephone number(s) where a representative of the Supplier may be contacted 24 hours a day, seven days a week in the event of an emergency.

SAFETY DATA SHEETS: The Supplier shall provide two copies of a Safety Data Sheet (SDS) to the Agency's Contract Administrator upon execution of any Contract entered into and when said document is revised or updated.

E. **TERM OF CONTRACT / OPTIONS**: The initial term of this Contract shall run from November 1, 2018 through October 31, 2021 or as mutually agreed to between the Supplier and Agency in any written extension to said Contract. Additionally, upon both Parties reaching mutual agreement as to a revised unit price, this Contract may be extended in twelve month increments, for an additional period not-to-exceed 24 months; resulting in a total Contract term of five years. In the event the Agency desires to exercise one or both of the Contract extension options provided for in this Section, the Agency shall provide written notice of its desire to do so to the Supplier prior to the expiration of the original Contract term, or any extension thereof.

F. **PAYMENT, INVOICING AND COMPENSATION**: The Agency shall pay Supplier's properly executed invoice(s) within thirty (30) calendar days following receipt of the invoice. Payment will be withheld for any product which does not meet the requirements of this Contract or has proven unacceptable until such product is replaced and accepted by the Project Manager.

To expedite the payment of invoices email to apgroup@ieua.org with a copy to the Agency's Project Manager.

As compensation for product provided under this Contract, the Agency shall pay the Supplier in accordance with the following price schedule:

PRODUCT PRICE/GALLON	**$ 10.07/gallon ($1.15/lb)**
SALES TAX (7.75%)	**$ 0.78 ($0.09/lb)**
TOTAL NET PRICE/GALLON (delivered)	**$ 10.85/gallon ($1.24/lb)**

G. **FITNESS FOR DUTY**:

1. Fitness: Supplier and its Subcontract personnel on Agency property:

   a. shall report for work in a manner fit to do their job;
   b. shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the work is not affected thereby); and
   c. shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of the Agency.

2. Compliance: Supplier shall advise all supplier and subcontractor personnel and associated third parties of the requirements of the Contract ("Fitness for Duty Requirements") before they enter on Agency property and shall immediately remove from Agency property any employee determined to be in violation of these requirements. Supplier shall impose these requirements on its Subcontractors. The Agency may cancel the Contract if Supplier violates these Fitness for Duty Requirements.

H. **REQUIRED INSURANCE**: During the term of this Contract, the Supplier shall maintain at the Supplier's sole expense, the following insurance.

1. Minimum Scope of Insurance: Coverage shall be at least as broad as:

   a) Commercial General Liability ("CGL"): Insurance Services Office ("ISO") Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than $1,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

      If the Supplier utilizes a claims made policy they agree to maintain said policy or a tail on said policy, at the same limits of coverage as required pursuant to this document, for a period of three years after the expiration of, or any extensions to the Contract.

   b) Automobile Liability: ISO Form Number CA 00 01 covering any auto (Code 1), or if Contractor has no owned autos, covering hired, (Code 8) and non-owned autos (Code 9), with limit no less than $1,000,000 per accident for bodily injury and property damage.

   c) Workers' Compensation and Employers Liability: Workers' compensation limits as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease.

2. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

3. Other Insurance Provisions: The insurance policies are to contain, or be endorsed to contain, the following provisions:

   1. Commercial General Liability and Automobile Liability Coverage

a. Additional Insured Status: The Agency, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment supplied in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10 11 85; or **by either** CG 20 10, CG 20 26, CG 20 33, or CG 20 38 **and** CG 20 37 forms if later revisions are used).

b. Primary Coverage: The Contractor's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract with the Agency shall be excess of the Contractor's insurance and shall not contribute with it.

c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.

d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

e. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.

2. Workers' Compensation and Employers Liability Coverage

Contractor hereby grants to Agency a waiver of any right to subrogation which any insurer of the Contractor may acquire against the Agency by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the Agency has received a waiver of subrogation endorsement from the insurer.

3. All Coverages

Each insurance policy required by this Contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Agency pursuant to Section 14, page 12 of this Contract.

4. Acceptability of Insurers: Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A minus:VII, and who are admitted insurers in the State of California.

5. Verification of Coverage: Contractor shall provide the Agency with original certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Agency before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Agency reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

6. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:

Inland Empire Utilities Agency
Attn: Angela Witte
P.O. Box 9020
Chino Hills, CA 91709

I. LEGAL RELATIONS AND RESPONSIBILITIES:

1. Status Of Supplier: The Supplier is retained as an independent Supplier only, for the sole purpose of providing product as described herein, and not an employee of the Agency.

2. Observing Laws And Ordinances: The Supplier or any Subcontractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the supply of any product, conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Supplier or any Subcontractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on

the violation of any such law, ordinance, regulation, order or decree, whether by the Supplier or its employees.

3. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Contract Administrator.

4. Indemnification: Consultant shall indemnify the Agency, its directors, employees and assigns, and shall defend and hold them harmless from all liabilities, demands, actions, claims, losses and expenses, including reasonable attorneys' fees, which arise out of or are related to the negligence, recklessness or willful misconduct of the Consultant, its directors, employees, agents and assigns, in the performance of work under this contract.

5. Conflict Of Interest: No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.

6. Equal Opportunity: During the performance of this contract the Agency, the Supplier and any Subcontractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, marital status, national origin, or physical handicap.

7. Disputes:

   a. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Counsel shall pursue the work to completion in accordance with the instruction of the Agency's Contract Administrator notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq., or their successor.

   b. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Contract Administrator and the Counsel shall comply, pursuant to the Agency Contract Administrator instructions. If the Counsel is not satisfied with any such resolution by the Agency Contract Administrator, they may file a written protest with the

Agency Contract Administrator within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Counsel to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Contract Administrator's resolution. The Agency's Contract Administrator shall submit the Counsel's written protests to the Chief Executive Officer/General Manager (CEO/GM), together with a copy of the Agency Contract Administrator's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The CEO/GM shall make his or her determination with respect to each protest filed with the Agency Contract Administrator within ten (10) calendar days after receipt of said protest(s). If Counsel is not satisfied with any such resolution by the CEO/GM, they may file a written request for arbitration with the Contract Administrator within seven (7) calendar days after receiving written notice of the CEO/GM's decision.

c. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:

(1) The Demand for Arbitration shall include a list of five names of persons acceptable to the Counsel to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Counsel are acceptable and, if so, such person will be designated as Arbitrator.

(2) In the event that none of the names submitted by Counsel are acceptable to the Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Counsel a list of five names of persons acceptable to the Agency for appointment as Arbitrator. The Counsel shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.

(3) If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to

reasonable attorneys' fees which shall be recoverable by the prevailing party.

d. Joinder in Mediation/Arbitration: The Agency may join the Counsel in mediation or arbitration commenced by a Counsel on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Counsel.

J. **INFRINGEMENT**: Supplier represents and warrants that Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violation of any Proprietary Rights of any person.

Supplier shall defend, indemnify and hold harmless, Agency, its officers, directors, agents, employees, successors, assigns, servants, and volunteers free and harmless from any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses arising out of any claim that use of the Work or Documentation, to replace or modify the Work and Documentation infringes upon any trade secret, trade mark, trade name, copyright, patent, or other Proprietary Rights.

Supplier shall, at its expense and at Agency's option, refund any amount paid by Agency under the Contract, or exert its best efforts to procure for Agency the right to use the Work and Documentation, to replace or modify the Work and Documentation as approved by Agency so as to obviate any such claim of infringement, or to put up a satisfactory bond to permit Agency's continued use of the Work and Documentation.

K. **TAXES, FEES, AND CHARGES**: The Supplier, and any of its Subcontractors, shall pay all sales, consumer, use and other similar taxes, and pay all charges and fees required to be paid by the Supplier, or any of its Subcontractors, in accordance with state, county, and local laws and ordinances.

L. **NOTICES**: Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green
Contracts & Procurement Manager
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91700

Supplier: Jeff Wallace
General Manager
Aqua Ben Corporation

1390 N. Manzanita St.
Orange, CA 92867

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

M. **INTEGRATION**: The Contract Documents represent the entire agreement between the Agency and the Supplier as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered, or amended except by written mutual agreement by the Agency and the Supplier. (Government Code Section 4154)

N. **GOVERNING LAW**: This Contract is to be governed by and constructed in accordance with the laws of the State of California.

O. **SUCCESSORS AND ASSIGNS**: All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Supplier, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Supplier under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Contract Administrator and/or Agency; and any such purported or attempted assignment, transfer, or disposal without the prior written consent of the Contract Administrator and/or Agency shall be null, void, and of no legal effect whatsoever.

P. **FORCE MAJEURE**: Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, acts of nature, etc.

Q. **TERMINATION**: The Agency reserves the right to suspend, cancel, or terminate this Contract at any time upon ten calendar days written notice to the Supplier. In the event of such termination, the Agency shall pay Supplier for all authorized and Supplier-invoiced product, approved by the Contract Administrator, up to the date of such termination. (Government Code Section 4154).

R. **CHANGES:** The Agency may, at any time, make changes to this Contract's Scope of Work; including additions, reductions, and other alterations to any or all of the work. However, such changes shall only be made via written, bi-laterally signed amendment to this Contract. The Contract Price and Work Schedule shall be equitably adjusted, if required, to account for such change and shall be set forth within the Contract Amendment.

S. **FOB POINT**: The FOB point for all product delivered against this contract shall be destination.

T. **PRICE ADJUSTMENT:** In the event the Agency exercises any of the Contract extensions provided for in Section E above, the pricing for said extension shall be calculated as follows:

Commencing on September 1, 2019 and continuing on each September 1 thereafter, those prices provided for in the Proposed Price Schedule of this Request for Proposal shall be adjusted plus or minus by a sum equal to the percentage change in the Consumer Price Index (CPI) for All Urban Consumers, in the Los Angeles-Anaheim-Riverside, California index area as provided for in this section. The bases for computing the adjustment to those prices provided for in the Proposed Price Schedule of this Request for Proposal shall be the percentage change for the twelve month period from September to September, starting with the period of September 2018 to September 2019, and continuing every twelve months thereafter. Despite any changes in the CPI for any given twelve month adjustment period, adjustments to those prices as provided for in the Proposed Price Schedule of this Request for Proposal shall increase or decrease more than 5 percent during any single twelve month adjustment period.

In the event the CPI is changed so that the base period differs from 1982-84=100, then the index applied as provided for above shall be corrected in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics, or their successor. If the CPI is discontinued or revised, such other government index or computation with which it is replaced shall be used in order to obtain substantially the same results as would have obtained if the CPI had not been discontinued or revised.

U. **NOTICE TO PROCEED**: No services shall be performed or furnished under this Contract unless and until a fully executed Contract has been completed by all responsible parties and a Notice to Proceed has been issued by the Agency.

(Remainder of Page Intentionally Left Blank)

AS WITNESS HEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY:		**Aqua Ben Corporation:**	
Halla Razak General Manager	Date	Jeff Wallace General Manager	Date

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1D

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018

To: The Honorable Board of Directors **From:** Halla Razak, General Manager

Committee: Engineering, Operations & Water Resources *10/10/18*

Executive Contact: Shaun Stone, Acting Executive Manager of Engineering/AGM

Subject: RP-1 Roof and Skylight Replacement Construction Contract Award

Executive Summary:

Over the past several years, the existing roofing systems on the RP-1 Power Reliability Building (PRB) and the Intermediate Pump Station (IPS) Motor Control Center (MCC) buildings have developed leaks and have exceeded their useful life. This roofing replacement project will replace the existing roofing systems and skylights on the PRB and IPS buildings at RP-1 with a 20-year roofing system.

On September 4, 2018, IEUA received four bids. Best Contracting Services Inc. was the lowest responsive bidder, with a bid price of $343,555.

Staff's Recommendation:

1. Award a construction contract for the RP-1 PRB and MCC Building Roof and Skylight Replacement, Project No. EN19037, to Best Contracting Services Inc., in the amount of $343,555; and

2. Authorize the General Manager to execute the contract.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* Y *Amount for Requested Approval:*

Account/Project Name:

EN19037/RP-1 PRB and MCC Building Roof and Skylight Replacement

Fiscal Impact (explain if not budgeted):

None.

Full account coding (internal AP purposes only): - - - - - - Project No.:

Prior Board Action:

None.

Environmental Determination:

Statutory Exemption

The project is statutorily exempt based on the CEQA General Rule found in Section 15061(b)(3) of the State CEQA Guidelines.

Business Goal:

The RP-1 PRB and MCC Building Roof and Skylight Replacement Project is consistent with the IEUA's Business Goal of Wastewater Management and Work Environment specifically the Asset Management and Staff Safety objectives that IEUA will ensure the regional sewer system and treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, can accommodate changes in regional water use, and will promote and ensure a safe and healthy work environment, exceeding industry best practices.

Attachments:

Attachment 1 - PowerPoint
Attachment 2 - Construction Contract

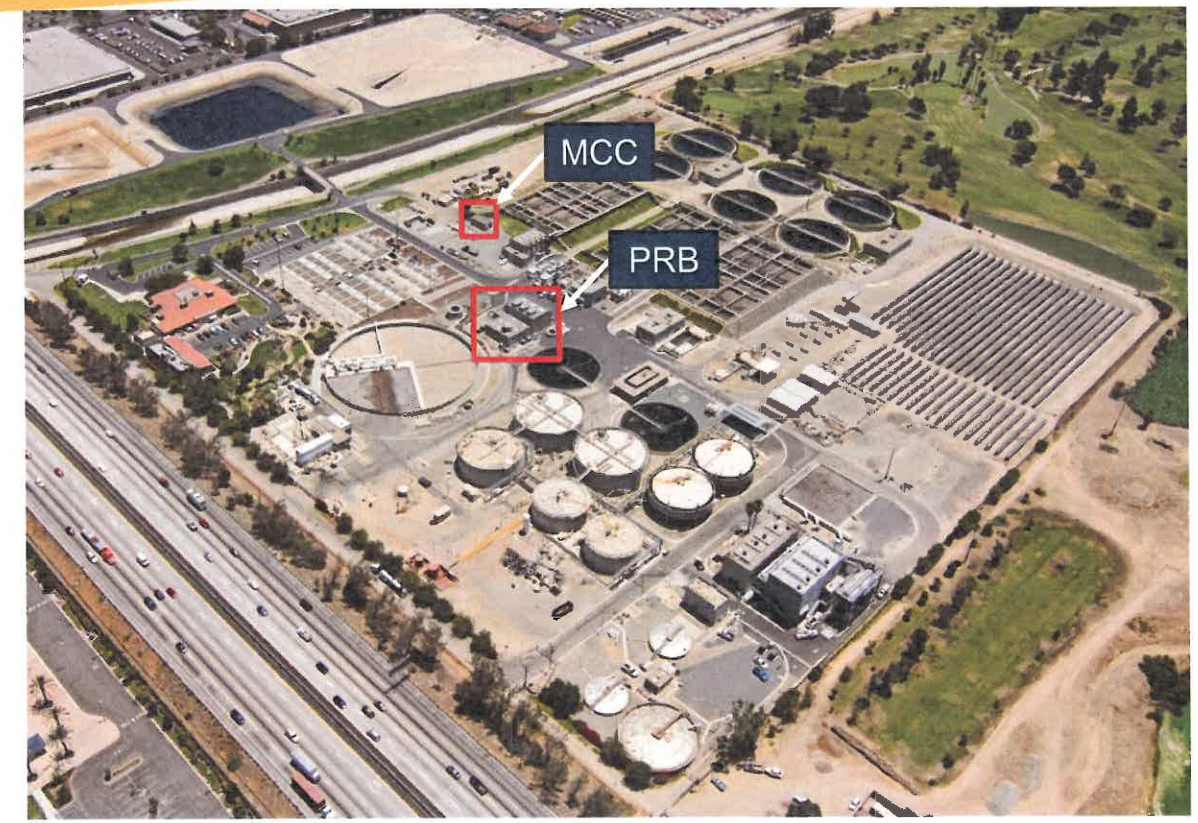
Attachment 1

RP-1 PRB and MCC Building Roof and Skylight Replacement Construction Contract Award Project No. EN19037

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Shaun J. Stone, P.E.
October 2018

Project Location



RP-1 PRB and MCC Buildings

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

The Project

- Remove/replace existing roofing system and skylights
- New handrailing around entire perimeter of the buildings
- Install a fixed galvanized ladder to the MCC building
- Remove/replace parapet coping cap

Fixed Ladder on PRB Building

Contractor Selection

Four bids were received on September 4, 2018:

Bids Received

Bidder's Name	Total
Best Contracting Services Inc.	$ 343,555
Rite-Way Roof Corporation	$ 385,032
San Marino Roof Company Inc.	$ 345,000
Pacific Builders & Roofing Inc.	Non-Responsive
Engineer's Estimate	**$390,000**

Project Budget and Schedule

Description	Estimated Cost
Design Services	**$54,000**
Design (Phase II)	$54,000
Construction Services	**$56,700**
IEUA Construction Services (15%)	$56,700
Construction	**$377,910**
Construction Contract (this action)	$343,555
Contingency (10%)	$34,355
Total Project Cost:	**$488,610**
Total Project Budget:	**$500,000**

Project Milestone	Date
Construction	
Construction Contract Award	October 2018
Construction Completion	April 2019

Recommendation

- Award a construction contract for the RP-1 PRB and MCC Building Roof and Skylight Replacement, Project No. EN19037, to Best Contracting Services Inc., in the amount of $343,555; and

- Authorize the General Manager to execute the contract.

The RP-1 PRB and MCC Building Roof and Skylight Replacement Project is consistent with the ***IEUA's Business Goal of Wastewater Management and Work Environment*** specifically the Asset Management and Staff Safety objectives that IEUA will ensure the regional sewer system and treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, can accommodate changes in regional water use, and will promote and ensure a safe and healthy work environment, exceeding industry best practices.

Attachment 2

SECTION D • CONTRACT AND RELEVANT DOCUMENTS

1.0 CONTRACT

THIS CONTRACT made and entered into this _____day of_____, 2018, by and Between Best Contracting Services, Inc. _____, hereinafter referred to as "Contractor," and The Inland Empire Utilities Agency, a Municipal Water District, located in San Bernardino County, California, hereinafter referred to as "Agency or IEUA".

WITNESSETH:

That for and in consideration of the promises and agreements hereinafter made and exchanged, the Agency and the Contractor agree as follows:

1. Contractor agrees to perform and complete in a workmanlike manner, all work required under the bidding schedule of said Agency's specifications entitled SPECIFICATIONS FOR: **PR-1 PRB AND MCC BUILDING ROOF AND SKYLIGHT REPLACEMENT, Project No. FM19001**, in accordance with the specifications and drawings, and to furnish at their own expense, all labor, materials, equipment, tools, and services necessary, except such materials, equipment, and services as may be stipulated in said specifications to be furnished by said Agency, and to do everything required by this Contract and the said specifications and drawings.

2. For furnishing all said labor, materials, equipment, tools, and services, furnishing and removing all plant, temporary structures, tools and equipment, and doing everything required by this Contract and said specifications and drawings; also for all loss and damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties which may arise during the prosecution of the work until its acceptance by said Agency, and for all risks of every description connected with the work; also for all expenses resulting from the suspension or discontinuance of work, except as in the said specifications are expressly stipulated to be borne by said Agency; and for completing the work in accordance with the requirements of said specifications and drawings, said Agency will pay and said Contractor shall receive, in full compensation therefore, the price(s) set forth in this Contract.

3. That the Agency will pay the Contractor progress payments and the final payment, in accordance with the provisions of the contract documents, with warrants drawn on the appropriate fund or funds as required, at the prices bid in the Bidding and Contract Requirements, Section C - Bid Forms and accepted by the Agency and set forth in this below.

Total Bid Price: $343,555.00 _____ dollars

(in numeric figures)

Three-Hundred and Forty-Three Thousand, Five Hundred and Fifty-Fve Dollars and NO Cents

(in written words)

If this is not a lump sum bid and the contract price is dependent upon the quantities constructed, the Agency will pay and said Contractor shall receive, in full compensation for the work the prices named in the Bidding and Contract Requirements, Section C - Bid Forms.

4. The Agency hereby employs the Contractor to perform the work according to the terms of this Contract for the above-mentioned price(s), and agrees to pay the same at the time, in the manner, and upon the conditions stipulated in the said specifications; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.

5. The Notice Inviting Bids, Instructions to Bidders, Bid Forms, Information Required of Bidder, Performance Bond, Payment Bond, Contractors License Declaration, Specifications, Drawings, all General Conditions and all Special Conditions, and all addenda issued by the Agency with respect to the foregoing prior to the opening of bids, are hereby incorporated in and made part of this Contract, as if fully set forth.

6. The Contractor agrees to commence work under this Contract on or before the date to be specified in a written "Notice To Proceed" and to complete said work to the satisfaction of the Agency One Hundred and Eighty-five (185) calendar days after award of the Contract. All work shall be completed before final payment is made.

7. Time is of the essence on this Contract. The Contractor agrees that in case the work is not completed before or upon the expiration of the contract time, damage will be sustained by the Agency, and that it is and will be impracticable to determine the actual damage which the Agency will sustain in the event and by reason of such delay, and it is therefore agreed that the Contractor shall pay to the Agency the amount of:

PR-1 PRB AND MCC BUILDING ROOF AND SKYLIGHT REPLACEMENT, project No.	**Liquidated Damages for Delay**
Approval of Shop Drawings/submittals within sixty (60) calendar days of Contract Award for the following items: • Purchase Order for Skylights • Signed and stamped Structural submittals on Framing and Fall Protection on skylights, signed by a Registered Engineer in California • Shop Drawings	$250 / day
Project Completion within one hundred and eighty-five (185) Calendar Days of Contract Award.	$500 / day

for each day of delay, which shall be the period between the expiration of the contract time and the date of final acceptance by the Agency, as liquidated damages and not as a penalty. It is further agreed that the amount stipulated for liquidated damages per day of delay is a reasonable estimate of the damages that would be sustained by the Agency, and the Contractor agrees to pay such liquidated damages as herein provided. In case the liquidated damages are not paid, the Contractor agrees that the Agency may deduct the amount thereof from any money due or that may become due to the Contractor by progress payments or otherwise under the Contract, or if said amount is not sufficient, recover the total amount.

In addition to the liquidated damages, which may be imposed if the Contractor fails to complete the work within the time agreed upon, the Agency may also deduct from any sums due or to become due the Contractor, liquidated damages in accordance with the Bidding and Contract Requirements, Section B - Instruction to Bidders, Part 5.0 "Liquidated Damages", for any violation of the General Conditions, Section D - Contractor's Responsibilities, Part 8, "Law and Regulations"; Bidding and Contract Requirements Contract Section D -Contract and Relevant Documents, Part 1.0, Paragraphs 9 through 11; General Conditions , Section D - Contractor's Responsibilities, Part 4.0, "Labor, Materials and Equipment"; General Conditions Section D - Contractor's Responsibilities, Part 12.0, "Safety and Protection" or General Conditions Section H - Legal Responsibilities, Part 8.0, "Disturbance of the Peace".

9. That the Contractor will pay, and will require subcontractors to pay, employees on the work a salary or wage at least equal to the prevailing salary or wage established for such work as set forth in the wage determinations and wage standards applicable to this work, contained in or referenced in the contract documents.

10. That, in accordance with Section 1775 of the California Labor Code, Contractor shall forfeit to the Agency, as a penalty, not more than Fifty ($50.00) Dollars for each day, or portion thereof, for each worker paid, either by the Contractor or any subcontractor, less than the prevailing rates as determined by the Director of the California Department of Industrial Relations for the work.

11. That, except as provided in Section 1815 of the California Labor Code, in the performance of the work not more than eight (8) hours shall constitute a day's work, and not more than forty (40) hours shall constitute a week's work; that the Contractor shall not require more than eight (8) hours of labor in a day nor more than forty hours of labor in a week from any person employed by the Contractor or any subcontractor; that the Contractor shall conform to Division 2, Part 7, Chapter 1, Article 3 (Section 1810, et seq.) of the California Labor Code; and that the Contractor shall forfeit to the Agency, as a penalty, the sum of Twenty-Five ($25.00) Dollars for each worker employed in the execution of the work by Contractor or any subcontractor for each day during which any worker is required or permitted to labor more than eight (8) hours in violation of said Article 3.

12. That the Contractor shall carry Workers' Compensation Insurance and require all subcontractors to carry Workers' Compensation Insurance as required by the California

Labor Code.

13. That the Contractor shall have furnished, prior to execution of the Contract, two bonds approved by the Agency, one in the amount of one hundred (100) percent of the contract price, to guarantee the faithful performance of the work, and one in the amount of one hundred (100) percent of the contract price to guarantee payment of all claims for labor and materials furnished.

14. The Contractor hereby agrees to protect, defend, indemnify and hold the Agency and its employees, agents, officers, directors, servants and volunteers free and harmless from any and all liability, claims, judgments, costs and demands, including demands arising from injuries or death of persons (including employees of the Agency and the Contractor) and damage to property, arising directly or indirectly out of the obligation herein undertaken or out of the operations conducted by the Contractor, its employees agents, representatives or subcontractors under or in connection with this Contract.

The Contractor further agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suit at the sole expense of the Contractor.

IN WITNESS WHEREOF, The Contractor and the General Manager of Inland Empire Utilities Agency*, thereunto duly authorized, have caused the names of said parties to be affixed hereto, each in duplicate, the day and year first above written.

Inland Empire Utilities Agency, *
San Bernardino County, California.

By _____
Halla Razak
General Manager

Best Contracting Services, Inc.
Contractor

By _____
Kayhan Fatemi
Executive Vice President
Best Contracting Services

*Municipal Water District

Bond Number 1073391

2.0 PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, the Inland Empire Utilities Agency, a Municipal Water District, hereinafter designated as the "Agency," has, on _____20___, awarded to Best Contracting Services, Inc. _____, hereinafter designated as the "Principal," the Contract for the construction of:

PR-1 PRB AND MCC BUILDING ROOF AND SKYLIGHT REPLACEMENT, Project No. FM19001

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract:

NOW, THEREFORE, WE, the Principal, and The Hanover Insurance Company, as Surety, are held and firmly bound unto the Agency the penal sum of Three-Hundred and Forty-Three Thousand Five Hundred and Fifty-Five Dollars dollars($ 343,555.00) lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and will and truly keep and faithfully perform the covenants, conditions, and agreements in the said Contract and any alterations made as therein provided, on its or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless, Agency and engineer, their officers, agents, and employees as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue and Principal and Surety, in the event suit is brought on this bond, will pay to Agency such reasonable attorney's fees as shall be fixed by the court.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation in the said amount shall hold good for a period of one (1) year after the completion and acceptance of said Contract, during which time if the above bounden Principal, its heirs, executors, administrators, successors, or assigns shall fail to make full, complete, and satisfactory repair and replacements or totally protect said Agency from loss or damage made evident during said period of one year from the date of acceptance of the work under said Contract, and resulting from or caused by defective materials or faulty workmanship in the execution of the work done, the above obligation in the said amount shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligation of the Surety hereunder shall continue so long as any obligation of the Principal remains.

Bond Number 1073391

SECOND PAGE OF PERFORMANCE BOND

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed there under or the specifications accompanying the same shall, in any way, affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. Said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

As a part of the obligation secured hereby and in addition to the amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Agency in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this 6th day of September, 2018, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Best Contracting Services, Inc.

Principal (print name)

Signature for Principal Mojitaba Tabazadeh, President (Corporate Seal)

Bond Number 1073391

THIRD PAGE OF PERFORMANCE BOND

The Hanover Insurance Company

Surety (print name)

Signature for Surety Jinghan Guo, Attorney-in-Fact (Surety Seal)

Surety address

800 Wilshire Blvd. 2nd Floor

Los Angeles, CA 90017

ATTACH POWER-OF-ATTORNEY AND NOTARIAL ACKNOWLEDGEMENT OF SURETY BELOW

THE HANOVER INSURANCE COMPANY
MASSACHUSETTS BAY INSURANCE COMPANY
CITIZENS INSURANCE COMPANY OF AMERICA

POWER OF ATTORNEY

THIS Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

KNOW ALL PERSONS BY THESE PRESENTS:

That THE HANOVER INSURANCE COMPANY and MASSACHUSETTS BAY INSURANCE COMPANY, both being corporations organized and existing under the laws of the State of New Hampshire, and CITIZENS INSURANCE COMPANY OF AMERICA, a corporation organized and existing under the laws of the State of Michigan, (hereinafter individually and collectively the "Company") does hereby constitute and appoint,

Patrick T. Moughan, Mark D. Kiger, Alec D. Martinez, Erin Powell and/or Jinghan Guo

Of **Global Risk, LLC of Los Angeles, CA** each individually, if there be more than one named, as its true and lawful attorney(s)-in-fact to sign, execute, seal, acknowledge and deliver for, and on its behalf, and as its act and deed any place within the United States, any and all surety bonds, recognizances, undertakings, or other surety obligations. The execution of such surety bonds, recognizances, undertakings or surety obligations, in pursuance of these presents, shall be as binding upon the Company as if they had been duly signed by the president and attested by the secretary of the Company, in their own proper persons. Provided however, that this power of attorney limits the acts of those named herein; and they have no authority to bind the Company except in the manner stated and to the extent of any limitation stated below:

Any such obligations in the United States, not to exceed Fifty Million and No/100 ($50,000,000) in any single instance

That this power is made and executed pursuant to the authority of the following Resolutions passed by the Board of Directors of said Company, and said Resolutions remain in full force and effect:

RESOLVED: That the President or any Vice President, in conjunction with any Vice President, be and they hereby are authorized and empowered to appoint Attorneys-in-fact of the Company, in its name and as it acts, to execute and acknowledge for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, waivers of citation and all other writings obligatory in the nature thereof, with power to attach thereto the seal of the Company. Any such writings so executed by such Attorneys-in-fact shall be binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company in their own proper persons.

RESOLVED: That any and all Powers of Attorney and Certified Copies of such Powers of Attorney and certification in respect thereto, granted and executed by the President or Vice President in conjunction with any Vice President of the Company, shall be binding on the Company to the same extent as if all signatures therein were manually affixed, even though one or more of any such signatures thereon may be facsimile. (Adopted October 7, 1981 – The Hanover Insurance Company; Adopted April 14, 1982 – Massachusetts Bay Insurance Company; Adopted September 7, 2001 – Citizens Insurance Company of America)

IN WITNESS WHEREOF, THE HANOVER INSURANCE COMPANY, MASSACHUSETTS BAY INSURANCE COMPANY and CITIZENS INSURANCE COMPANY OF AMERICA have caused these presents to be sealed with their respective corporate seals, duly attested by two Vice Presidents, this **29h** day of **March, 2017**.

The Hanover Insurance Company
Massachusetts Bay Insurance Company
Citizens Insurance Company of America

John C. Roche, EVP and President

The Hanover Insurance Company
Massachusetts Bay Insurance Company
Citizens Insurance Company of America

James H. Kawiecki, Vice President

THE COMMONWEALTH OF MASSACHUSETTS)
COUNTY OF WORCESTER) ss.

On this **29th day of March, 2017** before me came the above named Vice Presidents of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, to me personally known to be the individuals and officers described herein, and acknowledged that the seals affixed to the preceding instrument are the corporate seals of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, respectively, and that the said corporate seals and their signatures as officers were duly affixed and subscribed to said instrument by the authority and direction of said Corporations.

DIANE J. MARINO
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 4, 2022

Diane J. Marino, Notary Public
My Commission Expires March 4, 2022

I, the undersigned Vice President of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, hereby certify that the above and foregoing is a full, true and correct copy of the Original Power of Attorney issued by said Companies, and do hereby further certify that the said Powers of Attorney are still in force and effect.

GIVEN under my hand and the seals of said Companies, at Worcester, Massachusetts, this 6th day of September 2018

CERTIFIED COPY

Theodore G. Martinez, Vice President

CALIFORNIA ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

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.

State of California }

County of Los Angeles }

On 9/6/18 before me, Zipporah D. Kiger, Notary Public
(Here insert name and title of the officer),

personally appeared Jinghan Guo,
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 Signature (Notary Public Seal)

NCC1 ZIPPORAH D. KIGER
Commission No. 2190589
NOTARY PUBLIC-CALIFORNIA
LOS ANGELS COUNTY
My Comm Expires APRIL 10 2021 NCC1

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages ____ Document Date____

CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual (s)
- ☐ Corporate Officer
  (Title)
- ☐ Partner(s)
- ☑ Attorney-in-Fact
- ☐ Trustee(s)
- ☐ Other ____

2015 Version www.NotaryClasses.com 800-873-9865

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he/she/they,~~ is ~~/are~~) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
  - Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
  - Indicate title or type of attached document, number of pages and date.
  - Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

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.

State of California)
County of Los Angeles)

On 09/11/18 before me, R. Robles, Notary Public,
Date *Here Insert Name and Title of the Officer*

personally appeared Mojitaba Tabazadeh
Name(s) of Signer(s)

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

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

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

R. ROBLES
Notary Public - California
Los Angeles County
Commission # 2174230
My Comm. Expires Dec 21, 2020

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Performance Bond
Document Date: 09/06/18 Number of Pages: Three(3)
Signer(~~s~~) Other Than Named Above: Jinghan Guo

Capacity(~~ies~~) Claimed by Signer(~~s~~)

Signer's Name: Mojitaba Tabazadeh	Signer's Name:
☒ Corporate Officer — Title(s): President	☐ Corporate Officer — Title(s):
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator	☐ Trustee ☐ Guardian or Conservator
☐ Other:	☐ Other:
Signer Is Representing: Best Contracting Services, Inc.	Signer Is Representing:

Bond Number 1073391

3.0 PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, the Inland Empire Utilities Agency, hereinafter designated as the "Agency", has, on _____ _____, 20__, awarded to Best Contracting Services, Inc. _____ _____, hereinafter designated as the "Principal," a Contract for the construction of:

PR-1 PRB AND MCC BUILDING ROOF AND SKYLIGHT REPLACEMENT, Project No. FM19001

WHEREAS, said Principal is required under the terms of said Contract to furnish a payment bond providing that if said Principal, or any of their subcontractors, shall fail to pay for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work under said Contract, or for any work or labor done thereon of any kind, the Surety of this bond will pay the same to the extent hereinafter set forth:

NOW, THEREFORE, WE, the Principal, and The Hanover Insurance Company, as Surety, are held and firmly bound unto the Agency the penal sum of Three-Hundred and Forty-Three Thousand Five Hundred and Fifty-Five Dollars dollars ($ 343,555.00) lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, or its heirs, executors, administrators, successors, or assigns, shall fail to pay any person specified in California Civil Code Section 3181, or for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work under said Contract, or for any work or labor thereon of any kind or for amount due under the Unemployment Insurance Code with respect to work or labor performed under said Contract, or for any amounts due, or to be withheld pursuant to Sections 18806 of the Revenue and Taxation Code of the State of California, or with respect to any work or labor for which a bond is required by the provisions of Sections 3247 through 3252 of the California Civil Code, and provided that the persons, companies, or corporations so furnishing said materials, provisions, or other supplies, appliances, or power use, in, upon, for, or about the performance of the work under said Contract, or any person who performs work or labor upon same, or any person who supplies both work and materials, thereto, shall have complied with the provisions of said Civil Code, then said surety will pay the same in or to an amount not exceeding the amount herein before set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fees to Agency as shall be fixed by the court.

Bond Number 1073391

SECOND PAGE OF PAYMENT BOND

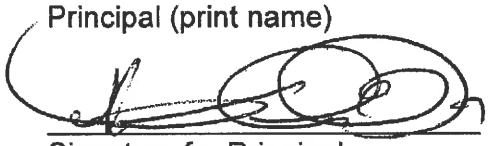
This bond shall inure to the benefit of Agency and any and all persons, companies, and corporations and their respective assigns entitled to file claims under applicable State law, including but not limited to, California Civil Code Section 3181, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of said Contract or to the work to be performed there under or the specifications accompanying the same shall, in any way, affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications. Said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

As a part of the obligation secured hereby and in addition to the amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Agency in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this 6th day of September, 20 18, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Best Contracting Services, Inc.
Principal (print name)



Signature for Principal

Mojitaba Tabazadeh, President

(Corporate Seal)

Bond Number 1073391

THIRD PAGE OF PAYMENT BOND

The Hanover Insurance Company
Surety (print name)

Signature for Surety Jinghan Guo, Attorney-in-Fact (Surety Seal)

Surety address

800 Wilshire Blvd. 2nd Floor

Los Angeles, CA 90017

ATTACH POWER-OF-ATTORNEY AND NOTARIAL ACKNOWLEDGEMENT OF SURETY BELOW

THE HANOVER INSURANCE COMPANY
MASSACHUSETTS BAY INSURANCE COMPANY
CITIZENS INSURANCE COMPANY OF AMERICA

POWER OF ATTORNEY

THIS Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

KNOW ALL PERSONS BY THESE PRESENTS:

That THE HANOVER INSURANCE COMPANY and MASSACHUSETTS BAY INSURANCE COMPANY, both being corporations organized and existing under the laws of the State of New Hampshire, and CITIZENS INSURANCE COMPANY OF AMERICA, a corporation organized and existing under the laws of the State of Michigan, (hereinafter individually and collectively the "Company") does hereby constitute and appoint,

Patrick T. Moughan, Mark D. Kiger, Alec D. Martinez, Erin Powell and/or Jinghan Guo

Of **Global Risk, LLC of Los Angeles, CA** each individually, if there be more than one named, as its true and lawful attorney(s)-in-fact to sign, execute, seal, acknowledge and deliver for, and on its behalf, and as its act and deed any place within the United States, any and all surety bonds, recognizances, undertakings, or other surety obligations. The execution of such surety bonds, recognizances, undertakings or surety obligations, in pursuance of these presents, shall be as binding upon the Company as if they had been duly signed by the president and attested by the secretary of the Company, in their own proper persons. Provided however, that this power of attorney limits the acts of those named herein; and they have no authority to bind the Company except in the manner stated and to the extent of any limitation stated below:

Any such obligations in the United States, not to exceed Fifty Million and No/100 ($50,000,000) in any single instance

That this power is made and executed pursuant to the authority of the following Resolutions passed by the Board of Directors of said Company, and said Resolutions remain in full force and effect:

RESOLVED: That the President or any Vice President, in conjunction with any Vice President, be and they hereby are authorized and empowered to appoint Attorneys-in-fact of the Company, in its name and as it acts, to execute and acknowledge for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, waivers of citation and all other writings obligatory in the nature thereof, with power to attach thereto the seal of the Company. Any such writings so executed by such Attorneys-in-fact shall be binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company in their own proper persons.

RESOLVED: That any and all Powers of Attorney and Certified Copies of such Powers of Attorney and certification in respect thereto, granted and executed by the President or Vice President in conjunction with any Vice President of the Company, shall be binding on the Company to the same extent as if all signatures therein were manually affixed, even though one or more of any such signatures thereon may be facsimile. (Adopted October 7, 1981 – The Hanover Insurance Company; Adopted April 14, 1982 – Massachusetts Bay Insurance Company; Adopted September 7, 2001 – Citizens Insurance Company of America)

IN WITNESS WHEREOF, THE HANOVER INSURANCE COMPANY, MASSACHUSETTS BAY INSURANCE COMPANY and CITIZENS INSURANCE COMPANY OF AMERICA have caused these presents to be sealed with their respective corporate seals, duly attested by two Vice Presidents, this **29th** day of **March, 2017**.

The Hanover Insurance Company
Massachusetts Bay Insurance Company
Citizens Insurance Company of America

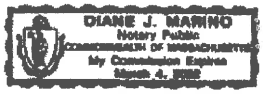
John C. Roche, EVP and President

The Hanover Insurance Company
Massachusetts Bay Insurance Company
Citizens Insurance Company of America

James H. Kawiecki, Vice President

THE COMMONWEALTH OF MASSACHUSETTS)
COUNTY OF WORCESTER) ss.

On this **29th** day of **March, 2017** before me came the above named Vice Presidents of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, to me personally known to be the individuals and officers described herein, and acknowledged that the seals affixed to the preceding instrument are the corporate seals of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, respectively, and that the said corporate seals and their signatures as officers were duly affixed and subscribed to said instrument by the authority and direction of said Corporations.



Diane J. Marino, Notary Public
My Commission Expires March 4, 2022

I, the undersigned Vice President of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, hereby certify that the above and foregoing is a full, true and correct copy of the Original Power of Attorney issued by said Companies, and do hereby further certify that the said Powers of Attorney are still in force and effect.

GIVEN under my hand and the seals of said Companies, at Worcester, Massachusetts, this 6th day of September 2018

CERTIFIED COPY

Theodore G. Martinez, Vice President

CALIFORNIA ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

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.

State of California }

County of Los Angeles }

On 9/6/18 before me, Zipporah D. Kiger, Notary Public
(Here insert name and title of the officer),

personally appeared Jinghan Guo,

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.

ZIPPORAH D. KIGER
Commission No. 2190589
NOTARY PUBLIC-CALIFORNIA
LOS ANGELS COUNTY
My Comm Expires APRIL 10 2021
NCC1 NCC1

Notary Public Signature (Notary Public Seal)

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages ____ Document Date____

CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual (s)
- ☐ Corporate Officer
  (Title)
- ☐ Partner(s)
- ☑ Attorney-in-Fact
- ☐ Trustee(s)
- ☐ Other ____

2015 Version www.NotaryClasses.com 800-873-9865

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he/she/they,~~ is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
  - Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
  - Indicate title or type of attached document, number of pages and date.
  - Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

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.

State of California)
County of Los Angeles)

On 09/11/18 before me, R. Robles, Notary Public,
Date *Here Insert Name and Title of the Officer*

personally appeared Mojitaba Tabazadeh
Name(s) of Signer(s)

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

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

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

R. ROBLES
Notary Public - California
Los Angeles County
Commission # 2174230
My Comm. Expires Dec 21, 2020

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Payment Bond
Document Date: 09/06/18 Number of Pages: Three(3)
Signer(~~s~~) Other Than Named Above: Jinghan Guo

Capacity(~~ies~~) Claimed by Signer(~~s~~)

Signer's Name: Mojitaba Tabazadeh
☒ Corporate Officer — Title(s): President
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: Best Contracting Services, Inc.

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 09/06/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Global Risk, LLC 800 Wilshire Blvd., 2nd Floor Los Angeles CA 90017	PHONE (A/C, No, Ext): (213) 550-2250	FAX (A/C, No):
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Zurich American Insurance Comp	16535
INSURER B: AIG Specialty Insurance Compan	26883
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED (310) 328-6969
Best Contracting Services, Inc.
19027 S. Hamilton Ave.
Gardena CA 90248

COVERAGES **CERTIFICATE NUMBER:** Cert ID 23 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	Y		GLO 9805197-06	12/01/2017	12/01/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY X HIRED AUTOS ONLY SCHEDULED AUTOS X NON-OWNED AUTOS ONLY	Y		BAP 9805196-06	12/01/2017	12/01/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below		Y	WC 9805198-06	12/01/2017	12/01/2018	PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
B	Pollution Liability			CPL 1199111	12/01/2017	12/01/2018	Occ and Aggregate	$ 2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Re: Project #FM19001, PR-1 PRB and MCC Building Roof and Skylight Replacement.
Inland Empire Utilities Agency, a Municipal Water District, The Agency, its officers, officials, employees, volunteers, property owners and any engineers under contract to the Agency are included as Additional Insured subject to the terms of the attached endorsements. Primary and Non-contributory Wording applies per the attached General Liability endorsement. Waiver of Subrogation applies per the attached Workers Compensation endorsement.

CERTIFICATE HOLDER

Inland Empire Utilities Agency, a Municipal Water District
6075 Kimball Avenue
Chino, CA 91708

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Tami Cowan

Additional Insured – Automatic – Owners, Lessees Or Contractors

ZURICH

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO980519706	12-01-17	12-01-18	12-01-17			

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured: BEST CONTRACTING SERVICES, INC.
Address (including ZIP Code):
19027 S HAMILTON AVE
GARDENA, CA 90248
This endorsement modifies insurance provided under the:
Commercial General Liability Coverage Part

A. Section **II – Who Is An Insured** is amended to include as an additional insured any person or organization whom you are required to add as an additional insured on this policy under a written contract or written agreement. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf,

in the performance of your ongoing operations or "your work" as included in the "products-completed operations hazard", which is the subject of the written contract or written agreement.

However, the insurance afforded to such additional insured:

1. Only applies to the extent permitted by law; and
2. Will not be broader than that which you are required by the written contract or written agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to:

"Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or failure to render, any professional architectural, engineering or surveying services including:

a. The preparing, approving or failing to prepare or approve maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

b. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of or the failure to render any professional architectural, engineering or surveying services.

C. The following is added to Paragraph **2.** Duties In The Event Of Occurrence, Offense, Claim Or Suit of Section **IV – Commercial General Liability Conditions**:

The additional insured must see to it that:

1. We are notified as soon as practicable of an "occurrence" or offense that may result in a claim;
2. We receive written notice of a claim or "suit" as soon as practicable; and
3. A request for defense and indemnity of the claim or "suit" will promptly be brought against any policy issued by another insurer under which the additional insured may be an insured in any capacity. This provision does not apply to insurance on which the additional insured is a Named Insured if the written contract or written agreement requires that this coverage be primary and non-contributory.

D. For the purposes of the coverage provided by this endorsement:

1. The following is added to the Other Insurance Condition of Section **IV – Commercial General Liability Conditions**:

Primary and Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured provided that:

a. The additional insured is a Named Insured under such other insurance; and

b. You are required by written contract or written agreement that this insurance be primary and not seek contribution from any other insurance available to the additional insured.

2. The following paragraph is added to Paragraph **4.b.** of the Other Insurance Condition of Section **IV – Commercial General Liability Conditions**:

This insurance is excess over:

Any of the other insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by a written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

E. This endorsement does not apply to an additional insured which has been added to this policy by an endorsement showing the additional insured in a Schedule of additional insureds, and which endorsement applies specifically to that identified additional insured.

F. With respect to the insurance afforded to the additional insureds under this endorsement, the following is added to Section **III – Limits Of Insurance**:

The most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the written contract or written agreement referenced in Paragraph **A.** of this endorsement; or
2. Available under the applicable Limits of Insurance shown in the Declarations,

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

All other terms and conditions of this policy remain unchanged.

Other Insurance Amendment – Primary And Non-Contributory

ZURICH

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 9805197-06	12/01/2017	12/01/2018		91769000	INCL	

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured:

Address (including ZIP Code):

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

1. The following paragraph is added to the Other Insurance Condition of Section **IV – Commercial General Liability Conditions**:

   This insurance is primary insurance to and will not seek contribution from any other insurance available to an additional insured under this policy provided that:

   a. The additional insured is a Named Insured under such other insurance; and

   b. You are required by a written contract or written agreement that this insurance would be primary and would not seek contribution from any any other insurance available to the additional insured.

2. The following paragraph is added to Paragraph **4.b.** of the Other Insurance Condition of Section **IV – Commercial General Liability Conditions**:

   This insurance is excess over:

   Any of the other insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

All other terms and conditions of this policy remain unchanged.

Coverage Extension Endorsement

ZURICH

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
BAP 9805196-06	12/01/2017	12/01/2018		91769000	**INCL**	

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Business Auto Coverage Form
Motor Carrier Coverage Form

A. Amended Who Is An Insured

1. The following is added to the **Who Is An Insured** Provision in **Section II – Liability Coverage**:

   The following are also "insureds":

   a. Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow for acts performed within the scope of employment by you.

   b. Anyone volunteering services to you is an "insured" while using a covered "auto" you don't own, hire or borrow to transport your clients or other persons in activities necessary to your business.

   c. Anyone else who furnishes an "auto" referenced in Paragraphs **a.** and **b.** above.

   d. Any person(s) or organization(s) where required by written contract or written agreement executed prior to any "accident" provided the "accident" arises out of operations contemplated by such contract or agreement.

2. The following is added to the **Other Insurance** Provision in the **Conditions** Section:

   Coverage for any person(s) or organization(s) where required by written contract or written agreement executed prior to any "accident" will apply on a primary basis and any insurance maintained by the additional "insured" will apply on an excess basis. However, in no event will this coverage extend beyond the terms and conditions of the coverage form.

B. Amendment – Supplementary Payments

Paragraphs **a.(2)** and **a.(4)** of the **Coverage Extensions** Provision in **Section II – Liability Coverage** are replaced by the following:

(2) Up to $5,000 for the cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $500 a day because of time off from work.

C. Fellow Employee Coverage

The **Fellow Employee** Exclusion contained in **Section II – Liability Coverage** does not apply.

D. Driver Safety Program Liability and Physical Damage Coverage

1. The following is added to the **Racing** Exclusion in **Section II – Liability Coverage**:

   This exclusion does not apply to covered "autos" participating in a driver safety program event, such as, but not limited to, auto or truck rodeos and other auto or truck agility demonstrations.

2. The following is added to Paragraph **2.** in the **Exclusions** of **Section III – Physical Damage Coverage** of the Business Auto Coverage Form and Paragraph **2.b.** in the **Exclusions** of **Section IV – Physical Damage Coverage** of the Motor Carrier Coverage Form:

   This exclusion does not apply to covered "autos" participating in a driver safety program event, such as, but not limited to, auto or truck rodeos and other auto or truck agility demonstrations.

E. **Lease or Loan Gap Coverage**

The following is added to the **Coverage** Provision of the **Physical Damage Coverage** Section:

Lease Or Loan Gap Coverage

In the event of a total "loss" to a covered "auto", we will pay any unpaid amount due on the lease or loan for a covered "auto", less:

a. Any amount paid under the **Physical Damage Coverage** Section of the coverage form; and

b. Any:

(1) Overdue lease or loan payments at the time of the "loss";

(2) Financial penalties imposed under a lease for excessive use, abnormal wear and tear or high mileage;

(3) Security deposits not returned by the lessor;

(4) Costs for extended warranties, credit life insurance, health, accident or disability insurance purchased with the loan or lease; and

(5) Carry-over balances from previous leases or loans.

F. **Towing and Labor**

The following is added to Paragraph **A.2.** of the **Physical Damage Coverage** Section:

We will pay up to $75 for towing and labor costs incurred each time a covered "auto" of the private passenger type is disabled. However, the labor must be performed at the place of disablement.

G. **Extended Glass Coverage**

The following is added to Paragraph **A.3.a.** of the **Physical Damage Coverage** Section:

If glass must be replaced, the deductible will be $100 or the deductible shown in the Declarations, whichever is less. If glass can be repaired and is actually repaired rather than replaced, the deductible will be waived. You have the option of having the glass repaired rather than replaced.

H. **Hired Auto Physical Damage – Increased Loss of Use Expenses**

The **Loss Of Use Expenses** Provision of the **Physical Damage Coverage** Section is replaced by the following:

Loss Of Use Expenses

For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver under a written rental contract or written rental agreement. We will pay for loss of use expenses if caused by:

(1) Other than collision only if the Declarations indicate that Comprehensive Coverage is provided for any covered "auto";

(2) Specified Causes Of Loss only if the Declarations indicate that Specified Causes Of Loss Coverage is provided for any covered "auto"; or

(3) Collision only if the Declarations indicate that Collision Coverage is provided for any covered "auto".

However, the most we will pay for any expenses for loss of use is $100 per day, to a maximum of $3000.

I. **Personal Effects Coverage**

The following is added to the **Coverage** Provision of the **Physical Damage Coverage** Section:

Personal Effects Coverage

a. We will pay up to $750 for "loss" to personal effects which are:

(1) Personal property owned by an "insured"; and

(2) In or on a covered "auto".

b. Subject to Paragraph **a.** above, the amount to be paid for "loss" to personal effects will be based on the lesser of:

(1) The reasonable cost to replace; or

(2) The actual cash value.

c. The coverage provided in Paragraphs **a.** and **b.** above, only applies in the event of a total theft of a covered "auto". No deductible applies to this coverage. However, we will not pay for "loss" to personal effects of any of the following:

(1) Accounts, bills, currency, deeds, evidence of debt, money, notes, securities, or commercial paper or other documents of value.

(2) Bullion, gold, silver, platinum, or other precious alloys or metals; furs or fur garments; jewelry, watches, precious or semi-precious stones.

(3) Paintings, statuary and other works of art.

(4) Contraband or property in the course of illegal transportation or trade.

(5) Tapes, records, discs or other similar devices used with audio, visual or data electronic equipment.

Any coverage provided by this Provision is excess over any other insurance coverage available for the same "loss".

J. Tapes, Records and Discs Coverage

1. The Exclusion in Paragraph **B.4.a.** of **Section III – Physical Damage Coverage** in the Business Auto Coverage Form and the Exclusion in Paragraph **B.2.c.** of **Section IV – Physical Damage Coverage** in the Motor Carrier Coverage Form do not apply.

2. The following is added to Paragraph **1.a. Comprehensive Coverage** under the **Coverage** Provision of the **Physical Damage Coverage** Section:

We will pay for "loss" to tapes, records, discs or other similar devices used with audio, visual or data electronic equipment. We will pay only if the tapes, records, discs or other similar audio, visual or data electronic devices:

(a) Are the property of an "insured"; and

(b) Are in a covered "auto" at the time of "loss".

The most we will pay for such "loss" to tapes, records, discs or other similar devices is $500. The **Physical Damage Coverage Deductible** Provision does not apply to such "loss".

K. Airbag Coverage

The Exclusion in Paragraph **B.3.a.** of **Section III – Physical Damage Coverage** in the Business Auto Coverage Form and the Exclusion in Paragraph **B.4.a.** of **Section IV – Physical Damage Coverage** in the Motor Carrier Coverage Form do not apply to the accidental discharge of an airbag.

L. Two or More Deductibles

The following is added to the **Deductible** Provision of the **Physical Damage Coverage** Section:

If an accident is covered both by this policy or coverage form and by another policy or coverage form issued to you by us, the following applies for each covered "auto" on a per vehicle basis:

1. If the deductible on this policy or coverage form is the smaller (or smallest) deductible, it will be waived; or

2. If the deductible on this policy or coverage form is not the smaller (or smallest) deductible, it will be reduced by the amount of the smaller (or smallest) deductible.

M. Physical Damage – Comprehensive Coverage – Deductible

The following is added to the **Deductible** Provision of the **Physical Damage Coverage** Section:

Regardless of the number of covered "autos" damaged or stolen, the maximum deductible that will be applied to Comprehensive Coverage for all "loss" from any one cause is $5,000.

N. Temporary Substitute Autos – Physical Damage

1. The following is added to **Section I – Covered Autos**:

   Temporary Substitute Autos – Physical Damage

   If Physical Damage Coverage is provided by this coverage form on your owned covered "autos", the following types of vehicles are also covered "autos" for Physical Damage Coverage:

   Any "auto" you do not own when used with the permission of its owner as a temporary substitute for a covered "auto" you do own but is out of service because of its:

   1. Breakdown;
   2. Repair;
   3. Servicing;
   4. "Loss"; or
   5. Destruction.

2. The following is added to the **Coverage** Provision of the **Physical Damage Coverage** Section:

   Temporary Substitute Autos – Physical Damage

   We will pay the owner for "loss" to the temporary substitute "auto" unless the "loss" results from fraudulent acts or omissions on your part. If we make any payment to the owner, we will obtain the owner's rights against any other party.

   The deductible for the temporary substitute "auto" will be the same as the deductible for the covered "auto" it replaces.

O. Amended Duties In The Event Of Accident, Claim, Suit Or Loss

Paragraph **a.** of the **Duties In The Event Of Accident, Claim, Suit Or Loss** Condition is replaced by the following:

a. In the event of "accident", claim, "suit" or "loss", you must give us or our authorized representative prompt notice of the "accident", claim, "suit" or "loss". However, these duties only apply when the "accident", claim, "suit" or "loss" is known to you (if you are an individual), a partner (if you are a partnership), a member (if you are a limited liability company) or an executive officer or insurance manager (if you are a corporation). The failure of any agent, servant or employee of the "insured" to notify us of any "accident", claim, "suit" or "loss" shall not invalidate the insurance afforded by this policy.

Include, as soon as practicable:

(1) How, when and where the "accident" or "loss" occurred and if a claim is made or "suit" is brought, written notice of the claim or "suit" including, but not limited to, the date and details of such claim or "suit";

(2) The "insured's" name and address; and

(3) To the extent possible, the names and addresses of any injured persons and witnesses.

If you report an "accident", claim, "suit" or "loss" to another insurer when you should have reported to us, your failure to report to us will not be seen as a violation of these amended duties provided you give us notice as soon as practicable after the fact of the delay becomes known to you.

P. Waiver of Transfer Of Rights Of Recovery Against Others To Us

The following is added to the **Transfer Of Rights Of Recovery Against Others To Us** Condition:

This Condition does not apply to the extent required of you by a written contract, executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of operations contemplated by such contract. This waiver only applies to the person or organization designated in the contract.

Q. Employee Hired Autos – Physical Damage

Paragraph **b.** of the **Other Insurance** Condition in the Business Auto Coverage Form and Paragraph **f.** of the **Other Insurance – Primary and Excess Insurance Provisions** Condition in the Motor Carrier Coverage Form are replaced by the following:

For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

(1) Any covered "auto" you lease, hire, rent or borrow; and

(2) Any covered "auto" hired or rented under a written contract or written agreement entered into by an "employee" or elected or appointed official with your permission while being operated within the course and scope of that "employee's" employment by you or that elected or appointed official's duties as respect their obligations to you.

However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

R. Unintentional Failure to Disclose Hazards

The following is added to the **Concealment, Misrepresentation Or Fraud** Condition:

However, we will not deny coverage under this coverage form if you unintentionally:

(1) Fail to disclose any hazards existing at the inception date of this coverage form; or

(2) Make an error, omission, improper description of "autos" or other misstatement of information.

You must notify us as soon as possible after the discovery of any hazards or any other information that was not provided to us prior to the acceptance of this policy.

S. Hired Auto – World Wide Coverage

Paragraph **(5)(a)** of the **Policy Period, Coverage Territory** Condition is replaced by the following:

(a) A covered "auto" is leased, hired, rented or borrowed for a period of 60 days or less; and

T. Bodily Injury Redefined

The definition of "bodily injury" in the **Definitions** Section is replaced by the following:

"Bodily injury" means bodily injury, sickness or disease, sustained by a person including death or mental anguish, resulting from any of these at any time. Mental anguish means any type of mental or emotional illness or disease.

All other terms and conditions of this policy remain unchanged.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

ALL PERSONS AND/OR ORGANIZATIONS THAT ARE REQUIRED BY WRITTEN CONTRACT OR AGREEMENT WITH THE INSURED, EXECUTED PRIOR TO THE ACCIDENT OR LOSS, THAT WAIVER OF SUBROGATION BE PROVIDED UNDER THIS POLICY FOR WORK PERFORMED BY YOU FOR THAT PERSON AND/OR ORGANIZATION

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective: 12/01/2017 Policy No. WC9805198-06 Endorsement No.

Insured: Best Contracting Services Inc.

Insurance Company: Zurich American Insurance Company

Best Contracting Services, Inc.
List of Project Contacts

Project: IEUA Project FM19001

Jordan Villalobos
IEUA

NAME / TITLE:	OFFICE EXTENSION	CELL#	E-MAIL ADDRESS:	AREA OF RESPONSIBILITY
Project Manager:				RFI'S, RFC'S, Project Schedules, Daily Reports,
Charlie Minshew	229		cminshew@bestcontracting.com	Field Reports, Field Coordination, Preconstruction Meeting
Project / Contracts Administration				Contracts, Project Correspondence, Change Orders. Labor Rates
Myris Guballa	210		mguballa@bestcontracting.com	Administrative Documents, Pre-construction Meeting Notices
				Front End Required Contract Documentation, LOI/NOA/NTP
Project Engineering:				Shop Drawings, Submittals, LEEDS, Mock-ups
				Front End Technical Docs/Forms
				RFIs, RFCs, Instruction Bulletins, Const. Directives
Billing				
				All Billing / Drafts & Invoicing, SOVs
Joanna McNicholl	262		jmcnicholl@bestcontracting.com	
Purchasing:				
				Purchasing
Joanna McNicholl	262		jmcnicholl@bestcontracting.com	
Labor Compliance:				
Lita Pablo	232		lpablo@bestcontracting.com	BEST Labor Compliance, Preconstruction Meeting, AP
Close-Out Administrator				Warranties, Consent of Surety plus any special
Myris Guballa	210		mguballa@bestcontracting.com	close-out docs specificied per project

Best Contracting Services, Inc. (BCSI) appreciates the opportunity to service your construction needs and we look forward to working with your firm towards the successful performance and completion of this project to the mutual satisfaction of all parties involved.

In the event your inquiry or call is not responded to after the first attempt, please contact our COO, Mr. Bob Mars immediately at: (310) 328-6969 - Ext. 244 or Cell# (310) 505-3643 you can also contact Mr. Mars via email bmars@bestcontracting.com

The above listed Points of Contact for (BCSI) will remain in force for the duration of the referenced project unless otherwise notified.

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1E

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018

To: The Honorable Board of Directors **From:** Halla Razak, General Manager HHR

Committee: Engineering, Operations & Water Resources *10/10/18*

Executive Contact: Shaun Stone, Acting Executive Manager of Engineering/AGM

Subject: Regional Residential Large Landscape Retrofit Program Contract Award

Executive Summary:

IEUA currently offers the "Regional Residential Landscape Retrofit Program" (Program) that saves water through irrigation evaluations and retrofits of landscape control devices with more efficient options. The Program is offered to residential customers whose lot size measures one-quarter acre or larger of irrigated landscape and has been identified in a high water use category. Program services include an irrigation evaluation, installation of a weather station, replacement of existing automated controllers with weather-based controllers, and installation of high efficiency sprinkler nozzles when compatible.

On July 26, 2018, IEUA issued a competitive Request for Proposal (RFP-SM-18-012) through the PlanetBids Network to provide services for the administration and implementation of a Program. On August 16, 2018, IEUA received two proposals. The most comprehensive proposal and the lowest fee schedule for the Agency was submitted by ConServ Inc.

The annual project budget is $250,000. On August 16, 2018, staff issued a $40,000 contract amendment against the FY 2018/19 budget to ensure program continuity during the RFP Phase.

Staff's Recommendation:

1. Award a one-year contract ($210,000), with two one-year extension options, to ConServ Inc., for the implementation and administration of the Regional Residential Landscape Retrofit Program for a not-to-exceed amount of $710,000 (three-year contract term); and

2. Authorize the General Manager to execute the Agreement, subject to non-substantive changes.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* Y *Amount for Requested Approval:*

Account/Project Name:

WR19006/Large Landscape Retrofit Program

Fiscal Impact (explain if not budgeted):

None

Full account coding (internal AP purposes only): 120000 - 10700 - 124100 - 520980 Project No.: WR19006

Prior Board Action:

None.

Environmental Determination:

Statutory Exemption

The project is statutorily exempt based on the CEQA General Rule found in Section 15061(b)(3) of the State CEQA Guidelines.

Business Goal:

The project is consistent with IEUA's Business Goal of increasing Water Reliability by promoting water use efficiency and education to enhance water supplies within the region; and meeting the region's need to develop reliable and diverse local water resources in order to reduce dependence on imported water supplies.

Attachments:

Attachment 1: PowerPoint
Attachment 2: Contract

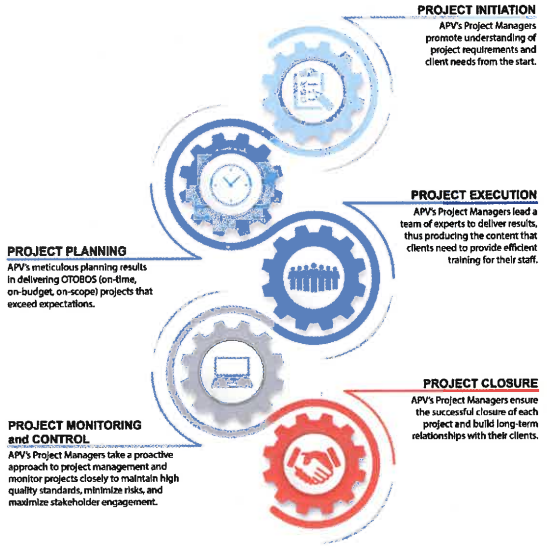
Residential Large Landscape Retrofit Program Contract Award

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Lisa Morgan-Perales
October 2018

Program Background

- Initially piloted with Three Valleys MWD – April 2011
- Focuses on residential customers within high water use tiers
- Saves water through irrigation upgrades
- Awarded two grants
  - USBR $200,000 (FY 2011/12)
  - DWR $500,000 (FY 2013/14)
  - MWD 50/50 cost share



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Program Guidelines

- Residential lot size must be a quarter acre or larger
- Participant must have an automated controller
- Participant must agree to:
  - One contractor follow-up visit
  - Controller remaining in-place for five (5) years
  - Water use monitoring
  - Sharing pictures and information with program partners

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Program Services

- Provides landscape evaluation to assess irrigation
- Replaces existing controller(s) with weather-based controller(s)
- Programming and scheduling of new controller(s)
- Installs high efficiency sprinkler nozzles where compatible
- One-year customer support and warranty from date of installation
- Online video tutorials

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Program Summary (FY 2010/11-FY 2017/18)

Total Sites Upgraded: 1,478

Number of Smart Controllers Installed: 2,297

Number of HE Nozzles Installed: 3,775

Program Expenditures: $1,504,409

External Funding Received: $1,375,294

Estimated Annual Water Savings: 763 AF

Estimated Lifetime Water Savings: 7,548 AF

RECLAMATION
Managing Water in the West

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Contractor Selection

Solicitation	Responses	Contractor	Proposed Program Fees per site
RFP-SM-18-012 – August 16, 2018	2	• ConServ Inc. • EcoTech Services, Inc.	$690.00 $2,478.50

Inland Empire Utilities Agency
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Recommendation

- Award a one-year contract ($210,000), with two one-year extension options, to ConServ Inc., for the implementation and administration of the Regional Residential Landscape Retrofit Program for a not-to-exceed amount of $710,000 (three-year contract term); and

- Authorize the General Manager to execute the Agreement, subject to non-substantive changes.

The project is consistent with **IEUA's Business Goal of increasing Water Reliability** by promoting water use efficiency and education to enhance water supplies within the region; and meeting the region's need to develop reliable and diverse local water resources in order to reduce dependence on imported water supplies.

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Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CONTRACT NUMBER: 4600002630

FOR

REGIONAL RESIDENTIAL LARGE

LANDSCAPE RETROFIT PROGRAM

THIS CONTRACT (the "Contract"), is made and entered into this 19th day of Sept., 2018, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency" or "IEUA"), and ConServ Construction Inc. with an office in Menifee, California (hereinafter referred to as "Contractor"), for the provision of service needed to work with IEUA and its retail member

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. AGENCY PROJECT MANAGER ASSIGNMENT: All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager:	Lisa Morgan-Perales
Company Name:	Inland Empire Utilities Agency
Address:	6075 Kimball Avenue
	Chino, CA 91708
Telephone:	909-993-1520
Facsimile:	909-993-1987
Email:	lperales@ieua.org

2. CONTRACTOR ASSIGNMENT: Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Contractor:	Don Holder
Company Name:	ConServ Construction, Inc.
Address:	30190 Via Del Fierro
	Menifee, CA 92584
Telephone:	951-813-2110
Facsimile:	877-493-7954
Email:	dholder@conservinc.net

3. ORDER OF PRECEDENCE: The documents referenced below represent the Contract Documents. Where any conflicts exist between the General Terms and Conditions the governing order of precedence shall be as follows:

1. Amendments to Contract Number 4600002630.
2. Contract Number 4600002630 General Terms and Conditions.
3. Agency Request for Proposal Number RFP-SM-18-012.
4. Contractor's Proposal dated August 16, 2018.

4. SCOPE OF WORK AND SERVICES:

A. Contractor services and responsibilities shall include and be in accordance with the Contractor's Proposal dated August 16, 2018, which is attached hereto as Exhibit A and incorporated herein by reference, and includes, but is not limited to the following tasks:

1. Administration and Communication as detailed in Exhibit A
2. Educational Videos as detailed in Exhibit A
3. On-Site Evaluations as detailed in Exhibit A
4. Procurement of Equipment as detailed in Exhibit A
5. Installation of Equipment as detailed in Exhibit A
6. Customer Service and Reporting as detailed in Exhibit A
7. Contractor will provide all manpower, equipment, vehicles, and supplies needed to complete the work at various sites, as assigned, to provide retrofit services.
8. Contractor will provide courteous, professional service and will not leave any material or debris at the site. Contractor will be required to wear identifiable attire and provide professional identification to all staff and customers participating in this program, which will include (at a minimum) a photo of the Contractor personnel on the badge and an office phone number for residents to contact, should the need arise.

NOTE: Contractor shall advise Agency within two (2) weeks of any changes to the written Scope of Work based upon discussions from any meetings. Any significant scope of work changes or project delays longer than 4 weeks must be made in writing by an Amendment to the Contract. Work initiated without written approval, shall be at the Contractor's own risk, and shall not be reimbursed by the Agency.

B. Contractor shall provide Agency with a Schedule of Work and Services, documenting the anticipated completion of the work within the time-frame set forth in Subsection 4.A., above. The Schedule of Work and Services will be prepared and submitted to the Project Manager, for review and approval.

C. Method of Inspection:

1. Work performed under this Contract may be required to undergo monthly, weekly, or daily inspections.

2. The Project Manager will be responsible for performance of the inspections.

3. If Contractor fails an inspection, the Project Manager will be responsible for providing a written notice to the Contractor explaining the error and a determination of the urgency for the correction of the error (herein referred to as a "Cure Notice").

D. Cure Procedure:

1. For a Cure Notice deemed by the Agency to be **urgent**, Contractor shall correct any error of the Work within five (05) calendar days after Contractor's receipt of a Cure Notice, as directed by the Project Manager.

2. For a Cure Notice deemed by the Agency to be **important**, Contractor shall correct any error of the Work within ten (10) calendar days after Contractor's receipt of a Cure Notice, as directed by the Project Manager.

3. If the Project Manager rejects all, or any part of, the Work as unacceptable and agreement to correct such Work cannot be reached without modification to the Contract, Contractor shall notify the Project Manager, in writing, detailing the dispute and the reason(s) for the Contractor's position. Any dispute that cannot be resolved between the Project Manager and Contractor shall be resolved in accordance with the provisions of this Contract.

E. The Agency may, at any time, make changes to this Contract's Scope of Work; including additions, reductions, and other alterations to any or all of the Work. However, such changes shall only be made via written amendment to this Contract. The Contract compensation and Schedule of Work and Services shall be equitably adjusted, if required, to account for such changes and shall be set forth within the mutually approved Contract Amendment.

5. TERM: The term of this Contract shall extend from the date of the Notice to Proceed, and terminate October 31, 2019 or upon completion of the regional residential large landscape retrofit program, whichever occurs first, unless agreed upon by both parties, reduced to writing, and amended to this Contract. This Contract may be extended for an additional two years in 12-month increments.

6. PAYMENT, INVOICING, AND COMPENSATION:

A. The Contractor may submit an invoice not more than once per month during the term of this Contract to the Agency's Accounts Payable Department. Agency shall pay Contractor's properly executed invoice, approved by the Project Manager, within thirty (30) days following receipt of the invoice.

B. As compensation for the Work performed under this Contract, Agency shall pay Contractor's monthly invoice, for a total contract price NOT-TO-EXCEED **$210,000.00** for all services satisfactorily provided during the term of this Contract.

C. Additionally, to qualify for payment, the Contractor shall prominently display, on the first page of the invoice, both:

1. The Contract Number – 4600002630, and;
2. The Contract Release Purchase Order Number – TBD

If Contractor submits invoice by email, such invoice shall be submitted as follows:

APGroup@ieua.org
Scan the invoice as a PDF file.
Attach the scanned file to an email.

If Contractor submits invoice by mail, such invoice shall be submitted as follows:

Inland Empire Utilities Agency
Re: Contract Number: 4600002630
P.O. Box 9020
Chino Hills, CA 91709

D. Concurrent with the submittal of the original invoice to the Agency's Accounts Payable Department, the Contractor shall forward (mail, fax, or email) a copy of the invoice to the designated Project Manager, identified in Section 1, on Page 1 of this Contract.

E. No Additional Compensation: Nothing set forth in this Contract shall be interpreted to require payment by Agency to Contractor of any compensation specifically for the assignments and assurances required by the Contract, other than the payment of expenses as may be actually incurred by Contractor in complying with this Contract, as approved by the Project Manager.

F. Contractor may request taking advantage of the Agency's practice of offering an expedited payment protocol to a Contractor who has proposed accepting an invoice amount reduction in exchange for early payment.

7. CONTROL OF THE WORK: The Contractor shall perform the Work in compliance with the Schedule of Work and Services. If performance of the Work falls behind schedule, the Contractor shall accelerate the performance of the Work to comply with the Schedule of Work and Services as directed by the Project Manager. If the nature of the Work is such that Contractor is unable to accelerate the Work, Contractor shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Schedule of Work and Services.

8. INSURANCE: During the term of this Contract, the Contractor shall maintain, at Contractor's sole expense, the following insurance.

A. Minimum Scope of Insurance: Coverage shall be at least as broad as:

1. Commercial General Liability ("CGL"): Insurance Services Office ("ISO") Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than $1,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

2. Automobile Liability: ISO Form Number CA 00 01 covering any auto (Code 1), or if Contractor has no owned autos, covering hired, (Code 8) and non-owned autos (Code 9), with limit no less than $1,000,000 per accident for bodily injury and property damage.

3. Workers' Compensation and Employers Liability: Workers' compensation limits as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease.

B. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of

the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

C. Other Insurance Provisions: The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. Commercial General Liability and Automobile Liability Coverage

a. Additional Insured Status: The Agency, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment supplied in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10 11 85; or **by either** CG 20 10, CG 20 26, CG 20 33, or CG 20 38 **and** CG 20 37 forms if later revisions are used).

b. Primary Coverage: The Contractor's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract with the Agency shall be excess of the Contractor's insurance and shall not contribute with it.

c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.

d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

e. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.

2. Workers' Compensation and Employers Liability Coverage

Contractor hereby grants to Agency a waiver of any right to subrogation which any insurer of the Contractor may acquire against the Agency by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the Agency has received a waiver of subrogation endorsement from the insurer.

3. All Coverages

Each insurance policy required by this Contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Agency pursuant to Section 14, page 12 of this Contract.

D. Acceptability of Insurers: Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A minus:VII, and who are admitted insurers in the State of California.

E. Verification of Coverage: Contractor shall provide the Agency with original certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Agency before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Agency reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

F. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:

Inland Empire Utilities Agency
Attn: Angela Witte
P.O. Box 9020
Chino Hills, CA 91709

9. FITNESS FOR DUTY:

A. Fitness: Contractor and its Subcontractor personnel on the Jobsite:

1. Shall report to work in a manner fit to do their job;

2. Shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled

substance as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and

3. Shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of the Agency.

B. Compliance: Contractor shall advise all personnel and associated third parties of the requirements of this Contract ("Fitness for Duty Requirements") before they enter on the Jobsite and shall immediately remove from the Jobsite any employee determined to be in violation of these requirements. Contractor shall impose these requirements on its Subcontractors. Agency may cancel the Contract if Contractor violates these Fitness for Duty Requirements.

10. LEGAL RELATIONS AND RESPONSIBILITIES:

A. Professional Responsibility: The Contractor shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.

B. Status of Contractor. The Contractor is retained as an independent Contractor only, for the sole purpose of providing the services described herein, and is not an employee of the Agency.

C. Observing Laws and Ordinances: The Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Contractor, its employees, or subcontractors.

D. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager and shall comply with State of California, Department of Industrial Relations, SB 854 requirements.

E. Grant Funded Projects: This is not a grant funded project. For grant-funded projects, the Consultant shall be responsible to comply with all grant requirements related to the Project. These may include, but shall not be limited to: Davis-Bacon Act, Endangered Species Act, Executive Order 11246 (Affirmative Action Requirements), Equal Opportunity, Competitive

Solicitation, Record Retention and Public Access to Records, and Compliance Review.

F. Hours of Labor: The Contractor shall comply with all applicable provisions of California Labor Code Sections 1810 to 1815 relating to working hours. The Contractor shall, as a penalty to the Agency, forfeit $25.00 for each worker employed in the completion of the Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code.

G. Travel and Subsistence Pay: The Contractor shall make payment to each worker for travel and subsistence payments which are needed to complete the work and/or service, as such travel and subsistence payments are defined in an applicable collective bargaining agreements with the worker.

H. Liens: Contractor shall pay all sums of money that become due from any labor, services, materials or equipment provided to Contractor on account of said services to be rendered or said materials to be provided under this Contract and that may be secured by any lien against the Agency. Contractor shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.

I. Indemnification: Contractor shall indemnify the Agency, its directors, employees, and assigns, and shall defend and hold them harmless from all liabilities, demands, actions, claims, losses and expenses, including reasonable attorneys' fees, which arise out of, or are related to, the negligence, recklessness or willful misconduct of the Contractor, its directors, employees, agents, and assigns, in the performance of work under this contract.

J. Conflict of Interest: No official of the Agency, who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.

K. Equal Opportunity: During the performance of this Contract, the Contractor shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin. The Agency is committed to creating and maintaining an environment free from harassment and discrimination.

L. Disputes:

1. All disputes arising out of or in relation to this Contract shall be resolved in accordance with this section. The Contractor shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of a dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et seq., or their successor.

2. Any and all disputes prior to the work starting shall be subject to resolution by the Agency's Project Manager; and the Contractor shall comply, with the Agency Project Manager instructions. If the Contractor is not satisfied with the resolution directed by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written directive of the Project Manager's decision. Failure by Contractor to file a written protest within seven (7) calendar days shall constitute waiver of protest and acceptance of the Project Manager's resolution. The Project Manager shall submit the Contractor's written protests to the General Manager, together with a copy of the Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of the protest-related documents. The General Manager shall make his or her determination with respect to each protest filed with the Project Manager within ten (10) calendar days after receipt of the protest-related documents. If Contractor is not satisfied with any such resolution by the General Manager, they may file a written request for arbitration with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision.

3. In the event of arbitration, the parties to this contract agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:

   a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator.

   b. In the event that none of the names submitted by Contractor are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Contractor a list of five names of persons acceptable to Agency for appointment as Arbitrator. The Contractor shall,

in turn, have seven (7) calendar days in which to determine if one such person is acceptable.

c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to reasonable attorneys' fees which shall be recoverable by the prevailing party.

4. Association in Mediation/Arbitration: The Agency may join the Contractor in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such association shall be initiated by written notice from the Agency's representative to the Contractor.

M. Workers' Legal Status: For performance against this Contract, Contractor shall only utilize employees and/or subcontractors that are authorized to work in the United States pursuant to the Immigration Reform and Control Act of 1986.

N. Prevailing Wage Requirements: Pursuant to Section 1770 and following, of the California Labor Code, the Contractor shall not pay less than the general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract. The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor.

O. Contractor shall provide with their invoice certified payroll verifying that Contractor has paid prevailing wage requirements as stipulated in SB-854 (http://www.dir.ca.gov/DIRNews/2014/2014-55.pdf).

11. OWNERSHIP OF MATERIALS AND DOCUMENTS/CONFIDENTIALITY: The Agency retains ownership of any, and all, partial or complete reports, drawings,

plans, notes, computations, lists, and/or other materials, documents, information, or data prepared by the Contractor and/or the Contractor's subcontractor(s) pertaining to this Contract. Said materials and documents are confidential and shall be available to the Agency from the moment of their preparation, and the Contractor shall deliver them to the Agency whenever requested to do so by the Project Manager and/or Agency representative. The Contractor agrees that all documents shall not be made available to any individual or organization, private or public, without the prior written consent of an Agency representative.

12. TITLE AND RISK OF LOSS:

A. Documentation: Title to the Documentation shall pass to the Agency when prepared; however, a copy may be retained by Contractor for its records and internal use. Contractor shall retain such Documentation in a controlled access file, and shall not reveal, display, or disclose the contents of the Documentation to others without the prior written authorization of the Agency or for the performance of Work related to the Scope of Work described in this Contract.

B. Material: Title to all Material, field or research equipment, and laboratory models, procured or fabricated under the Contract shall pass to the Agency when procured or fabricated, and such title shall be free and clear of any and all encumbrances. Contractor shall have risk of loss of any Material or Agency-owned equipment of which it has custody.

C. Disposition: Contractor shall dispose of items to which the Agency has title as directed, in writing, by the Project Manager and/or an Agency representative.

13. PROPRIETARY RIGHTS:

A. Rights and Ownership: Agency's rights to inventions, discoveries, trade secrets, patents, copyrights, and other intellectual property, including the Information and Documentation, and revisions thereto (hereinafter collectively referred to as "Proprietary Rights"), used or developed by Contractor in the performance of the Work, shall be governed by the following provisions:

1. Proprietary Rights conceived, developed, or reduced to practice by Contractor in the performance of the Work shall be the property of Agency, and Contractor shall cooperate with all appropriate requests to assign and transfer same to Agency.

2. If Proprietary Rights conceived, developed, or reduced to practice by Contractor prior to the performance of the Work are used in and become integral with the Work, or are necessary for Agency to have complete control of the Work, Contractor shall grant to Agency a non-

exclusive, irrevocable, royalty-free license, as may be required by Agency for the complete control of the Work, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and grant sublicenses to others with respect to the Work.

3. If the Work includes the Proprietary Rights of others, Contractor shall procure, at no additional cost to Agency, all necessary licenses regarding such Proprietary Rights so as to allow Agency the complete control of the Work, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy, or dispose of any or all of the Work; and to grant sublicenses to others with respect to the Work. All such licenses shall be in writing and shall be irrevocable and royalty-free to Agency.

14. NOTICES: Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green
Manager of Contracts and Procurement
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91709

Contractor: Don Holder
Conserv Construction, Inc.
30190 Via Del Fierro
Menifee, CA 92584

Any notice given pursuant to this section shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission through the United States Postal Service.

15. SUCCESSORS AND ASSIGNS: All of the terms, conditions and provisions of this Contract shall take effect to the benefit of and be binding upon the Agency, the Contractor, and their respective successors and assigns. No assignment of the duties or benefits of the Contractor under this Contract may be assigned, transferred, or otherwise disposed of, without the prior written consent of the Agency; and any such purported or attempted assignment, transfer, or disposal without the prior written consent of the Agency shall be null, void, and of no legal effect whatsoever.

16. PUBLIC RECORDS POLICY: Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Contractor of any requests for

disclosure of any documents pertaining to this work. In the event of litigation concerning disclosure of information Contractor considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Contractor has marked "Confidential," "Proprietary," or "Trade Secret," Contractor shall defend and indemnify Agency from all liability, damages, costs, and expenses, in any action or proceeding arising under the Public Records Act.

17. RIGHT TO AUDIT: The Agency reserves the right to review and/or audit all Contractor's records related to the Work. The option to review and/or audit may be exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to the Contractor. The Contractor shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.

18. INTEGRATION: The Contract Documents represent the entire Contract made and entered into by and between the Agency and the Contractor as to those matters contained in this contract. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered, or amended except by written mutual agreement by the Agency and the Contractor.

19. GOVERNING LAW: This Contract is to be governed by and constructed in accordance with the laws of the State of California, in the County of San Bernardino.

20. TERMINATION FOR CONVENIENCE: The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Contractor. In the event of such termination, the Agency shall pay Contractor for all authorized and Contractor-invoiced services up to the date of such termination, as approved by the Project Manager.

21. FORCE MAJEURE: Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.

22. NOTICE TO PROCEED: No services shall be performed or provided under this Contract unless and until this document has been properly signed by all responsible parties and a notice to proceed has been issued to the Contractor by the Project Manager.

23. AUTHORITY TO EXECUTE CONTRACT: The Signatories, below, each represent, warrant, and covenant that they have the full authority and right to enter into this Contract on behalf of the separate entities shown below.

24. DELIVERY OF DOCUMENTS: The Parties to this Contract and the individuals named to facilitate the realization of its intent, with the execution of the Contract, authorize the delivery of documents via facsimile, via email, and via portable document format (PDF) and covenant agreement to be bound by such electronic versions.

The parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY:
A MUNICIPAL WATER DISTRICT

Halla Razak (Date)
General Manager

ConServ Construction, Inc.

Don Holder 9-19-18 (Date)
President

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1F

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018

To: The Honorable Board of Directors **From:** Halla Razak, General Manager HHR

Committee: Engineering, Operations & Water Resources *10/10/18*

Executive Contact: Shaun Stone, Acting Executive Manager of Engineering/AGM

Subject: IEUA & CBWM Cost Sharing Task Order No. 4 for Chino Basin Project Support

Executive Summary:

In September 2017, IEUA and Chino Basin Watermaster (CBWM) entered into a Master Agreement for joint management and cost sharing of projects in the Chino Basin. Through Task Order No. 4, CBWM and its Engineer, Wildermuth Environmental Inc. (WEI) will provide modeling analysis in support of the feasibility study for the Chino Basin Conjunctive Use Environmental Water Storage/Exchange Program (Chino Basin Project).

IEUA is in the process of developing a feasibility study for the Chino Basin Project to determine optimized "Put and Pump Back" facilities (advanced water treatment, recharge and/or injection facilities, production wells, and associated transmission systems) within the Chino groundwater basin. The work performed under this task order will provide information to help IEUA identify the most feasible and optimal siting of an advanced water treatment facility, corresponding recharge facilities (surface spreading, injection or a combination) and groundwater extraction wells in the Chino groundwater basin.

This task order was approved by the CBWM Board of Directors on September 27, 2018.

Staff's Recommendation:

1. Approve Task Order No. 4 with CBWM for Chino Basin Project Evaluation and Conceptual Design Support, for a not-to-exceed amount of $190,568, under the Master Cost Sharing Agreement; and

2. Authorize the General Manager to execute Task Order No. 4, subject to non-substantive changes.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* N *Amount for Requested Approval:*

Account/Project Name:

The cost will be split 50/50 between WR16025-Water Resources Planning Documents (WW fund), and Professional Fees & Services (WC fund).

Fiscal Impact (explain if not budgeted):

N/A

Full account coding (internal AP purposes only): - - - - - - Project No.:

Prior Board Action:

On September 20, 2017, the Board approved the Master Cost Sharing Agreement between IEUA and Chino Basin Watermaster.

Environmental Determination:

Statutory Exemption

CEQA exempts a variety of projects from compliance with the statute. This project qualifies for a Statutory Exemption as defined in Section 15262 of the State CEQA Guidelines. When the project is implemented, it will be subject to future environmental evaluation.

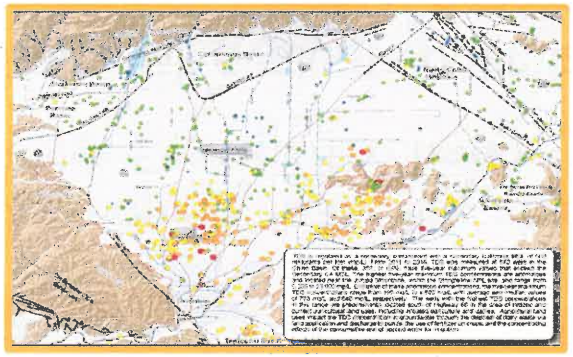
Business Goal:

Task Order No. 4 is consistent with IEUA's Business Goal of Water Reliability by maximizing the beneficial reuse of recycled water as a source of groundwater recharge; and meeting the region's need to develop reliable and diverse local water resources in order to reduce dependence on imported water supplies.

Attachments:

Attachment 1: PowerPoint
Attachment 2: Task Order No. 4 with CBWM for Chino Basin Project Evaluation and Conceptual Design Support

IEUA & CBWM Cost Sharing Task Order No. 4 for Chino Basin Project Support



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CHINO BASIN WATERMASTER
Partners in Basin Management

Joshua Aguilar
October 2018

Background

- Developing feasibility study for the Chino Basin Conjunctive-Use Environmental Water Storage/Exchange Project (Chino Basin Project)
- Study will evaluate optimization of facilities:
  - Advanced water treatment
  - Recharge and/or injection
  - Production wells
  - Transmission systems
- Study will explore potential benefits to the Chino Basin
- Existing IEUA & CBWM master agreement for collaborative efforts

Groundwater Injection Well

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CHINO BASIN WATERMASTER
Partners in Basin Management

Task Order No. 4: Chino Basin Project Support

- Description:
  - Update groundwater model to analyze alternative facility locations
  - Assess basin response: net recharge, water quality, pumping stability, etc.
  - Provide alternatives for optimal siting of facilities
- Budget:
  - IEUA total not-to-exceed amount of $190,568

Advanced Water Treatment
via Reverse Osmosis

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CHINO BASIN WATERMASTER
Partners in Basin Management

Recommendation

- Approve Task Order No. 4 with CBWM for Chino Basin Project Evaluation and Conceptual Design Support, for a not-to-exceed amount of $190,568, under the Master Cost Sharing Agreement; and
- Authorize the General Manager to execute Task Order No. 4, subject to non-substantive changes.

Task Order No. 4 is consistent with ***IEUA's Business Goal of Water Reliability*** by maximizing the beneficial reuse of recycled water as a source of groundwater recharge; and meeting the region's need to develop reliable and diverse local water resources in order to reduce dependence on imported water supplies.

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CHINO BASIN WATERMASTER
Partners in Basin Management

MASTER AGREEMENT BETWEEN
CHINO BASIN WATERMASTER AND INLAND EMPIRE UTILITIES AGENCY
REGARDING THE MANAGEMENT OF COLLABORATIVE PROJECTS

TASK ORDER NO. 4
CHINO BASIN CONJUNCTIVE USE ENVIRONMENTAL WATER STORAGE/EXCHANGE PROGRAM EVALUATION AND CONCEPTUAL DESIGN SUPPORT

This Task Order is made and entered into as of the ____ day of September, 2018 by and between the Chino Basin Watermaster, hereinafter referred to as "Watermaster," and the Inland Empire Utilities Agency, hereinafter referred to as "IEUA" (each a "Party" and collectively, the "Parties").

In consideration of the mutual promises, covenants, and conditions as addressed in the Master Agreement between Chino Basin Watermaster and Inland Empire Utilities Agency Regarding Management of Collaborative Projects dated September 28, 2017 ("Master Agreement") and as specifically hereinafter set forth, the Parties do hereby agree as follows:

1. PURPOSE

The purpose of this Task Order is to govern the manner in which Watermaster's consultant will perform work allowing IEUA to acquire technical information to enable it to assess feasibility and conceptual development of the Chino Basin Conjunctive Use Environmental Water Storage/Exchange Program ("CBEWP"). IEUA is in the process of developing a Feasibility Study for the CBEWP to determine optimized "Pump Back" facilities (advanced water treatment, recharge and/or injection facilities, production wells, and associated transmission systems) from the Chino groundwater basin to the Metropolitan Water District of Southern California (MWD). The work performed pursuant to this Task Order will provide information to help IEUA identify the most feasible and optimized siting of an advanced water treatment facility, corresponding recharge facilities (surface spreading, injection or a combination) and groundwater extraction wells in the Chino groundwater basin.

The proposed CBEWP operation is as follows:

- The advanced water treatment facility will recharge ("put") up to 15,000 AFY of treated water into the groundwater basin and store under the Chino Basin Water Bank (CBWB). The maximum storage capacity reserved for the CBEWP is 100,000 AF.
- During a pump back ("take") provision, the project would pump up to 50,000 AFY from the CBWB. The water would be delivered to the partnering State Water Project Contractor (SWPC), potentially MWD, and pumped into their existing distribution system for use within Southern California. An equivalent amount of

water would then be exchanged with the SWPC. The exchange would leave behind water in Lake Oroville storage. The project can pump up to 50,000 AF of water for up to three consecutive dry years.

2. SCOPE

As related to this Task Order, the CBEWP evaluation and conceptual design support is attached hereto as **Exhibit A**.

The evaluation and conceptual design support scope of work will include, but is not limited to the following activities:

- Coordination and meetings with IEUA and its consultants;
- Review of associated information (memoranda, modeling, etc.);
- Application of the 2017 Watermaster Model to evaluate the basin response to CBEWP project alternatives; and
- Other associated effort.

The product of the work described in Exhibit A is a "snapshot" evaluation as of the time the evaluation is conducted, based on the assumptions made at the time of the evaluation. Such work is not a guarantee of any future result or any future finding by Watermaster, WEI, or any other Watermaster staff, agent, or consultant, and IEUA acknowledges that the result of a similar analysis could be different in the future, based on changes occurring between the time of the two analyses, or based on updated assumptions at the time of a later analysis.

3. IEUA RESPONSIBILITIES

IEUA agrees to provide project management and contract administration services that include, but are not limited to:

- Engagement and management of consulting services as needed;
- Coordination and communication with the project team;
- Providing access to associated available information and data; and,
- Payment of consultant invoices.

4. WATERMASTER RESPONSIBILITIES

Watermaster, with the assistance of WEI, agrees that it and its employees and consultants will cooperate with IEUA and the project consultants in the performance of services under this Task Order and, to the extent possible, will provide any necessary documentation and information in Watermaster's possession.

5. BUDGET AND COST ALLOCATION

Unless the scope of work is changed, and an increase is authorized by the Parties, the total projected cost for the activities to be undertaken pursuant to this Task Order is One hundred ninety-eight thousand five hundred sixty-eight dollars ($190,568) ("Budget"). The Parties agree that the Budget is carried in its entirety by IEUA, and that Watermaster will bear no costs related to the project.

Entity	Total
Watermaster	$0
IEUA	$190,568
Total	**$190,568**

6. TOTAL BUDGETED COST

The Parties agree to pay their respective portion of the total costs. The Parties shall not be required to pay more than $190,568 ("Total Budgeted Cost").

7. MAXIMUM COSTS TO WATERMASTER

The costs to be required of Watermaster under this Agreement shall not exceed its share of the Total Budgeted Cost, as shown in Section 5 above, or $0.

8. MAXIMUM COSTS TO IEUA

The costs to be required of IEUA under this Agreement shall not exceed its share of the Total Budgeted Cost, as shown in Section 5 above, or $190,568.

9. TERM

Work to be undertaken pursuant to this Task Order shall be initiated upon the Effective Date, as described in Section 11, below. The terms of this Task Order shall remain effective until Watermaster's receipt of IEUA's share of costs expended pursuant to the Budget shown above, so that IEUA may close out the activities.

10. REIMBURSEMENT

IEUA's reimbursement of Watermaster's work performed under this Task Order shall be as provided in Article 3 of the September 2017 Master Agreement.

11. EFFECTIVE DATE

This Task Order No. 4 will become effective upon execution by both Parties.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year and at the place first above written.

CHINO BASIN WATERMASTER

By _____
PETER KAVOUNAS, PE
General Manager

INLAND EMPIRE UTILITIES AGENCY

By _____
HALLA RAZAK, PE
General Manager

WILDERMUTH ENVIRONMENTAL, INC.

September 6, 2018

Chino Basin Watermaster
Attention: Mr. Peter Kavounas
9641 San Bernardino Road
Rancho Cucamonga, CA 91730

Subject: ***Proposal to provide engineering services to develop and provide information to IEUA to help them develop a refined set of project alternatives for the proposed the Chino Basin Conjunctive-Use Environmental Water Storage/Exchange Project (CBEWP).***

Dear Mr. Kavounas:

There was a meeting on August 29, 2018, with Watermaster and IEUA staffs to discuss IEUA's request for technical information to assist them in the evaluation of the proposed CBEWP. After some discussion, you directed Edgar Tellez-Forster to work with IEUA staff and Watermaster legal counsel to develop a task order that would contain a technical scope of work and cost to provide that assistance. This letter is the technical scope of work and cost estimate for that task order.

IEUA issued an RFP in March 2018 for hydrogeologic services for the CBEWP project and subsequently awarded the work to a team consisting of Thomas Harder and Company and Michael Baker (hereafter TH). TH proposed three tasks that included:

- Task 1 Data Review and Preliminary Evaluation
- Task 2 Project Alternative Development and Evaluation
- Task 3 (Optional) Siting Study and Preliminary Design

On August 30, 2018, Watermaster staff attended a meeting at IEUA to review the Task 1 work completed by TH. Task 1 has been completed and the work was documented in the TM 1 report and the associated August 30, 2018 PowerPoint presentation. TH is about to start work in Task 2. TH's scope of work for Task 2 includes three subtasks that include:

- Task 2.1 Alternatives analysis (assumes ten project alternatives)
- Task 2.2 Preparation of Technical Memorandum No. 2
- Task 2.3 Progress meetings (assumes two progress meetings and one workshop in Chino)

Task 2.1, as described by TH at August 30, 2018 meeting, involves: the construction of an analytical model(s) of the Chino Basin[1]; the detailed formulation of ten alternatives (detailed

[1] The exact text of the proposed modeling work reads as follows: "In order to evaluate potential regulatory compliance for injection wells, impacts on existing plumes, and pumping interference, TH&Co will use an analytical model for the area specific to each alternative." Page 7 of the TH April 2018 proposal.

enough to conduct simulations of them with the analytical model); application of the analytical model to assess basin response; post-processing of the model results to estimate basin responses; and the development an application of a ranking process to score and prioritize the alternatives. TH has estimated this task to cost about $149,000.

TH proposed that the analytical model be created from scratch using information from the 2011 version of the Chino Basin groundwater model. Based on discussion at the August 30, 2018 meeting, TH was unaware of the updated 2017 Watermaster model, updated planning information, and the Storage and Recovery scenarios analysis completed for the Storage Framework investigation.

The Storage Framework investigation produced an updated planning model (2017 Watermaster mode) that can be used to efficiently evaluate the proposed CBEWP alternatives and provide information that can be used in a Storage and Recovery Agreement application. The Storage Framework investigation developed planning information and related tools that can be used to efficiently develop the CBEWP alternatives consistent with the information used in the development of the SF scenarios; reduce the number of CBEWP alternatives that need to be evaluated; and accelerate the rate of learning and project development.

At our follow up call on August 31, 2018, you suggested that WEI create a table that compares the work proposed by TH that can be done by WEI with the updated Chino Basin model; and, based on that table create a scope and cost proposal that could be included in a Task Order where WEI would conduct the modeling work and provide other as needed support to enable TH to complete their work for IEUA. Table 1: lists the proposed TH Task 2 subtasks; indicates a specific subtask where Watermaster can employ its updated planning data and the 2017 Watermaster model to improve the reliability and usefulness of the Task 2 products; and it provides a set of comments for each TH Task 2 subtasks where the work done in the Storage Framework investigation could be leveraged to improve the efficiency of TH's Task 2 effort.

Proposed Scope of Work

Table 2 contains a work breakdown structure and cost estimate for Watermaster to provide the modeling support to IEUA as indicated in Table 1. The scope of work includes three tasks:

- Task 1 - Project management. This task involves WEI project management activities and includes up to three ad hoc meetings.
- Task 2 - As-requested services. This task involves WEI responding to ad hoc requests for information or assistance.
- Task 3 - Application of the 2017 Watermaster Model and updated planning information to evaluate the basin response to CBEWP project alternatives. This task involves the following:
    - Assisting IEUA and TH in converting a conceptual alternative description into a detailed description that can modeled
    - Development of recharge and pumping schedules for specific facilities to implement the CBEWP alternative

- Developing model input files, getting the model to run and debugging the model to ensure that the alternative has been correctly modeled. Conducting iterative simulations to converge on net recharge and replenishment.
- Post processing final simulation results to develop a final water budget table, assess state of hydraulic control, preparation of groundwater elevation and groundwater elevation change maps
- Reviewing the simulation results with IEUA and TH staffs

For budgeting purposes, we have assumed that seven alternatives would be simulated with the 2017 Watermaster groundwater flow model. After all the CBEWP alternatives have been simulated with the 2017 Watermaster groundwater flow model, IEUA, Watermaster, TH and WEI will select up to three of the CBEWP alternatives for which WEI will use the MT3D model to estimate impact of CBWEP alternatives on the transport of the major plumes in the Chino Basin. WEI will post process the MT3D model results and prepare map graphics identical that those prepare for the Storage Framework investigation report (plume positions in 2030 and 2050 for the three CBEWP alternatives and the for the Storage Framework scenario 1A (baseline)).

The deliverable for Task 3 will be: model output files; and tables, charts and maps comparable to those produced in Section 6 of the Storage Framework final report and Appendix B from that report.

The cost to complete the work as proposed is about $170,000. We recommend that you budget an additional $20,000 for contingencies. If you have any questions regarding this proposal, please call me at 949-600-7500 or send them to me at mwildermuth@weiwater.com.

Very truly yours,

Wildermuth Environmental, Inc.

Mark Wildermuth, PE
President

Encl.: Tables 1 and 2

Summary of TH Task 2 Subtasks and Where Watermaster Staff Could Assist IEUA and TH

TH proposed task	Watermaster WEI proposed task	Comment
Develop general facility sizing, quantities, and issues impacting construction costs for either a centrally located treatment plant or a satellite plant, depending on the alternative.		
Identification of a sufficient number of injection well sites to meet the injection capacity requirements of the CBEWP taking into account anticipated maintenance and rehabilitation down time.		The Storage Framework investigation evaluated the location of injection well areas based on an integrated assessment of the recovery of recharged, reductions in net recharge, impact on the state of hydraulic control and impact to plume migration. TH could use this work to fine tune its work and reduce the number of spreading basin alternatives.. TH could use this work to fine tune its work and reduce the number of alternatives.
Identification of existing and/or new recharge basins for PUT operations. Issues to be evaluated will include environmental restrictions, capacity limits with respect to storm flow obligations, recharge infiltration rates, and location with respect to existing downgradient production wells.		The Storage Framework investigation evaluated the use of existing recharge basins based on recent estimates of surplus recharge capacity (consistent with the 2018 RMPU), it considered conflicts with other spreading basins uses, and it conducted an integrated assessment of the recovery of recharged, reductions in net recharge impact on the state of hydraulic control and impact to plume migration. TH could use this work to fine tune its work and reduce the number of spreading basin alternatives.
Evaluation of the relative cost of using injection wells versus surface spreading basins.		There are other issues that need to be considered regarding the trade offs of using recharge basins and injection wells. These were evaluated in the Storage Framework investigation (see above) and could be used by TH to fine tune their alternatives and reduce the number of alternatives investigated.
Identification of a sufficient number of production well sites to meet the TAKE capacity requirements of the CBEWP.		The Storage Framework investigation evaluated the location of recovery well areas based on an integrated assessment of the recovery of recharged, reductions in net recharge, impact on the state of hydraulic control and impact to plume migration. TH could use this work to fine tune its work and reduce the number of alternatives.
Evaluation of the feasibility of reducing baseline imported water deliveries and increasing groundwater pumping from existing and/or new production wells (Alternative No. 7).		The Storage Framework investigation evaluated the existing under used capacity of Appropriator party wells that could be used to offset the use of imported water as a means to recover stored supplemental water. TH could use this work to fine tune its work and reduce the number of alternatives.
In order to evaluate potential regulatory compliance for injection wells, impacts on existing plumes, and pumping interference, TH&Co will use an analytical model for the area specific to each alternative. The analytical model will provide the requisite level of analysis for the feasibility study and can be conducted within the 20-week schedule described in the RFP.	The existing Watermaster model (hereafter the 2017 Watermaster model) has been recently been updated with the latest groundwater production and recharge projections and used in the Storage Framework investigation. WEI could use the 2017 Watermaster model to evaluate the alternatives developed by TH in lieu of TH developing and applying analytical models for each alternative. The resulting analysis will more accurately predict the basin response, ensure its consistency with the Storage Framework planning scenarios and maximize confidence in the Task 2	TH proposal provides no description of scope of work to develop his analytical model nor do they describe the scope of work to evaluate basin response and impacts. The TH scope of work is described in bullet form in their August 30, 2018 PowerPoint presentation. The scope as presented is based on outdated WAtermaster model assumptions and ignores: the updated 2017 Watermaster model, updated planning information and Storage and Recovery scenarios analysis completed for the Storage Framework investigation.

Table 2
Work Breakdown Structure and Fee Estimate
Provide Modeling Support and As-Needed Services for the CBEWP

Description	Notes	Labor (person days)								Total Labor			Other Direct Charges				Total Project Costs	
		Principal III	Principal I	Supervising I	Senior II	Senior I	Staff I	Tech Editor	Task Rep Multiplier	Person Days	Cost		Travel	Repro-duction	Total ODCs			
											Task	Project			Task	Project	Task	Project
Task 1 Project management and meetings												$10,116				$600		$10,716
1.1 Project management and scheduling						0.50			3.00	1.50	$2,124						$2,124	
1.2 Ad hoc meetings with Watermaster staff		0.25	0.25			0.25			6.00	4.50	$7,992		$600		$600		$8,592	
Task 2 Provide as-needed assistance to TH, IEUA and Watermaster staffs		5				5			1		$17,200	$17,200				$0	$17,200	$17,200
Task 3 Application of the 2017 Watermaster Model to evaluate the basin response to CBEWP pro												$142,552				$100		$142,652
3.1 Define and evaluate a CBEWP project alternative																		
3.1.1 Review CBEWP project alternative with TH, IEUA and Watermaster staffs		0.50				0.50			7.00	7.00	$12,040		$100		$100		$12,140	
3.1.2 Update list of wells and pumping and injection schedule			0.50			0.25			7.00	5.25	$9,086						$9,086	
3.1.3 Update recharge at spreading basins			0.50			0.25			7.00	5.25	$9,086						$9,086	
3.1.4 Prepare input files			1.50						7.00	10.50	$19,824						$19,824	
3.1.5 Get the model to run			0.50						7.00	3.50	$6,608						$6,608	
3.1.6 Construct water budget table(s) and estimate net recharge		0.25	1.00			0.25			7.00	10.50	$19,236						$19,236	
3.1.7 Evaluate state of hydraulic control		0.13	0.50						7.00	4.38	$8,379						$8,379	
3.1.8 Prepare head raster files, GWE and GWE change maps, GWE time history charts		0.13	0.50			0.13			7.00	5.25	$9,618						$9,618	
3.1.9 Review results with TH, IEUA and Watermaster staffs		1.00	1.00			1.00			7.00	21.00	$37,296						$37,296	
3,2 Evaluate CBEWP project alternative impacts on major plumes																		
Prepare MT3D input files			0.50						3.00	1.50	$2,832						$2,832	
Get the model to run			0.50						3.00	1.50	$2,832						$2,832	
Prepare concentration raster files		0.13	0.50			0.50			3.00	3.38	$5,715						$5,715	
Total Tasks 1 through 3		20.88	48.00	0.00	0.00	26.13	0.00	0.00		85.00		$169,868	$700	$0		$700		$170,368

Engineering, Operations, and Water Resources Committee

ACTION ITEM 1G

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018

HHR

To: The Honorable Board of Directors **From:** Halla Razak, General Manager

Committee: Engineering, Operations & Water Resources *10/10/18*

Executive Contact: Chris Berch, Executive Manager of Engineering/AGM

Subject: Vacuum Truck Master Services Contract Amendment

Executive Summary:

In March 2017, the Board of Directors awarded a three-year master services contract to K-VAC Environmental Services, Inc., for provisions of "as-needed" vacuum truck services. The services provided by K-VAC have allowed multiple cleaning efforts to be completed on IEUA facilities, in addition to providing emergency cleaning support.

The Operations and Maintenance Department has requested that Engineering coordinate a project to clean the wet well at Regional Water Recycling Plant No. 4 (RP-4) due to high sediment levels. The high level of sediment is affecting performance of the pumps in the headworks. The remaining contract amount in the master service contract with K-VAC is less than $25,000. Therefore, staff is requesting a contract amendment for the spending authority to cover the $123,000 in services needed from K-VAC to clean the RP-4 wet well.

Funding for this effort is coming from existing budgeted funds.

Staff's Recommendation:

1. Approve an amendment to Master Service Contract 4600002293 with K-VAC for vacuum truck services in the amount of $123,000 for a total aggregate not-to-exceed amount of $266,330; and

2. Authorize the General Manager to execute the amendment subject to non-substantive changes.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* N *Amount for Requested Approval:*

Account/Project Name:

EN19022.01 - RP-4 Wet Well Cleaning Project

Fiscal Impact (explain if not budgeted):

Full account coding (internal AP purposes only): 1000 - 10800 - 127100 - 501000 Project No.: EN19022

Prior Board Action:

On March 22, 2017, the Board of Directors approved the three-year contract to K-VAC Environmental Services, Inc.

Environmental Determination:

Not Applicable

Business Goal:

The Vacuum Truck Master Services Contract Amendment is consistent with IEUA's Business Goal of Wastewater Management, specifically the Asset Management objective, that IEUA will ensure the regional sewer system and treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, and can accommodate changes in regional water use.

Attachments:

Attachment 1- Amendment

Attachment 1

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CONTRACT AMENDMENT NUMBER 4600002293-005

FOR

AS-NEEDED VACUUM TRUCK SERVICES

THIS AMENDMENT, NUMBER 4600002293-005, is made and entered into this _____ day of _____, 2018, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "IEUA" or "Agency"), and KVAC Environmental, of Rancho Cucamonga, California (hereinafter referred to as "Contractor"), for additional As-Needed Vacuum Truck Services. The Contact shall be amended as follows:

REVISE SECTION 4, SCOPE OF WORK AND SERVICES, ADDING A PARAGRAPH "E" FOR ADDITIONAL VACUUM TRUCK SERVICES, TO READ:

E. Contractor shall have available, and deploy to Regional Plant No. 4 (RP-4), additional vacuum tanker services. This deployment will include a Vactor truck (and driver/operator) two Vac-Tankers (with driver/operators), as well as appurtenant equipment (hoses, electrical cords, pressure washers, crew, etc.) for the removal of the residual materials from two wet wells (north and south) at RP-4; including services to be provided within documented confined spaces. The contractor's rates, as shown on estimate #9265, dated August 23, 2018, and attached to this Contract Amendment as Exhibit E; shall be used to formulate all invoices issued for this work.

REVISE SECTION 6, PAYMENT, INVOICING, AND COMPENSATION, ADDING TEXT TO READ:

As compensation for the satisfactory performance of the work required under Contract Amendment 4600002293-005, Agency shall pay Contractor's invoices within 30 days. All payments shall be made in accordance with properly issued, and approved, invoices, processed in accordance with the payment provisions of Section 6 of Contract Number 4600002293.

This amendment increases the value of the Contract by **$123,000,** for these services. The total, Not-To-Exceed value of the Contract shall be increased to **$266,330**.

All other terms and conditions of Contract 4600002293 shall remain in full force and effect.

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

The parties hereto have mutually covenanted and agreed as per the above amendment item and in doing so have caused this document to become incorporated into the Contract documents.

The parties hereto have caused the Contract to be amended as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY: *("A MUNICIPAL WATER DISTRICT)*		**KVAC ENVIRONMENTAL SERVICES, INC.:**	
Halla Razak General Manager	(Date)	Janine Garcia Account Specialist	09.20.18 (Date)

(This space has been intentionally left blank.)

Exhibit E

KVAC ENVIRONMENTAL

Estimate

DATE	NUMBER
8/23/2018	9265

NAME / ADDRESS	Ship To
Inland Empire Utilities Agency PO Box 9020 Chino Hills CA 91709	RP-4 12811 6th Street Rancho Cucamonga, CA 91739

Terms	REP	P.O. Number
Net 30	H	

DESCRIPTION	QTY	PRICE	TOTAL
Scope: Clean out north and south wet wells using vactor, vac trucks, pressure washer and confined space crew. All waste to be taken to K-Pure for disposal.			
Duration of time 7x 13hr days			
Non-Hazardous waste, liquid (sludge) -(per ton) - Non-Conforming Rates Apply - KP	210	182.61	38,348.10
Vactor - Standard Time	56	185.00	10,360.00
Vactor - Overtime	28	200.00	5,600.00
Vactor - Double Time	7	215.00	1,505.00
2x Large Vac Tankers - Standard Time	112	95.00	10,640.00
2x Large Vac Tankers - Overtime	56	115.00	6,440.00
2x Large Vac Tankers - Double Time	14	135.00	1,890.00
Project Manager Truck (per day)	7	150.00	1,050.00
Stake Bed Truck (per day)	7	165.00	1,155.00
Pressure Washer (per day)	7	385.00	2,695.00
Confined Space Entry - Standard Time Includes Entrant/Supervisor/Attendant, Retrieval System and 4 Gas Monitor (per hour)	56	335.00	18,760.00
Confined Space Entry - Overtime Includes Entrant/Supervisor/Attendant Retrieval System and 4 Gas Monitor	28	380.00	10,640.00
Confined Space Entry - Double Time Includes Entrant/Supervisor/Attendant Retrieval System and 4 Gas Monitor	7	425.00	2,975.00
Technician - Standard Time	56	50.00	2,800.00
Technician - Overtime	28	65.00	1,820.00
Technician - Double Time	7	80.00	560.00
Personal Protective Equipment - Level C	28	50.00	1,400.00
Ladder (per day)	7	25.00	175.00
Portable Toilet (per day)	7	200.00	1,400.00
4' of 6" Hard Pipe (per length/10' lengths)	1	100.00	100.00
6" Vactor Flex Hose (per foot)	400	4.00	1,600.00
Rubber Hose (per foot)	100	1.00	100.00

RP2 - IEUA
16400 El Prado Rd.
Chino, CA 91708

9/4/18 dsk

Job walked by: cch

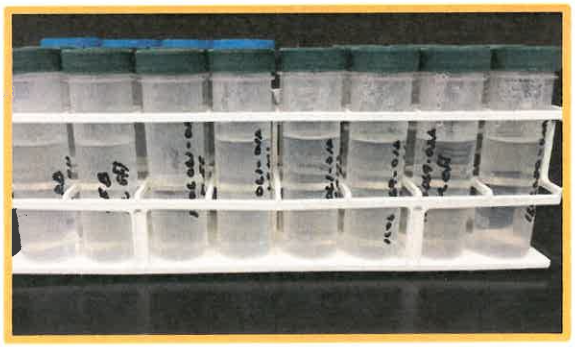
TOTAL $122,013.10

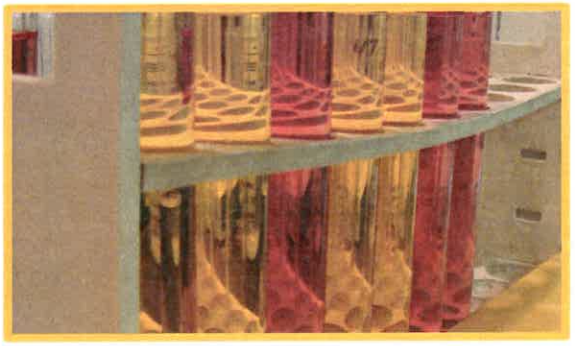
Engineering, Operations, and Water Resources Committee

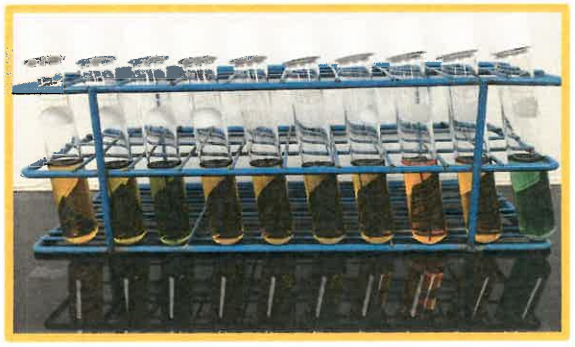
INFORMATION ITEM 2A

Laboratory

Semi-Annual Update







Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

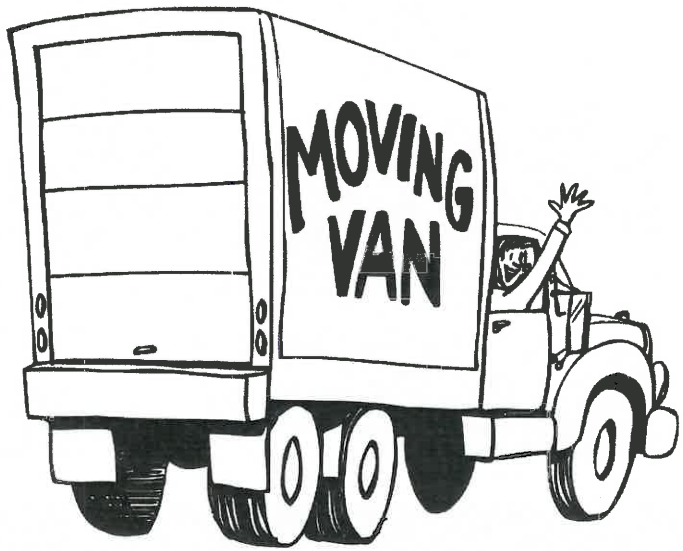
Nel Groenveld
October 2018

Laboratory Activities

- FY 2018 Samples and Analyses
  - Samples – 18,180
    - Compliance – 6,603
    - Process Control – 11,577
  - Analyses – 59,826
    - Compliance – 30,492
    - Process Control – 29,334
- Staffing
  - Retirement:
    - Gary Guardiano (26 years of service)
  - Promotions:
    - Jennifer Huber, Chemist
    - Vincent Tran, Chemist
    - Niki Becker, Laboratory Scientist II
  - New Hire:
    - Supriti Shrestha, Laboratory Scientist I

Water Quality Laboratory (EN15008)

- Move-In/Certification
  - 1st Phase: October 8
    - Majority of Lab equipment and staff moves. Process analysis performed at new Water Quality Lab
    - Compliance analysis continues in Old Lab for some tests, others to be sent to contract lab
  - ELAP site visit: Week of November 5
  - 2nd Phase: Remaining equipment moves in mid November after New Lab receives ELAP accreditation.
  - Instruments/Equipment moved
    - 19 advanced instruments with spare parts and specialized glassware
    - Over 30 smaller miscellaneous instruments
    - 1000's of various glassware items, beakers, pipettes, cylinders, chemicals, etc.



Sample Receiving/Storage

Sample delivery in the middle of the Lab. No storage space for coolers, outdoor walk-in refrigerator.

Easy access for sample delivery. Storage room for coolers, Walk-in refrigerator centrally located.

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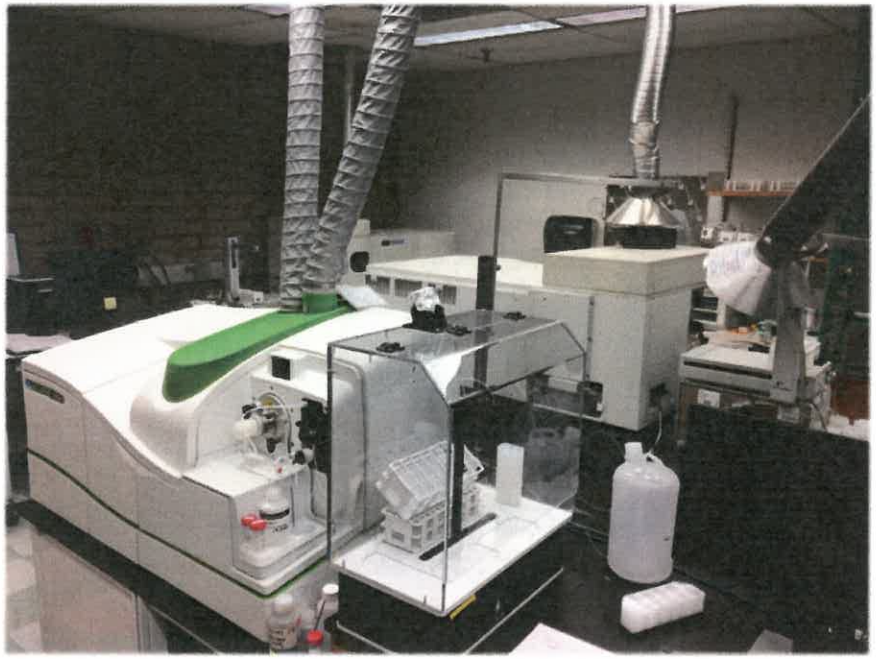
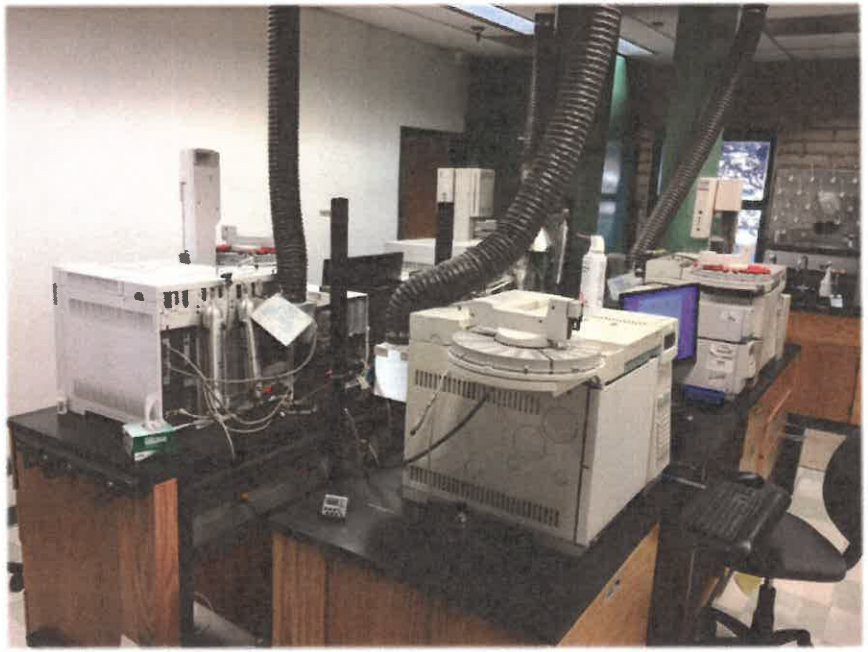
Metals Lab



3 large instruments, limited space for sample preparation.

2 large benches, all polycarbonate cabinets.

Organics/Pesticides Lab



4 instruments, sharing one U-shaped bench

2 U-shaped benches plus wall bench space. Future space for new instruments for Chemicals of Emerging Concern.

Wet Chemistry Lab

10 advanced instruments, 20 smaller instruments/equipment, limited space, no U-shaped benches, limited fume hoods.

Large spacious benches and fume hoods.

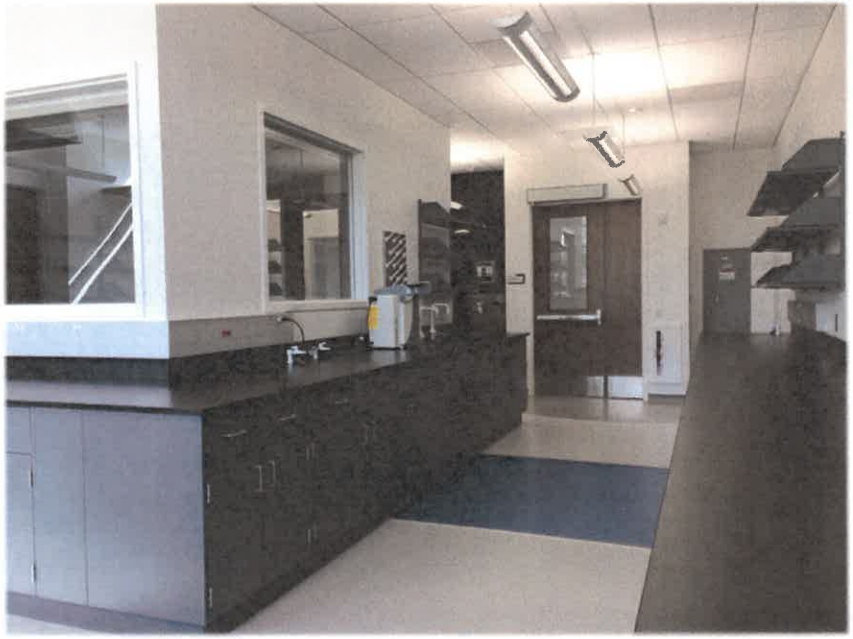
U-shaped benches, easy access behind instruments.

The view from Wet Chemistry Lab

The new view!

Microbiology/Bioassay Labs

Cluttered counters, Bioassay lab brick wall to outside, very difficult to maintain temperature.



Additional bench space in Microbiology Lab, with small room for Bioassay testing (easier temperature control of Bioassay lab.)

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Office Space

Shared PCs, some offices in various locations near the labs.

Open office area, individual cubicles and offices centrally located.

Inland Empire Utilities Agency
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Engineering, Operations, and Water Resources Committee

INFORMATION ITEM 2B

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 17, 2018

HHR

To: The Honorable Board of Directors **From:** Halla Razak, General Manager

Committee: Engineering, Operations & Water Resources *10/10/18*

Finance & Administration *10/10/18*

Executive Contact: Shaun Stone, Acting Executive Manager of Engineering/AGM

Subject: Planning & Environmental Resources Annual Reports (10-Year Growth Forecast, Water Use, Recycled Water, and Energy)

Executive Summary:

The Inland Empire Utilities Agency (IEUA) monitors and compiles water use data for the Annual Water Use Report. IEUA tracks overall water demands and sources of supply from each of its retail agencies. Total water consumption within IEUA's service area for FY 2017/18 was 203,391 AF, a 10% increase from FY 2016/17.

IEUA's Recycled Water Annual Report provides annual delivery data by retail member agencies, by usage types, and by customers. Recycled water recharge was down 3% and direct use was up 8.5%.

IEUA's energy consumption, renewable generation performance and savings, and energy efficiency projects are reported in the Annual Energy Report. IEUA, on average, consumed 76,527 MWh of electricity, of which 9% was generated by its renewable sources.

IEUA, working with the Regional Contracting Agencies, updates the ten year forecast on building activity, which is subsequently used in budget and rate forecasts. The contracting agencies' updated forecast is 52,795 equivalent dwelling units, down from 55,388.

Staff's Recommendation:

This is an informational item for the Board of Directors to receive and file.

Budget Impact *Budgeted (Y/N):* Y *Amendment (Y/N):* Y *Amount for Requested Approval:*

Account/Project Name:

N/A

Fiscal Impact (explain if not budgeted):

N/A

Full account coding (internal AP purposes only): - - - Project No.:
- - -

Prior Board Action:

None

Environmental Determination:

Not Applicable

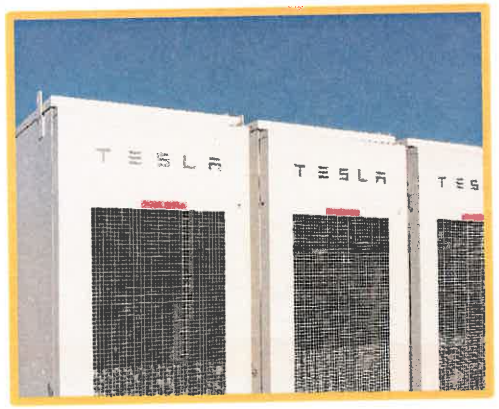
Business Goal:

Attachments:

Attachment 1 - PowerPoint
Attachment 2 - IEUA FY 2017/18 Annual Water Use Report
Attachment 3 - IEUA Annual Energy Report FY 2017/18
Attachment 4 - IEUA FY 2017/18 Annual Recycled Water Report

Planning & Environmental Resources Annual Reports

(10-year GROWTH FORECAST, WATER USE, RECYCLED WATER & ENERGY)



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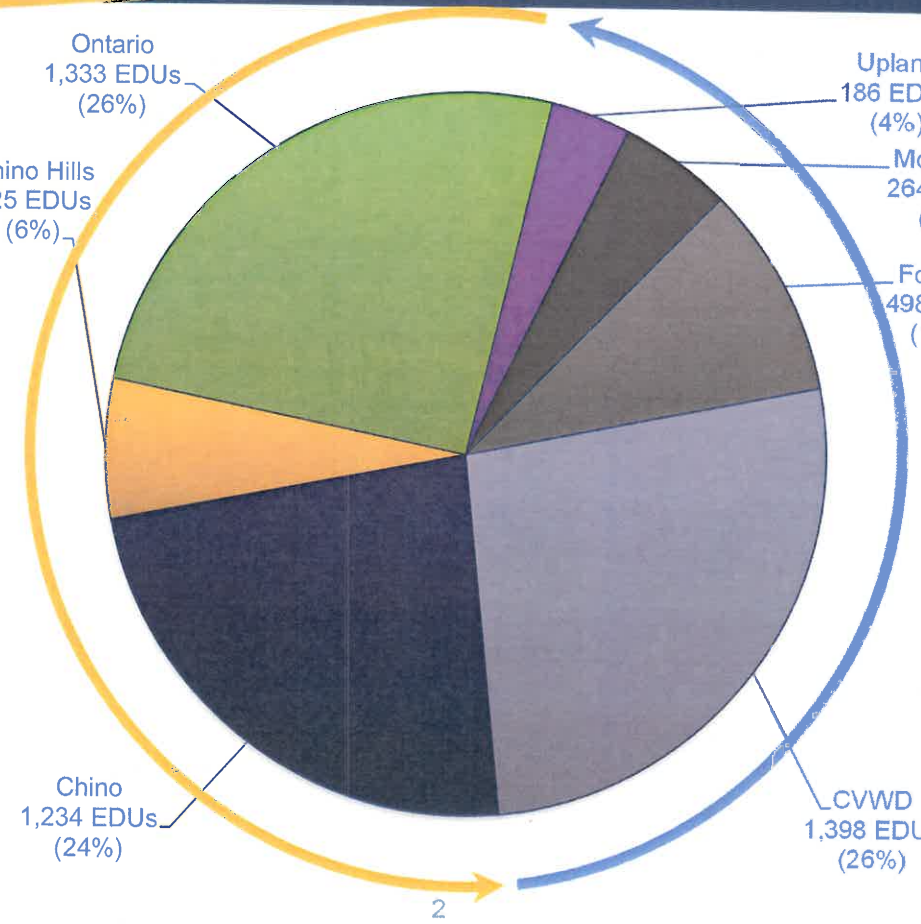
Pietro Cambiaso
October 2018

FY17/18 Building Activity

5,223 EDUs Resulted in $32.9M in CCRA Funding



South Service Area
2,892 EDUs
(52%)

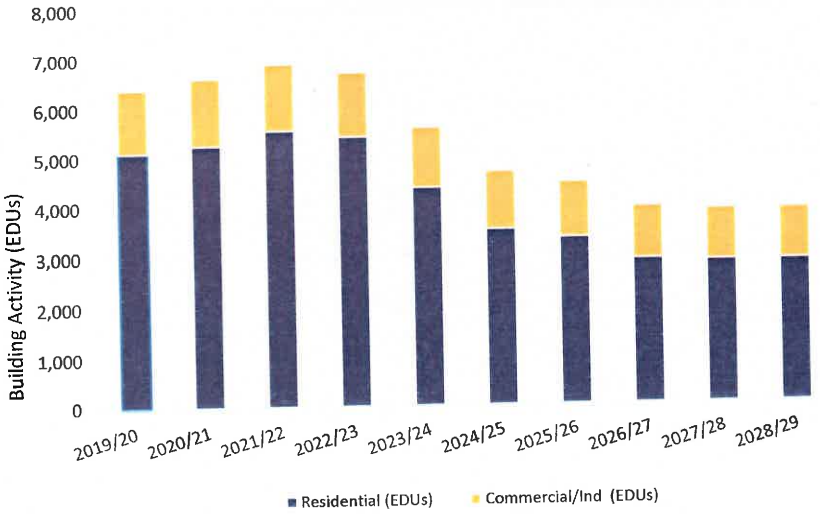
North Service Area
2,331 EDUs
(45%)

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

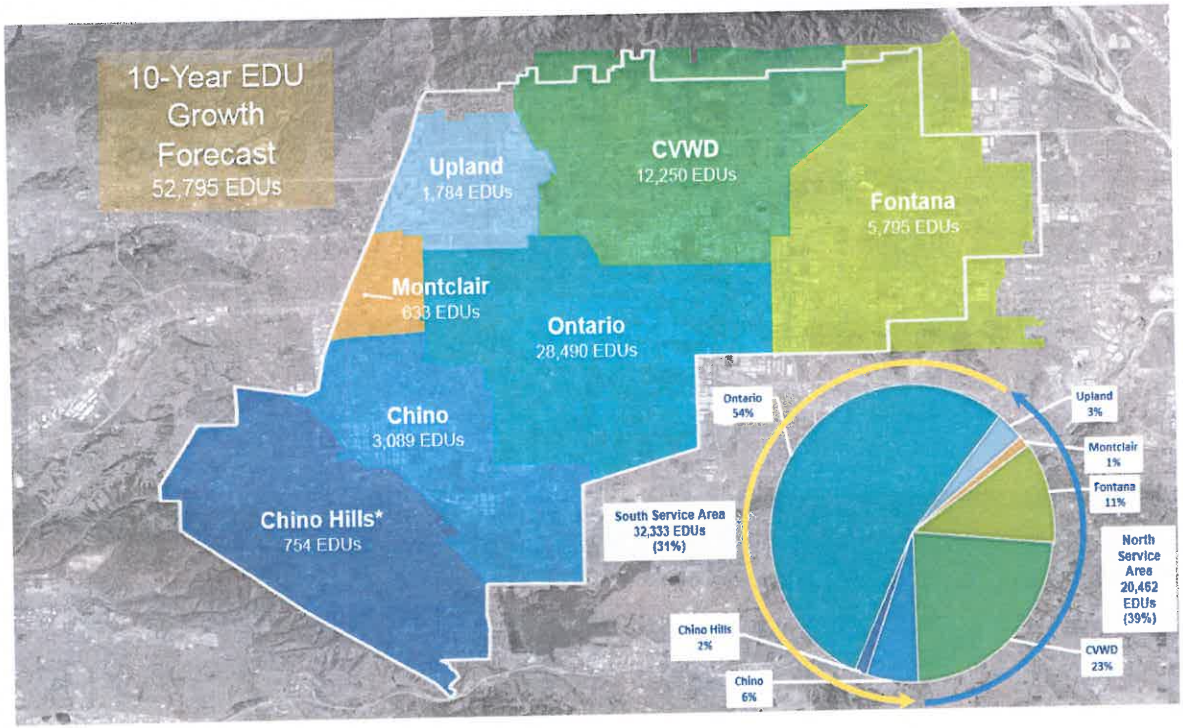
EDU = Equivalent Dwelling Unit or Single Family

Partial EDU rounded to the nearest whole number

Regional Contracting Agencies EDU Projections



2017 Ten Year Growth Forecast: 55,388 EDU
2018 Ten Year Growth Forecast: 52,795 EDU



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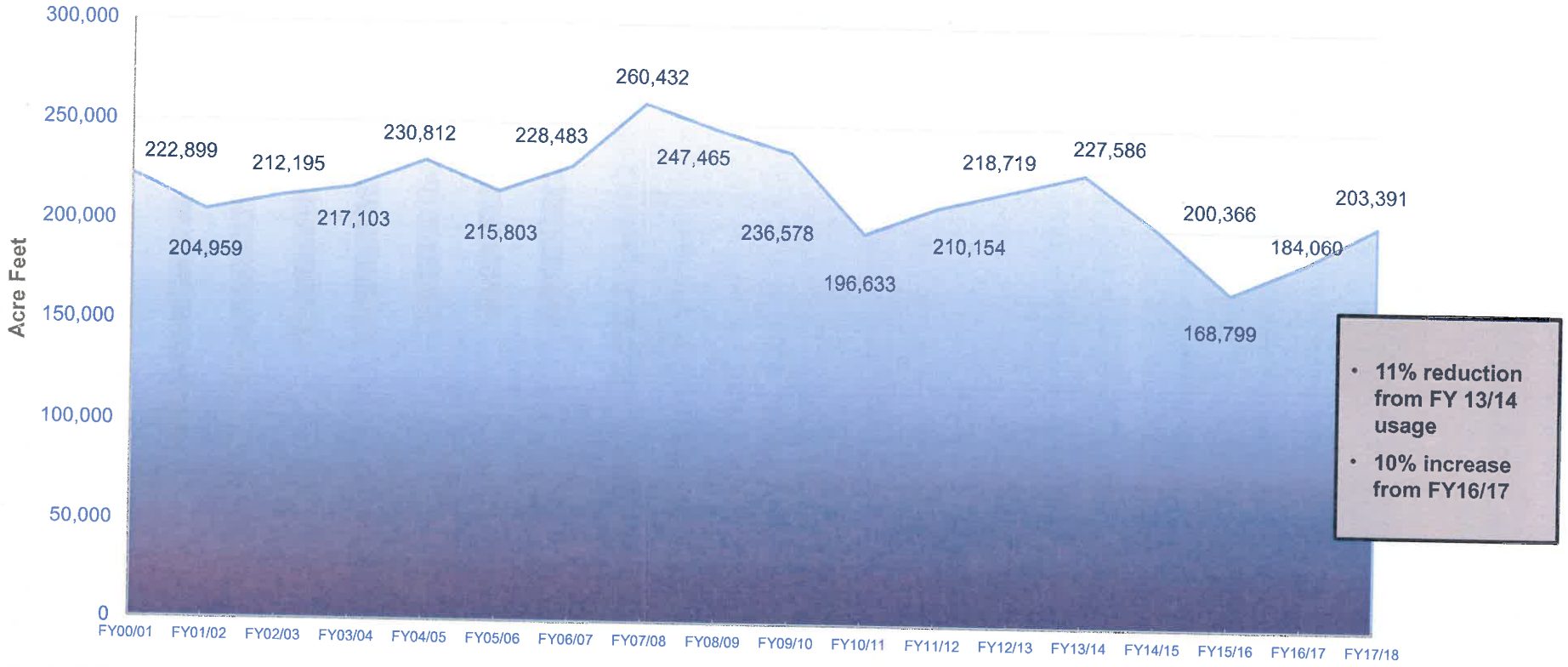
Regional Water Use Trend



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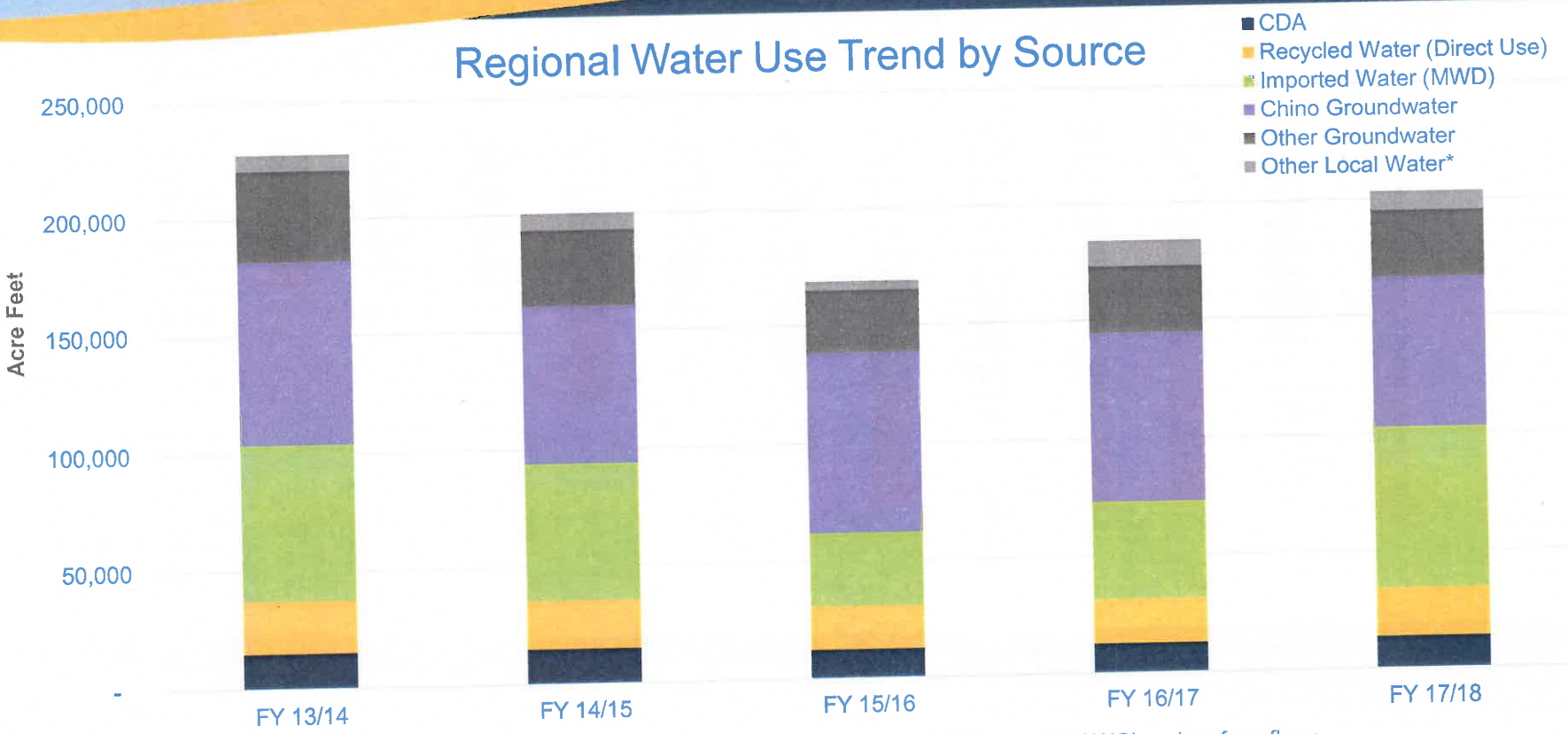
Note: Total Water Use Data includes imported water, surface water, groundwater, recycled and desalter production. Excludes IEUA groundwater recharge

Regional Water Use Trend By Source



*Water purchased from other local water companies (such as SAWCo or WECWC) and surface flows

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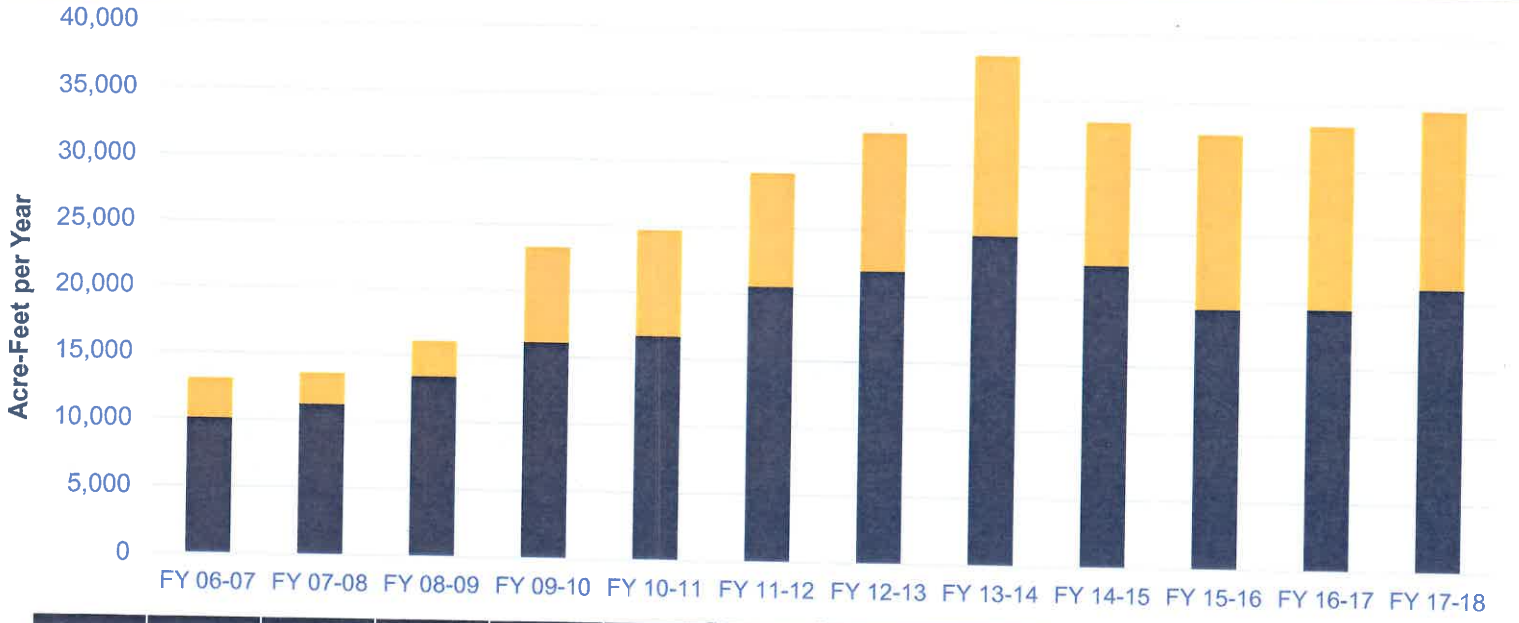
Recycled Water Deliveries



	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18
Direct	10,048	11,153	13,361	16,057	16,656	20,556	21,840	24,659	22,850	19,397	19,477	21,132
GWR	2,981	2,340	2,684	7,208	8,028	8,634	10,479	13,593	10,840	13,222	13,934	13,510
Total	13,029	13,493	16,045	23,265	24,684	29,190	32,319	38,252	33,690	32,619	33,411	34,642

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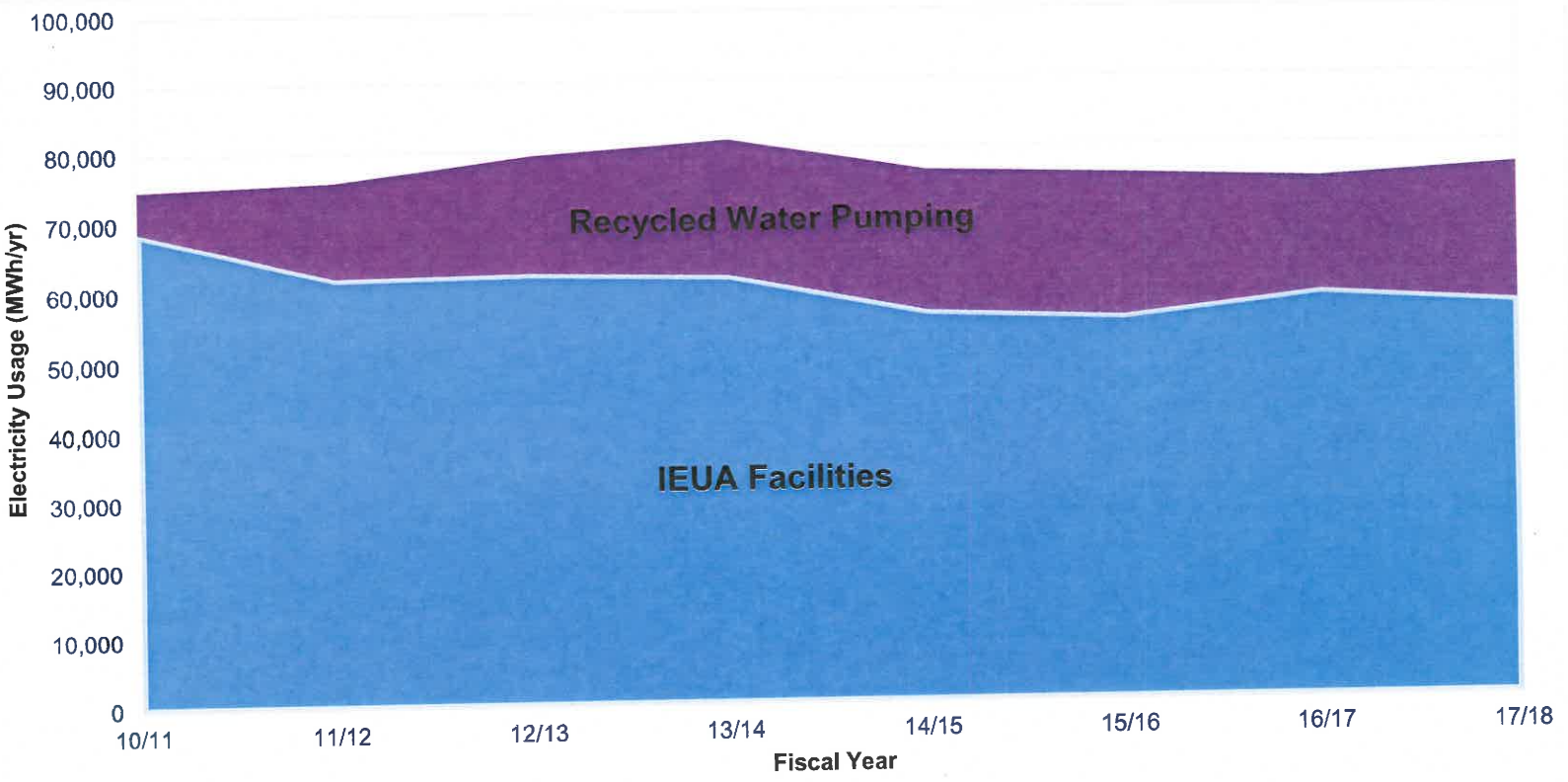
Electricity Usage



Inland Empire Utilities Agency
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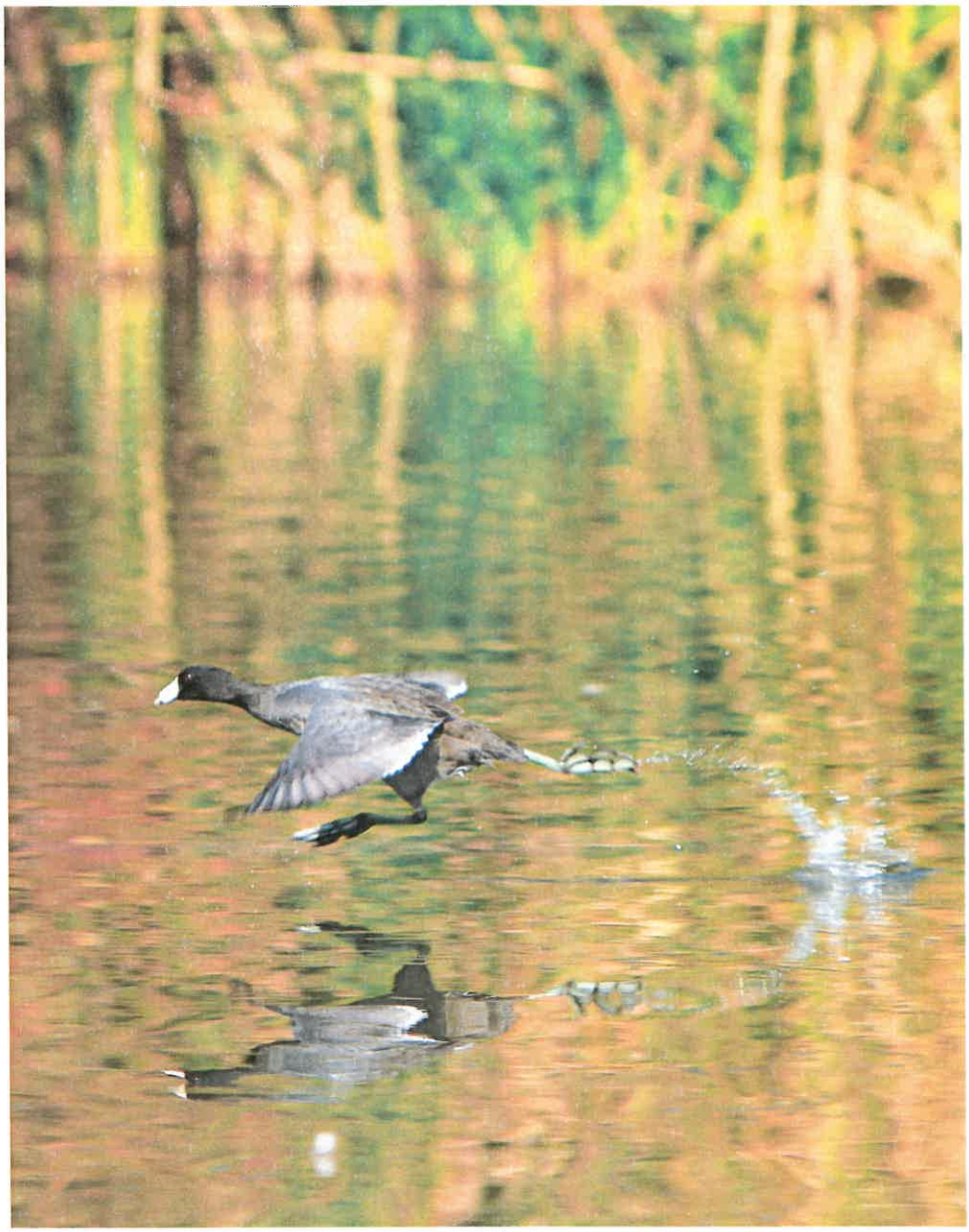
2018

IEUA FY 2017-2018 Annual Water Use Report:

Retail Agency Water Use and Five Year History



Inland Empire Utilities Agency
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Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

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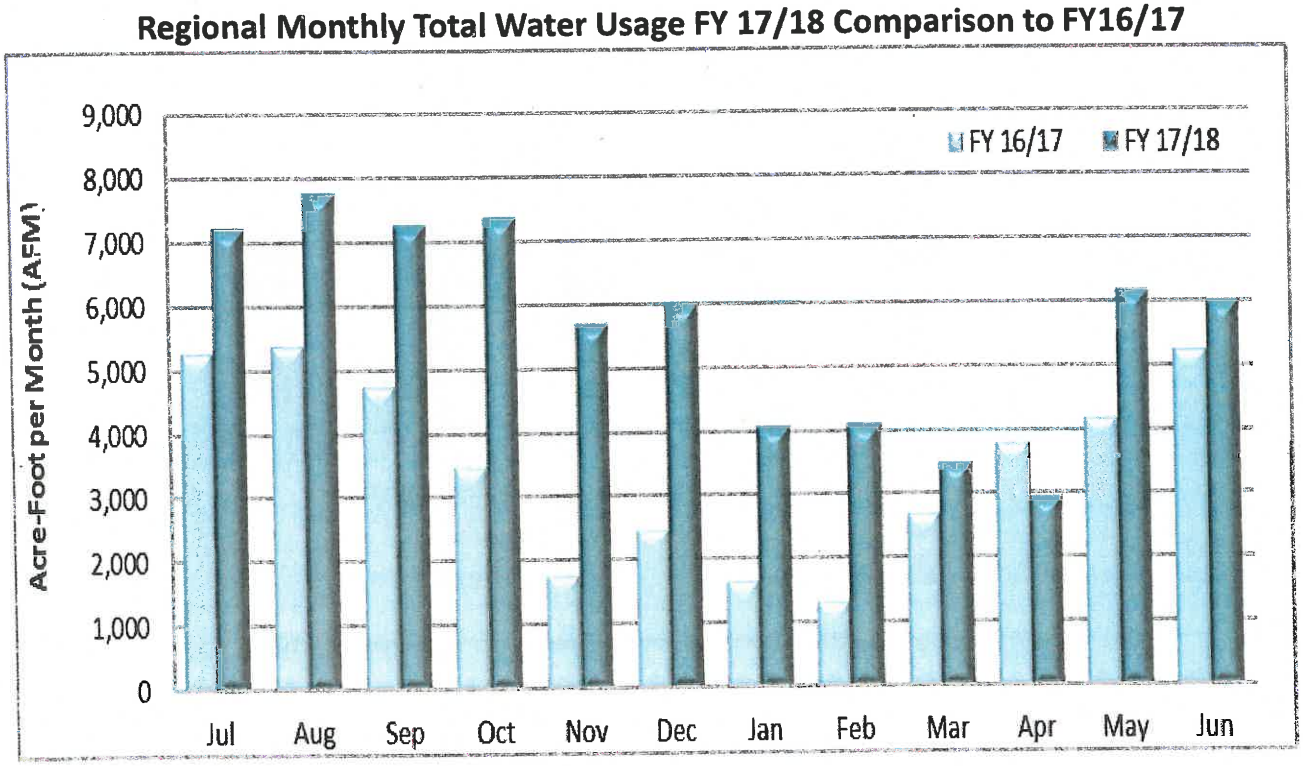
Preface

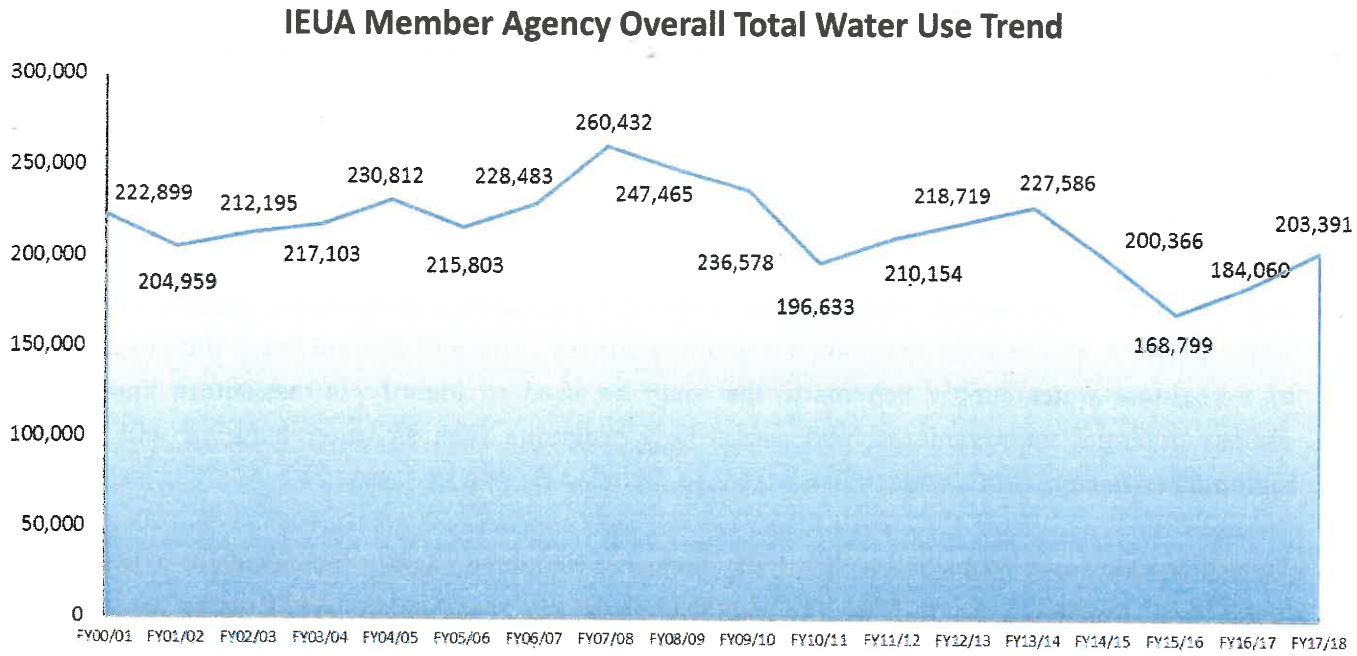
FY 2017-18 Water Use Summary Report

Inland Empire Utilities Agency (IEUA) monitors and compiles water use data from each of its retail agencies to track overall water demands and sources of supply. Each year, this data is compiled into an Annual Water Use Report. Data includes monthly water use by member agency and by source of supply, a five-year history of water use, and retail agency water usage as a percentage of the total water used in the service area.

Total water consumption within IEUA's service area for FY 17/18 is 203,391 AF. This is a 10% increase (19,331 AF) from FY 2016/17, however the region is still using approximately 11% less water than before the recent drought in FY 13/14. Imported water purchases have increased while local groundwater production has decreased in response to new TCP water quality standards.

IEUA anticipates a slight increase in water usage due to the continuous high temperatures the region is experiencing. However, long-term demands are not expected to exceed the peak year of FY 07/08. This analysis came from demand modeling conducted as part of IEUA's 2015 Integrated Resources Plan (IRP) and Urban Water Management Plan (UWMP) which found that new developments in the region tend to be more water efficient due to changes in the plumbing code, higher density developments with less landscaping, and compliance with the existing model landscape ordinance requirements set forth in AB1881. It should also be noted that water usage

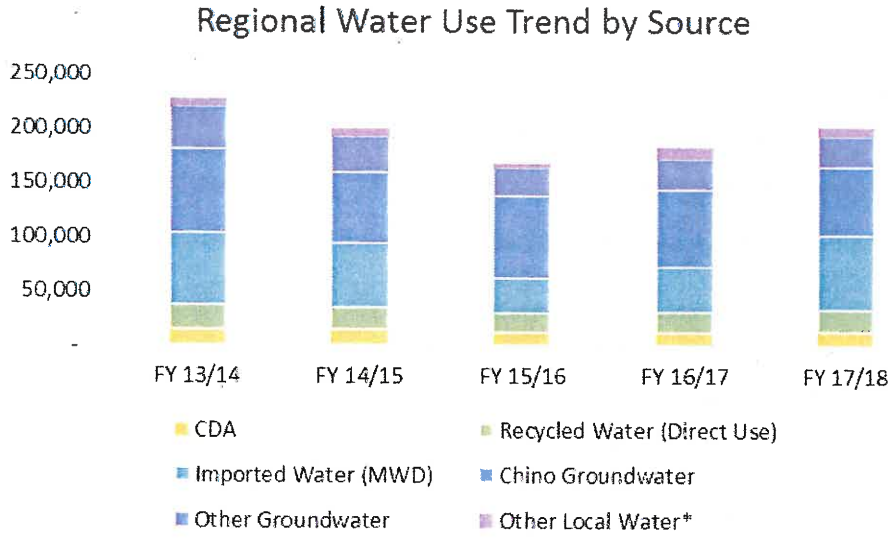




Note: Total Water Use Data includes imported water, surface water, groundwater, recycled and desalter production. Excludes IEUA groundwater recharge

has remained below projections made in the IRP and UWMP as a result of the mandatory conservation restrictions and behavioral shift that occurred during the recent drought.

In addition, the region is continuing to diversify and maximize local resource development, expand



*Other Local Water includes purchases from local water companies such as SAWCo and WECWC

water use efficiency programs, and assist interested member agencies with the development of budget based rate structures. These efforts will continue to prepare the service area to cope with future dry years and increase regional resiliency in the face of climate change.

Below is a summary and update on the region's major water supply efforts and programs:

- IRP Phase II is underway and has compiled over 200 water supply projects from member agencies. These projects will be used to conduct a gap-assessment , and will also included the development of a regional water supply schematic that may be used to identify infrastructure constraints, discuss potential improvements, and assess how programs such as water banking will support regional resiliency.

- Total direct recycled water deliveries to member agencies have slightly increased from 18,703 AF in FY16/17 to 20,455 AF in FY17/18. Additional details about the recycled water program are available in the IEUA FY 2017-2018 Recycled Water Annual Report.

- IEUA is continuing to work with the Agricultural Pool to identify appropriate farm sites for water efficiency upgrades. This will help maintain a sustainable Chino Basin groundwater supply.

- IEUA and its member agencies are working towards completing the Phase III expansion of the Chino Desalters. In June 2016, IEUA received $7.2 million in support of this project. The expansion is excepted to create an additional 10,6000 AF of water per year. In FY16/17 IEUA agency's share of the production was 12,292 AF.

- IEUA and its member agencies continue to implement the water use efficiency programs outlined in the 2015-2020 Regional Water Use Efficiency Business Plan completed in June 2016. Additional details about the water use efficiency program are available in the IEUA FY 2007-2018 Water Use Efficiency Annual Report.

IEUA would like to thank its member agencies for their assistance in compiling the data contained in this report.

SECTION 1

Total Water Resources Data from FY 17/18

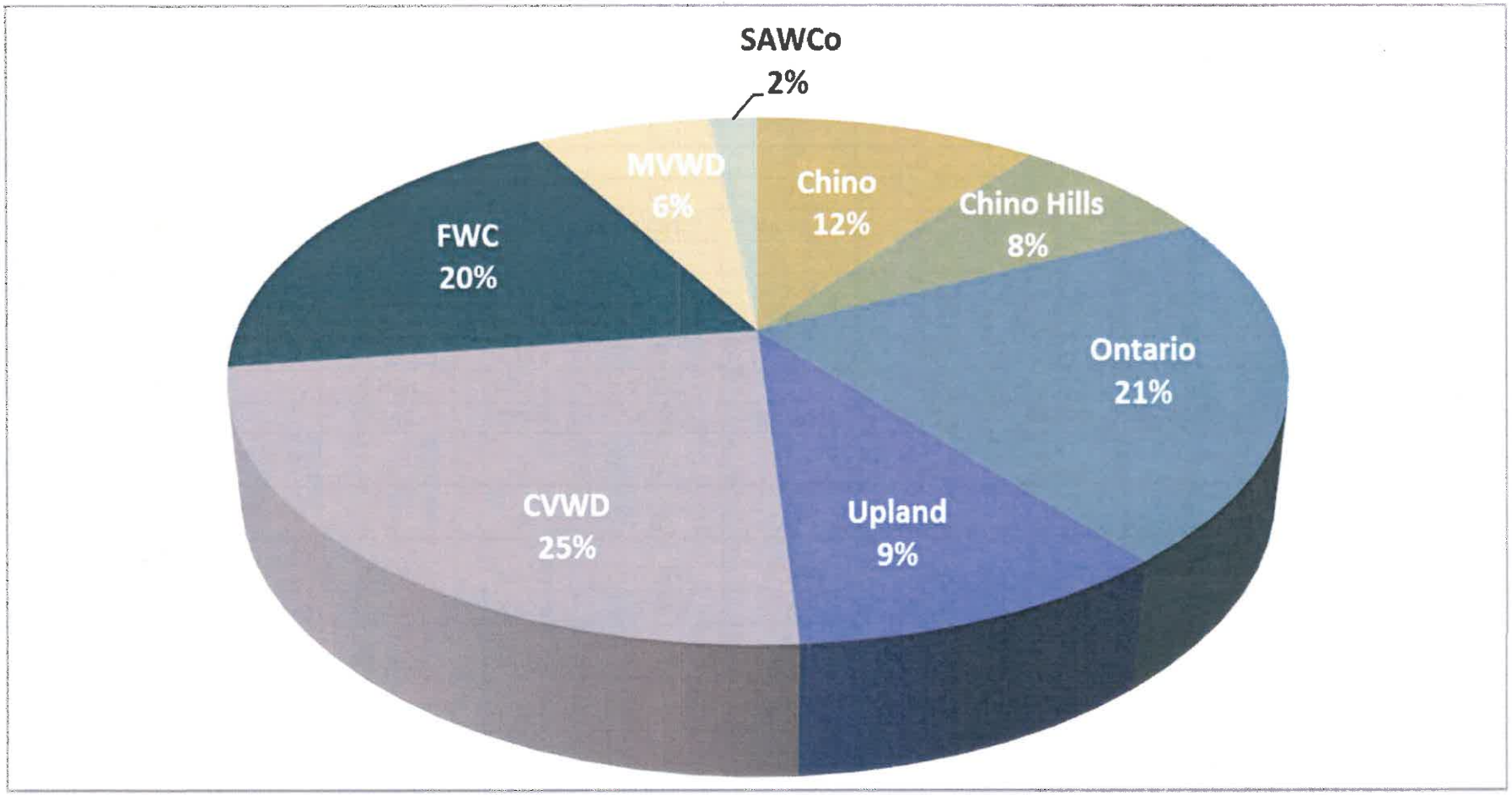
Total IEUA Service Area Water Use For FY 17/18

FY 17-18		Total IEUA Service Area Water Use by Retail Agency for FY 17-18 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	4,292	1,500	3,211	6,073	30,559	13,642	9,935	0	69,212
	Recycled (Direct Use)	6,480	1,858	9,654	706	1,263	176	318	0	20,455
Subtotal		**10,772**	**3,358**	**12,865**	**6,779**	**31,822**	**13,818**	**10,253**	**0**	**89,667**
Production	Chino Groundwater	5,149	2,839	26,109	1,764	6,819	11,392	8,755	428	63,255
	Other Groundwater	0	0	0	1,112	6,737	10,725	0	10,245	28,819
	Local Surface Water	0	0	0	0	3,195	2,735	0	2,020	7,950
Subtotal		**5,149**	**2,839**	**26,109**	**2,876**	**16,751**	**24,852**	**8,755**	**12,693**	**100,024**
Purchases from Other Agencies	CDA	4,999	4,211	4,032	0	0	0	0	0	13,242
	MVWD*	0	4,763	0	0	0	0	0	0	4,763
	SAWCo Water	0	0	341	9,197	0	0	0	0	9,538
	West End	0	0	0	1,298	0	0	0	0	1,298
	CVWD	0	0	0	0	0	0	0	0	0
Subtotal		**4,999**	**8,974**	**4,373**	**10,495**	**0**	**0**	**0**	**0**	**28,841**
Sales to Other Agencies*	Chino Hills**	0	0	0	0	0	0	-6,064	0	-6,064
	Ontario	0	0	0	0	0	0	0	-232	-232
	Upland	0	0	0	0	0	0	0	-8,401	-8,401
	MVWD	0	0	0	0	0	0	0	-444	-444
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-6,064**	**-9,077**	**-15,141**
Total		**20,920**	**15,171**	**43,347**	**20,150**	**48,573**	**38,670**	**12,944**	**3,616**	**203,391**

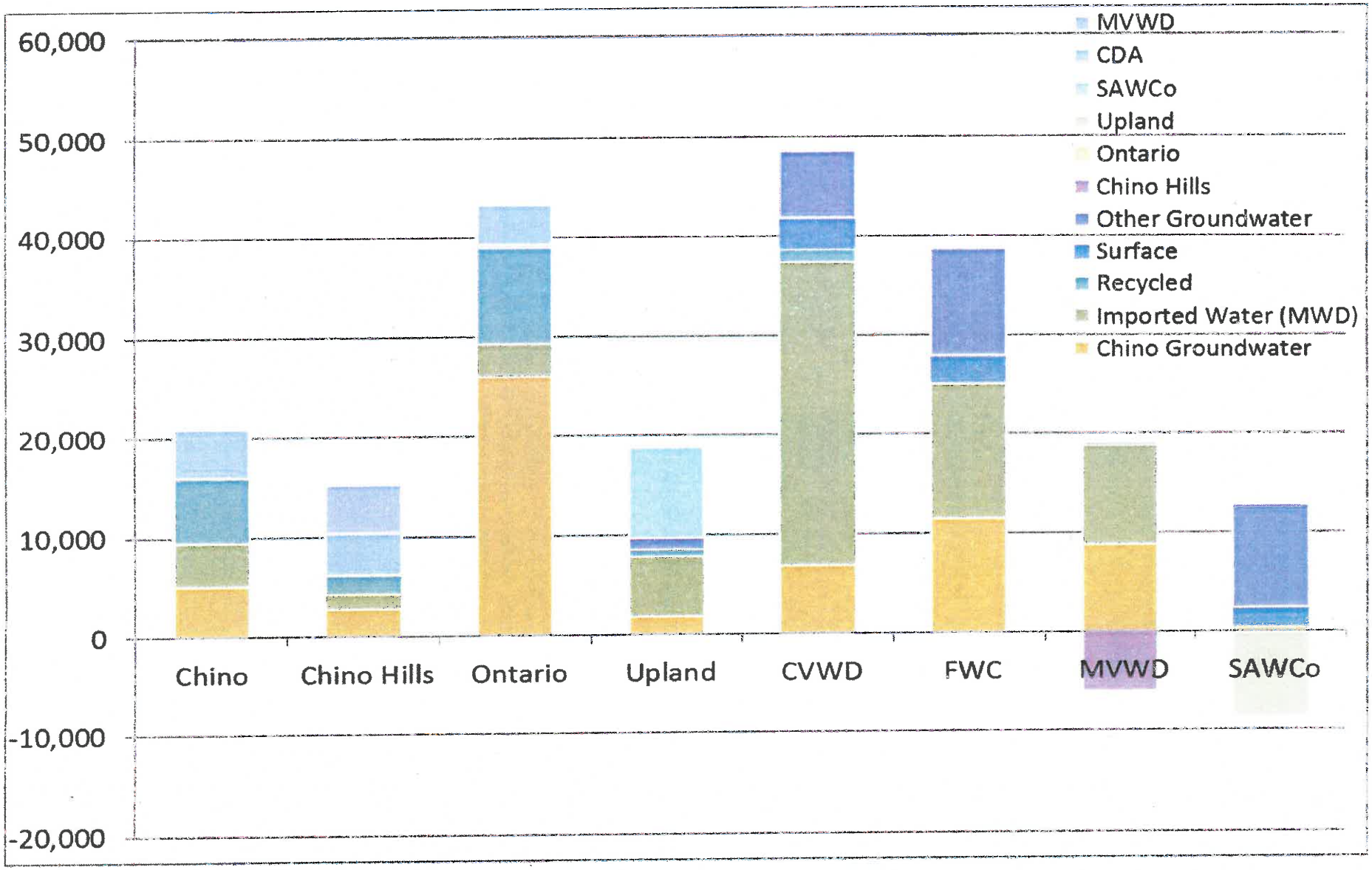
Note: All recycled water numbers in this report are based off IEUA operations data and are for direct use only.

Recycled water used for groundwater recharge may be found in the Recycled Water Report.

Total IEUA Service Area Water Use For FY 17/18



Total IEUA Service Area Water Use For FY 17/18

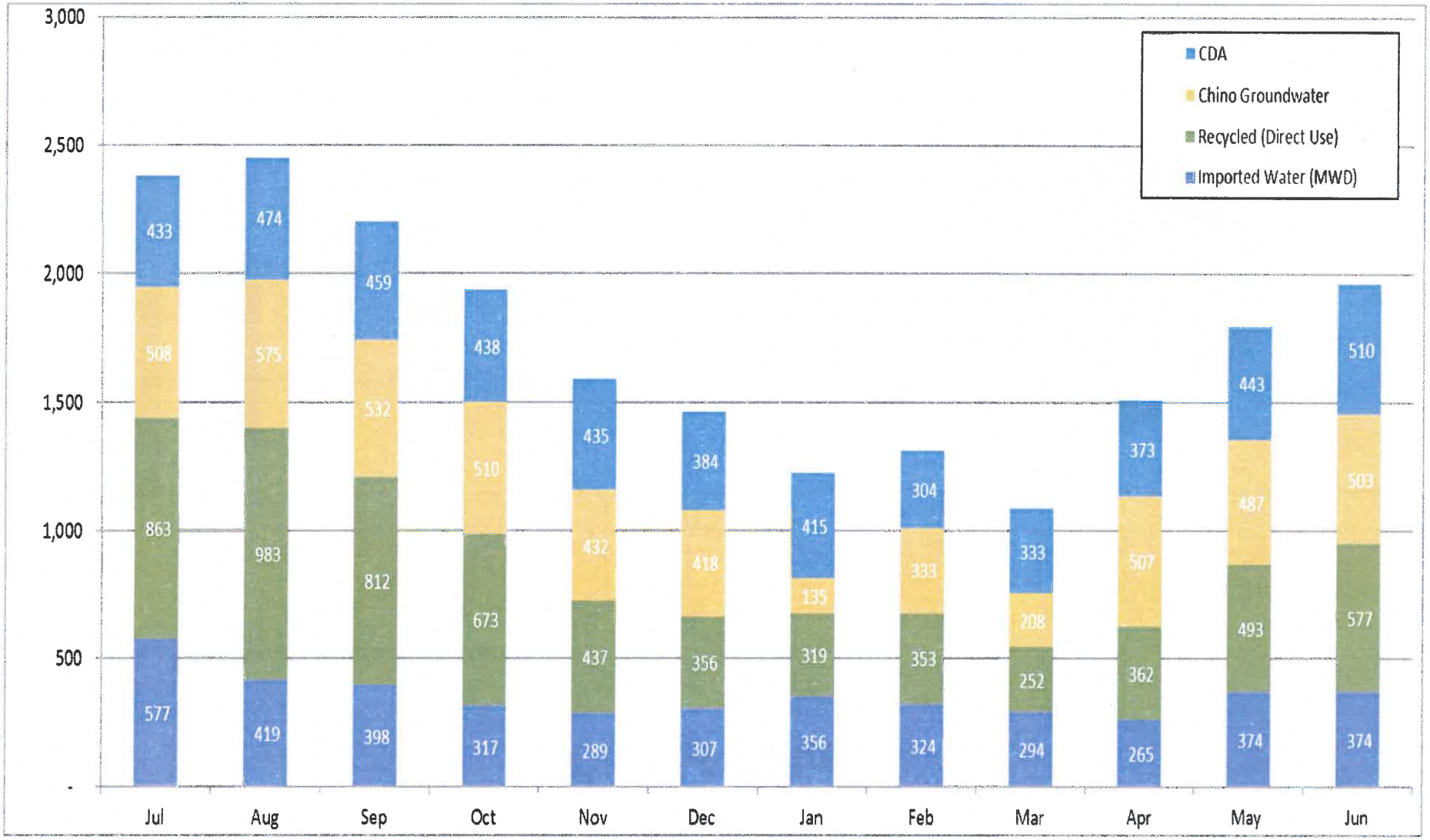


SECTION 2

Retail Water Use Data from FY 17/18 by Agency

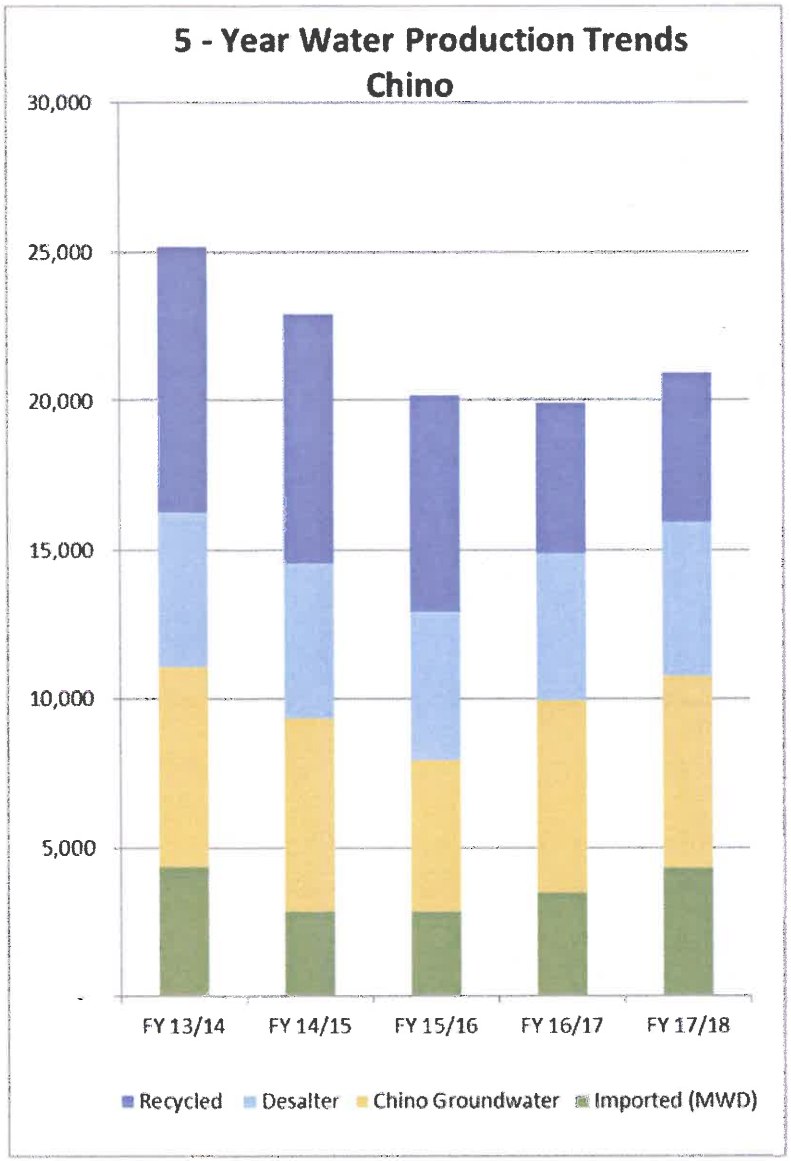
FY 17/18 Water Use Report

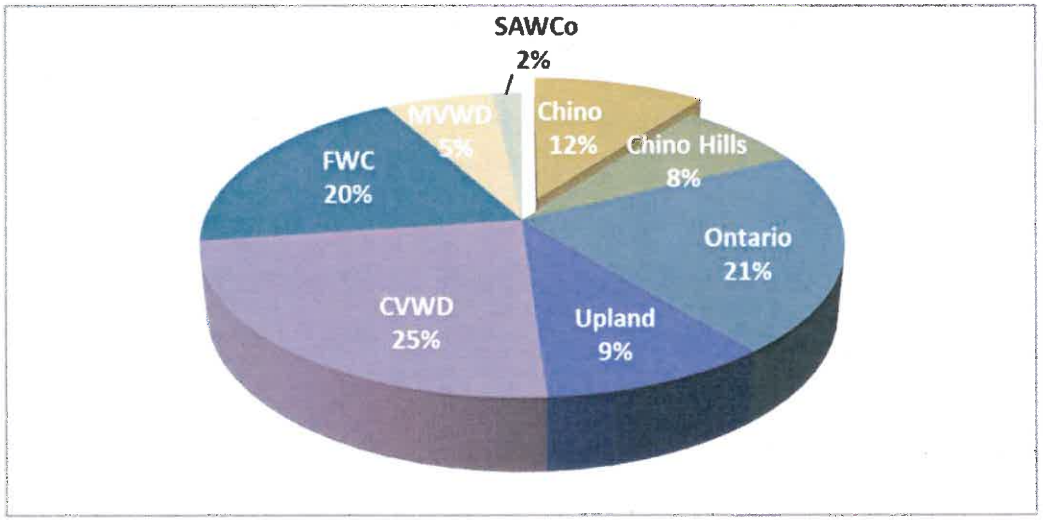
City of Chino



FY 17/18 Water Use Report

City of Chino





In FY 2017/18, The City of Chino used 12% (20,92 AF) of 203,391 AF used in the IEUA service area.

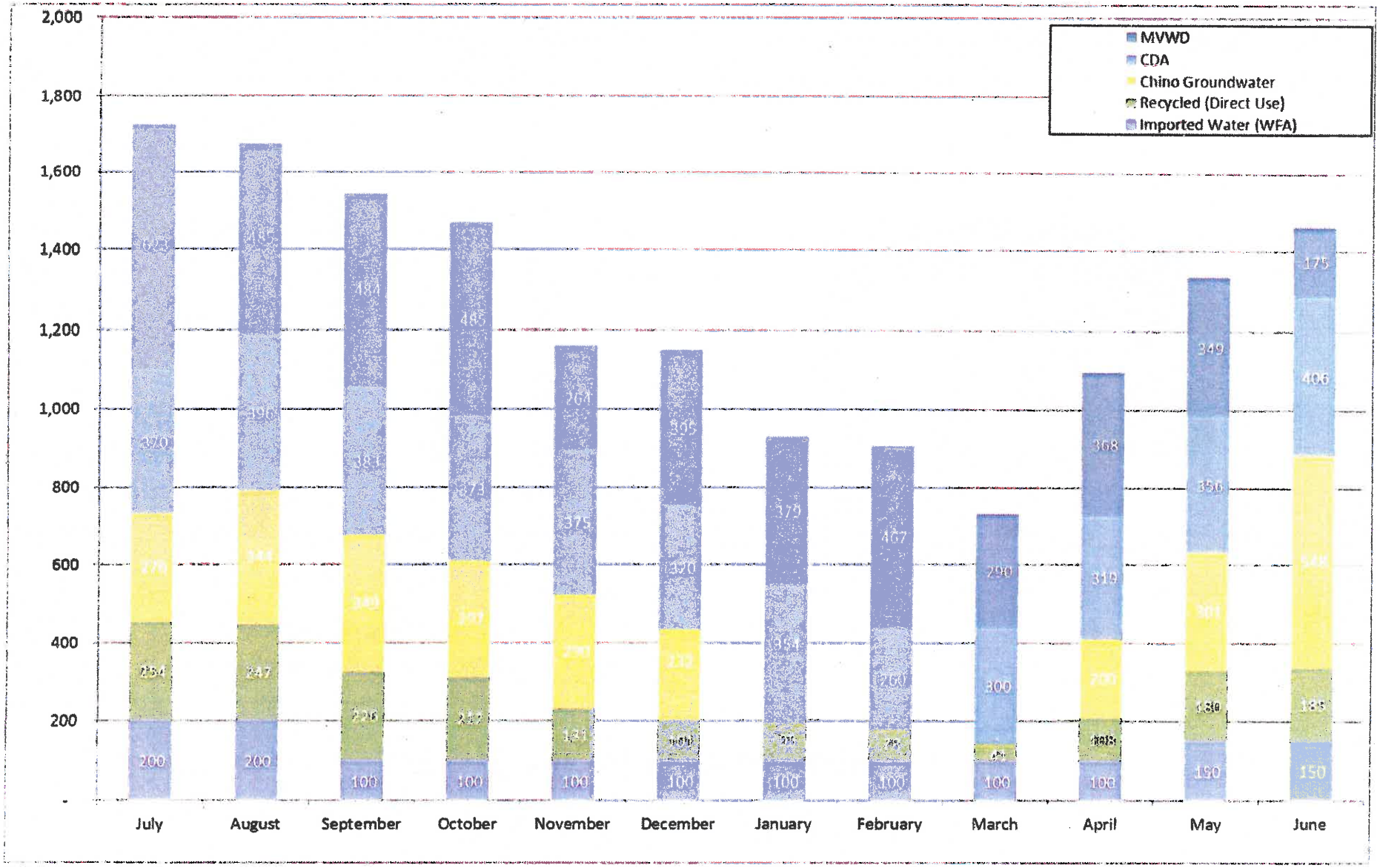
FY 17/18 Water Use Report

City of Chino

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										City of Chino		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	577	419	398	317	289	307	356	324	294	265	374	374	4,292
	Recycle (Direct Use)	863	983	812	673	437	356	319	353	252	362	493	577	6,480
Subtotal		1,440	1,402	1,210	990	726	663	675	677	546	627	867	951	10,772
Production	Chino Groundwater	508	575	532	510	432	418	135	333	208	507	487	503	5,149
Subtotal		508	575	532	510	432	418	135	333	208	507	487	503	5,149
Agencies	CDA	433	474	459	438	435	384	415	304	333	373	443	510	4,999
Subtotal		433	474	459	438	435	384	415	304	333	373	443	510	4,999
Total		2,381	2,452	2,200	1,938	1,592	1,464	1,225	1,314	1,087	1,508	1,796	1,963	20,920

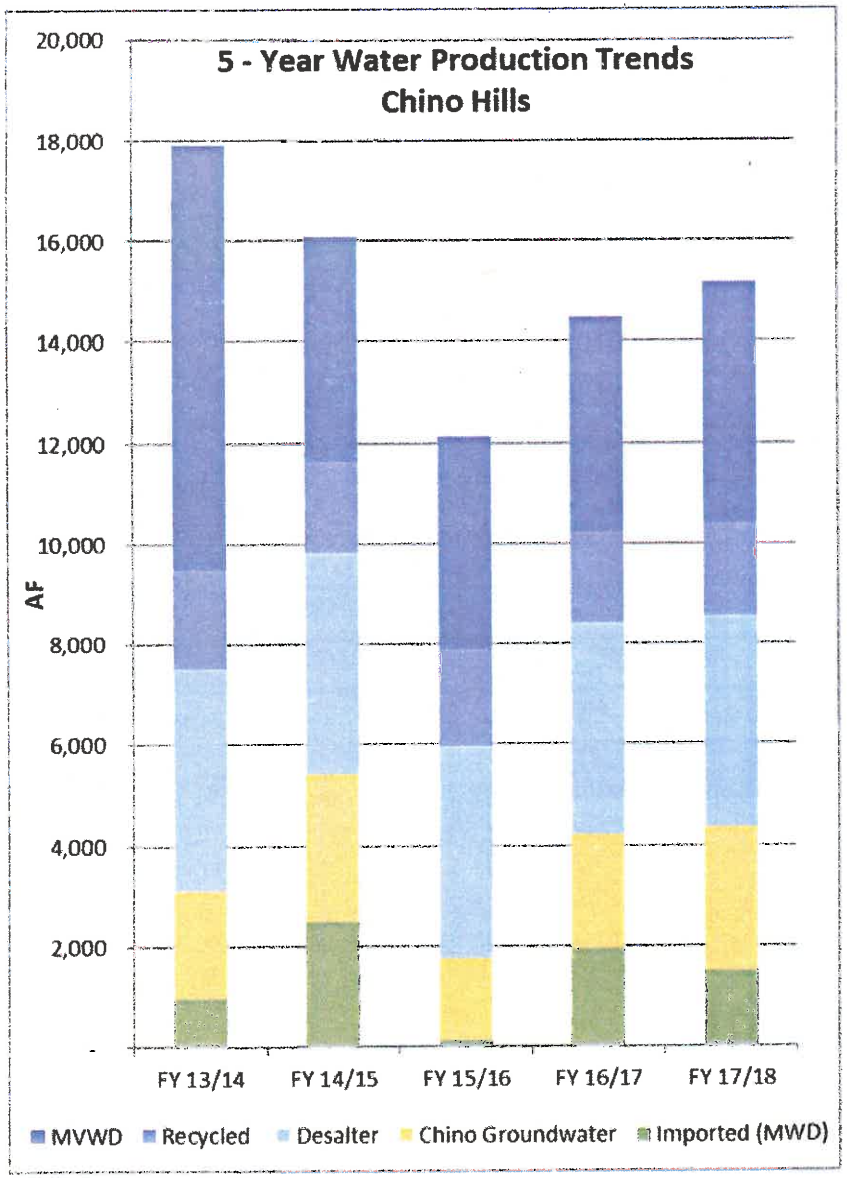
FY 17/18 Water Use Report

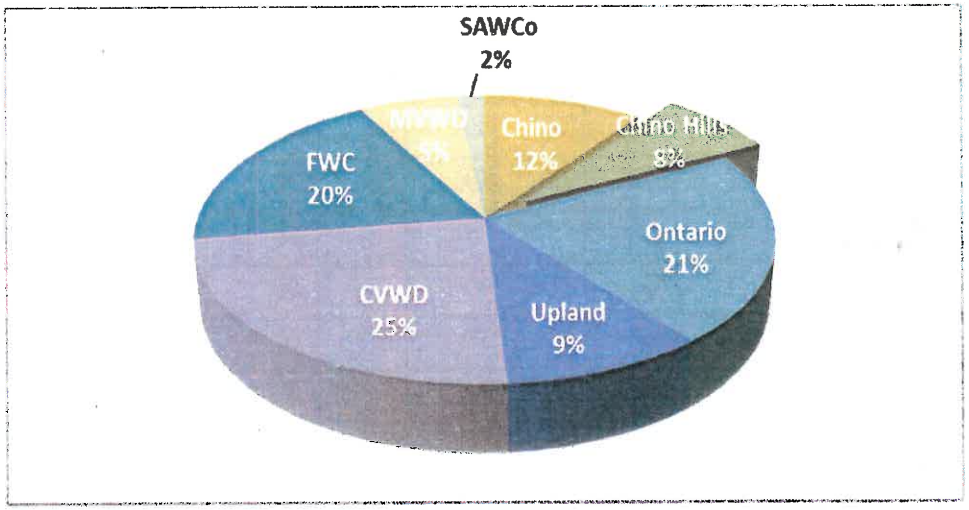
City of Chino Hills



FY 17/18 Water Use Report

City of Chino Hills





In FY 2017/18, The City of Chino Hills used 8% (15,171 AF) of 203,391 AF used in the IEUA service area.

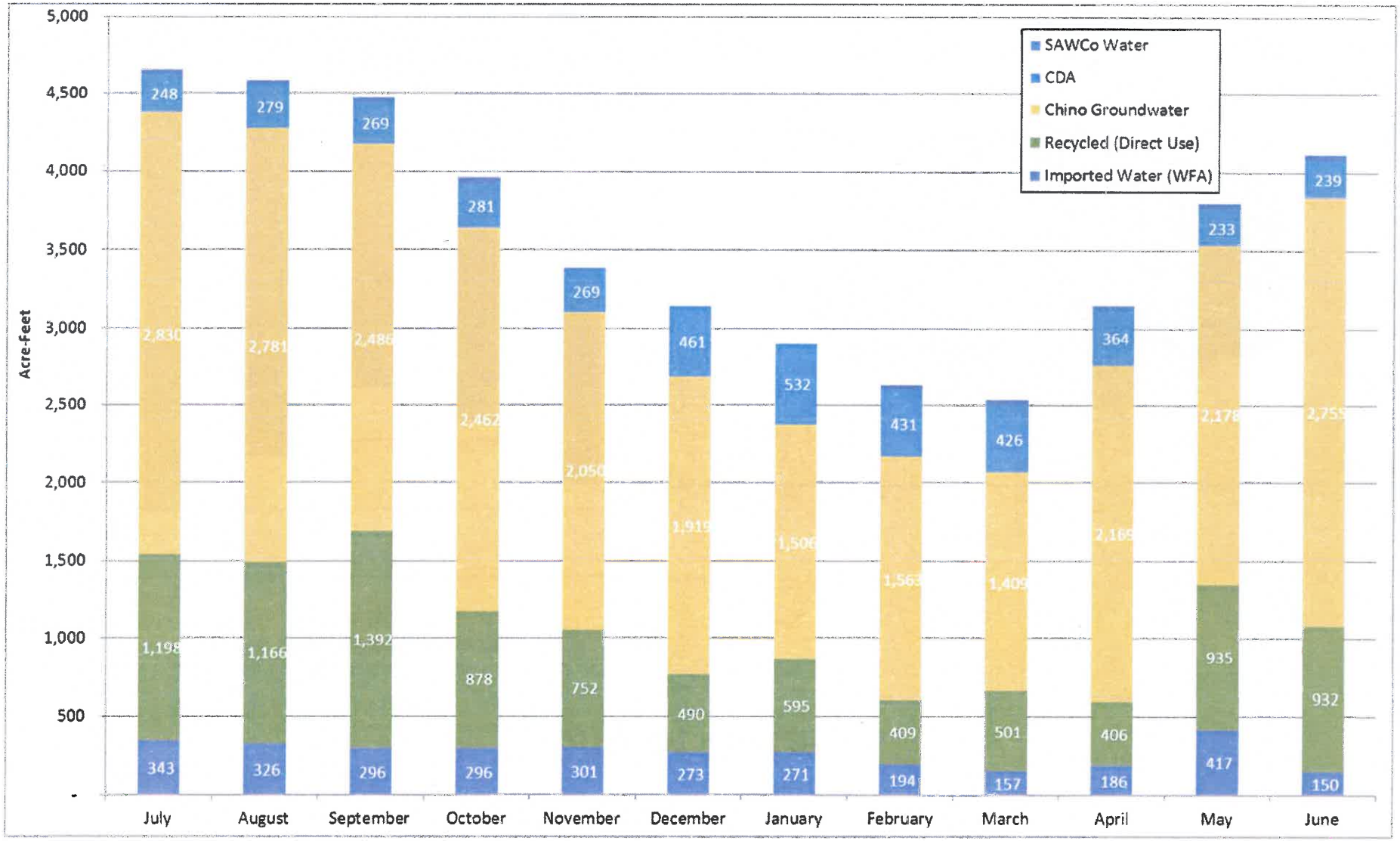
FY 17/18 Water Use Report

City of Chino Hills

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										City of Chino Hills		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	200	200	100	100	100	100	100	100	100	100	150	150	1,500
	Recycle (Direct Use)	254	247	226	212	131	101	95	78	41	108	180	185	1,858
Subtotal		454	447	326	312	231	201	195	178	141	208	330	335	3,358
Production	Chino Groundwater	276	344	349	297	290	232	-	-	-	200	301	548	2,839
Subtotal		276	344	349	297	290	232	-	-	-	200	301	548	2,839
Purchase from other agencies	CDA	370	396	383	373	375	320	354	260	300	319	356	406	4,211
	MVWD	623	485	484	485	264	395	379	467	290	368	349	175	4,763
Subtotal		994	881	867	859	638	715	733	727	589	687	704	581	8,975
Total		1,724	1,672	1,542	1,468	1,160	1,148	928	905	730	1,095	1,335	1,464	15,171

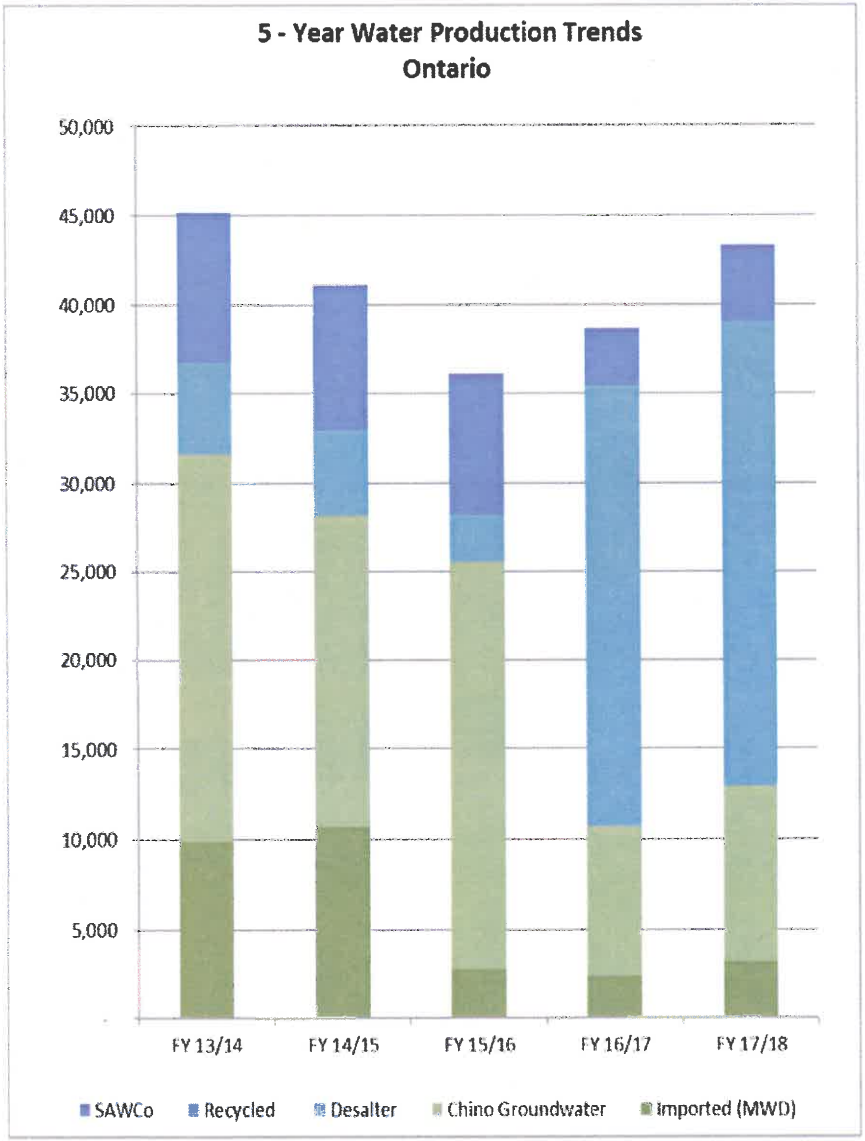
FY 17/18 Water Use Report

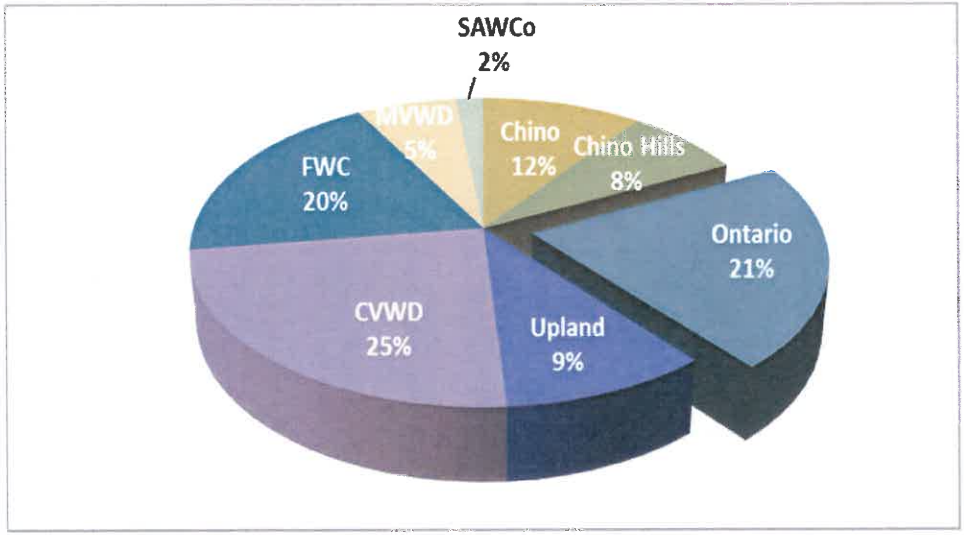
City of Ontario



FY 17/18 Water Use Report

City of Ontario





In FY 2017/18, The City of Ontario used 21% (43,347 AF) of 203,391 AF used in the IEUA service area.

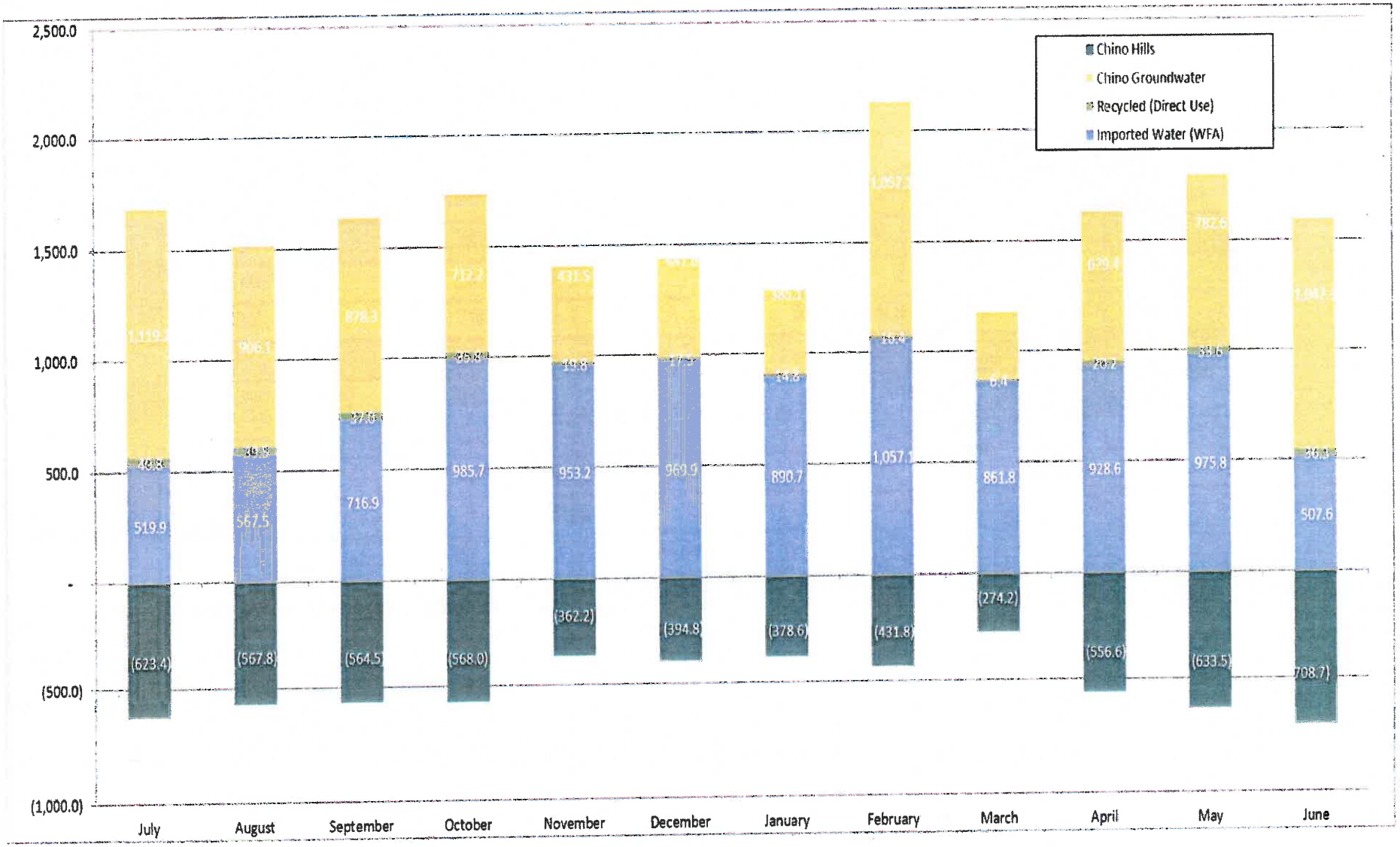
FY 17/18 Water Use Report

City of Ontario

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										City of Ontario		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	343	326	296	296	301	273	271	194	157	186	417	150	3,211
	Recycle (Direct Use)	1198	1166	1392	878	752	490	595	409	501	406	935	932	9,654
Subtotal		1,541	1,492	1,688	1,174	1,053	763	866	603	658	592	1,352	1,082	12,865
Production	Chino Groundwater	2830	2781	2486	2462	2050	1919	1506	1563	1409	2169	2178	2755	26,109
Subtotal		2,830	2,781	2,486	2,462	2,050	1,919	1,506	1,563	1,409	2,169	2,178	2,755	26,109
Purchase from other agencies	CDA	248	279	269	281	269	461	532	431	426	364	233	239	4,032
	SAWCo Water	36	35	34	44	13	0	0	34	42	26	39	38	341
Subtotal		284	314	303	325	283	461	532	465	468	390	272	277	4,373
Total		4,656	4,587	4,477	3,961	3,386	3,144	2,904	2,631	2,535	3,151	3,802	4,113	43,347

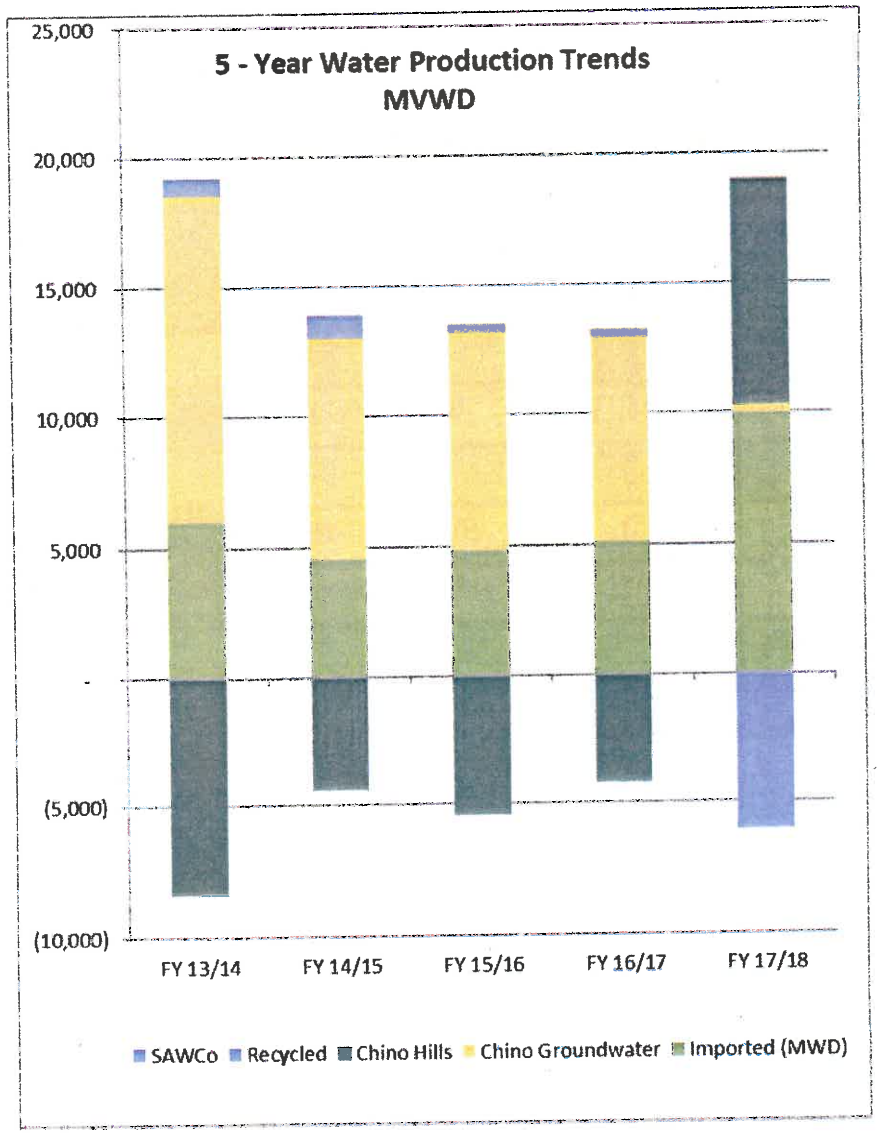
FY 17/18 Water Use Report

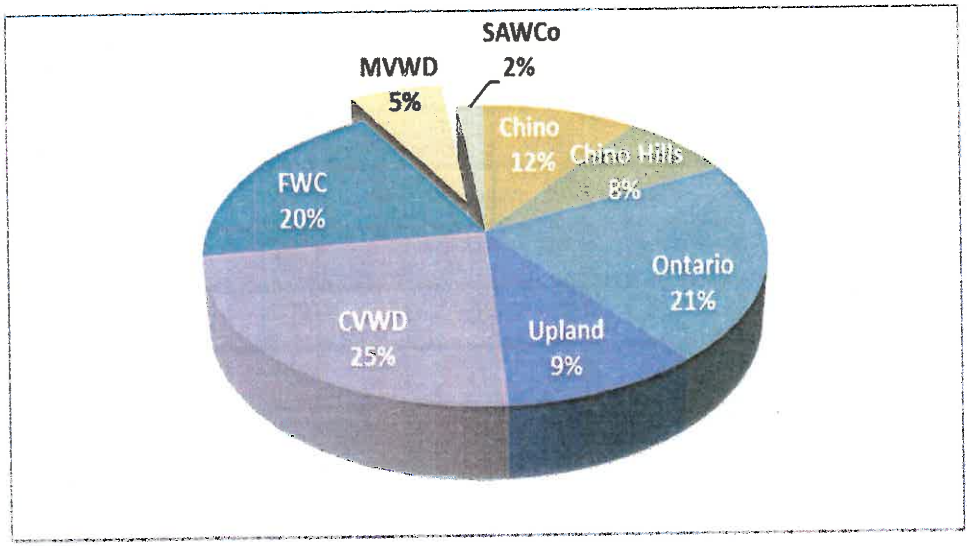
Monte Vista Water District



FY 17/18 Water Use Report

Monte Vista Water District





In FY 2017/18, Monte Vista Water District used 5% (12,944 AF) of 203,391 AF used in the IEUA service area.

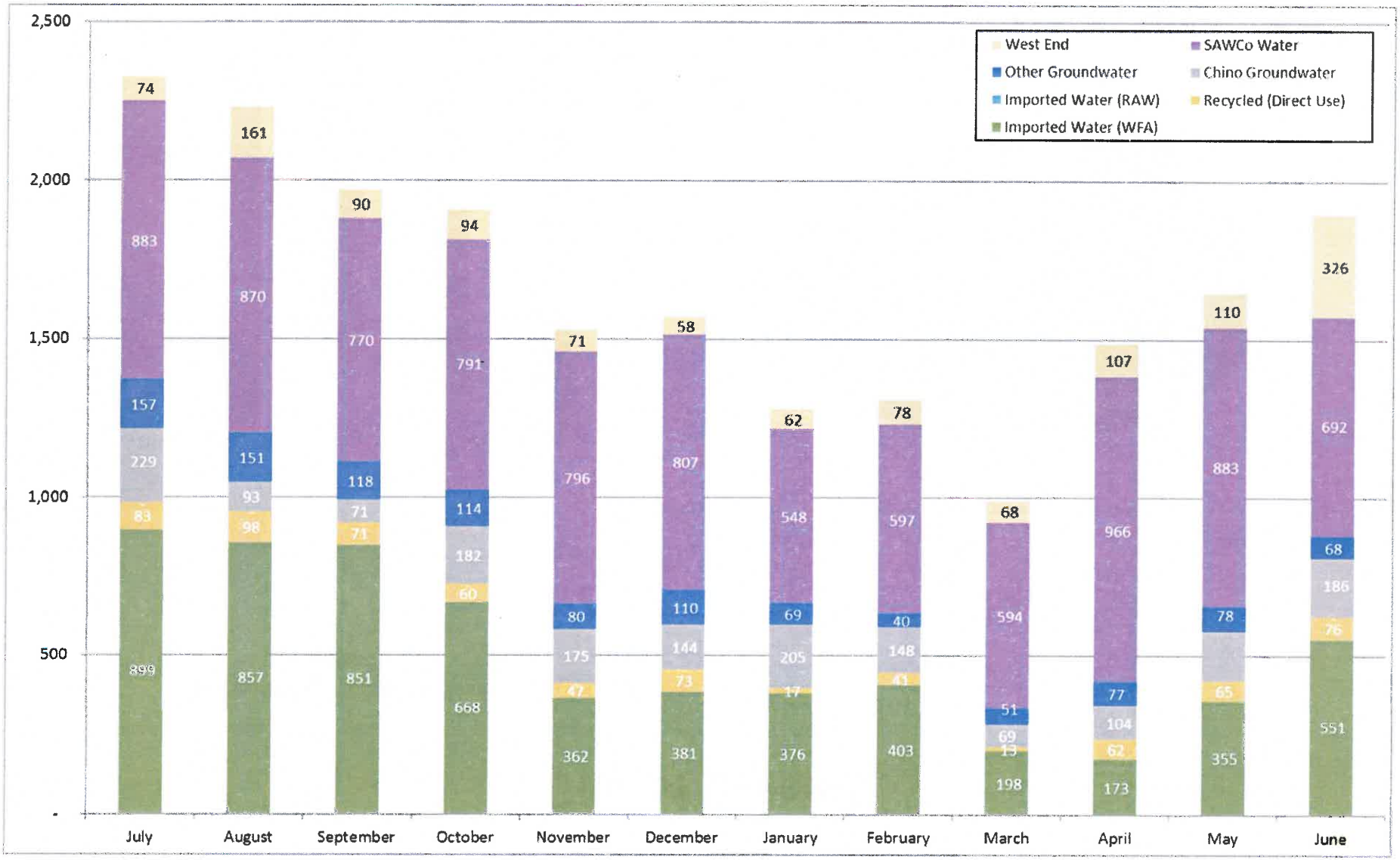
FY 17/18 Water Use Report

Monte Vista Water District

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										MVWD		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	520	568	717	986	953	970	891	1,057	862	929	976	508	9,935
	Recycle (Direct Use)	41	39	37	36	20	18	15	16	6	20	34	36	318
Subtotal		561	607	754	1,021	973	987	905	1,073	868	949	1,009	544	10,253
Production	Chino Groundwater	1,119	906	878	712	432	448	385	1,057	309	679	783	1,047	8,755
Subtotal		1,119	906	878	712	432	448	385	1,057	309	679	783	1,047	8,755
Sales to other agencies	Chino Hills	(623)	(568)	(565)	(568)	(362)	(395)	(379)	(432)	(274)	(557)	(634)	(709)	(6,064)
Subtotal		(623)	(568)	(565)	(568)	(362)	(395)	(379)	(432)	(274)	(557)	(634)	(709)	(6,064)
Total		1,056	945	1,068	1,166	1,042	1,040	912	1,699	902	1,072	1,158	882	12,944

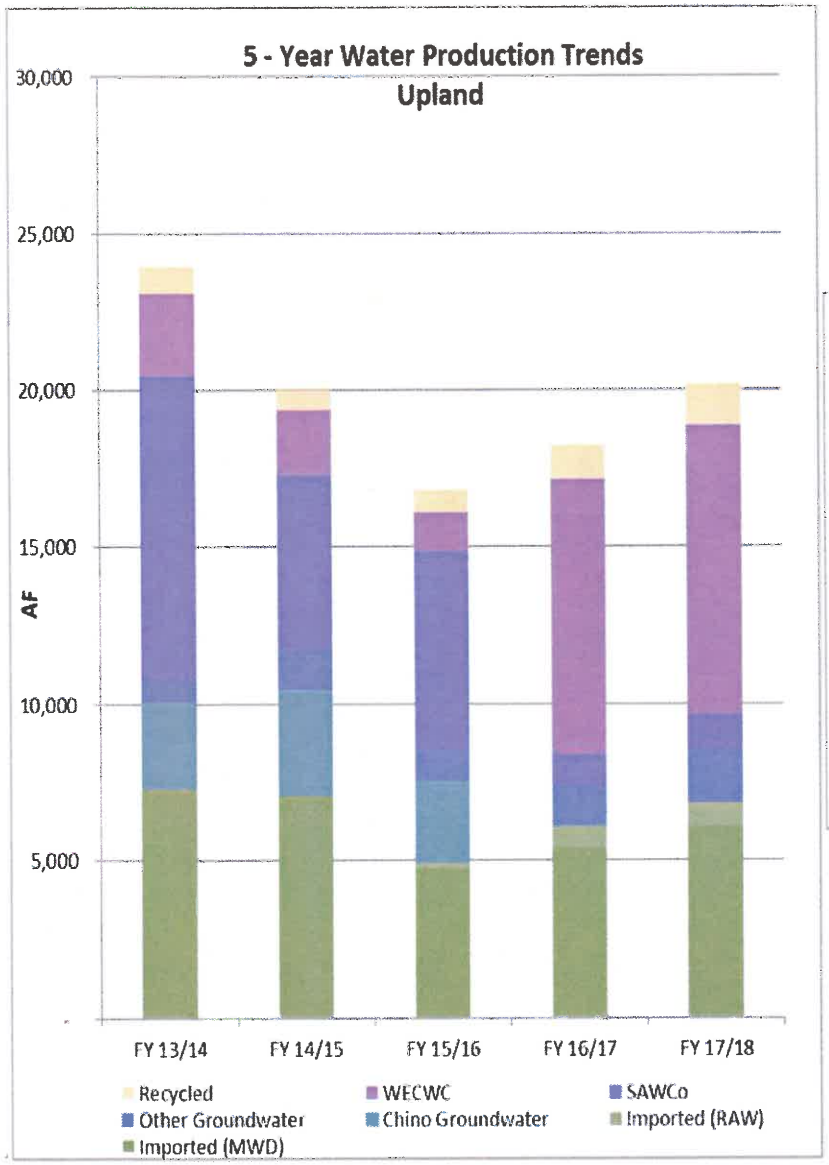
FY 17/18 Water Use Report

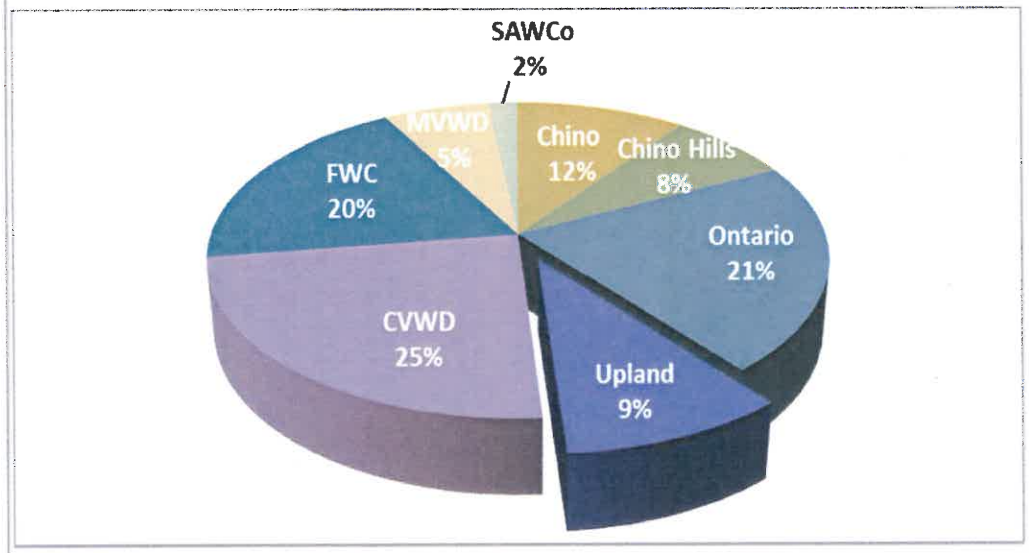
City of Upland



FY 17/18 Water Use Report

City of Upland





In FY 2017/18, The City of Upland used 9% (20,150 AF) of 203,391 AF used in the IEUA service area.

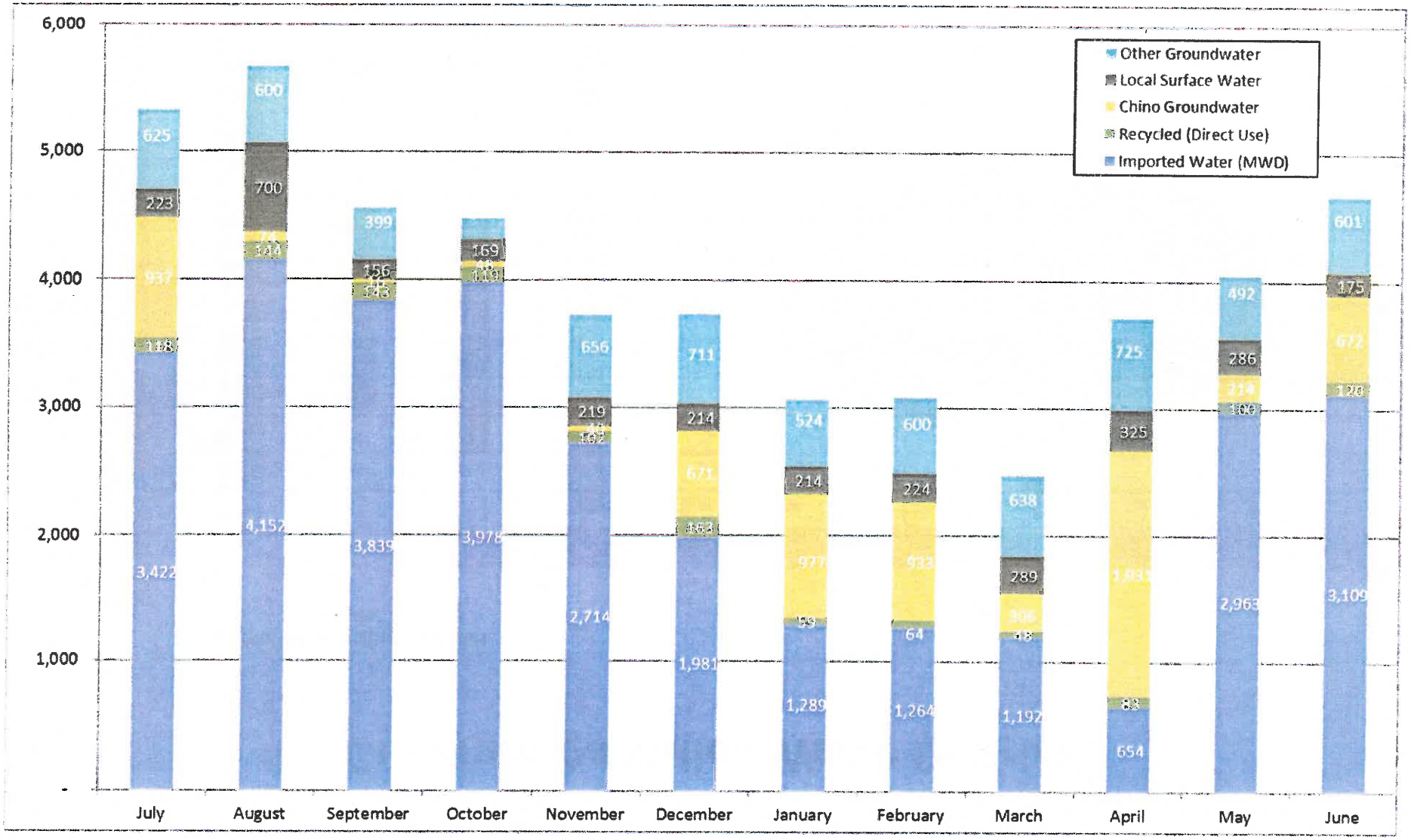
FY 17/18 Water Use Report

City of Upland

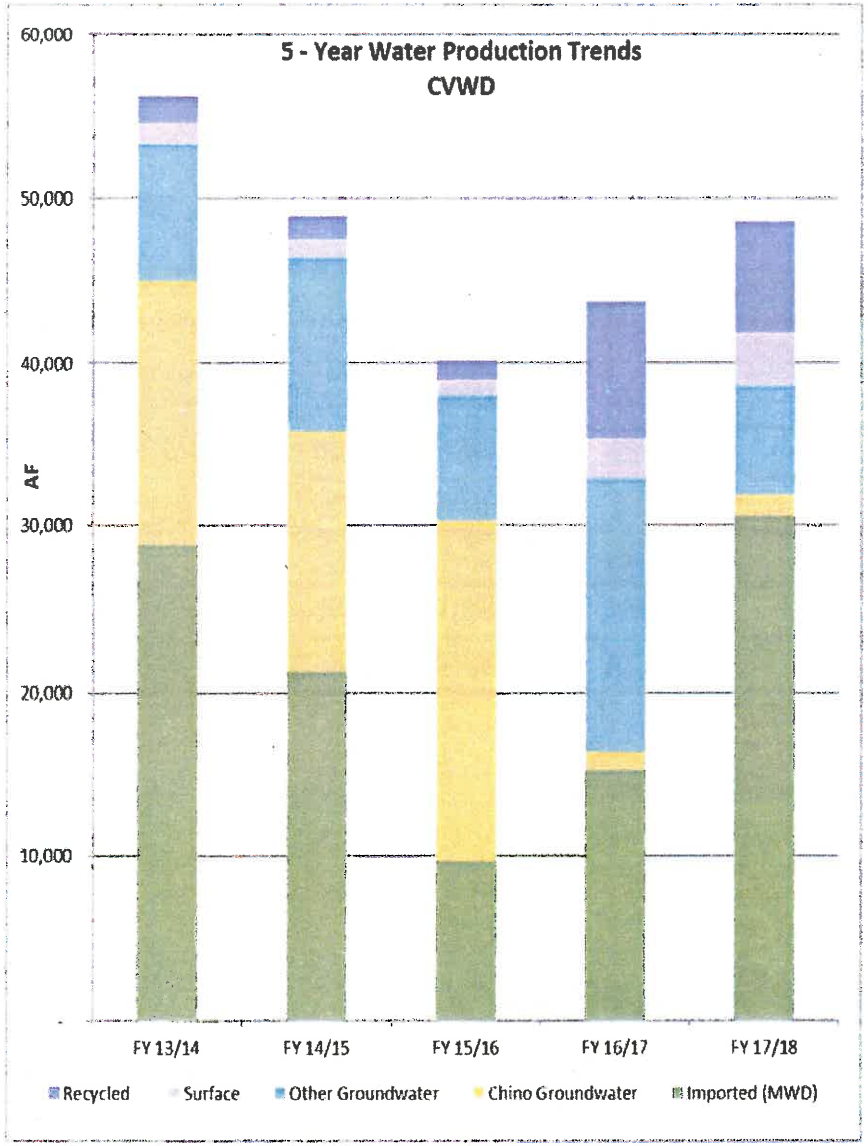
		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										City of Upland		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	899	857	851	668	362	381	376	403	198	173	355	551	6,073
	Recycle (Direct Use)	83	98	71	60	47	73	17	41	13	62	65	76	705
	Imported Water (RAW)	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal		982	955	922	728	409	454	393	444	211	235	420	627	6,779
Production	Chino Groundwater	229	93	71	182	175	144	205	148	69	104	158	186	1,764
	Other Groundwater	157	151	118	114	80	110	69	40	51	77	78	68	1,112
Subtotal		387	244	189	296	254	254	274	189	120	180	236	254	2,876
Purchase from other agencies	SAWCo Water	883	870	770	791	796	807	548	597	594	966	883	692	9,197
	West End	74	161	90	94	71	58	62	78	68	107	110	326	1,298
Subtotal		957	1,031	860	885	867	865	610	675	661	1,073	993	1,018	10,495
Total		2,326	2,231	1,971	1,909	1,530	1,573	1,277	1,307	991	1,488	1,649	1,899	20,150

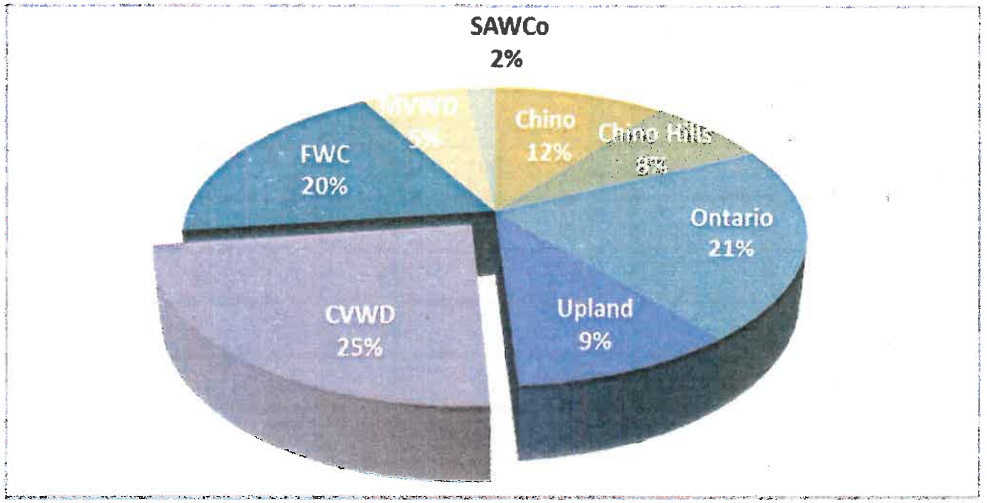
FY 17/18 Water Use Report

Cucamonga Valley Water District



FY 17/18 Water Use Report
Cucamonga Valley Water District





In FY 2017/18, Cucamonga Valley Water District used 25% (48,573 AF) of 203,391 AF used in the service area.

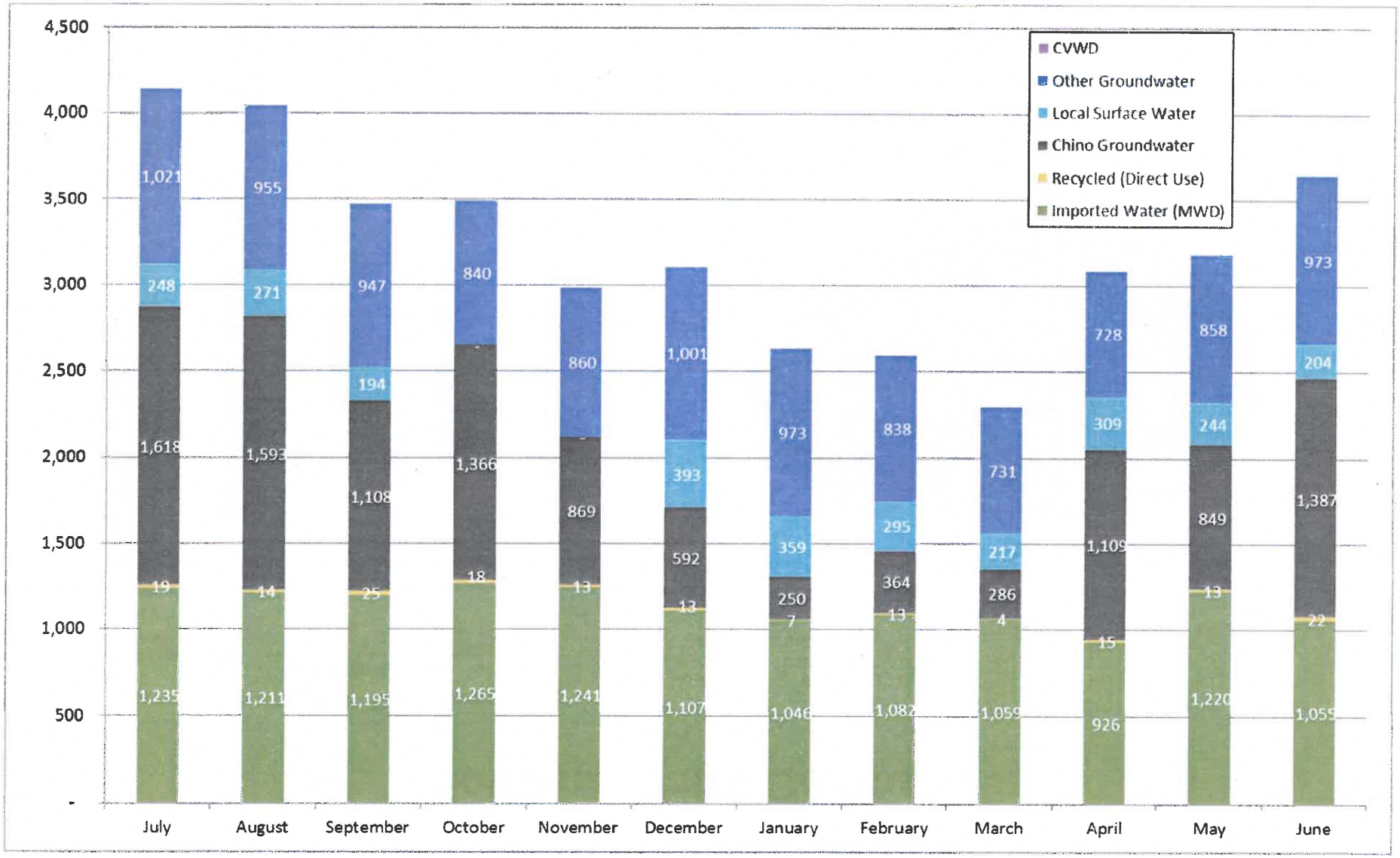
FY 17/18 Water Use Report

Cucamonga Valley Water District

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										CVWD		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (MWD)	3422	4152	3839	3978	2714	1981	1289	1264	1192	654	2963	3109	30,559
	Recycle (Direct Use)	118	144	143	119	102	163	59	64	48	83	100	120	1,263
Subtotal		3,540	4,296	3,982	4,097	2,816	2,144	1,348	1,328	1,240	737	3,063	3,229	31,822
Production	Chino Groundwater	937	74	16	48	40	671	977	933	306	1931	214	672	6,819
	Other Groundwater	625	600	399	167	656	711	524	600	638	725	492	601	6,737
	Local Surface Water	223	700	156	169	219	214	214	224	289	325	286	175	3,195
Subtotal		1,785	1,373	572	384	915	1,596	1,715	1,757	1,234	2,981	992	1,448	16,751
Total		5,325	5,669	4,554	4,481	3,731	3,741	3,063	3,085	2,474	3,718	4,055	4,677	48,573

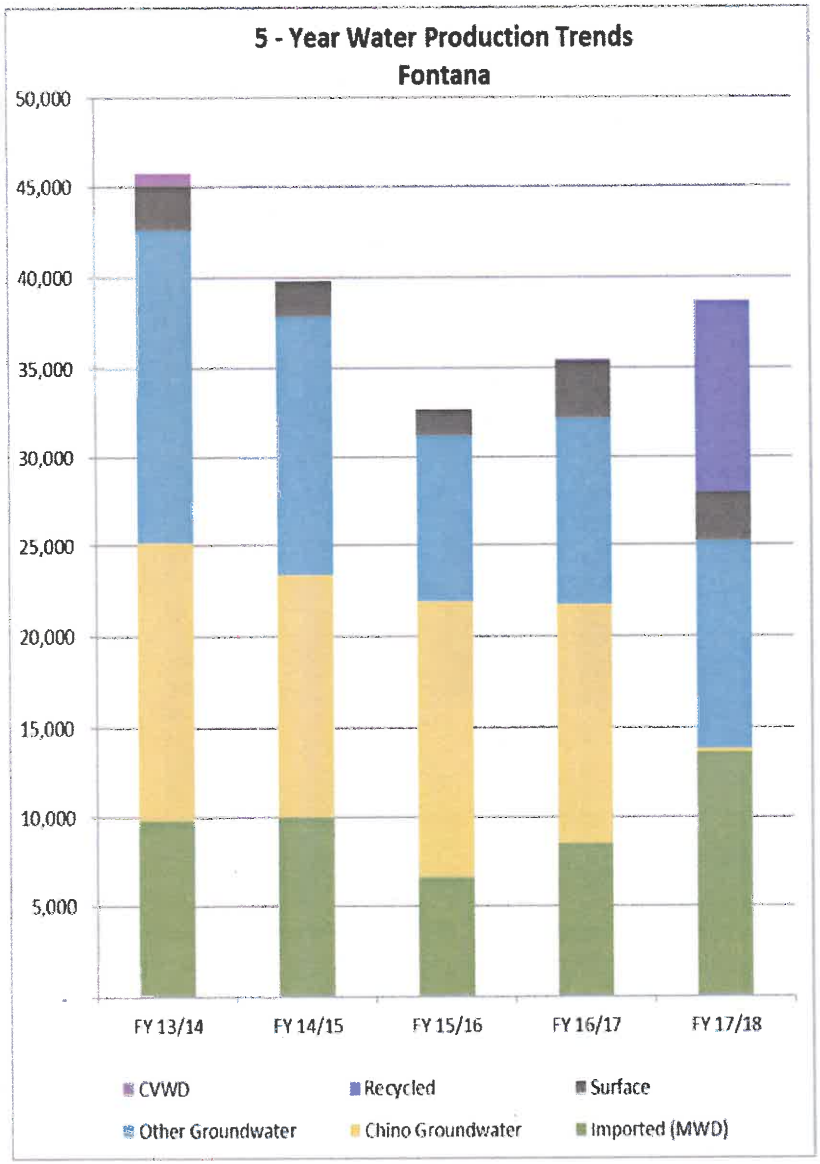
FY 17/18 Water Use Report

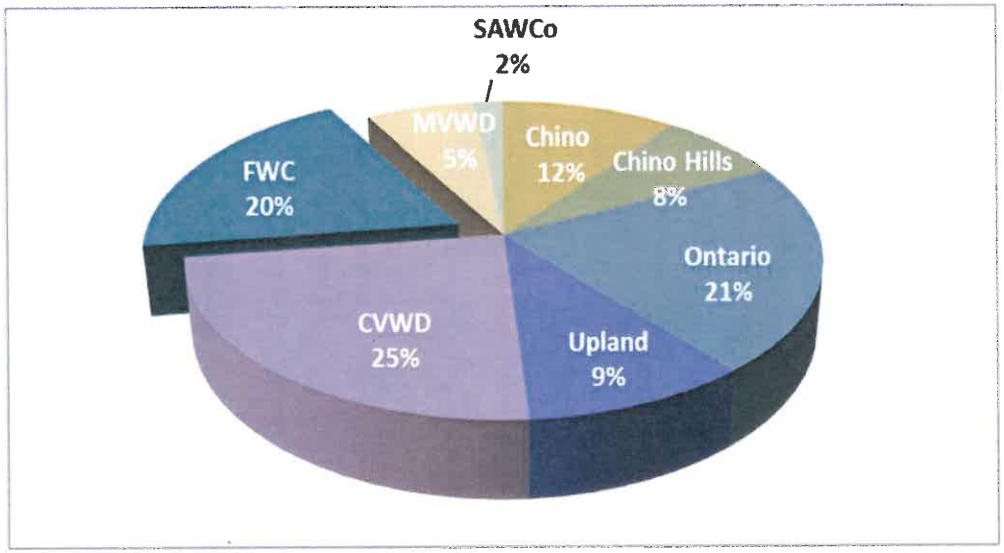
Fontana Water Company



FY 17/18 Water Use Report

Fontana Water Company





In FY 2017/18, Fontana Water Company used 20% (38,670 AF) of 203,391 AF used in the IEUA service area.

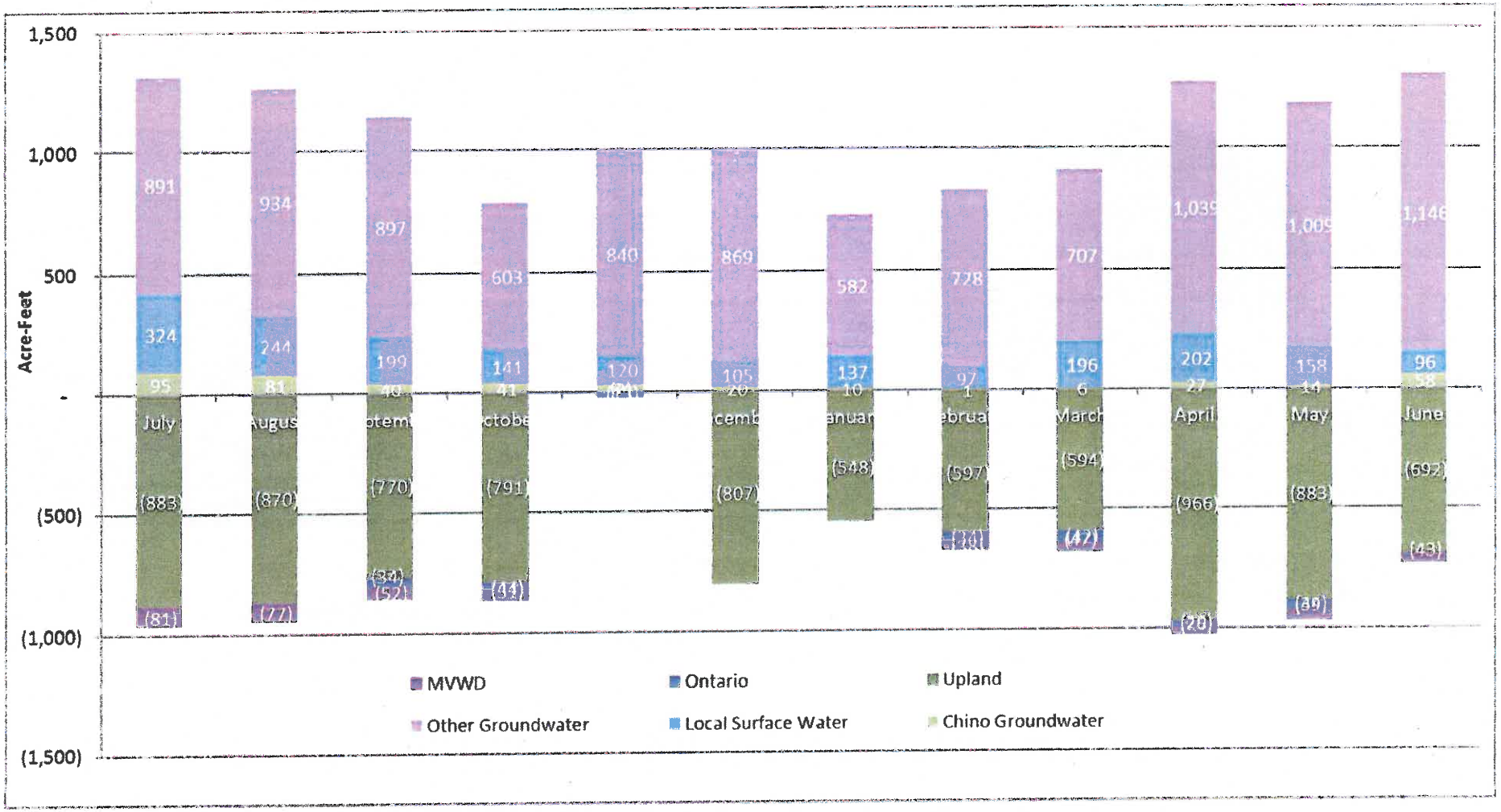
FY 17/18 Water Use Report

Fontana Water Company

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										FWC		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (MWD)	1235	1211	1195	1265	1241	1107	1046	1082	1059	926	1220	1055	13,642
	Recycle (Direct Use)	19	14	25	18	13	13	7	13	4	15	13	22	176
Subtotal		1,254	1,225	1,220	1,283	1,254	1,120	1,053	1,095	1,063	941	1,233	1,077	13,818
Production	Chino Groundwater	1618	1593	1108	1366	869	592	250	364	286	1109	849	1387	11,392
	Other Groundwater	1021	955	947	840	860	1001	973	838	731	728	858	973	10,725
	Local Surface Water	248	271	194	0	0	393	359	295	217	309	244	204	2,735
Subtotal		2,888	2,819	2,249	2,206	1,728	1,985	1,581	1,498	1,234	2,147	1,952	2,564	24,852
Purchase from other agencies	CVWD	0	0	0	0	0	0	0	0	0	0	0	0	-
Subtotal		-	-	-	-	-	-	-	-	-	-	-	-	-
Total		4,142	4,044	3,469	3,489	2,983	3,105	2,634	2,593	2,297	3,088	3,185	3,641	38,670

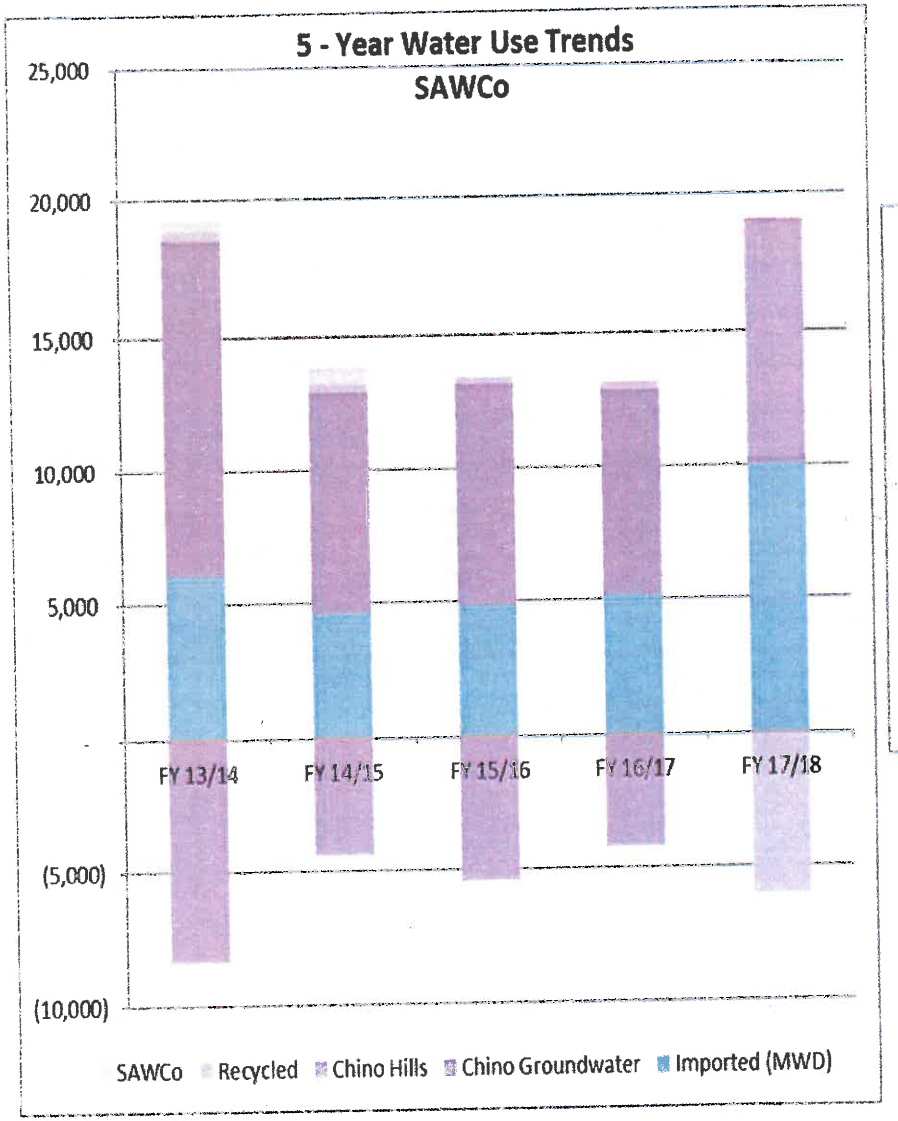
FY 17/18 Water Use Report

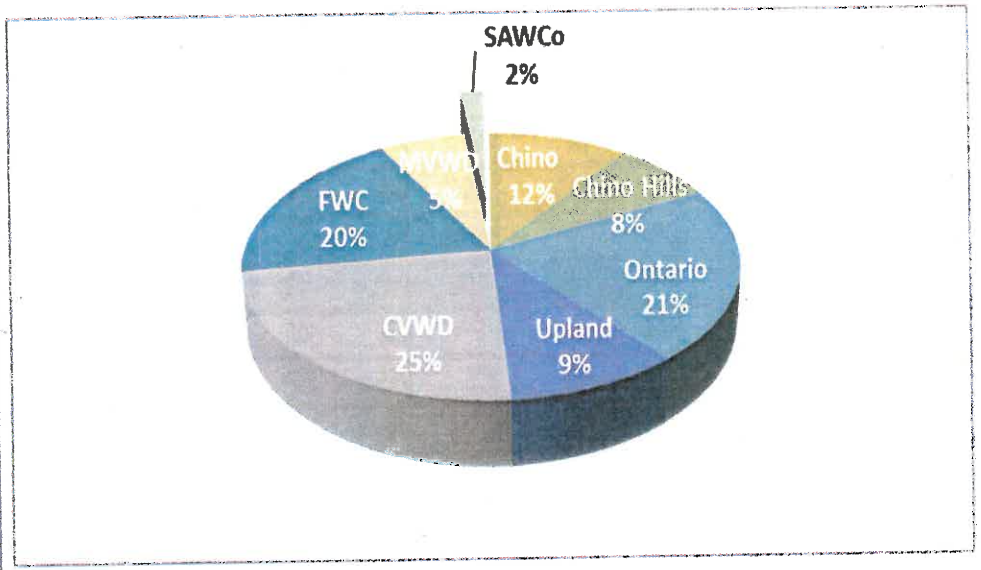
San Antonio Water Company



FY 17/18 Water Use Report

San Antonio Water Company





In FY 2017/18, San Antonio Water Company used 2% (3,616 AF) of 203,391 AF used in the IEUA service area.

FY 17/18 Water Use Report

San Antonio Water Company

		Total IEUA Service Area Water Use By Agency for FY17-18 (AF)										SAWCo		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Production	Chino Groundwater	95	81	40	41	34	20	10	1	6	27	14	58	428
	Other Groundwater	891	934	897	603	840	869	582	728	707	1039	1009	1146	10,245
	Local Surface Water	324	244	199	141	120	105	137	97	196	202	158	96	2,020
Subtotal		1,311	1,259	1,136	785	994	994	729	826	910	1,268	1,181	1,300	12,693
Sales to other agencies	Ontario	0	0	-34	-44	-13	0	0	-34	-42	-26	-39	0	(232)
	Upland	-883	-870	-770	-791	0	-807	-548	-597	-594	-966	-883	-692	(8,401)
	MVWD	-81	-77	-52	-31	-2	0	0	-38	-47	-29	-44	-43	(444)
Subtotal		(964)	(947)	(856)	(866)	(15)	(807)	(548)	(669)	(683)	(1,021)	(966)	(735)	(9,077)
Total		347	312	280	(81)	979	187	181	157	227	247	215	565	3,617

SECTION 3

Appendices

APPENDIX A

Five year Historical Data Summary

FY 17-18		Total IEUA Service Area Water Use by Retail Agency for FY 17-18 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	4,292	1,500	3,211	6,073	30,559	13,642	9,935	0	69,212
	Recycled (Direct Use)	6,480	1,858	9,654	706	1,263	176	318	0	20,455
Subtotal		10,772	3,358	12,865	6,779	31,822	13,818	10,253	0	89,667
Production	Chino Groundwater	5,149	2,839	26,109	1,764	6,819	11,392	8,755	428	63,255
	Other Groundwater	0	0	0	1,112	6,737	10,725	0	10,245	28,819
	Local Surface Water	0	0	0	0	3,195	2,735	0	2,020	7,950
Subtotal		5,149	2,839	26,109	2,876	16,751	24,852	8,755	12,693	100,024
Purchases from Other Agencies	CDA	4,999	4,211	4,032	0	0	0	0	0	13,242
	MVWD*	0	4,763	0	0	0	0	0	0	4,763
	SAWCo Water	0	0	341	9,197	0	0	0	0	9,538
	West End	0	0	0	1,298	0	0	0	0	1,298
	CVWD	0	0	0	0	0	0	0	0	0
Subtotal		4,999	8,974	4,373	10,495	0	0	0	0	28,841
Sales to Other Agencies*	Chino Hills**	0	0	0	0	0	0	-6,064	0	-6,064
	Ontario	0	0	0	0	0	0	0	-232	-232
	Upland	0	0	0	0	0	0	0	-8,401	-8,401
	MVWD	0	0	0	0	0	0	0	-444	-444
Subtotal		0	0	0	0	0	0	-6,064	-9,077	-15,141
	Total	20,920	15,171	43,347	20,150	48,573	38,670	12,944	3,616	203,391

FY 16-17		Total IEUA Service Area Water Use by Retail Agency for FY 16-17 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	3,469	1,954	2,364	5,406	15,288	8,510	5,105	0	42,096
	Recycled (Direct Use)	6,447	1,838	8,352	652	1,056	52	306	0	18,703
Subtotal		**9,916**	**3,792**	**10,716**	**6,058**	**16,344**	**8,562**	**5,411**	**0**	**60,799**
Production	Chino Groundwater	4,972	2,245	24,672	1,260	16,549	13,251	7,786	537	71,272
	Other Groundwater	0	0	0	1,026	8,386	10,338	0	8,739	28,490
	Local Surface Water	0	0	0	0	2,448	3,230	0	5,282	10,960
Subtotal		**4,972**	**2,245**	**24,672**	**2,286**	**27,384**	**26,818**	**7,786**	**14,558**	**110,721**
Purchases from Other Agencies	CDA	5,008	4,206	3,077	0	0	0	0	0	12,292
	MVWD*	0	4,237	0	0	0	0	0	0	4,237
	SAWCo Water	0	0	171	8,791	0	0	0	0	8,961
	West End	0	0	0	1,068	0	0	0	0	1,068
	CVWD	0	0	0	0	0	39	0	0	39
Subtotal		**5,008**	**8,444**	**3,248**	**9,858**	**0**	**39**	**0**	**0**	**26,597**
Sales to Other Agencies*	Chino Hills**	0	0	0	0	0	0	-4,818	0	-4,818
	Ontario	0	0	0	0	0	0	0	-171	-171
	Upland	0	0	0	0	0	0	0	-8,791	-8,791
	MVWD	0	0	0	0	0	0	0	-278	-278
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-4,818**	**-9,240**	**-14,058**
	Total	**19,896**	**14,481**	**38,636**	**18,203**	**43,728**	**35,419**	**8,379**	**5,318**	**184,060**

FY 15-16		Total IEUA Service Area Water Use by Retail Agency for FY 15-16 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	2,843	110	2,755	4,890	9,712	6,613	4,799	0	31,722
	Recycled (Direct Use)	7,217	1,410	7,566	719	1,146	0	278	0	18,336
Subtotal		10,060	1,520	10,321	5,609	10,857	6,613	5,078	0	50,058
Production	Chino Groundwater	5,104	1,630	22,755	2,601	20,524	15,317	8,371	0	76,302
	Other Groundwater	0	0	0	1,054	7,783	9,253	0	8,517	26,607
	Local Surface Water	0	0	0	0	1,002	1,497	0	0	2,499
Subtotal		5,104	1,630	22,755	3,655	29,309	26,067	8,371	8,517	105,408
Purchases from Other Agencies	CDA	5,000	4,201	2,682	0	0	0	0	0	11,883
	MVWD	0	5,642	0	0	0	0	0	0	5,642
	SAWCo Water	0	0	338	6,297	0	0	0	0	6,635
	West End	0	0	0	1,246	0	0	0	0	1,246
Subtotal		5,000	9,843	3,020	7,543	0	0	0	0	25,406
Sales to Other Agencies*	Chino Hills	0	0	0	0	0	0	-5,437	0	-5,437
	Ontario	0	0	0	0	0	0	0	-338	-338
	Upland	0	0	0	0	0	0	0	-6,297	-6,297
Subtotal		0	0	0	0	0	0	-5,437	-6,635	-12,072
	Total	20,163	12,993	36,096	16,807	40,166	32,681	8,012	1,882	168,800

FY 14-15		Total IEUA Service Area Water Use by Retail Agency for FY 14-15 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	2,830	2,494	10,703	7,047	21,306	9,994	4,530	0	58,905
	Recycled (Direct Use)	8,324	1,827	8,018	636	1,400	0	308	0	20,513
Subtotal		11,154	4,321	18,721	7,684	22,705	9,994	4,838	0	79,418
Production	Chino Groundwater	6,497	2,904	17,426	3,416	14,490	13,344	8,407	0	66,485
	Other Groundwater	0	0	0	1,291	10,631	14,500	0	6,091	32,513
	Local Surface Water	0	0	0	0	1,076	1,969	0	0	3,044
Subtotal		6,497	2,904	17,426	4,708	26,196	29,813	8,407	6,091	102,042
Purchases from Other Agencies	CDA	5,232	4,426	4,827	0	0	0	0	0	14,485
	MVWD	0	4,436	0	0	0	0	0	0	4,436
	SAWCo Water	0	0	172	5,461	0	0	612	0	6,246
	West End	0	0	0	2,139	0	0	0	0	2,139
Subtotal		5,232	8,862	5,000	7,601	0	0	612	0	27,306
Sales to Other Agencies	Chino Hills	0	0	0	0	0	0	-4,439	0	-4,439
	MVWD	0	0	0	0	0	0	0	-612	-612
	Ontario	0	0	0	0	0	0	0	-172	-172
	Upland	0	0	0	0	0	0	0	-3,177	-3,177
Subtotal		0	0	0	0	0	0	-4,439	-3,961	-8,400
	Total	22,884	16,087	41,147	19,992	48,902	39,807	9,419	2,129	200,366

FY 13-14		Total IEUA Service Area Water Use by Retail Agency for FY 13-14 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	4,342	962	9,904	7,265	28,825	9,792	5,965	0	67,055
	Recycled (Direct Use)	8,916	2,002	8,428	869	1,652	0	339	0	22,205
Subtotal		**13,258**	**2,964**	**18,332**	**8,134**	**30,477**	**9,792**	**6,304**	**0**	**89,261**
Production	Chino Groundwater	6,725	2,138	21,723	2,822	16,122	15,378	12,522	0	77,430
	Other Groundwater	0	0	0	704	8,324	17,454	0	12,610	39,092
	Local Surface Water	0	0	0	0	1,254	2,405	0	0	3,658
Subtotal		**6,725**	**2,138**	**21,723**	**3,526**	**25,700**	**35,236**	**12,522**	**12,610**	**120,180**
Purchases from Other Agencies	CDA	5,198	4,396	5,141	0	0	0	0	0	14,735
	CVWD	0	0	0	0	0	757	0	0	757
	MVWD	0	8,427	0	0	0	0	0	0	8,427
	SAWCo Water	0	0	0	9,662	0	0	400	0	10,063
	West End	0	0	0	2,653	0	0	0	0	2,653
Subtotal		**5,198**	**12,824**	**5,141**	**12,316**	**0**	**757**	**400**	**0**	**36,636**
Sales to Other Agencies	Chino Hills	0	0	0	0	0	0	-8,428	0	-8,428
	MVWD	0	0	0	0	0	0	0	-400	-400
	Upland	0	0	0	0	0	0	0	-9,662	-9,662
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-8,428**	**-10,063**	**-18,490**
	Total	**25,181**	**17,926**	**45,196**	**23,975**	**56,177**	**45,785**	**10,798**	**2,547**	**227,586**

APPENDIX B

Definitions

Chino Basin Groundwater – Water pumped from the Chino Basin Aquifer and treated by retail water agencies for all potable uses within the IEUA service area.

Desalter Water – Water pumped from Chino Basin Desalter I owned and operated by the Chino Basin Desalter Authority (CDA). Groundwater, with high levels of dissolved solids, is treated and distributed to several retail agencies within the IEUA's service area for potable uses.

Imported Water (MWD) – Water from Northern California and supplied by the Metropolitan Water District of Southern California (MWD), and water transferred from other groundwater basins to retail water agencies operating within the IEUA service area. All Tier I and Tier II deliveries are included in this category.

Other Groundwater – Water produced from other local groundwater basins to retail water agencies operating within IEUA's service area.

Surface Water – Water collected by retail water agencies from mountain runoff and storm flows, which is collected and treated for potable use.

Recycled Water – Title 22 recycled water produced by the IEUA at its water recycling plants for distribution through separate pipelines to retail water agency customers for all non-potable uses.

WECWC– West End Consolidated Water Company supplies some water to the City of Upland.

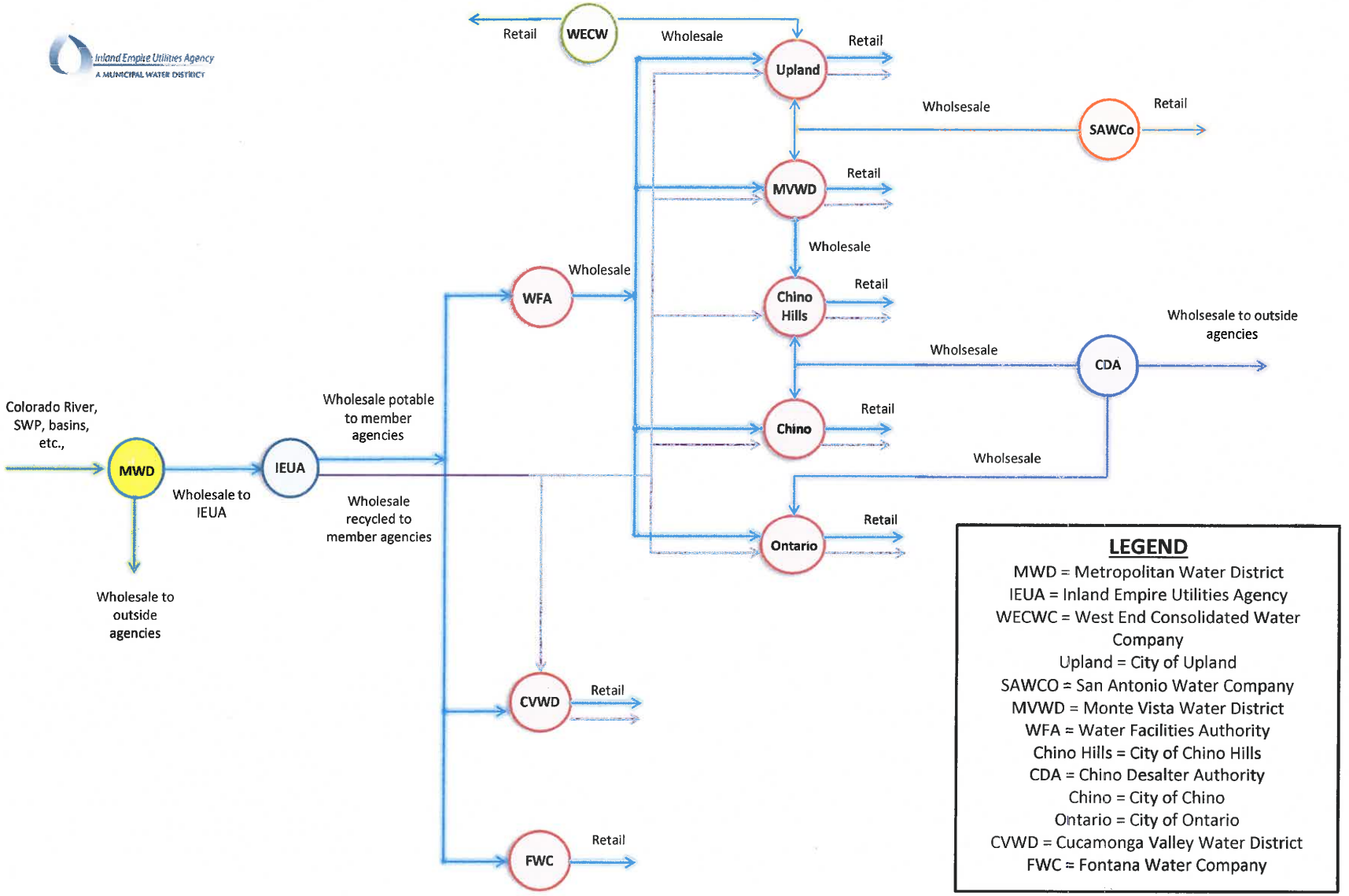
WVWD – West Valley Water District

Production – Amount of water Agencies produce from their groundwater, surface water, or other water supplies that they have rights or jurisdiction over.

Use – Amount of water used within a member agency's jurisdiction, as reported by them to IUEA.

APPENDIX C

Member Agency Organizational Chart


Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT
Retail
WECW
Wholesale
Upland
Retail
Wholesale
SAWCo
Retail
MVWD
Retail
Wholesale
Wholesale
WFA
Chino Hills
Retail
Wholesale to outside agencies
Wholesale
CDA
Colorado River, SWP, basins, etc.,
Wholesale potable to member agencies
Chino
Retail
MWD
IEUA
Wholesale to IEUA
Wholesale recycled to member agencies
Wholesale
Ontario
Retail
Wholesale to outside agencies
CVWD
Retail
FWC
Retail
LEGEND
MWD = Metropolitan Water District
IEUA = Inland Empire Utilities Agency
WECWC = West End Consolidated Water Company
Upland = City of Upland
SAWCO = San Antonio Water Company
MVWD = Monte Vista Water District
WFA = Water Facilities Authority
Chino Hills = City of Chino Hills
CDA = Chino Desalter Authority
Chino = City of Chino
Ontario = City of Ontario
CVWD = Cucamonga Valley Water District
FWC = Fontana Water Company

IEUA FY 2017-2018 Annual Energy Report

Inland Empire Utilities Agency
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IEUA is committed to optimizing facility energy use and effectively managing renewable resources to achieve peak power independence and contain future energy costs.

Introduction

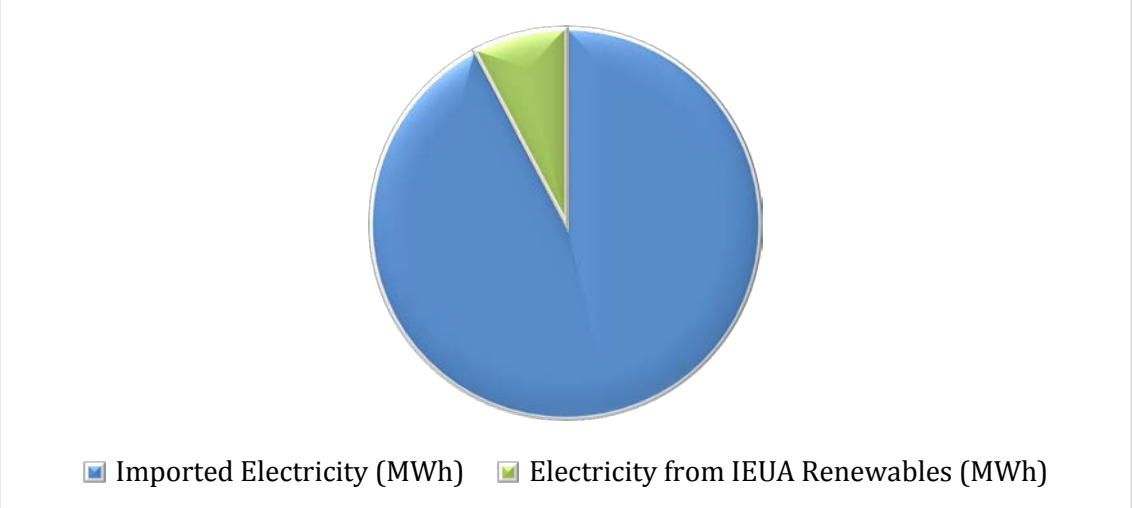
The 2017/18 Energy Report tracks IEUA's energy consumption, renewable generation performance and savings, and energy efficiency projects for the fiscal year. The report includes a brief description of upcoming projects and initiatives that will be implemented over the next few years.

Summary

In 2017/18, IEUA:

- Consumed 76,527 MWh of electricity (Figure 1).
- Generated 9% of the electricity consumed from renewable energy (Figure 1) resulting in $97,000 in savings for the fiscal year. Savings to date since 2008 is approximately $1,022,000.
- Spent $8.7 million for utilities, that includes imported electricity, renewable energy and natural gas.
- Completed the following energy efficiency projects:
    - Lighting Project (Phase 2)
    - Pumping Project (Phase 2)
    - Process Optimization
    - Battery Storage Installation

Figure 1: IEUA Electricity Source for 2017/18



Did you know?

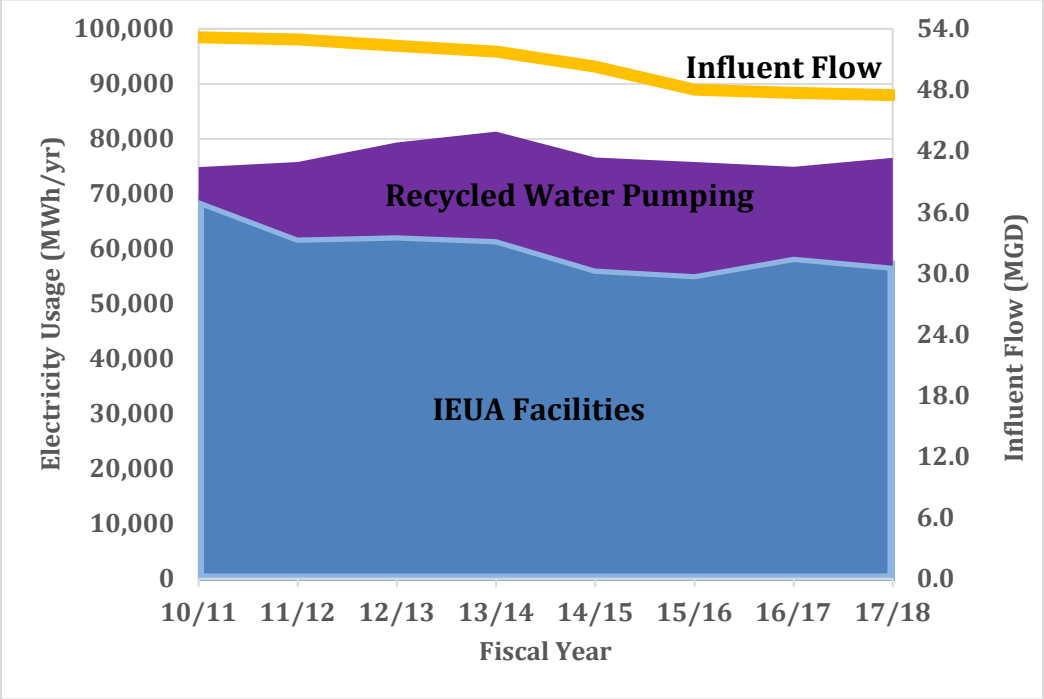
** In 2016 a typical U.S. household used 10,766 kWh (U.S. Energy Information Administration).*

** The renewable energy generated by IEUA would be able to provide electricity to at least 605 homes.*

Flow and Energy Consumption

- In 2017/18, the annual average influent flow to the regional water recycling plants was 47.5 MGD which was a decrease of 0.4% as compared to the previous fiscal year of 47.7 MGD (Figure 2). The decrease was due to increased water conservation.
- In 2017/18, IEUA facilities which include the regional water recycling plants, composting facility, and recycled water pumping used approximately 76,527 MWh of electricity (Figure 2). The electricity consumption for 2017/18 increased by 3.5% as compared to the previous fiscal year of 73,884 MWh. This was due to increased recycled water pumping, electricity use at the regional water recycling plants decreased by 2.7%

Figure 2: IEUA Electricity Use and Regional Influent Flows



Power Demand

- During the fiscal year, agency-wide demand ranged from 8,700 kW during the winter months and 11,090 kW during the summer months (Figure 4 and 5). The large seasonal variation in the power demand is attributed to the recycled water demand and the related recycle water pumping.

Expenditure

- The cost of electricity remains the highest non-labor operations and maintenance (O&M) expenditure for IEUA. In 2017/18, the annual cost for electricity was $8.7

million which was an increase of 0.5% as compared to the previous fiscal year of $8.6 million due to an increase in recycled water pumping. IEUA diversified energy procurement approach, that includes on-site generation Power Purchase Agreements (PPA), electricity purchase from Southern California Edison, and direct access contract with Shell Energy North America, continues to provide rate stabilization and cost effectiveness.

Renewable Energy Production and Storage

- IEUA's diverse renewable portfolio consists of 3.5 MW solar, 1.0 MW of wind, 3.0 MW of engines, and 4.0 MW battery. If fully operational, onsite generation would provide approximately 70% of the electricity needed to satisfy agency-wide demand during peak hours (Figure 3); current output is approximately 45% of the summer peak demand if one Renewable Energy Efficiency Project (REEP) Engine is online (Figure 5). In order to move closer to the goal of peak power independence by 2020, IEUA's renewable portfolio is expected to grow with additional solar and batteries. This would allow IEUA to be able to operate completely off the grid during peak energy usage periods.

Figure 3: IEUA's Diverse Renewable Portfolio

- IEUA's renewable portfolio generated 9% of the electricity used in 2017/18. Of the electricity consumed by IEUA;
  - 7.0% was produced by the solar across IEUA facilities;
  - 0.9% was produced by the REEP engines at RP-5; and

  - 0.7% was produced by the wind turbine at RP-4.
- In 2017/18, 6,514 MWh of electricity was generated on site, 46% less than 2016/17. This decrease was primarily due to the REEP engines being offline.
- Despite PPA average rates were typically higher than the average grid price in 2017/18, renewable energy projects provided overall $97,000 in savings, as a result of lower standby charges compared to the facility demand charge rate.
- Generated solar electricity varies throughout the year due to the different number of sunlight hours, solar generation is usually higher in April and lower in December (Figure 5).
- Overall, during the winter months, the wind turbine produced more (Figure 5).
- The REEP engine has been offline since August 2017 due to permitting issues with the Santa Ana Watershed Project Authority (SAWPA) Inland BioEnergy, LLC. (IBE) is in the process of restarting the operation of the RP-5 Solids Handling Facility (SHF), receive food waste, produce biogas, and generate electricity to be used at RP-5.

Figure 4: Connected Renewables' Capacities vs. Agency-Wide Power Demand

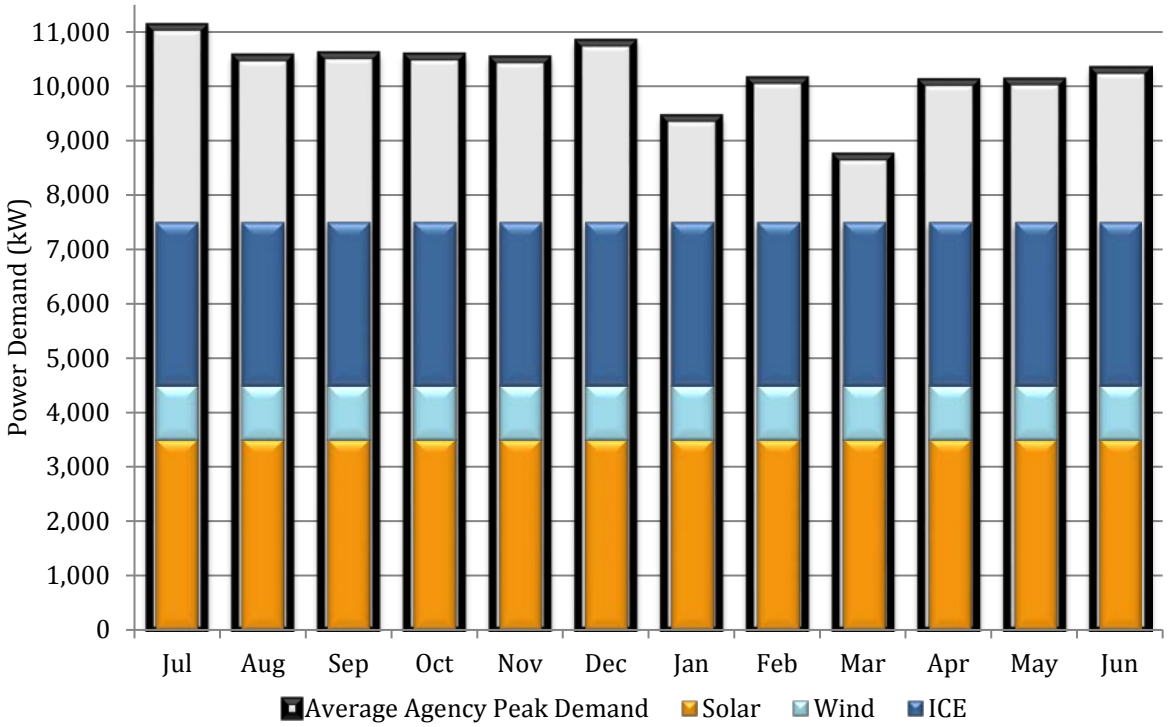
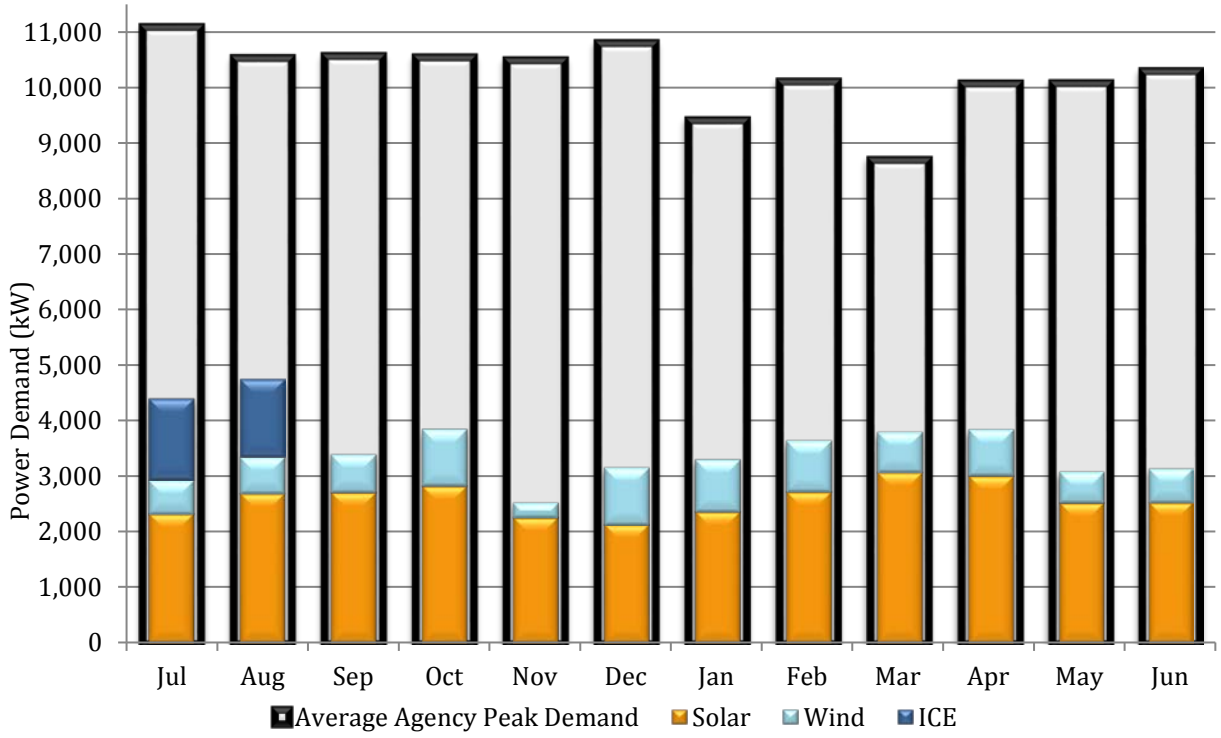


Figure 5: Actual Renewables' Output

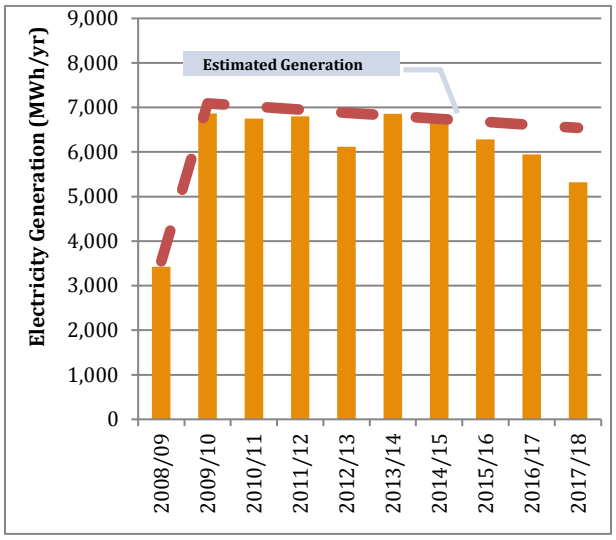


Solar

Solar Performance

- Solar across IEUA facilities generated 5,321 MWh of renewable energy, 10.5% less than 2016/17. The reduced output was caused by an inverter at RP-1 being out of service.

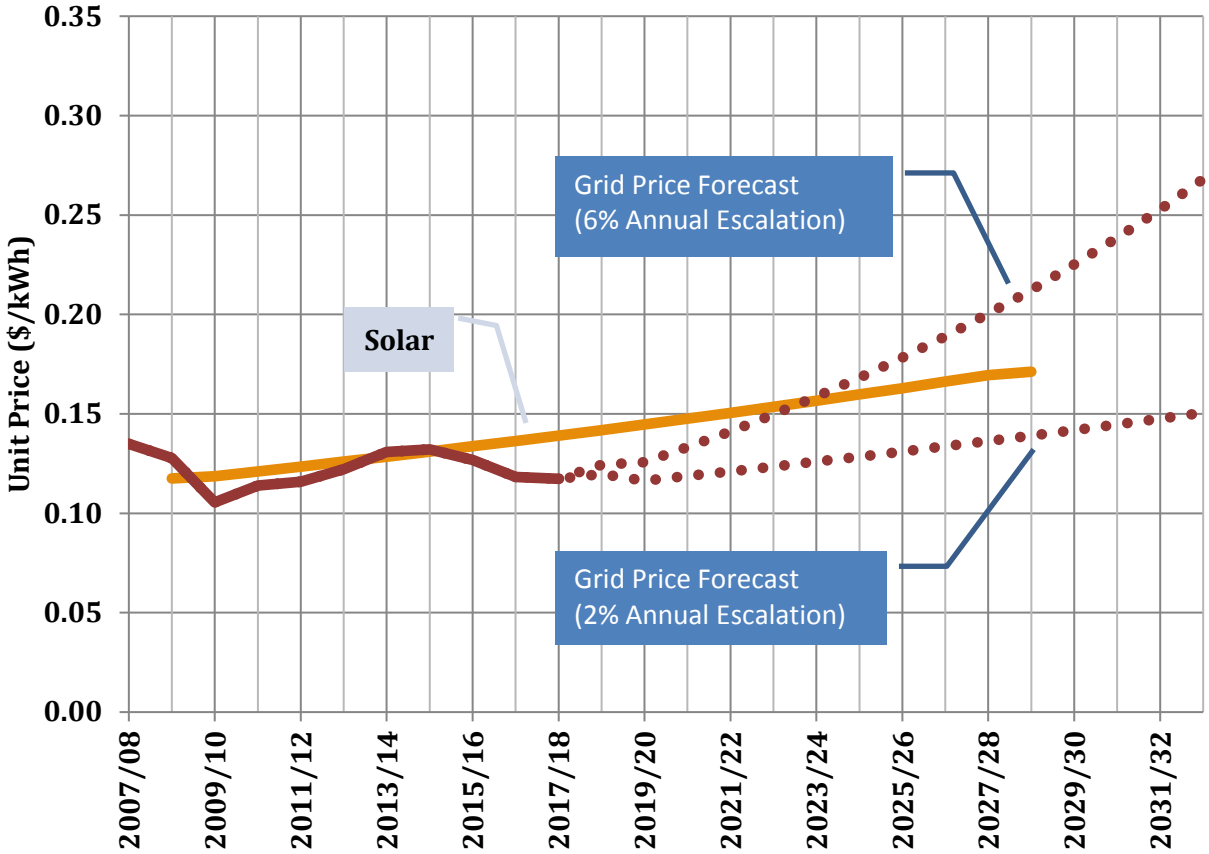
Figure 6: Solar Electricity Generation



Solar Cost

- For 2017/18, the PPA rate for the solar was higher than the average grid price. However, the solar projects provided approximately $82,000 in savings, as a result of lower standby charges compared to the facility demand charge rate.

Figure 7: Cost of Solar Power vs Grid Import



- Solar generated $240,000 from 2008/09 to 2017/18.

Table 1: Savings from Solar Power

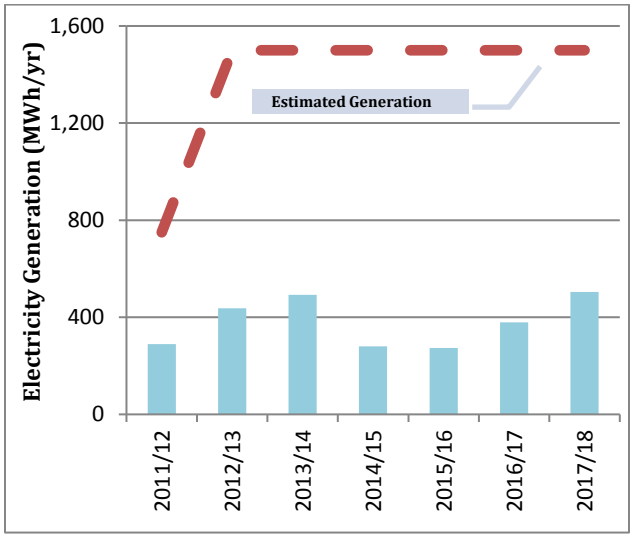
Savings FY 08/09 – FY 17/18	$240,000
Range of Savings PPA Term (FY 08/09 – FY 28/29)	$647,000 (2% Esc) $3,158,000 (6% Esc)

Wind

Wind Performance

- In FY 2017/18 the wind turbine at RP-4 generated 505 MWh of renewable energy, 33% higher than 2016/17.

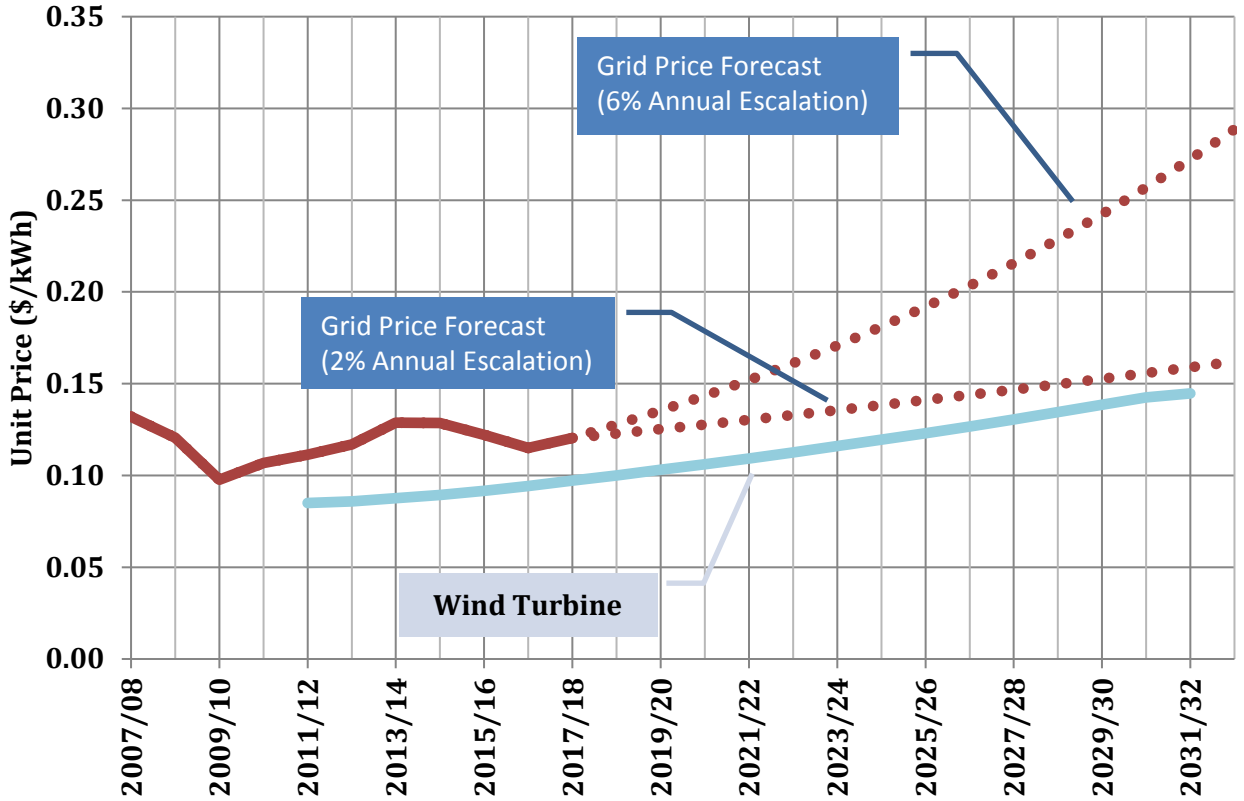
Figure 8: Wind Electricity Generation



Wind Cost

- For 2017/18, the PPA rate for the wind turbine was 23% lower than the average grid price.

Figure 9: Cost of Wind Power vs Grid Import



- Wind generated $73,000 in savings from 2011/12 to 2017/18.

Table 2: Savings from Wind Power

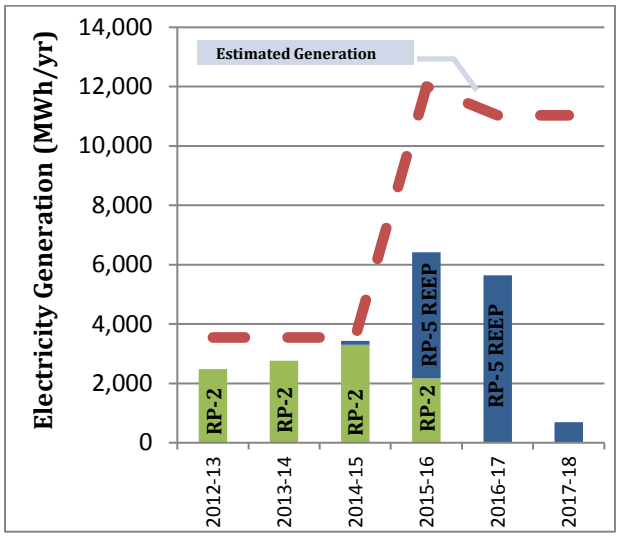
Savings FY 11/12 – FY 17/18	$73,000
Range of Savings PPA Term (FY 11/12 – FY 31/32)	$176,000 (2% Esc) $466,000 (6% Esc)

Engine

Engine Performance

- Renewable energy generated by engines produced 688 MWh, 88% lower than the previous fiscal year. The REEP engines at RP-5 were shut down in August 2017 due to permitting issues with SAWPA.

Figure 10: Engine(s) Electricity Generation



Engine Cost

- The rate for the REEP engines remains 5% lower than the average grid price, consistent with the lease agreement with IBE.

Figure 11: Cost of Engine Power vs Grid Import

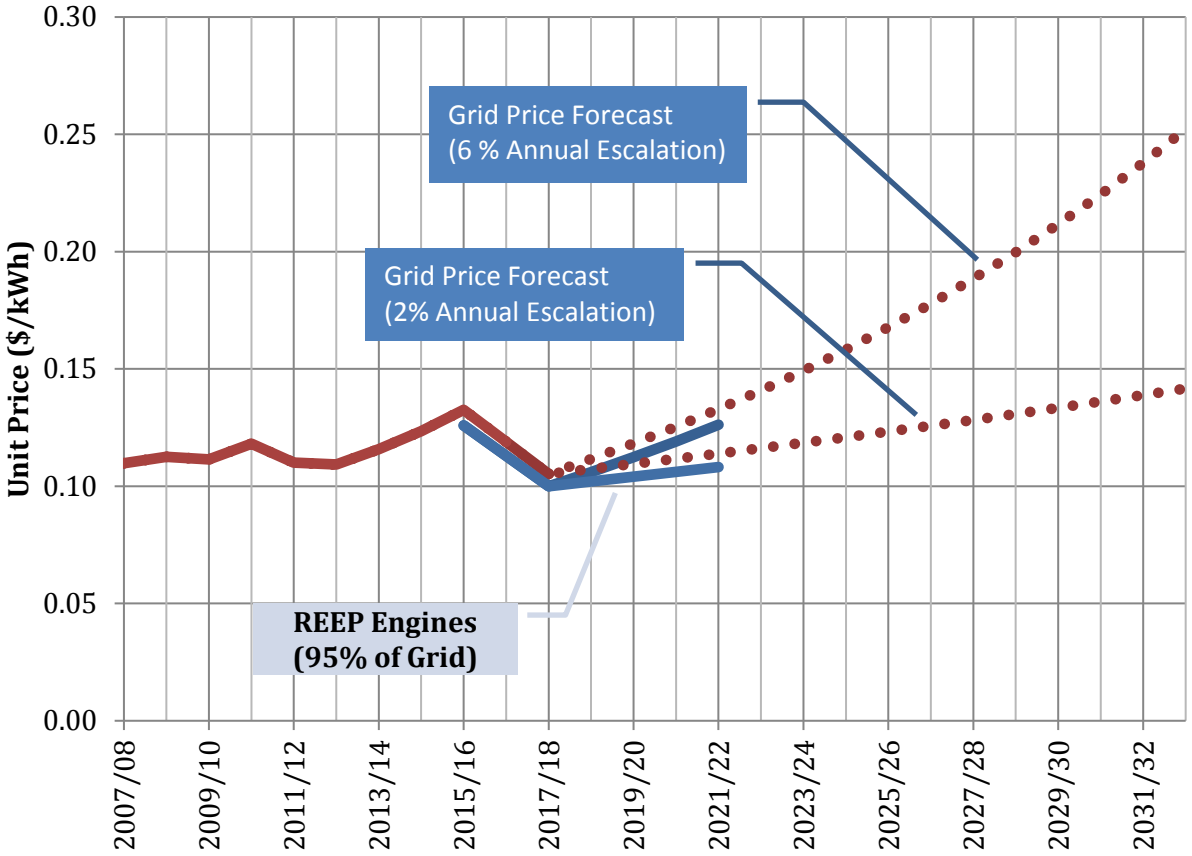


Table 3: Savings from Engine Power

Savings FY 11/12 – FY 17/18	$65,000
Range of Savings PPA Term (FY 11/12 – FY 21/22)	$229,000 (2% Esc) $246,000 (6% Esc)

Energy Efficiency Projects

- IEUA continues to work with Southern California Edison (SCE) and The Energy Network to conduct comprehensive energy audits and to implement projects to reduce electricity consumption throughout its facilities and operations. In FY 17/18, several lighting replacements and pump overhauls and retrofits were completed that will result in an annual electricity savings of 2,311,770 kWh/year, an avoided power usage of 206 kW, and an annual savings of $245,000/year assuming the average price for electricity is $0.105/kWh. Project highlights include:

Lighting Project (Phase 2)

- This project replaced interior and exterior lights at RP-1, RP-5, CCWRF, and IEUA's Headquarter Buildings with Light Emitting Diodes (LEDs).
- Completed: December 2017
- Expected annual savings: 928,436 kWh and $98,400
- Avoided power usage: 68 kW

Pumping Project (Phase 2)

- This project replaced a sewage pump at the Philadelphia Lift Station and refurbished three recycled water pumps at RP-1 and a recycled water pump at RP-4.
- Completed: December 2017
- Expected annual savings: 777,238 kWh and $82,376
- Avoided power usage: 72 kW

Process Optimization

- It includes multiple projects at several IEUA water recycling facilities such as the optimization of mixed liquor return pumps at CCWRF and RP-1, installation of variable diffusers kit for the aeration basin blowers at RP-1, and the adjustment of the wet well level at RP-4.
- Completed: April 2018
- Expected annual savings: 606,100 kWh and $64,237
- Avoided power usage: 65 kW

The performance of the RP-1 mixed liquor return pumps were adjusted to run at optimal rates.

Energy Storage Installation

- AMS has installed a total of 4.0 MW of batteries at RP-5, RP-4, RP-1, and CCWRF. The batteries will efficiently integrate IEUA's renewable generation facilities, improve energy load management, and provide cost savings by shifting electricity use away from expensive peak hours.
- Completed: July 2018

Upcoming Projects

IERCF Rooftop Solar

- On July 19, 2017, the Board of Directors authorized the General Manager to negotiate and execute the agreement between the Inland Empire Regional Composting Authority (IERCA) and IEUA for the installation of a solar photovoltaic power plant. Advanced Microgrid Solutions (AMS) will be responsible for the design, installation, operation and maintenance of 1.5 MW solar system. The project is expected to be completed in December 2018.

Process Optimization

- This project will replace the grit blower at RP-1. The project is expected to be completed in January 2019.

Pumping Project (Phase 3)

- This project will replace 4 recycled water pumps at RP-1. The project is expected to be completed in January 2020.

Greenhouse Gas Emissions Annual Reporting

- IEUA will continue to voluntarily report its greenhouse gas emissions to The Climate Registry.

Beneficial Use of Biogas

- IEUA is evaluating opportunities to beneficially use the biogas generated at RP-1 in addition to on-site use for digesters heating.

UCR Energy Demand Management

- IEUA will continue to work with University of California, Riverside (UCR) to demonstrate and deploy energy management, data acquisition, and supervisory control strategies to improve efficiency and reduce both peak loads and electricity costs at CCWRF.

2018

IEUA FY 2017-2018 Recycled Water Annual Report

Water Smart
Thinking in Terms of Tomorrow

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APPENDIX B Recycled Water Compliance Data for Calendar Year 2017

INTRODUCTION

The 2017/18 Recycled Water Annual Report for the Inland Empire Utilities Agency (IEUA) recycled water program provides annual delivery data by IEUA retail member agencies, by usage types, and by customers. The 2017/18 report is for IEUA's fiscal year, which runs from July 2017 to June 2018. The report summarizes the program history, describes recent construction, and gives an overview of the IEUA treatment plants. IEUA provides wastewater treatment for its seven member agencies: the Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland and Cucamonga Valley Water District. Recycled water from the treatment process is generated and delivered to its retail water agencies for use in the IEUA service area.

IEUA owns and operates five wastewater recycling facilities that serve over 875,000 people. Figure 1 shows the IEUA service area, its member agencies, and the locations of IEUA's treatment plants. Of the five plants, four produce tertiary-treated, Title 22-quality recycled water. Of the treatment plants, RP-2 does not have any liquid treatment processes, and as such does not produce any recycled water. The general layout and capacities of the water recycling plants are discussed in the last section of the report. Appendices A and B contain the recycled water effluent monitoring data and recycled water compliance data, respectively, for the 2017 calendar year for the four recycled water facilities.

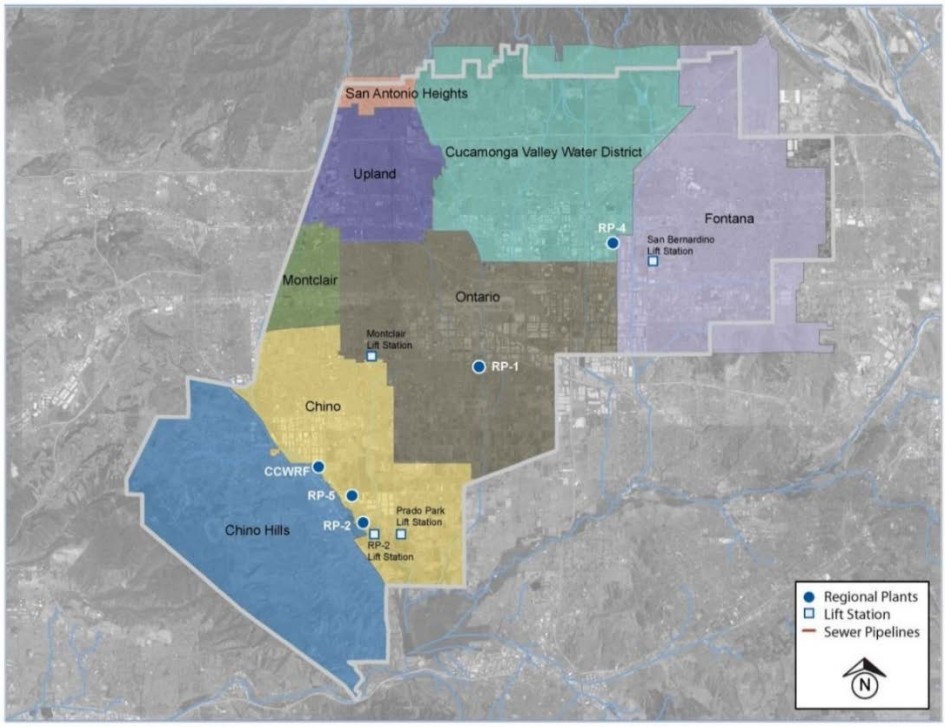

Figure 1 - IEUA Service Area

DEMANDS

During 2017/18, the average recycled water supply from IEUA's facilities was approximately 47.5 million gallons per day (MGD), or 53,225 acre-feet per year (AFY). Recycled water groundwater recharge usage was 13,510 AFY and recycled water direct usage was 21,132 AFY. Total recycled water demands during 2017/18 were 34,642 acre-feet (AF), an increase by 3.7% from the previous fiscal year. Recycled water recharge was down 3% and direct use was up 8.5%. The recycled water delivery volumes of direct use and groundwater recharge can vary seasonally and annually based on a variety of factors (e.g. the rainfall intensity, rainfall duration, and recharge basin maintenance activities). Figure 2 shows IEUA's historical direct use and groundwater recharge of recycled water for the past 10 years.

Recycled water demands for the combined direct use and recharge purposes were approximately 65 percent of the available supply. During the peak demand summer months (July through September), the total recycled water demand was approximately 85 percent of the available supply.

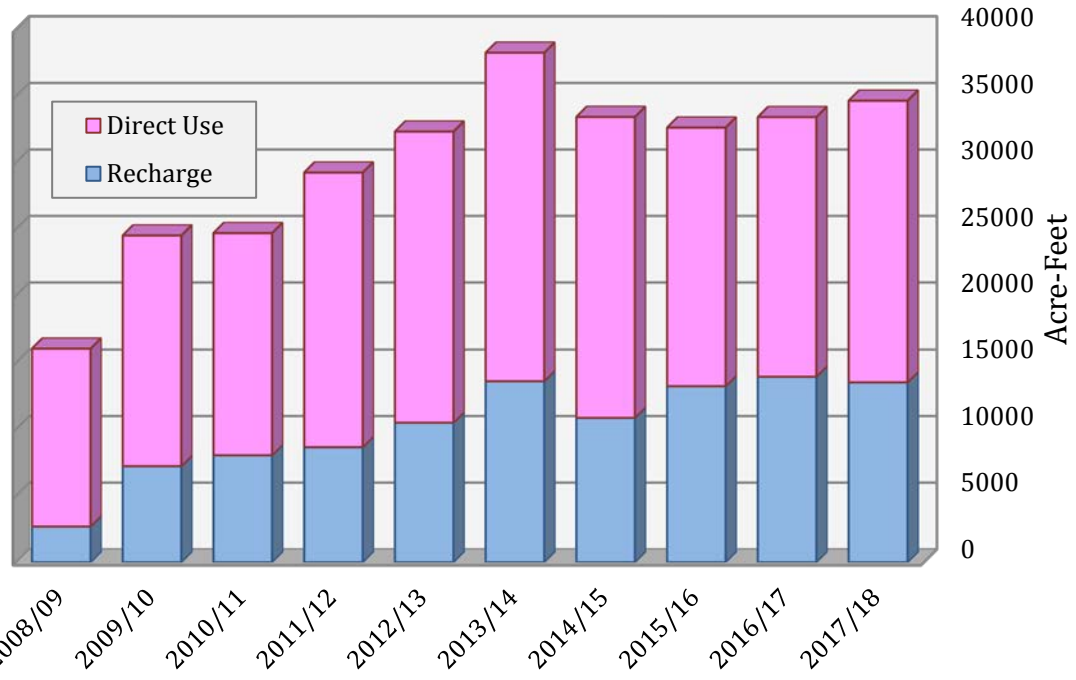

Figure 2 – Historical Recycled Water Direct Use and Groundwater Recharge

DEMANDS BY USE TYPE

Delivered recycled water was beneficially reused for a variety of applications including landscape irrigation, agricultural irrigation, industrial process water, groundwater recharge and construction. Table 1 and Figure 3 show the 2017/18 recycled water demand by use type.

Table 1 – Recycled Water Demand by Use Type for 2017/18

Type of Use	Demand (AF)	Percent of Demand
Recharge	13,510	39%
Agriculture	8,976	26%
Landscape	10,138	29%
Industrial	1,271	4%
Construction	746	2%
Total Demand	34,642	100%

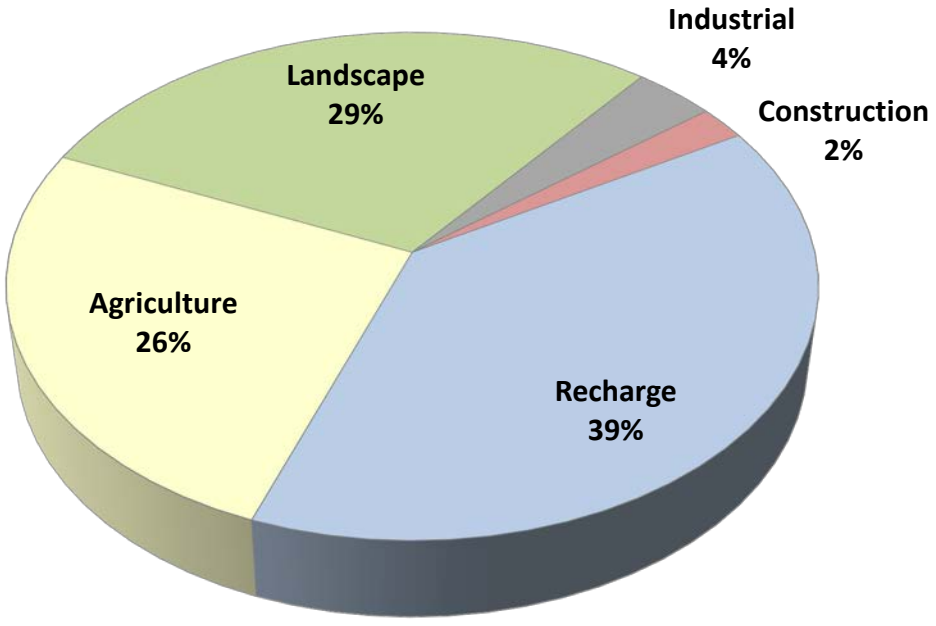

Figure 3 – Recycled Water Demand by Use Type for 2017/18

RETAIL DEMANDS

IEUA is the wholesale recycled water provider to its member agencies, which in turn are retail agencies that directly serve their customers. IEUA member agencies which served recycled water in 2017/18 include:

- City of Chino,
- City of Chino Hills,
- City of Ontario,
- Cucamonga Valley Water District (CVWD),
- Montclair (through MVWD),
- Fontana (through FWC), and
- City of Upland

Monte Vista Water District (MVWD) and Fontana Water Company (FWC) are the water retailers in the Cities of Montclair and Fontana, respectively, but are not IEUA member agencies. MVWD and FWC retail recycled water obtained from their overlying cities which are IEUA member agencies. San Bernardino County is currently a direct use customer of IEUA based on long standing historical contracts.

Table 2 show the recycled water demand by agency. Each agency's total includes its direct use and its allocation from IEUA for recycled water groundwater recharge based on IEUA's Regional Sewage Service Contract.

Table 2 –Recycled Water Demand by Agency for 2017/18

Retail Agency	Direct Use (AF)	Recharge Allocation (AF)	Agency Total (AF)
Chino	6,481	0	6,481
Chino Hills	1,857	1,360	3,217
CVWD	1,262	3,802	5,064
Fontana/FWC	158	2,943	3,100
Montclair/MVWD	318	657	975
Ontario	9,653	3,315	12,968
Upland	695	1,434	2,129
IEUA	448	0	448
San Bernardino County	261	0	261
Subtotal	**21,132**	**13,510**	**34,642**

Chino exceeded Base Entitlement per Resolution 2016-6-17

CUSTOMERS DEMANDS

Appendix C lists the recycled water direct use customers of each retail agency and their demands for the fiscal year. Table 3 lists the top ten largest direct reuse customer sites for the fiscal year (excluding groundwater recharge sites). During 2017/18, seventy-five (75) new connections were made to the recycled water system with a total new demand estimated at 305 AFY. Connected new demand is the anticipated annual usage based on land size and previous potable water usage history.

Table 3 –Top 10 Recycled Water Customers for 2017/18

Customer	Use (AF)	Type of Use	Retailer
Cleveland Farm	3,466	Agricultural	Ontario
GH Dairy	1,192	Agricultural	Ontario
New Indy Ontario	881	Industrial	Upland
Cal Poly Pomona	841	Agricultural	Chino
Superior Sod	795	Agricultural	Chino
Murai Farm	744	Agricultural	Ontario
Weststeyn Dairy	733	Agricultural	Chino
Whispering Lakes Golf Course	729	Landscape	Ontario
Los Serranos Golf Course	468	Landscape	Chino Hills
Upland Hills Country Club	394	Landscape	Upland
Subtotal	**10,244**		

ECONOMIC AND ENVIRONMENTAL IMPACTS

The 34,642 AF of recycled water used during the fiscal year is the equivalent of the water supply for roughly 45,221 homes. The use of recycled water reduces the need to pump State Water Project water over the Tehachapi Mountains, an equivalent net energy demand reduction of 2,657 kilowatt-hours (kWh) per AF, and an overall reduction of approximately 79 percent in carbon dioxide emissions.

IEUA's wholesale recycled water rate to its member agencies for 2017/18 was $470/AF for direct usage and $530/AF for recharge.

HISTORY

Early water recycling efforts in the 1970s by IEUA involved irrigation at the Whispering Lakes Golf Course adjacent to RP-1 in Ontario and at the El Prado Park and Golf Course in Chino. In the 1980s, recycled water continued to be an integral part of IEUA planning with implementation of the CCWRF and RP-4 recycling plants. These two recycling plants were sited specifically at higher elevations to reduce recycling plants water pumping costs. A backbone recycled water distribution system was installed in Chino and Chino Hills from CCWRF in 1997 and was initially operated by IEUA under Ordinance No. 63. This system was later turned over to the City of Chino and the City of Chino Hills and forms the core of the recycled water distribution network operated by these two cities.

The first major regional pipeline was constructed in 1995 and served the dual purpose of a regional recycled water distribution pipeline and an outfall allowing RP-4 effluent to be discharged with RP-1 effluent into Cucamonga Creek. The RP-4 outfall was designed as a pressurized system so that water could be pumped up from RP-1 to RP-4 as well as flow down in the opposite direction from RP-4 to RP-1 and the creek outfall.

In 1999, IEUA began groundwater recharge with recycled water at Ely Basin. The initial Ely Basin project was followed by the Chino Basin Watermaster's (CBWM) development of the Optimum Basin Management Program (OBMP) and the region's efforts (including IEUA's) to implement the OBMP. In 2000, the OBMP identified recycled water use as a critical component in drought-proofing and maintaining the region's economic growth. With imported water rates increasing and long-term supply reliability declining, the region committed to aggressively and proactively address regional impacts. The OBMP set the path for the development of a regional recycled water distribution system and a Recycled Water Implementation Plan.

The use of recycled water presented several advantages to IEUA and its member agencies: it is one of the most significant unused local water supplies; it is reliable during drought and climate change conditions; and it requires significantly less energy than imported water to deliver to customers thus reduces greenhouse gas emissions. IEUA in partnership with its member agencies and CBWM invested approximately $625 million since 2000 to increase the availability of local water supplies through water recycling, conservation, recharge improvements, the MWD groundwater storage and recovery project, the Chino Desalter, and other water management programs.

In 2002, IEUA Board of Directors adopted Ordinance No. 75, the Mandatory Use Ordinance, to establish incentives and encourage recycled water use from the regional distributions system. Also in 2002, the CBWM, Chino Basin Water Conservation District (CBWCD), San Bernardino

County Flood Control District (SBCFCD) and IEUA joined forces to greatly expand groundwater recharge capacity through the Chino Basin Facilities Improvement Program.

In 2005, IEUA was permitted by the Regional Water Quality Control Board to operate its recycled water groundwater recharge programs at five additional recharge basins (Banana, Hickory, Etiwanda Conservation Ponds, Declez, RP3, and Turner basins). In 2007, IEUA was permitted to operate its recycled water groundwater recharge program at seven more recharge sites (Brooks, 8th Street, Victoria, Lower Day, San Sevaine, Etiwanda Spreading Grounds (later reconfigured as the Etiwanda Debris Basin) and Ely Basins. The 2007 permit was amended in 2009 to modify how IEUA tracks diluent water and recycled water blending, which effectively increased IEUA's ability to recharge using recycled water.

In November 2007, IEUA and its member agencies unanimously adopted the Three Year Recycled Water Business Plan. IEUA and its member agencies committed to implementing the plan, which laid out a focused and cost-effective approach to rapidly increase the availability and use of recycled water within IEUA's service area.

Based on the series of regional decisions since 2000, over $350 million was invested into the implementation of a robust Recycled Water Program. The region has achieved program success by leveraging heavily on grant funding and loans. With unanimous regional support, annual recycled water use grew from approximately 5,000 AF in 2004/05 to 38,251 AF in FY 2013/14. Over the past four fiscal years, recycled water demand has fallen slightly and was 34,642 AF in 2017/18 and has been primarily driven by land use conversion from agriculture to urban.

TREATMENT PLANTS

IEUA owns and operates five regional water recycling facilities: RP-1, RP-2, RP-4, RP-5, and CCWRF. Of the treatment plants, RP-2 does not have any liquid treatment processes, and as such does not produce any recycled water. The combined treatment capacity of the remaining four plants is approximately 85 MGD. With the proposes plant expansion of RP-5, an additional 15 MGD average capacity will be achieved which will increase the combined treatment capacity to approximately 100 MGD.

APPENDIX A

RECYCLED WATER

EFFLUENT MONITORING DATA

FOR CALENDAR YEAR 2017

RP-1 (M-001A* & M-001B) Effluent Monitoring Data — **Table No. 3a**

	Flow			EC			pH			BOD_5				TSS				TOC			TDS			TIN			TN			NH_3-N (grab)		
	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
Date	MGD			µmhos/cm			unit			mg/L			%	mg/L			%	mg/L			mg/L			mg/L			mg/L			mg/L		
Limit>>>							6.5 -8.5			20			15	20			15													4.5		
Jan-17	3.0	2.4	3.6	964	779	1,117	7.0	6.7	7.1	<2	<2	<2	0.5	<2	<2	<2	0.5	5.7	4.7	7.0	501	492	512	6.7	4.6	9.4	8.4	7.3	10.5	<0.1	<0.1	<0.1
Feb-17	2.3	0.0	3.1	1,066	882	1,224	7.1	6.9	7.7	<2	<2	<2	0.5	<2	<2	2	0.5	6.4	5.2	7.4	520	514	526	7.7	5.8	10.3	9.0	7.9	9.9	<0.1	<0.1	<0.1
Mar-17	0.0	0.0	0.0				7.2	7.1	7.3	<2	<2	<2	0.4	<2	<2	<2	0.5	6.0	5.4	6.8				5.7	4.3	6.9	7.4	6.6	8.6	<0.1	<0.1	<0.1
Apr-17	0.1	0.0	1.2	983	879	1,075	7.1	7.0	7.3	<2	<2	<2	0.4	<2	<2	<2	0.4	6.3	5.8	6.6				5.4	2.7	8.5	6.3	5.0	7.5	<0.1	<0.1	<0.1
May-17	0.0	0.0	0.0				7.2	6.6	7.2	<2	<2	<2	0.5	<2	<2	<2	0.4	5.9	5.2	6.4				6.4	3.3	10.3	7.6	4.7	10.3	<0.1	<0.1	<0.1
Jun-17	2.6	0.0	4.1	903	856	1,120	7.2	7.1	7.3	<2	<2	2	0.4	<2	<2	<2	0.4	5.8	5.4	6.2	520	520	520	5.6	2.8	8.1	5.9	4.4	6.7	<0.1	<0.1	<0.1
Jul-17	2.6	0.0	5.4	790	598	915	7.1	6.7	7.3	<2	<2	<2	0.4	<2	<2	3	0.5	5.6	5.2	5.9	502	458	530	7.6	2.8	10.9	7.9	3.7	10.6	<0.1	<0.1	<0.1
Aug-17	2.5	1.7	5.7	823	588	1,004	7.1	6.9	7.2	<2	<2	<2	0.5	<2	<2	<2	0.5	5.5	5.2	5.8	509	490	518	6.4	4.9	9.1	6.1	5.2	6.6	<0.1	<0.1	<0.1
Sep-17	3.5	2.0	7.0	703	517	978	7.0	6.5	7.2	<2	<2	<2	0.6	<2	<2	<2	0.6	5.7	5.1	6.2	497	490	510	6.1	4.7	7.5	6.8	5.9	8.2	<0.1	<0.1	<0.1
Oct-17	3.2	2.9	6.0	758	458	1,787	6.9	6.6	7.1	<2	<2	<2	0.6	<2	<2	<2	0.6	5.3	5.1	7.1	486	470	500	6.4	4.2	8.3	6.8	6.1	8.3	<0.1	<0.1	<0.1
Nov-17	2.8	1.0	5.0	745	720	771	6.8	6.7	7.0	<2	<2	<2	0.5	<2	<2	<2	0.5	5.5	5.1	6.1	475	468	484	8.3	6.4	12.1	8.6	7.7	9.6	<0.1	<0.1	<0.1
Dec-17	4.2	0.0	5.1	754	655	1,003	6.9	6.8	7.3	<2	<2	<2	0.5	<2	<2	<2	0.5	5.9	5.4	6.5	471	436	508	7.2	4.9	11.7	8.2	6.2	11.7	<0.3	<0.1	1.0
Avg	**2.2**	**0.8**	**3.9**	**849**	**693**	**1,099**	**7.1**	**6.8**	**7.2**	**<2**	**<2**	**<2**	**0.5**	**<2**	**<2**	**<2**	**0.5**	**5.8**	**5.2**	**6.5**	**498**	**482**	**512**	**6.6**	**4.3**	**9.4**	**7.4**	**5.9**	**9.0**	**<0.1**	**<0.1**	**<0.2**
Min	**0.0**	**0.0**	**0.0**	**703**	**458**	**771**	**6.8**	**6.5**	**7.0**	**<2**	**<2**	**<2**	**0.4**	**<2**	**<2**	**<2**	**0.4**	**5.3**	**4.7**	**5.8**	**471**	**436**	**484**	**5.4**	**2.7**	**6.9**	**5.9**	**3.7**	**6.6**	**<0.1**	**<0.1**	**<0.1**
Max	**4.2**	**2.9**	**7.0**	**1,066**	**882**	**1,787**	**7.2**	**7.1**	**7.7**	**<2**	**<2**	**2**	**0.6**	**<2**	**<2**	**3**	**0.6**	**6.4**	**5.8**	**7.4**	**520**	**520**	**530**	**8.3**	**6.4**	**12.1**	**9.0**	**7.9**	**11.7**	**<0.3**	**<0.1**	**1.0**

***M-001A is the compliance point for continuous monitoring parameters, TDS, and toxicity.**

RP-1/RP-4 (M-002A) Effluent Monitoring Data — **Table No. 3b**

	Flow			EC			pH			BOD_5				TSS				TOC			TDS			TIN			TN			NH_3-N (grab)		
	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
Date	MGD			µmhos/cm			unit			mg/L			%	mg/L			%	mg/L			mg/L			mg/L			mg/L			mg/L		
Limit>>>							6.5 -8.5			20			15	20			15													4.5		
Jan-17	28.4	19.6	39.2	834	807	870	7.1	6.6	7.6	<2	<2	2	0.5	<2	<2	<2	0.5	5.5	4.5	6.6	493	474	510	6.6	4.5	9.4	7.6	7.6	7.6	<0.1	<0.1	<0.1
Feb-17	24.4	15.1	35.1	739	680	812	6.9	6.7	7.0	<2	<2	<2	0.5	<2	<2	<2	0.5	6.2	5.0	7.0	480	456	508	7.4	5.9	10.2	9.2	9.2	9.2	<0.1	<0.1	<0.1
Mar-17	5.1	0.8	14.3	744	691	830	7.0	6.7	7.1	<2	<2	<2	0.4	<2	<2	<2	0.5	5.7	5.2	6.6	479	466	496	5.5	4.2	6.7	8.3	8.3	8.3	<0.1	<0.1	<0.1
Apr-17	3.0	1.0	15.9	779	718	828	6.9	6.7	7.1	<2	<2	<2	0.4	<2	<2	<2	0.5	6.0	5.6	6.3	488	476	494	5.4	2.4	8.7	7.4	7.4	7.4	<0.1	<0.1	<0.1
May-17	2.0	0.3	6.6	711	659	764	6.9	6.6	7.1	<2	<2	<2	0.5	<2	<2	<2	0.5	5.7	5.1	6.2	477	470	486	5.7	3.0	9.6	6.2	6.2	6.2	<0.1	<0.1	<0.1
Jun-17	0.6	0.0	7.7	734	693	780	6.9	6.6	7.1	<2	<2	2	0.5	<2	<2	<2	0.5	5.5	5.1	5.8	504	488	518	5.0	2.3	8.6	5.2	5.2	5.2	<0.1	<0.1	<0.1
Jul-17	0.5	0.0	3.3	755	692	835	6.9	6.6	7.1	<2	<2	<2	0.4	<2	<2	<2	0.5	5.2	4.9	5.5	483	454	506	6.8	2.3	9.9	4.6	4.6	4.6	<0.1	<0.1	<0.1
Aug-17	2.5	0.0	8.3	712	671	767	6.9	6.5	7.0	<2	<2	2	0.5	<2	<2	<2	0.5	5.2	4.8	5.5	459	438	484	5.5	4.0	7.3	6.1	6.1	6.1	<0.1	<0.1	<0.1
Sep-17	3.3	0.1	7.3	692	654	729	6.9	6.5	7.1	<2	<2	<2	0.6	<2	<2	<2	0.6	5.4	4.8	6.1	456	438	466	5.5	3.5	8.0	5.5	5.5	5.5	<0.1	<0.1	<0.1
Oct-17	3.6	0.1	8.6	835	671	964	6.9	6.5	7.0	<2	<2	<2	0.6	<2	<2	<2	0.6	5.0	4.8	5.3	439	428	454	6.1	4.2	9.0	7.9	7.9	7.9	<0.1	<0.1	<0.1
Nov-17	7.8	2.1	11.8	718	680	753	6.8	6.6	7.0	<2	<2	<2	0.5	<2	<2	<2	0.5	5.2	4.7	5.6	459	448	470	6.3	4.4	10.2	6.0	6.0	6.0	<0.1	<0.1	0.1
Dec-17	4.9	0.1	10.2	708	632	845	6.8	6.5	7.3	<2	<2	<2	0.5	<2	<2	<2	0.5	5.6	4.8	6.4	462	446	488	7.5	5.9	11.5	7.7	7.7	7.7	<0.1	<0.1	<0.1
Avg	**7.2**	**3.3**	**14.0**	**747**	**687**	**815**	**6.9**	**6.6**	**7.1**	**<2**	**<2**	**<2**	**0.5**	**<2**	**<2**	**<2**	**0.5**	**5.5**	**4.9**	**6.1**	**473**	**457**	**490**	**6.1**	**3.9**	**9.1**	**6.8**	**6.8**	**6.8**	**<0.1**	**<0.1**	**<0.1**
Min	**0.5**	**0.0**	**3.3**	**692**	**632**	**729**	**6.8**	**6.5**	**7.0**	**<2**	**<2**	**<2**	**0.4**	**<2**	**<2**	**<2**	**0.5**	**5.0**	**4.5**	**5.3**	**439**	**428**	**454**	**5.0**	**2.3**	**6.7**	**4.6**	**4.6**	**4.6**	**<0.1**	**<0.1**	**<0.1**
Max	**28.4**	**19.6**	**39.2**	**835**	**807**	**964**	**7.1**	**6.7**	**7.6**	**<2**	**<2**	**2**	**0.6**	**<2**	**<2**	**<2**	**0.6**	**6.2**	**5.6**	**7.0**	**504**	**488**	**518**	**7.5**	**5.9**	**11.5**	**9.2**	**9.2**	**9.2**	**<0.1**	**<0.1**	**0.1**

RP-5 (M-003) Effluent Monitoring Data — **Table No. 3c**

	Flow			EC			pH			BOD_5				TSS				TOC			TDS			TIN			TN			NH_3-N (grab)		
	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
Date	MGD			µmhos/cm			unit			mg/L			%	mg/L			%	mg/L			mg/L			mg/L			mg/L			mg/L		
Limit>>>							6.5 -8.5			20			15	20			15													4.5		
Jan-17	5.5	3.7	8.5	993	870	1,113	6.8	6.7	7.0	<2	<2	<2	0.5	<2	<2	2	0.5	5.1	4.6	6.0	513	504	520	6.2	4.0	8.7	8.0	8.0	8.0	<0.1	<0.1	<0.1
Feb-17	4.7	2.9	6.6	1,051	1,000	1,142	6.9	6.8	7.1	<2	<2	2	0.4	<2	<2	2	0.4	5.5	5.2	6.0	542	536	550	6.3	5.0	7.2	7.3	7.3	7.3	<0.1	<0.1	0.2
Mar-17	5.7	4.7	7.6	1,098	885	1,233	7.0	6.7	7.1	<2	<2	<2	0.4	<2	<2	2	0.5	5.7	5.1	6.2	523	510	532	5.2	4.0	6.9	6.8	6.8	6.8	<0.1	<0.1	<0.1
Apr-17	3.7	1.4	5.9	936	881	1,096	6.9	6.6	7.1	<2	<2	2	0.5	<2	<2	3	0.6	5.6	5.0	6.5	515	504	526	6.5	5.5	7.8	7.3	7.3	7.3	<0.1	<0.1	<0.1
May-17	3.3	1.8	4.9	1,043	908	1,104	6.9	6.7	7.1	<2	<2	<2	0.7	<2	<2	3	0.9	5.1	4.6	5.8	520	516	522	7.0	6.0	8.3	8.0	8.0	8.0	<0.1	<0.1	<0.1
Jun-17	1.5	0.0	3.2	1,176	1,057	1,308	7.0	6.7	7.4	<2	<2	<2	0.4	<2	<2	4	0.4	5.4	4.8	6.7	539	496	576	6.4	4.9	7.7	7.3	7.3	7.3	<0.1	<0.1	<0.1
Jul-17	0.4	0.0	1.6	1,198	1,141	1,268	7.2	6.7	7.5	<2	<2	3	0.5	<2	<2	4	0.7	4.8	4.5	5.7	538	536	540	6.8	5.6	7.8	6.8	6.8	6.8	<0.1	<0.1	<0.1
Aug-17	0.0	0.0	0.0	1,154	1,069	1,188	7.2	7.0	7.4	<2	<2	<2	0.6	<2	<2	<2	0.6	4.6	4.4	5.0				6.1	5.1	7.8						
Sep-17	0.7	0.0	2.2	1,148	1,113	1,203	7.1	6.6	7.4	<2	<2	<2	0.6	<2	<2	2	0.5	4.7	4.0	5.7	515	506	524	5.9	5.2	6.9	5.7	5.7	5.7	<0.1	<0.1	<0.1
Oct-17	2.5	1.2	4.6	1,159	1,120	1,186	7.0	6.7	7.2	<2	<2	<2	0.6	<2	<2	6	0.6	4.4	4.0	4.8	500	488	514	6.1	5.3	7.3	5.4	5.4	5.4	<0.1	<0.1	<0.1
Nov-17	4.1	1.9	7.4	1,096	1,058	1,131	7.0	6.9	7.3	<2	<2	2	0.5	<2	<2	5	0.6	4.7	4.1	5.3	493	482	518	5.9	4.6	7.0	6.5	6.5	6.5	<0.1	<0.1	<0.1
Dec-17	3.0	1.3	5.8	1,037	1,003	1,109	6.9	6.7	7.1	<2	<2	<2	0.6	<4	<2	23	0.6	4.8	4.3	5.3	470	440	486	6.1	4.6	8.0	7.1	7.1	7.1	<0.1	<0.1	<0.1
Avg	**2.9**	**1.6**	**4.9**	**1,091**	**1,009**	**1,173**	**7.0**	**6.7**	**7.2**	**<2**	**<2**	**<2**	**0.5**	**<2**	**<2**	**5**	**0.6**	**5.0**	**4.5**	**5.7**	**515**	**502**	**528**	**6.2**	**5.0**	**7.6**	**6.9**	**6.9**	**6.9**	**<0.1**	**<0.1**	**<0.1**
Min	**0.0**	**0.0**	**0.0**	**936**	**870**	**1,096**	**6.8**	**6.6**	**7.0**	**<2**	**<2**	**<2**	**0.4**	**<2**	**<2**	**<2**	**0.4**	**4.4**	**4.0**	**4.8**	**470**	**440**	**486**	**5.2**	**4.0**	**6.9**	**5.4**	**5.4**	**5.4**	**<0.1**	**<0.1**	**<0.1**
Max	**5.7**	**4.7**	**8.5**	**1,198**	**1,141**	**1,308**	**7.2**	**7.0**	**7.5**	**<2**	**<2**	**3**	**0.7**	**<4**	**<2**	**23**	**0.9**	**5.7**	**5.2**	**6.7**	**542**	**536**	**576**	**7.0**	**6.0**	**8.7**	**8.0**	**8.0**	**8.0**	**<0.1**	**<0.1**	**0.2**

***Lab EC data used**

CCWRF (M-004) Effluent Monitoring Data — **Table No. 3d**

	Flow			EC			pH			BOD_5				TSS				TOC			TDS			TIN			TN			NH_3-N (grab)		
	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg Dis	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
Date	MGD			µmhos/cm			unit			mg/L			%	mg/L			%	mg/L			mg/L			mg/L			mg/L			mg/L		
Limit>>>							6.5 -8.5			20			15	20			15													4.5		
Jan-17	8.0	3.5	11.0	893	787	948	6.9	6.7	7.0	<2	<2	<2	0.6	<2	<2	3	0.8	5.2	4.5	5.7	505	464	532	6.3	4.6	11.8	8.4	8.4	8.4	<0.1	<0.1	<0.1
Feb-17	8.1	6.6	9.6	900	846	940	7.0	6.7	7.1	<2	<2	<2	0.5	<2	<2	5	0.6	5.5	5.1	5.9	518	508	524	4.7	3.6	6.5	5.7	5.7	5.7	<0.1	<0.1	<0.1
Mar-17	6.0	4.0	8.0	851	821	888	7.0	6.7	7.1	<2	<2	<2	0.5	<2	<2	3	0.6	5.5	4.8	6.3	495	486	508	5.1	3.6	5.8	6.7	6.7	6.7	<0.1	<0.1	<0.1
Apr-17	2.1	1.0	6.1	882	854	915	6.9	6.5	7.1	<2	<2	2	0.6	3	<2	10	1.5	5.7	5.2	7.7	508	498	518	5.2	3.6	6.1	4.9	4.9	4.9	<0.1	<0.1	<0.1
May-17	2.6	0.5	5.2	853	727	949	6.9	6.6	7.1	<2	<2	3	0.8	<2	<2	4	2.0	5.3	4.6	6.1	509	496	520	4.1	2.8	5.2	5.7	5.7	5.7	<0.1	<0.1	<0.1
Jun-17	1.0	0.6	1.3	831	749	911	6.8	6.6	7.0	<2	<2	<2	0.4	<2	<2	<2	0.8	5.8	5.4	6.2	503	496	512	4.6	3.9	5.5	5.3	5.3	5.3	0.2	<0.1	0.3
Jul-17	1.4	0.3	3.5	873	713	956	6.8	6.5	7.7	<2	<2	<2	0.2	<2	<2	3	0.3	6.0	5.5	6.4	485	382	550	5.3	3.9	6.8	6.6	6.6	6.6	<0.1	<0.1	<0.1
Aug-17	0.0	0.0	0.0	838	800	919	7.2	7.0	7.3	<2	<2	<2	0.4	<2	<2	<2	0.4	6.7	5.8	7.6				5.8	5.0	7.6						
Sep-17	0.0	0.0	0.0	818	790	875	7.2	7.1	7.3	<2	<2	<2	0.4	<2	<2	<2	0.5	5.9	5.5	6.9				5.7	5.1	6.7						
Oct-17	1.4	0.0	2.2	859	806	890	6.9	6.7	7.2	<2	<2	<2	0.5	<2	<2	<2	0.5	5.5	4.3	6.0	497	464	526	5.6	4.5	7.0	6.0	6.0	6.0	<0.1	<0.1	<0.1
Nov-17	1.6	0.8	3.4	850	805	894	6.9	6.6	7.1	<2	<2	<2	0.5	<2	<2	<2	0.5	5.3	5.0	5.6	511	476	540	5.4	3.6	6.3	6.3	6.3	6.3	<0.1	<0.1	<0.1
Dec-17	1.8	1.0	4.6	840	801	889	6.8	6.6	7.0	<2	<2	2	0.4	<2	<2	<2	0.4	5.7	4.9	6.6	472	460	482	5.5	4.8	7.8	5.8	5.8	5.8	<0.1	<0.1	<0.1
Avg	**2.8**	**1.5**	**4.6**	**857**	**792**	**915**	**6.9**	**6.7**	**7.2**	**<2**	**<2**	**<2**	**0.5**	**<2**	**<2**	**3**	**0.7**	**5.7**	**5.0**	**6.4**	**500**	**473**	**521**	**5.3**	**4.1**	**6.9**	**6.1**	**6.1**	**6.1**	**<0.1**	**<0.1**	**<0.1**
Min	**0.0**	**0.0**	**0.0**	**818**	**713**	**875**	**6.8**	**6.5**	**7.0**	**<2**	**<2**	**<2**	**0.2**	**<2**	**<2**	**<2**	**0.3**	**5.2**	**4.3**	**5.6**	**472**	**382**	**482**	**4.1**	**2.8**	**5.2**	**4.9**	**4.9**	**4.9**	**<0.1**	**<0.1**	**<0.1**
Max	**8.1**	**6.6**	**11.0**	**900**	**854**	**956**	**7.2**	**7.1**	**7.7**	**<2**	**<2**	**3**	**0.8**	**3**	**<2**	**10**	**2.0**	**6.7**	**5.8**	**7.7**	**518**	**508**	**550**	**6.3**	**5.1**	**11.8**	**8.4**	**8.4**	**8.4**	**0.2**	**<0.1**	**0.3**

RP-1 (M-001A) Effluent Monthly Toxicity Data **Table No. 4a**

CHRONIC TOXICITY - SURVIVAL (*Ceriodaphnia Dubia*)						CHRONIC TOXICITY - REPRODUCTION (*Ceriodaphnia dubia*)			
START DATE		END DATE	NOEC	TUc	2-Mo Median TUc	NOEC	TUc	2-Mo Median TUc	IC_{25}
01/08/17	thru	01/13/17	100	1.0	1.0	100	1.0	1.0	100
02/05/17	thru	02/09/17	100	1.0	1.0	100	1.0	1.0	100
					No Discharge During March 2017				
					No Discharge During April 2017*				
					No Discharge During May 2017				
06/22/17**	thru	06/28/17	100	1.0	1.0	100	1.0	1.0	100
07/16/17	thru	07/22/17	100	1.0	1.0	100	1.0	1.0	100
08/07/17	thru	08/13/17	100	1.0	1.0	100	1.0	1.0	100
09/02/17	thru	09/09/17	100	1.0	1.0	100	1.0	1.0	100
09/30/17	thru	10/07/17	100	1.0	1.0	100	1.0	1.0	100
11/04/17	thru	11/10/17	100	1.0	1.0	100	1.0	1.0	100
12/02/17	thru	12/08/17	100	1.0	1.0	100	1.0	1.0	100

*Discharge during the month of April 2017 was not a long enough duration to run a bioassay.

RP-1 (M-002A) Effluent Monthly Toxicity Data **Table No. 4b**

CHRONIC TOXICITY - SURVIVAL (*Ceriodaphnia Dubia*)						CHRONIC TOXICITY - REPRODUCTION (*Ceriodaphnia dubia*)			
START DATE		END DATE	NOEC	TUc	2-Mo Median TUc	NOEC	TUc	2-Mo Median TUc	IC_{25}
01/01/17	thru	01/06/17	100	1.0	1.0	100	1.0	1.0	100
02/12/17	thru	02/16/17	100	1.0	1.0	100	1.0	1.0	100
03/05/17	thru	03/10/17	100	1.0	1.0	100	1.0	1.0	100
04/02/17	thru	04/06/17	100	1.0	1.0	100	1.0	1.0	100
05/29/17**	thru	06/02/17	100	1.0	1.0	100	1.0	1.0	100
06/22/17**	thru	06/28/17	100	1.0	1.0	100	1.0	1.0	100
07/08/17	thru	07/14/17	100	1.0	1.0	100	1.0	1.0	100
08/12/17	thru	08/19/17	100	1.0	1.0	100	1.0	1.0	100
09/16/17	thru	09/21/17	100	1.0	1.0	100	1.0	1.0	100
09/30/17	thru	10/07/17	100	1.0	1.0	100	1.0	1.0	100
11/04/17	thru	11/10/17	100	1.0	1.0	100	1.0	1.0	100
12/02/17	thru	12/08/17	100	1.0	1.0	100	1.0	1.0	100

** MBC Laboratory

RP-5 (M-003) Effluent Monthly Toxicity Data **Table No. 4c**

			CHRONIC TOXICITY - SURVIVAL (*Ceriodaphnia Dubia*)			CHRONIC TOXICITY - REPRODUCTION (*Ceriodaphnia dubia*)			
START DATE		END DATE	NOEC	TUc	2-Mo Median TUc	NOEC	TUc	2-Mo Median TUc	IC_{25}
01/01/17	thru	01/06/17	100	1.0	1.0	100	1.0	1.0	100
02/12/17	thru	02/16/17	100	1.0	1.0	100	1.0	1.0	100
03/05/17	thru	03/10/17	100	1.0	1.0	100	1.0	1.0	100
04/02/17	thru	04/06/17	100	1.0	1.0	100	1.0	1.0	100
05/29/17*	thru	06/02/17	100	1.0	1.0	100	1.0	1.0	100
06/22/17*	thru	06/28/17	100	1.0	1.0	100	1.0	1.0	100
07/16/17	thru	07/24/17	100	1.0	1.0	100	1.0	1.0	100
					No Discharge During August 2017				
09/23/17	thru	09/29/17	100	1.0	1.0	100	1.0	1.0	100
10/22/17	thru	10/28/17	100	1.0	1.0	100	1.0	1.0	100
11/11/17	thru	11/16/17	100	1.0	1.0	100	1.0	1.0	100
12/09/17	thru	12/15/17	100	1.0	1.0	100	1.0	1.0	100

CCWRF (M-004) Effluent Monthly Toxicity Data **Table No. 4d**

			CHRONIC TOXICITY - SURVIVAL (*Ceriodaphnia Dubia*)			CHRONIC TOXICITY - REPRODUCTION (*Ceriodaphnia dubia*)			
START DATE		END DATE	NOEC	TUc	2-Mo Median TUc	NOEC	TUc	2-Mo Median TUc	IC_{25}
01/15/17	thru	01/20/17	100	1.0	1.0	100	1.0	1.0	100
02/19/17	thru	02/23/17	100	1.0	1.0	100	1.0	1.0	100
03/12/17	thru	03/16/17	100	1.0	1.0	100	1.0	1.0	100
04/16/17	thru	04/21/17	100	1.0	1.0	100	1.0	1.0	100
05/29/17*	thru	06/02/17	100	1.0	1.0	100	1.0	1.0	100
06/22/17*	thru	06/28/17	100	1.0	1.0	100	1.0	1.0	100
07/08/17	thru	07/14/17	100	1.0	1.0	100	1.0	1.0	100
					No Discharge During August 2017				
					No Discharge During September 2017				
10/07/17	thru	10/15/17	100	1.0	1.0	100	1.0	1.0	100
11/18/17	thru	11/24/17	100	1.0	1.0	100	1.0	1.0	100
12/23/17	thru	12/29/17	100	1.0	1.0	100	1.0	1.0	100

* MBC Laboratory

RP-1 (M-001A & M-001B) & RP-1/RP-4 (M-002A) Effluent Monitoring and Coliform Data **Table No. 5a**

	001 Turbidity		002 Turbidity		001 Temp		002 Temp		001 Daily Coliform		001 7-day Median		002 Daily Coliform*		002 7-day Median		001 FLR	001 DT	001 CT	002 FLR	002 DT	002 CT
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Max	Min	Min	Max	Min	Min
Date	NTU		NTU		°C		°C		MPN / 100 mL								gpm/ft^2	min	mg-min/L	gpm/ft^3	min	mg-min/L
Jan-17	0.6	0.8	0.5	0.7	21.9	23.1	19.4	24.8	<4	86	<1	<1	<4	86	<1	<1	4	148	660	4	111	632
Feb-17	0.7	1.0	0.6	0.8	22.7	23.2	23.2	23.8	<1	6	<1	<1	<1	6	<1	<1	4	101	712	4	111	709
Mar-17	0.6	0.7	0.4	0.6			24.5	25.4	<2	46	<1	<1	<2	46	<1	<1	3	147	714	3	142	760
Apr-17	0.6	0.8	0.5	0.7	25.0	25.7	26.0	27.0	<1	2	<1	<1	<1	2	<1	<1	3	163	808	3	133	755
May-17	0.5	0.7	0.5	0.8			27.0	27.8	<1	2	<1	<1	<1	2	<1	<1	3	169	726	3	145	682
Jun-17	0.5	0.7	0.5	0.6	28.4	29.5	29.0	30.4	<1	3	<1	<1	<1	3	<1	<1	3	155	708	3	141	641
Jul-17	0.5	0.6	0.4	1.2	29.9	30.3	30.7	31.2	<1	1	<1	<1	<1	1	<1	<1	3	157	722	3	136	685
Aug-17	0.5	0.7	0.4	0.6	30.1	30.8	30.0	30.8	<1	1	<1	<1	<1	1	<1	<1	3	146	592	3	139	543
Sep-17	0.4	0.6	0.4	0.7	29.4	30.8	29.5	30.9	<1	1	<1	<1	<1	1	<1	<1	3	144	539	3	154	574
Oct-17	0.4	0.5	0.4	2.0	28.0	28.8	27.9	28.6	<1	2	<1	<1	<1	2	<1	<1	3	159	579	3	169	527
Nov-17	0.5	0.7	0.5	0.7	26.5	27.3	26.2	27.1	<1	2	<1	<2	<1	2	<1	<2	3	92	457	3	178	532
Dec-17	0.6	0.7	0.5	0.7	24.2	25.7	23.3	25.3	<1	1	<1	1	<1	1	<1	1	3	164	569	3	202	854
Avg	**0.5**	**0.7**	**0.5**	**0.9**	**26.6**	**27.5**	**26.4**	**27.8**	**<1**	**13**	**<1**	**<1**	**<1**	**13**	**<1**	**<1**	**3**	**145**	**642**	**3**	**147**	**658**
Min	**0.4**	**0.5**	**0.4**	**0.6**	**21.9**	**23.1**	**19.4**	**23.8**	**<1**	**1**	**<1**	**<1**	**<1**	**1**	**<1**	**<1**	**3**	**92**	**457**	**3**	**111**	**527**
Max	**0.7**	**1.0**	**0.6**	**2.0**	**30.1**	**30.8**	**30.7**	**31.2**	**<4**	**86**	**<1**	**<2**	**<4**	**86**	**<1**	**<2**	**4**	**169**	**808**	**4**	**202**	**854**

Requirements for disinfected tertiary-treated recycled water Title 22 Compliance: Min: 450 mg/L-min CT & 90 min DT

*Beginning August 2009, 002 effluent coliform compliance point at M-001B (splitter box).

RP-5 (M-003) & CCWRF (M-004) Effluent Monitoring and Coliform Data **Table No. 5b**

	003 Turbidity		004 Turbidity		003 Temp		004 Temp		003 Daily Coliform		003 7-day Median		004 Daily Coliform		004 7-day Median		003 FLR	003 DT	003 CT	004 FLR	004 DT	004 CT
	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Max	Min	Min	Max	Min	Min
Date	NTU		NTU		°C		°C		MPN / 100 mL								gpm/ft^2	min	mg-min/L	gpm/ft^3	min	mg-min/L
Jan-17	0.8	1.0	0.6	1.0	21.6	23.0	19.8	21.2	<1	3	<1	<1	<1	8	<1	<1	3	123	515	2	110	462
Feb-17	0.8	1.0	0.9	1.3	22.6	22.9	20.9	22.0	<1	1	<1	<1	<1	1	<1	<1	3	154	480	2	104	490
Mar-17	1.0	1.2	0.6	0.9	24.3	25.2	21.7	24.0	<1	<1	<1	<1	<1	1	<1	<1	3	161	501	3	118	484
Apr-17	1.0	1.4	0.6	0.7	24.8	25.8	20.8	23.6	<1	2	<1	<1	<1	10	<1	<1	3	164	485	3	129	492
May-17	0.9	1.7	0.8	1.2	24.6	24.8	23.0	24.8	<2	20	<1	<1	<1	1	<1	<1	3	147	489	3	118	487
Jun-17	0.6	1.4	0.7	1.0	24.4	24.8	25.7	27.6	<9	165.8	<1	1	<1	1	<1	<1	3	162	485	3	126	479
Jul-17	0.6	0.9	0.7	1.0	24.6	24.7	28.8	30.4	<1	1	<1	<1	<57	1732.9	<1	<1	3	148	543	3	121	560
Aug-17	1.0	1.1	1.0	1.4					<79.1	>2419.6	<1	<1	<2	19.9	<1	<1	3	188	493	2	112	475
Sep-17	0.9	1.4	0.6	0.9	24.7	24.8			<1	1	<1	<1	<1	4.1	<1	<1	3	156	576	2	110	531
Oct-17	0.7	0.8	0.7	1.0	25.6	27.1	26.1	27.0	<1	1	<1	<1	<1	3.1	<1	<1	4	137	500	2	123	552
Nov-17	0.7	1.1	0.4	0.5	25.1	26.6	24.9	25.8	<2	31.8	<1	<2	<1	2	<1	<2	4	137	496	2	132	535
Dec-17	0.7	1.1	0.5	0.7	24.5	24.8	19.0	22.1	<1	1	<1	<1	<1	1	<1	<1	3	99	491	2	128	508
Avg	**0.8**	**1.2**	**0.7**	**1.0**	**24.2**	**25.0**	**23.1**	**24.9**	**<8**	**221**	**<1**	**<1**	**<6**	**149**	**<1**	**<1**	**3**	**148**	**501**	**2**	**119**	**505**
Min	**0.6**	**0.8**	**0.4**	**0.5**	**21.6**	**22.9**	**19.0**	**21.2**	**<1**	**<1**	**<1**	**<1**	**<1**	**1**	**<1**	**<1**	**3**	**99**	**480**	**2**	**104**	**462**
Max	**1.0**	**1.7**	**1.0**	**1.4**	**25.6**	**27.1**	**28.8**	**30.4**	**79**	**2,420**	**<1**	**<2**	**57**	**1,733**	**<1**	**<2**	**4**	**188**	**576**	**3**	**132**	**560**

Requirements for disinfected tertiary-treated recycled water Title 22 Compliance: Min: 450 mg/L-min CT & 90 min DT

RP-1 (M-001A) & RP-1/RP-4 (M-002A) Effluent and Receiving Water (R-002U & R-002D) Data **Table No. 6a**

	M-001A Cl_2 Residual*		M-002A Cl2 Residual*		Upstream Cucamonga Creek (R-002U)										Downstream Cucamonga Creek (R-002D)							
					DO		Temp		pH		TDS	TIN	Total Hardness	TSS	DO		Temp		pH		Total Hardness	TSS
	Avg	Max	Avg	Max	Avg	Min	Avg	Max	Min	Max	Avg	Avg	Avg	Avg	Avg	Min	Avg	Max	Min	Max	Avg	Avg
Date	mg/L				mg/L		°C		unit		mg/L	mg/L	mg/L	mg/L	mg/L		°C		unit		mg/L	mg/L
Jan-17	0.0	0.0	0.0	0.0	13.7	11.6	8.9	12.1	8.4	9.4	454	0.6	125	9	8.7	8.2	18.9	21.7	7.6	7.8	149	1
Feb-17	0.0	0.0	0.0	4.9	13.3	12.8	13.1	15.5	9.1	9.4	374	0.1			8.8	8.4	21.2	22.3	7.4	7.8		
Mar-17			0.0	0.0	12.7	10.2	13.7	17.6	9.2	9.7	144	0.1			9.7	9.3	19.0	20.1	7.8	8.3		
Apr-17	0.0	0.0	0.0	0.0	11.3	10.4	15.9	20.8	8.9	9.7	312	<0.2	148	4	9.9	8.5	19.9	22.1	8.2	8.6	151	2
May-17	0.0	0.0	0.0	0.0	10.8	9.9	19.0	22.2	8.8	9.9	578	<0.2			9.5	8.8	21.1	22.4	8.0	8.7		
Jun-17	0.0	0.0	0.0	0.0	10.5	10.3	19.7	22.4	9.3	9.7	350	0.1			8.9	8.5	21.2	23.2	8.4	8.7		
Jul-17	0.0	0.0	0.0	0.0	11.2	10.3	22.3	23.3	9.2	9.7	590	<0.2	239	12	9.0	8.6	22.9	23.4	8.4	8.6	154	23
Aug-17	0.0	0.0	0.0	0.0	10.4	9.2	22.6	25.2	9.2	9.6	516	1.6			9.3	8.4	24.3	26.3	8.4	8.7		
Sep-17	0.0	0.0	0.0	0.0	10.6	10.1	19.6	22.6	9.0	9.6	402	1.9			9.1	8.8	23.7	25.9	8.2	8.5		
Oct-17	0.0	0.0	0.0	0.0	10.6	9.6	16.5	18.5	9.0	9.5	308	0.1	153	<10	9.0	7.7	21.0	22.7	8.2	8.5	127	<10
Nov-17	0.0	0.0	0.0	0.0	13.3	12.1	14.3	15.6	9.6	10.1	316	0.9			9.5	8.8	21.0	23.3	8.1	8.7		
Dec-17	0.0	0.0	0.0	0.0	13.0	12.4	8.4	9.1	9.1	9.4	240	1.5			10.9	10.1	14.6	17.2	8.2	8.5		
Avg	**0.0**	**0.0**	**0.0**	**0.4**	**11.8**	**10.7**	**16.2**	**18.7**	**9.1**	**9.6**	**382**	**0.6**	**166**	**9**	**9.4**	**8.7**	**20.7**	**22.6**	**8.1**	**8.5**	**145**	**9**
Min	**0.0**	**0.0**	**0.0**	**0.0**	**10.4**	**9.2**	**8.4**	**9.1**	**8.4**	**9.4**	**144**	**0.1**	**125**	**4**	**8.7**	**7.7**	**14.6**	**17.2**	**7.4**	**7.8**	**127**	**1**
Max	**0.0**	**0.0**	**0.0**	**4.9**	**13.7**	**12.8**	**22.6**	**25.2**	**9.6**	**10.1**	**590**	**1.9**	**239**	**12**	**10.9**	**10.1**	**24.3**	**26.3**	**8.4**	**8.7**	**154**	**23**

RP-5 (M-003) & CCWRF (M-004) Effluent and Receiving Water (R-003U, R-003D, & R-004U) Data **Table No. 6b**

	M-003 Cl_2 Residual*		M-004 Cl2 Residual*		Upstream Chino Creek (R-003U)										Downstream Chino Creek (R-003D)								Upstream Chino Creek (R-004U)									
					DO		Temp		pH		TDS	TIN	Total Hardness	TSS	DO		Temp		pH		Total Hardness	TSS	DO		Temp		pH		TDS	TIN	Total Hardness	TSS
	Avg	Max	Avg	Max	Avg	Min	Avg	Max	Min	Max	Avg	Avg	Avg	Avg	Avg	Min	Avg	Max	Min	Max	Avg	Avg	Avg	Min	Avg	Max	Min	Max	Avg	Avg	Avg	Avg
Date	mg/L				mg/L		°C		unit		mg/L	mg/L	mg/L	mg/L	mg/L		°C		unit		mg/L	mg/L	mg/L		°C		unit		mg/L	mg/L	mg/L	mg/L
Jan-17	0.0	0.0	0.0	0.0	10.8	6.2	17.5	22.6	7.8	8.6	508	9.1	151	34	8.4	7.9	17.6	18.3	7.2	7.4	259	4	13.0	10.3	11.7	17.3	8.4	10.9	904	3.0	525	11
Feb-17	0.0	0.0	0.0	0.0	9.7	7.1	21.0	22.8	7.6	8.4	520	4.4			8.4	7.8	20.2	20.7	7.3	7.6			15.3	11.9	15.1	22.5	8.7	9.9	1076	3.8		
Mar-17	0.0	0.0	0.0	0.0	9.7	8.4	21.8	24.5	7.1	8.3	554	2.8			7.7	7.1	22.5	24.0	7.3	7.8			13.1	11.6	17.5	26.3	8.4	9.2	810	0.8		
Apr-17	0.0	0.0	0.0	0.0	12.5	8.3	20.5	25.4	7.3	9.0	674	4.0	312	6	7.8	6.7	22.9	24.0	7.1	7.6	285	3	13.2	11.9	19.0	28.6	8.6	8.9	964	1.4	544	108
May-17	0.0	0.0	0.0	0.0	10.7	9.2	22.4	24.9	6.4	8.6	522	4.7			7.8	7.4	25.7	26.6	7.3	7.4			14.0	12.8	17.5	20.7	6.4	8.9	966	1.2		
Jun-17	0.0	0.0	0.0	0.0	10.1	5.3	25.2	28.7	6.7	8.7	530	6.7			6.6	5.6	24.5	27.2	7.4	7.6			11.7	8.3	25.0	31.6	6.7	9.9	1040	1.0		
Jul-17	0.0	0.0	0.0	0.0	14.5	8.4	29.1	30.0	6.7	8.9	496	3.9	122	20	6.6	5.8	24.1	24.5	7.3	8.3	355	13	14.1	13.0	29.1	32.0	5.6	9.7	862	<0.2	347	34
Aug-17																							9.8	8.2	22.3	25.3	8.0	9.2	654	5.7		
Sep-17	0.0	0.0			11.3	7.0	25.5	27.0	7.9	8.8	504				6.3	6.0	23.4	23.7	7.0	7.8			10.6	8.8	18.5	20.5	8.2	9.3	740	1.1		
Oct-17	0.0	0.0	0.0	0.0	11.3	7.0	25.5	27.0	7.9	8.8	504	6.3	148	<4	6.4	6.0	23.3	27.6	7.4	7.6	322	7	9.4	3.7	21.7	25.8	7.8	9.5	694	2.0	383	3
Nov-17	0.0	0.0	0.0	0.0	10.7	5.9	23.8	25.2	6.1	8.3	506	7.1			7.1	6.9	20.9	22.5	7.6	7.8			11.1	8.4	20.4	24.7	5.4	9.0	792	1.6		
Dec-17	0.0	0.0	0.0	0.0	11.1	7.1	19.8	20.9	7.1	7.7	506	4.8			7.6	7.2	20.0	21.1	7.1	7.8			13.9	10.3	9.7	10.6	8.2	8.6	854	<0.2		
Avg	**0.0**	**0.0**	**0.0**	**0.0**	**11.1**	**7.3**	**22.9**	**25.4**	**7.1**	**8.6**	**529**	**5.4**	**183**	**16**	**7.3**	**6.8**	**22.3**	**23.7**	**7.3**	**7.7**	**305**	**7**	**12.4**	**9.9**	**19.0**	**23.8**	**7.5**	**9.4**	**863**	**1.8**	**450**	**39**
Min	**0.0**	**0.0**	**0.0**	**0.0**	**9.7**	**5.3**	**17.5**	**20.9**	**6.1**	**7.7**	**496**	**2.8**	**122**	**4**	**6.3**	**5.6**	**17.6**	**18.3**	**7.0**	**7.4**	**259**	**3**	**9.4**	**3.7**	**9.7**	**10.6**	**5.4**	**8.6**	**654**	**<0.2**	**347**	**3**
Max	**0.0**	**0.0**	**0.0**	**0.0**	**14.5**	**9.2**	**29.1**	**30.0**	**7.9**	**9.0**	**674**	**9.1**	**312**	**34**	**8.4**	**7.9**	**25.7**	**27.6**	**7.6**	**8.3**	**355**	**13**	**15.3**	**13.0**	**29.1**	**32.0**	**8.7**	**10.9**	**1,076**	**5.7**	**544**	**108**

* A chlorine residual of 0.0 mg/L signifies a positive sodium bisulfite residual and a negative chlorine residual.

RP-1 (REC-001) & RP-4 (REC-002) Recycled Water Data **Table No. 7a**

	REC-001											REC-002										
	Flow	pH	Turbidity	CT	Daily Coliform		7-day Median		BOD	TSS	TDS	Flow	pH	Turbidity	CT	Daily Coliform		7-day Median		BOD	TSS	TDS
	Avg	Avg	Avg	Min	Avg	Max	Avg	Max	Avg	Avg	Avg	Avg	Avg	Avg	Min	Avg	Max	Avg	Max	Avg	Avg	Avg
Date	mgd	unit	NTU	mg-min/L	MPN / 100 mL				mg/L			mgd	unit	NTU	mg-min/L	MPN / 100 mL				mg/L		
Jan-17	1.1	7.0	0.6	660	<4	86	<1	<1	<2	<2	477	6.1	6.9	0.4	921	<1	<1	<1	<1	<2	<2	481
Feb-17	2.1	7.1	0.7	712	<1	6	<1	<1	<2	<2	463	6.6	7.0	0.5	905	<1	<1	<1	<1	<2	<2	444
Mar-17	16.6	7.2	0.6	714	<2	46	<1	<1	<2	<2	456	9.3	6.9	0.5	627	<1	1	<1	<1	<2	<2	426
Apr-17	17.2	7.1	0.6	808	<1	2	<1	<1	<2	<2	471	9.7	6.9	0.5	645	<1	<1	<1	<1	<2	<2	412
May-17	18.4	7.2	0.5	726	<1	2	<1	<1	<2	<2	464	10.0	7.0	0.5	758	<1	<1	<1	<1	<2	<2	406
Jun-17	19.6	7.2	0.5	708	<1	3	<1	<1	<2	<2	465	10.1	7.1	0.4	767	<1	<1	<1	<1	<2	<2	403
Jul-17	21.0	7.1	0.5	722	<1	1	<1	<1	<2	<2	448	9.7	7.0	0.4	929	<1	<1	<1	<1	<2	<2	386
Aug-17	20.2	7.1	0.5	592	<1	1	<1	<1	<2	<2	433	9.7	6.9	0.6	702	<1	1	<1	<1	<2	<2	407
Sep-17	18.6	7.0	0.4	539	<1	1	<1	<1	<2	<2	424	9.5	6.9	0.6	772	<1	5	<1	<1	<2	<2	406
Oct-17	18.4	6.9	0.4	579	<1	2	<1	<1	<2	<2	408	10.0	6.8	0.5	695	<1	<1	<1	<1	<2	<2	384
Nov-17	14.9	6.8	0.5	457	<1	2	<1	<2	<2	<2	444	8.6	6.8	0.6	941	<1	<2	<1	<2	<2	<2	384
Dec-17	16.7	6.9	0.6	569	<1	1	<1	1	<2	<2	445	9.9	6.8	0.5	863	<1	<1	<1	<1	<2	<2	401
Avg	**15.4**	**7.1**	**0.5**	**659**	**<1**	**13**	**<1**	**<1**	**<2**	**<2**	**450**	**9.1**	**6.9**	**0.5**	**796**	**<1**	**<1**	**<1**	**<1**	**<2**	**<2**	**412**
Min	**1.1**	**6.8**	**0.4**	**457**	**<1**	**1**	**<1**	**<1**	**<2**	**<2**	**408**	**6.1**	**6.8**	**0.4**	**627**	**<1**	**<1**	**<1**	**<1**	**<2**	**<2**	**384**
Max	**21.0**	**7.2**	**0.7**	**808**	**<4**	**86**	**<1**	**<2**	**<2**	**<2**	**477**	**10.1**	**7.1**	**0.6**	**941**	**<1**	**5**	**<1**	**<2**	**<2**	**<2**	**481**

RP-5 (REC-003) & CCWRF (REC-004) Recycled Water Data **Table No. 7b**

	REC-003											REC-004										
	Flow	pH	Turbidity	CT	Daily Coliform		7-day Median		BOD	TSS	TDS	Flow	pH	Turbidity	CT	Daily Coliform		7-day Median		BOD	TSS	TDS
	Avg	Avg	Avg	Min	Avg	Max	Avg	Max	Avg	Avg	Avg	Avg	Avg	Avg	Min	Avg	Max	Avg	Max	Avg	Avg	Avg
Date	mgd	unit	NTU	mg-min/L	MPN / 100 mL				mg/L			mgd	unit	NTU	mg-min/L	MPN / 100 mL				mg/L		
Jan-17	1.1	6.8	0.8	515	<1	3	<1	<1	<2	<2	491	0.8	6.9	0.6	462	<1	8	<1	<1	<2	<2	485
Feb-17	1.1	6.9	0.8	480	<1	1	<1	<1	<2	<2	523	0.5	7.0	0.9	490	<1	1	<1	<1	<2	<2	499
Mar-17	2.4	7.0	1.0	501	<1	<1	<1	<1	<2	<2	506	1.3	7.0	0.6	484	<1	1	<1	<1	<2	<2	483
Apr-17	5.0	6.9	1.0	485	<1	2	<1	<1	<2	<2	488	5.3	6.9	0.6	492	<1	10	<1	<1	<2	3	482
May-17	5.7	6.9	0.9	489	2	20	<1	<1	<2	<2	491	5.1	6.9	0.8	487	<1	1	<1	<1	<2	<2	482
Jun-17	4.7	7.0	0.6	485	9	166	<1	1	<2	<2	501	7.0	6.8	0.7	479	<1	1	<1	<1	<2	<2	457
Jul-17	5.8	7.2	0.6	543	<1	1	<1	<1	<2	<2	492	6.1	6.8	0.7	560	57	1733	<1	<1	<2	<2	458
Aug-17	5.8	7.2	1.0	493	79	2420	<1	<1	<2	<2	501	7.9	7.2	1.0	475	<2	20	<1	<1	<2	<2	466
Sep-17	4.5	7.1	0.9	576	<1	1	<1	<1	<2	<2	469	7.6	7.2	0.6	531	<1	4	<1	<1	<2	<2	462
Oct-17	2.8	7.0	0.7	500	<1	1	<1	<1	<2	<2	477	6.0	6.9	0.7	552	<1	3	<1	<1	<2	<2	456
Nov-17	3.0	7.0	0.7	496	2	32	<1	<2	<2	<2	476	4.7	6.9	0.4	535	<1	2	<1	<2	<2	<2	474
Dec-17	1.5	6.9	0.7	491	<1	1	<1	<1	<2	<4	466	5.7	6.8	0.5	508	<1	1	<1	<1	<2	<2	457
Avg	**3.6**	**7.0**	**0.8**	**498**	**<8**	**221**	**<1**	**<1**	**<2**	**<2**	**490**	**4.8**	**6.9**	**0.7**	**502**	**<6**	**149**	**<1**	**<1**	**<2**	**<2**	**472**
Min	**1.1**	**6.8**	**0.6**	**480**	**<1**	**<1**	**<1**	**<1**	**<2**	**<2**	**466**	**0.5**	**6.8**	**0.4**	**462**	**<1**	**1**	**<1**	**<1**	**<2**	**<2**	**456**
Max	**5.8**	**7.2**	**1.0**	**543**	**79**	**2,420**	**<1**	**<2**	**<2**	**<4**	**523**	**7.9**	**7.2**	**1.0**	**560**	**57**	**1,733**	**<1**	**<2**	**<2**	**3**	**499**

RP-1 (M-001B) Effluent Monthly Inorganic & Organic Data — **Table No. 8a**

	Total Hardness	HCO_3^{2-}	B	Ca	CO_3^{2-}	Cl	F	Mg	Na	SO_4	Cd, TR	Cr, Total	Cu, TR	Pb, TR	Hg, TR	Se, TR	Ag, TR	Zn, TR	Chlorodi-bromomethane	Bromodi-chloromethane	2,3,7,8-TCDD
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pg/L
Limits																					
Jan-17	150	148	0.2	44	0	112	0.3	10	90	51	<0.25	0.6	5	<0.5	<0.05	<2	<0.25	27	4	25	
Feb-17	155	133	0.2	46	0	103	0.3	10	96	51	<0.25	<0.5	5	<0.5	<0.05	<2	<0.25	41			
Mar-17	141	134	0.2	42	0	96	0.3	8	83	44	<0.25	<0.5	8	<0.5	<0.05	<2	<0.25	32			
Apr-17	151	144	0.2	46	0	105	0.3	9	88	47	<0.25	0.5	4	<0.5	<0.05	<2	<0.25	27	2	11	0.0
May-17	144	146	0.2	44	0	105	0.3	9	87	41	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	25			
Jun-17	136	146	0.2	42	0	99	0.3	8	81	39	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	23			
Jul-17	145	149	0.2	44	0	115	0.2	9	96	39	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	24	2	14	
Aug-17	122	119	0.2	37	0	104	0.2	7	79	43	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	28			
Sep-17	123	117	0.2	36	0	104	0.2	8	82	42	<0.25	<0.5	5	<0.5	<0.05	<2	<0.25	27			
Oct-17	119	108	0.2	25	0	100	0.2	8	83	42	<0.25	<0.5	5	<0.5	<0.05	<2	<0.25	29	2	15	
Nov-17	123	113	0.2	35	0	107	0.2	9	84	47	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	24			
Dec-17	134	129	0.2	39	0	108	0.3	9	85	46	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	24			
Avg	**137**	**132**	**0.2**	**40**	**0**	**105**	**0.3**	**9**	**86**	**44**	**<0.25**	**<0.5**	**4**	**<0.5**	**<0.05**	**<2**	**<0.25**	**28**	**3**	**16**	**0.0**
Min	**119**	**108**	**0.2**	**25**	**0**	**96**	**0.2**	**7**	**79**	**39**	**<0.25**	**<0.5**	**4**	**<0.5**	**<0.05**	**<2**	**<0.25**	**23**	**2**	**11**	**0.0**
Max	**155**	**149**	**0.2**	**46**	**0**	**115**	**0.3**	**10**	**96**	**51**	**<0.25**	**0.6**	**8**	**<0.5**	**<0.05**	**<2**	**<0.25**	**41**	**4**	**25**	**0.0**

RP-1/RP-4 (M-002A) Effluent Monthly Inorganic & Organic Data — **Table No. 8b**

	Total Hardness	HCO_3^{2-}	B	Ca	CO_3^{2-}	Cl	F	Mg	Na	SO_4	Cd, TR	Cr, Total	Cu, TR	Pb, TR	Hg, TR	Se, TR	Ag, TR	Zn, TR	Chlorodi-bromomethane	Bromodi-chloromethane	2,3,7,8-TCDD
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pg/L
Limits											1 mo avg; 2 max daily		14 mo avg; 20 max daily	8 mo avg; 15 max daily				120 mo avg; 150 max daily			
Jan-17	151	139	0.2	45	0	113	0.2	10	97	68	<0.25	0.6	5	<0.5	<0.05	<2	<0.25	27	3	15	
Feb-17	153	126	0.2	45	0	101	0.3	10	97	65	<0.25	0.6	5	<0.5	<0.05	<2	<0.25	40			
Mar-17	143	126	0.2	43	0	99	0.3	9	89	61	<0.25	0.5	8	<0.5	<0.05	<2	<0.25	32			
Apr-17	149	128	0.2	45	0	103	0.2	9	93	74	<0.25	0.5	4	<0.5	<0.05	<2	<0.25	26	2	11	0.0
May-17	141	146	0.2	43	0	104	0.2	8	91	57	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	24			
Jun-17	134	131	0.2	41	0	98	0.3	8	91	79	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	20			
Jul-17	138	138	0.2	42	0	113	0.2	8	103	75	<0.25	<0.5	6	<0.5	<0.05	<2	<0.25	47	<1	13	
Aug-17	125	104	0.2	38	0	104	0.2	7	90	74	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	28			
Sep-17	119	110	0.2	35	0	105	0.2	8	84	61	<0.25	<0.5	5	<0.5	<0.05	<2	<0.25	28			
Oct-17	120	99	0.2	26	0	102	0.2	8	93	68	<0.25	<0.5	5	<0.5	<0.05	<2	<0.25	31	2	13	
Nov-17	129	113	0.2	38	0	109	0.2	9	95	60	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	24			
Dec-17	135	117	0.2	39	0	111	0.2	9	92	70	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	24			
Avg	**137**	**123**	**0.2**	**40**	**0**	**105**	**0.2**	**8**	**93**	**68**	**<0.25**	**<0.5**	**5**	**<0.5**	**<0.05**	**<2**	**<0.25**	**29**	**2**	**13**	**0.0**
Min	**119**	**99**	**0.2**	**26**	**0**	**98**	**0.2**	**7**	**84**	**57**	**<0.25**	**<0.5**	**4**	**<0.5**	**<0.05**	**<2**	**<0.25**	**20**	**1**	**11**	**0.0**
Max	**153**	**146**	**0.2**	**45**	**0**	**113**	**0.3**	**10**	**103**	**79**	**<0.25**	**0.6**	**8**	**<0.5**	**<0.05**	**<2**	**<0.25**	**47**	**3**	**15**	**0.0**

*Free Cyanide is analyzed using ASTM-D7237 for analysis of aquatic free cyanide in accordance with R8-2016-0036

RP-5 (M-003) Effluent Monthly Inorganic Data — **Table No. 8c**

	Total Hardness	HCO_3^{2-}	B	Ca	CO_3^{2-}	Cl	F	Mg	Na	SO_4	Cd, TR	Cr, Total	Cu, TR	Pb, TR	Hg, TR	Se, TR	Ag, TR	Zn, TR	Chlorodi-bromomethane	Bromodi-chloromethane	2,3,7,8-TCDD
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pg/L
Limits																			34 mo avg; 68 max daily		0.014 mo avg; 0.028 max
Jan-17	175	127	0.2	52	0	129	0.1	11	83	56	0.55	0.7	8	<0.5	<0.05	<2	<0.25	49	2	14	0.0
Feb-17	184	134	0.2	53	0	127	0.1	12	89	62	<0.25	0.8	7	<0.5	<0.05	<2	<0.25	43	2	16	0.0
Mar-17	182	143	0.2	55	0	137	0.1	11	90	57	<0.25	0.6	6	<0.5	<0.05	<2	<0.25	43	9	28	0.0
Apr-17	173	122	0.3	50	0	123	0.2	12	95	57	<0.25	0.7	10	<0.5	<0.05	<2	<0.25	49	4	16	0.0
May-17	172	132	0.2	50	0	124	0.2	11	88	55	<0.25	<0.5	5	<0.5	<0.05	<2	<0.25	35	4	20	0.0
Jun-17	164	126	0.2	49	0	119	0.2	10	87	60	<0.25	0.5	5	<0.5	<0.05	<2	<0.25	29	6	32	0.0
Jul-17	183	110	0.2	53	0	129	0.2	12	104	79	<0.25	<0.5	4	<0.5	<0.05	<2	<0.25	21	6	30	0.0
Aug-17																					
Sep-17	175	129	0.2	53	0	132	0.2	10	98	64	<0.25	0.6	6	<0.5	<0.05	<2	<0.25	43	3	19	0.0
Oct-17	176	119	0.2	52	0	132	0.1	11	98	71	<0.25	0.5	7	<0.5	<0.05	<2	<0.25	46	2	14	0.0
Nov-17	164	164	0.2	47	0	130	0.2	11	90	63	<0.25	1.4	11	<0.5	<0.05	<2	0.29	55	4	15	0.0
Dec-17	150	107	0.2	44	0	121	0.1	10	90	59	<0.25	<0.5	7	<0.5	<0.05	<2	<0.25	37	3	13	0.0
Avg	**172**	**129**	**0.2**	**51**	**0**	**128**	**0.2**	**11**	**92**	**62**	**<0.28**	**0.7**	**7**	**<0.5**	**<0.05**	**<2**	**<0.25**	**41**	**4**	**20**	**0.0**
Min	**150**	**107**	**0.2**	**44**	**0**	**119**	**0.1**	**10**	**83**	**55**	**<0.25**	**<0.5**	**4**	**<0.5**	**<0.05**	**<2**	**<0.25**	**21**	**2**	**13**	**0.0**
Max	**184**	**164**	**0.3**	**55**	**0**	**137**	**0.2**	**12**	**104**	**79**	**0.55**	**1.4**	**11**	**<0.5**	**<0.05**	**<2**	**0.29**	**55**	**9**	**32**	**0.0**

CCWRF (M-004) Effluent Monthly Inorganic Data — **Table No. 8d**

	Total Hardness	HCO_3^{2-}	B	Ca	CO_3^{2-}	Cl	F	Mg	Na	SO_4	Cd, TR	Cr, Total	Cu, TR	Pb, TR	Hg, TR	Se, TR	Ag, TR	Zn, TR	Chlorodi-bromomethane	Bromodi-chloromethane	2,3,7,8-TCDD
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pg/L
Limits																			34 mo avg; 68 max daily	46 mo avg; 67 max daily	
Jan-17	156	128	0.2	48	0	112	0.2	9	92	68	<0.25	0.9	8	<0.5	<0.05	<2	<0.25	58	3	16	0.0
Feb-17	170	136	0.2	52	0	113	0.2	10	96	71	<0.25	1.0	7	<0.5	<0.05	2	<0.25	64	62	43	
Mar-17	164	129	0.2	49	0	121	0.2	10	94	67	<0.25	0.7	11	<0.5	<0.05	<2	<0.25	59	55	51	
Apr-17	156	129	0.2	47	0	118	0.2	9	97	69	<0.25	0.7	6	<0.5	<0.05	<2	<0.25	39	32	45	0.0
May-17	153	125	0.2	46	0	122	0.1	10	96	78	<0.25	0.8	7	<0.5	<0.05	<2	<0.25	48	35	42	
Jun-17	131	99	0.2	40	0	117	0.2	8	103	104	<0.25	0.7	6	<0.5	<0.05	<2	<0.25	50	6	25	
Jul-17	133	102	0.2	39	0	111	0.2	9	113	100	<0.25	0.7	6	<0.5	<0.05	<2	<0.25	54	36	51	0.0
Aug-17																					
Sep-17																					
Oct-17	136	109	0.2	40	0	127	<0.1	9	96	99	<0.25	0.6	7	<0.5	<0.05	<2	<0.25	62	2	16	0.0
Nov-17	145	104	0.2	41	0	128	0.2	10	108	88	<0.25	<0.5	6	<0.5	<0.05	<2	<0.25	48	4	12	
Dec-17	129	110	0.3	36	0	121	0.1	10	98	76	<0.25	0.6	6	<0.5	<0.05	<2	<0.25	55	4	12	
Avg	**147**	**117**	**0.2**	**44**	**0**	**119**	**0.2**	**9**	**99**	**82**	**<0.25**	**0.7**	**7**	**<0.5**	**<0.05**	**<2**	**<0.25**	**54**	**24**	**31**	**0.0**
Min	**129**	**99**	**0.2**	**36**	**0**	**111**	**0.1**	**8**	**92**	**67**	**<0.25**	**<0.5**	**6**	**<0.5**	**<0.05**	**<2**	**<0.25**	**39**	**2**	**12**	**0.0**
Max	**170**	**136**	**0.3**	**52**	**0**	**128**	**0.2**	**10**	**113**	**104**	**<0.25**	**1.0**	**11**	**<0.5**	**<0.05**	**2**	**<0.25**	**64**	**62**	**51**	**0.0**

*Free Cyanide is analyzed using ASTM-D7237 for analysis of aquatic free cyanide in accordance with R8-2015-0036

RP-1 (M-001B) Effluent Quarterly Data — **Table No. 9a**

	Al, TR	Sb, TR	As, TR	Ba, TR	Co, TR	Ni, TR
Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Jan-17	41	<1	<2	15	<1	3
Feb-17	43	<1	<2	13	<1	3
Mar-17	58	<1	<2	14	<1	3
Apr-17	128	<1	<2	15	<1	3
May-17	61	<1	<2	17	<1	3
Jun-17	88	<1	<2	15	<1	3
Jul-17	79	<1	<2	21	<1	3
Aug-17	124	<1	<2	13	<1	3
Sep-17	140	<1	<2	13	<1	3
Oct-17	120	<1	<2	14	<1	3
Nov-17	120	<1	<2	13	<1	3
Dec-17	124	<1	<2	11	<1	3
Avg	**94**	**<1**	**<2**	**15**	**<1**	**3**
Min	**41**	**<1**	**<2**	**11**	**<1**	**3**
Max	**140**	**<1**	**<2**	**21**	**<1**	**3**

RP-1/RP-4 (M-002A) Effluent Quarterly Data — **Table No. 9b**

	Al, TR	Sb, TR	As, TR	Ba, TR	Co, TR	Ni, TR
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
41	<1	<2	16	<1	3
42	<1	<2	13	<1	3
54	<1	<2	13	<1	3
111	<1	<2	15	<1	3
59	<1	<2	16	<1	3
91	<1	<2	14	<1	3
<25	<1	<2	21	<1	3
126	<1	<2	13	<1	3
137	<1	<2	13	<1	3
113	<1	<2	14	<1	3
123	<1	<2	12	<1	3
110	<1	<2	11	<1	3
86	**<1**	**<2**	**14**	**<1**	**3**
<25	**<1**	**<2**	**11**	**<1**	**3**
137	**<1**	**<2**	**21**	**<1**	**3**

RP-5 (M-003) Effluent Quarterly Data — **Table No. 9c**

	Al, TR	Sb, TR	As, TR	Ba, TR	Co, TR	Ni, TR
Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Jan-17	<25	<1	<2	34	<1	3
Feb-17	<25	<1	<2	19	<1	3
Mar-17	<25	<1	<2	20	<1	3
Apr-17	<25	<1	<2	23	<1	3
May-17	<25	<1	<2	21	<1	3
Jun-17	48	<1	<2	20	<1	3
Jul-17	68	<1	<2	21	<1	3
Aug-17						
Sep-17	<25	<1	<2	30	<1	3
Oct-17	<25	<1	<2	24	<1	3
Nov-17	146	<1	<2	27	<1	3
Dec-17	<25	<1	<2	19	<1	3
Avg	**<42**	**<1**	**<2**	**23**	**<1**	**3**
Min	**<25**	**<1**	**<2**	**19**	**<1**	**3**
Max	**146**	**<1**	**<2**	**34**	**<1**	**3**

CCWRF (M-004) Effluent Quarterly Data — **Table No. 9d**

	Al, TR	Sb, TR	As, TR	Ba, TR	Co, TR	Ni, TR
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
45	<1	<2	14	<1	2
99	<1	<2	17	<1	3
51	<1	<2	20	<1	3
152	<1	<2	15	<1	3
63	<1	<2	12	<1	3
67	<1	<2	12	<1	3
61	<1	<2	12	<1	3
72	<1	<2	15	<1	3
36	<1	<2	9	<1	2
74	<1	<2	11	<1	3
72	**<1**	**<2**	**14**	**<1**	**3**
36	**<1**	**<2**	**9**	**<1**	**2**
152	**<1**	**<2**	**20**	**<1**	**3**

Table No. 10

	Flow				TIN								Agency-wide TIN				
	DP 001	DP 002	DP 003	DP 004	M-001B		M-002A		RP5		CC		Discharge		Limit		**12-MRA**
Mo-Yr													flow wt.	total	flow wt.	total	flow-wt.
	MGD				mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L
Jan-17	3.0	28.4	5.5	8.0	6.7	1,720	6.6	1,550	6.2	280	6.3	420	6.5	2,420	8	5,338	6.0
Feb-17	2.3	24.4	4.7	8.1	7.7	1,650	7.4	1,500	6.3	250	4.7	320	6.7	2,220	8	5,338	6.0
Mar-17	0.0	5.1	5.7	6.0	5.7	240	5.5	240	5.2	250	5.1	250	5.3	740	8	5,338	5.9
Apr-17	0.1	3.0	3.7	2.1	5.4	140	5.4	130	6.5	200	5.2	90	5.8	430	8	5,338	6.0
May-17	0.0	2.0	3.3	2.6	6.4	90	5.7	90	7.0	190	4.1	90	5.7	370	8	5,338	6.0
Jun-17	2.6	0.6	1.5	1.0	5.6	150	5.0	30	6.4	80	4.6	40	5.5	270	8	5,338	6.0
Jul-17	2.6	0.5	0.4	1.4	7.6	190	6.8	30	6.8	30	5.3	60	6.8	280	8	5,338	6.0
Aug-17	2.5	2.5	0.0	0.0	6.4	250	5.5	110	6.1	0	5.8	0	6.0	250	8	5,338	6.0
Sep-17	3.5	3.3	0.7	0.0	6.1	180	5.5	150	5.9	40	5.7	0	5.8	370	8	5,338	5.9
Oct-17	3.2	3.6	2.5	1.4	6.4	170	6.1	180	6.1	130	5.6	60	6.1	540	8	5,338	6.0
Nov-17	2.8	7.8	4.1	1.6	8.3	200	6.3	410	5.9	200	5.4	70	6.5	880	8	5,338	6.0
Dec-17	4.2	4.9	3.0	1.8	7.2	250	7.5	300	6.1	150	5.5	80	6.8	780	8	5,338	6.1
12-Mo Avg	2.2	7.2	2.9	2.8	6.6	440	6.1	390	6.2	150	5.3	120	6.1	800	8	5,338	**6.0**
Min	0.0	0.5	0.0	0.0	5.4	90	5.0	30	5.2	0	4.1	0	5.3	250	8	5,338	**5.9**
Max	4.2	28.4	5.7	8.1	8.3	1,720	7.5	1,550	7.0	280	6.3	420	6.8	2,420	8	5,338	**6.1**

Agency-wide TDS 12-Month Running Averages **Table No. 11**

	Flows								Total Dissolved Solids (TDS)								Agency-wide TDS				
	001 [1]	RP-1 RW	002	RP-4 RW	RP-5	RP-5 RW	CC	CC RW	001	RP-1 RW [2]	002	RP-4 RW	RP-5	RP-5 RW [2]	CC	CC RW [2]	Discharge		Limit		12-MRA
Mo-Yr	MGD								mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	flow wt. mg/L	total lbs/day	flow wt. mg/L	total lbs/day	flow wt. mg/L
Jan-17	3.0	1.1	28.4	6.1	5.5	1.1	8.0	0.8	501	477	493	481	513	491	505	485	495	252,020	550	366,960	504
Feb-17	2.3	2.1	24.4	6.6	4.7	1.1	8.1	0.5	520	463	480	444	542	523	518	499	489	235,680	550	366,960	503
Mar-17	0.0	16.6	5.1	9.3	5.7	2.4	6.0	1.3	NA	456	479	426	523	506	495	483	469	200,790	550	366,960	499
Apr-17	0.1	17.2	3.0	9.7	3.7	5.0	2.1	5.3	NA	471	488	412	515	488	508	482	468	167,440	550	366,960	495
May-17	0.0	18.4	2.0	10.0	3.3	5.7	2.6	5.1	NA	464	477	406	520	491	509	482	464	172,090	550	366,960	491
Jun-17	2.6	19.6	0.6	10.1	1.5	4.7	1.0	7.0	520	465	504	403	539	501	503	457	461	158,270	550	366,960	486
Jul-17	2.6	21.0	0.5	9.7	0.4	5.8	1.4	6.1	502	448	483	386	538	492	485	458	447	158,960	550	366,960	480
Aug-17	2.5	20.2	2.5	9.7	0.0	5.8	0.0	7.9	509	433	459	407	NA	501	NA	466	446	150,060	550	366,960	476
Sep-17	3.5	18.6	3.3	9.5	0.7	4.5	0.0	7.6	497	424	456	406	515	469	NA	462	440	145,780	550	366,960	471
Oct-17	3.2	18.4	3.6	10.0	2.5	2.8	1.4	6.0	486	408	439	384	500	477	497	456	428	153,260	550	366,960	466
Nov-17	2.8	14.9	7.8	8.6	4.1	3.0	1.6	4.7	475	444	459	417	493	476	511	474	455	167,960	550	366,960	463
Dec-17	4.2	16.7	4.9	9.9	3.0	1.5	1.8	5.7	471	445	462	401	470	466	472	457	444	161,550	550	366,960	459
Avg	**2.2**	**15.4**	**7.2**	**9.1**	**2.9**	**3.6**	**2.8**	**4.8**	**498**	**450**	**473**	**414**	**515**	**490**	**500**	**472**	**459**	**176,990**	**550**	**366,960**	**483**
Min	**0.0**	**1.1**	**0.5**	**6.1**	**0.0**	**1.1**	**0.0**	**0.5**	**471**	**408**	**439**	**384**	**470**	**466**	**472**	**456**	**428**	**145,780**	**550**	**366,960**	**459**
Max	**4.2**	**21.0**	**28.4**	**10.1**	**5.7**	**5.8**	**8.1**	**7.9**	**520**	**477**	**504**	**481**	**542**	**523**	**518**	**499**	**495**	**252,020**	**550**	**366,960**	**504**

NOTES: [1] Prior to April 2010, 001 effluent flow included recycled water flow.

[2] Flow and TDS added to flow-weight for RP-1, RP-5, and CCWRF recycled water (May 2010)

NA: Not Analyzed, due to no discharge

APPENDIX B

RECYCLED WATER

COMPLIANCE DATA

FOR CALENDAR YEAR 2017

INLAND EMPIRE UTILITIES AGENCY

Regional Plant Nos. 1, 4, 5, & Carbon Canyon Water Recycling Facility, 2017 NPDES Annual Report

RP-1 (M-001B) Effluent Remaining Priority Pollutants

Table 18a

RP-1 (M-001B) Effluent Remaining Priority Pollutant Metals & CN, µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
Antimony (Sb)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic (As)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**<2**
Beryllium (Be)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**<0.5**
Cadmium (Cd)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	**<0.25**
Chromium (Cr)	0.6	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**
Copper (Cu)	4.6	5.0	7.7	3.6	3.5	3.5	3.5	3.7	4.6	4.9	3.9	4.3	**7.7**
Lead (Pb)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**<0.5**
Mercury (Hg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**<0.05**
Nickel (Ni)	3.0	2.9	2.7	2.9	2.7	3.3	3.0	3.2	3.1	3.0	2.8	3.2	**3.3**
Selenium (Se)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**<2**
Silver (Ag)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	**<0.25**
Thallium (Tl)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**<1**
Zinc (Zn)	27	41	32	27	25	23	24	28	27	29	24	24	**41**
CN, Aquatic Free	<2			<2			<2			<2			**<2**

RP-1 (M-001B) Effluent Volatile Organics (EPA Methods 624, 601/602), µg/L

1,1,1-Trichloroethane				<1									**<1**
1,1,2,2-Tetrachloroethane				<0.5									**<0.5**
1,1,2-Trichloroethane				<1									**<1**
1,1-Dichloroethane				<0.5									**<0.5**
1,1-Dichloroethene				<1									**<1**
1,2-Dichlorobenzene				<1									**<1**
1,2-Dichloroethane				<0.5									**<0.5**
1,2-Dichloropropane				<0.5									**<0.5**
1,3-Dichlorobenzene				<1									**<1**
1,4-Dichlorobenzene				<1									**<1**
2-Chloroethyl vinyl ether				<1									**<1**
Benzene				<1									**<1**
Bromodichloromethane	25			11			14			15			**25**
Bromoform	<1			<1			<1			<1			**<1**
Bromomethane				<1									**<1**
Carbon tetrachloride				<0.5									**<0.5**
Chlorobenzene				<1									**<1**
Chloroethane				<1									**<1**
Chloroform	113			60			61			62			**113**
Chloromethane				<1									**<1**
cis-1,3-Dichloropropene				<0.5									**<0.5**
Dibromochloromethane	4			2			2			2			**4**
Ethylbenzene				<1									**<1**
Methylene chloride				1									**1**
Tetrachloroethene				<1									**<1**
Toluene				<1									**<1**
trans-1,2-Dichloroethene				<0.5									**<0.5**
trans-1,3-Dichloropropene				<0.5									**<0.5**
Trichloroethene				<1									**<1**
Trichlorofluoromethane				<2									**<2**
Vinyl chloride				<0.5									**<0.5**
Acrolein				<2									**<2**
Acrylonitrile				<0.25									**<0.25**

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RP-1 (M-001B) Effluent Remaining Priority Pollutants

Table 18b

RP-1 (M-001B) Effluent Base/Neutral and Acid Extractibles (EPA Method 625), µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
1,2,4-Trichlorobenzene				<1									<1
1,2-Dichlorobenzene				<1									<1
1,3-Dichlorobenzene				<1									<1
1,4-Dichlorobenzene				<1									<1
2,4,6-Trichlorophenol				<1									<1
2,4-Dichlorophenol				<2									<2
2,4-Dimethylphenol				<1									<1
2,4-Dinitrophenol				<3									<3
2,4-Dinitrotoluene				<1									<1
2,6-Dinitrotoluene				<2									<2
2-Chloronaphthalene				<1									<1
2-Chlorophenol				<1									<1
2-Methyl-4,6-dinitrophenol				<2									<2
2-Nitrophenol				<1									<1
3,3-Dichlorobenzidine				<5									<5
4-Bromophenyl phenyl ether				<1									<1
4-Chloro-3-methylphenol				<1									<1
4-Chlorophenyl phenyl ether				<1									<1
4-Nitrophenol				<3									<3
Acenaphthene				<1									<1
Acenaphthylene				<1									<1
Anthracene				<1									<1
Azobenzene				<1									<1
Benzidine				<5									<5
Benzo(a)anthracene				<5									<5
Benzo(a)pyrene				<1									<1
Benzo(b)fluoranthene				<1									<1
Benzo(g,h,i)perylene				<2									<2
Benzo(k)fluoranthene				<1									<1
Bis(2-chloroethoxy)methane				<2									<2
Bis(2-chloroethyl)ether				<1									<1
Bis(2-chloroisopropyl)ether				<1									<1
Bis(2-ethylhexyl)phthalate	<2			<2			<2			<2			<2
Butyl benzyl phthalate				<1									<1
Chrysene				<1									<1
Dibenzo(a,h)anthracene				<1									<1
Diethyl phthalate				<2									<2
Dimethyl phthalate				<1									<1
Di-n-butyl phthalate				<1									<1
Di-n-octyl phthalate				<1									<1
Fluoranthene				<1									<1
Fluorene				<1									<1
Hexachlorobenzene				<1									<1
Hexachlorobutadiene				<1									<1
Hexachlorocyclopentadiene				<5									<5
Hexachloroethane				<1									<1
Indeno(1,2,3-cd)pyrene				<2									<2
Isophorone				<1									<1
Naphthalene				<1									<1
Nitrobenzene				<1									<1
N-Nitrosodimethylamine				<1									<1
N-Nitroso-di-n-propylamine				<1									<1
N-Nitrosodiphenylamine				<1									<1
Pentachlorophenol				<2									<2
Phenanthrene				<1									<1
Phenol				<1									<1
Pyrene				<1									<1

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RP-1 (M-001B) Effluent Remaining Priority Pollutants

Table 18c

RP-1 (M-001B) Effluent Pesticides (EPA Method 608), µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
4,4-DDD				<0.006									**<0.006**
4,4-DDE				<0.006									**<0.006**
4,4-DDT				<0.008									**<0.008**
Aldrin				<0.004									**<0.004**
Alpha-BHC				<0.008									**<0.008**
Beta-BHC				<0.005									**<0.005**
Delta-BHC				<0.007									**<0.007**
Dieldrin				<0.006									**<0.006**
Endosulfan I				<0.01									**<0.01**
Endosulfan II				<0.007									**<0.007**
Endosulfan Sulfate				<0.009									**<0.009**
Endrin				<0.009									**<0.009**
Endrin aldehyde				<0.006									**<0.006**
Gamma-BHC				<0.01									**<0.01**
Heptachlor				<0.006									**<0.006**
Heptachlor epoxide				<0.007									**<0.007**
Chlordane				<0.1									**<0.1**
PCB-1016				<0.5									**<0.5**
PCB-1221				<0.5									**<0.5**
PCB-1232				<0.5									**<0.5**
PCB-1242				<0.5									**<0.5**
PCB-1248				<0.5									**<0.5**
PCB-1254				<0.5									**<0.5**
PCB-1260				<0.5									**<0.5**
Toxaphene				<0.5									**<0.5**
RP-1 (M-001B) Effluent Dioxins & Furans, pg/L (reported values based on detection limit)													
PCDD/PCDF Congeners*				0.0									**0.0**

*TEQ is calculated based on congener concentrations below the reporting limit (RL) set to zero

RP-1/RP-4 (M-002A) Effluent Volatile Organics (EPA Methods 624, 601/602), µg/L

1,1,1-Trichloroethane				<1									**<1**
1,1,2,2-Tetrachloroethane				<0.5									**<0.5**
1,1,2-Trichloroethane				<1									**<1**
1,1-Dichloroethane				<0.5									**<0.5**
1,1-Dichloroethene				<1									**<1**
1,2-Dichlorobenzene				<1									**<1**
1,2-Dichloroethane				<0.5									**<0.5**
1,2-Dichloropropane				<0.5									**<0.5**
1,3-Dichlorobenzene				<1									**<1**
1,4-Dichlorobenzene				<1									**<1**
2-Chloroethyl vinyl ether				<1									**<1**
Benzene				<1									**<1**
Bromodichloromethane	15			11			13			13			**15**
Bromoform	<1			<1			<1			<1			**<1**
Bromomethane				<1									**<1**
Carbon tetrachloride				<0.5									**<0.5**
Chlorobenzene				<1									**<1**
Chloroethane				<1									**<1**
Chloroform	70			78			72			66			**78**
Chloromethane				<1									**<1**
cis-1,3-Dichloropropene				<0.5									**<0.5**
Dibromochloromethane	3			2			<1			2			**3**
Ethylbenzene				<1									**<1**
Methylene chloride				1									**1**
Tetrachloroethene				<1									**<1**
Toluene				<1									**<1**
trans-1,2-Dichloroethene				<0.5									**<0.5**
trans-1,3-Dichloropropene				<0.5									**<0.5**
Trichloroethene				<1									**<1**
Trichlorofluoromethane				<2									**<2**
Vinyl chloride				<0.5									**<0.5**
Acrolein				<2									**<2**
Acrylonitrile				<0.25									**<0.25**

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RP-1/RP-4 (M-002A) Effluent Remaining Priority Pollutants

Table 19b

RP-1/RP-4 (M-002A) Effluent Base/Neutral and Acid Extractibles (EPA Method 625), µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
1,2,4-Trichlorobenzene				<1									<1
1,2-Dichlorobenzene				<1									<1
1,3-Dichlorobenzene				<1									<1
1,4-Dichlorobenzene				<1									<1
2,4,6-Trichlorophenol				<1									<1
2,4-Dichlorophenol				<2									<2
2,4-Dimethylphenol				<1									<1
2,4-Dinitrophenol				<3									<3
2,4-Dinitrotoluene				<1									<1
2,6-Dinitrotoluene				<2									<2
2-Chloronaphthalene				<1									<1
2-Chlorophenol				<1									<1
2-Methyl-4,6-dinitrophenol				<2									<2
2-Nitrophenol				<1									<1
3,3-Dichlorobenzidine				<5									<5
4-Bromophenyl phenyl ether				<1									<1
4-Chloro-3-methylphenol				<1									<1
4-Chlorophenyl phenyl ether				<1									<1
4-Nitrophenol				<3									<3
Acenaphthene				<1									<1
Acenaphthylene				<1									<1
Anthracene				<1									<1
Azobenzene				<1									<1
Benzidine				<5									<5
Benzo(a)anthracene				<5									<5
Benzo(a)pyrene				<1									<1
Benzo(b)fluoranthene				<1									<1
Benzo(g,h,i)perylene				<2									<2
Benzo(k)fluoranthene				<1									<1
Bis(2-chloroethoxy)methane				<2									<2
Bis(2-chloroethyl)ether				<1									<1
Bis(2-chloroisopropyl)ether				<1									<1
Bis(2-ethylhexyl)phthalate	<2			<2			<2			<2			<2
Butyl benzyl phthalate				<1									<1
Chrysene				<1									<1
Dibenzo(a,h)anthracene				<1									<1
Diethyl phthalate				<2									<2
Dimethyl phthalate				<1									<1
Di-n-butyl phthalate				<1									<1
Di-n-octyl phthalate				<1									<1
Fluoranthene				<1									<1
Fluorene				<1									<1
Hexachlorobenzene				<1									<1
Hexachlorobutadiene				<1									<1
Hexachlorocyclopentadiene				<5									<5
Hexachloroethane				<1									<1
Indeno(1,2,3-cd)pyrene				<2									<2
Isophorone				<1									<1
Naphthalene				<1									<1
Nitrobenzene				<1									<1
N-Nitrosodimethylamine				<1									<1
N-Nitroso-di-n-propylamine				<1									<1
N-Nitrosodiphenylamine				<1									<1
Pentachlorophenol				<2									<2
Phenanthrene				<1									<1
Phenol				<1									<1
Pyrene				<1									<1

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RP-1/RP-4 (M-002A) Effluent Remaining Priority Pollutants

Table 19c

RP-1/RP-4 (M-002A) Effluent Pesticides (EPA Method 608), µg/L													Annual
Constituent	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Max.**
4,4-DDD				<0.006									**<0.006**
4,4-DDE				<0.006									**<0.006**
4,4-DDT				<0.008									**<0.008**
Aldrin				<0.004									**<0.004**
Alpha-BHC				<0.008									**<0.008**
Beta-BHC				<0.005									**<0.005**
Delta-BHC				<0.007									**<0.007**
Dieldrin				<0.006									**<0.006**
Endosulfan I				<0.01									**<0.01**
Endosulfan II				<0.007									**<0.007**
Endosulfan Sulfate				<0.009									**<0.009**
Endrin				<0.009									**<0.009**
Endrin aldehyde				<0.006									**<0.006**
Gamma-BHC				<0.01									**<0.01**
Heptachlor				<0.006									**<0.006**
Heptachlor epoxide				<0.007									**<0.007**
Chlordane				<0.1									**<0.1**
PCB-1016				<0.5									**<0.5**
PCB-1221				<0.5									**<0.5**
PCB-1232				<0.5									**<0.5**
PCB-1242				<0.5									**<0.5**
PCB-1248				<0.5									**<0.5**
PCB-1254				<0.5									**<0.5**
PCB-1260				<0.5									**<0.5**
Toxaphene				<0.5									**<0.5**
RP-1/RP-4 (M-002A) Effluent Dioxins & Furans, pg/L (reported values based on detection limit)													
PCDD/PCDF Congeners*				0.00									**0.0**

*TEQ is calculated based on congener concentrations below the reporting limit (RL) set to zero

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RP-5 (M-003) Effluent Remaining Priority Pollutants

Table 20a

RP-5 (M-003) Effluent Remaining Priority Pollutant Metals & CN, µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
Antimony (Sb)	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1.0
Arsenic (As)	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	**<2**
Beryllium (Be)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	**<0.5**
Cadmium (Cd)	0.55	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		<0.25	<0.25	<0.25	<0.25	**0.55**
Chromium (Cr)	0.7	0.8	0.6	0.7	<0.5	0.5	<0.5		0.6	0.5	1.4	<0.5	**1.4**
Copper (Cu)	7.6	6.5	5.7	10.1	5.0	4.9	3.5		6.3	6.9	11.2	6.9	**11.2**
Lead (Pb)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	**<0.5**
Mercury (Hg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	**<0.05**
Nickel (Ni)	2.7	3.4	3.4	3.0	3.1	3.0	3.0		3.1	3.0	2.9	2.7	**3.4**
Selenium (Se)	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	**<2**
Silver (Ag)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		<0.25	<0.25	0.29	<0.25	**0.29**
Thallium (Tl)	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	**<1**
Zinc (Zn)	49	43	43	49	35	29	21		43	46	55	37	**55**
CN, Aquatic Free	<2			<2					<2	<2			**<2**

RP-5 (M-003) Effluent Volatile Organics (EPA Methods 624, 601/602), µg/L

1,1,1-Trichloroethane				<1									**<1**
1,1,2,2-Tetrachloroethane				<0.5									**<0.5**
1,1,2-Trichloroethane				<1									**<1**
1,1-Dichloroethane				<0.5									**<0.5**
1,1-Dichloroethene				<1									**<1**
1,2-Dichlorobenzene				<1									**<1**
1,2-Dichloroethane				<0.5									**<0.5**
1,2-Dichloropropane				<0.5									**<0.5**
1,3-Dichlorobenzene				<1									**<1**
1,4-Dichlorobenzene				<1									**<1**
2-Chloroethyl vinyl ether				<1									**<1**
Benzene				<1									**<1**
Bromodichloromethane	14	16	28	16	20	32	30		19	14	15	13	**32**
Bromoform	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	**<1**
Bromomethane				<1									**<1**
Carbon tetrachloride				<0.5									**<0.5**
Chlorobenzene				<1									**<1**
Chloroethane				<1									**<1**
Chloroform	72	71	62	67	72	122	69		78	72	71	83	**122**
Chloromethane				<1									**<1**
cis-1,3-Dichloropropene				<0.5									**<0.5**
Dibromochloromethane	2	2	9	4	4	6	6		3	2	4	3	**9**
Ethylbenzene				<1									**<1**
Methylene chloride				<1									**<1**
Tetrachloroethene				<1									**<1**
Toluene				<1									**<1**
trans-1,2-Dichloroethene				<0.5									**<0.5**
trans-1,3-Dichloropropene				<0.5									**<0.5**
Trichloroethene				<1									**<1**
Trichlorofluoromethane				<2									**<2**
Vinyl chloride				<0.5									**<0.5**
Acrolein				<2									**<2**
Acrylonitrile				0.26									**0.26**

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RP-5 (M-003) Effluent Remaining Priority Pollutants

Table 20b

RP-5 (M-003) Effluent Base/Neutral and Acid Extractibles (EPA Method 625), µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
1,2,4-Trichlorobenzene				<1									<1
1,2-Dichlorobenzene				<1									<1
1,3-Dichlorobenzene				<1									<1
1,4-Dichlorobenzene				<1									<1
2,4,6-Trichlorophenol				<1									<1
2,4-Dichlorophenol				<2									<2
2,4-Dimethylphenol				<1									<1
2,4-Dinitrophenol				<3									<3
2,4-Dinitrotoluene				<1									<1
2,6-Dinitrotoluene				<2									<2
2-Chloronaphthalene				<1									<1
2-Chlorophenol				<1									<1
2-Methyl-4,6-dinitrophenol				<2									<2
2-Nitrophenol				<1									<1
3,3-Dichlorobenzidine				<5									<5
4-Bromophenyl phenyl ether				<1									<1
4-Chloro-3-methylphenol				<1									<1
4-Chlorophenyl phenyl ether				<1									<1
4-Nitrophenol				<3									<3
Acenaphthene				<1									<1
Acenaphthylene				<1									<1
Anthracene				<1									<1
Azobenzene				<1									<1
Benzidine				<5									<5
Benzo(a)anthracene				<5									<5
Benzo(a)pyrene				<1									<1
Benzo(b)fluoranthene				<1									<1
Benzo(g,h,i)perylene				<2									<2
Benzo(k)fluoranthene				<1									<1
Bis(2-chloroethoxy)methane				<2									<2
Bis(2-chloroethyl)ether				<1									<1
Bis(2-chloroisopropyl)ether				<1									<1
Bis(2-ethylhexyl)phthalate	<2			<2			<2			<2			<2
Butyl benzyl phthalate				<1									<1
Chrysene				<1									<1
Dibenzo(a,h)anthracene				<1									<1
Diethyl phthalate				<2									<2
Dimethyl phthalate				<1									<1
Di-n-butyl phthalate				<1									<1
Di-n-octyl phthalate				<1									<1
Fluoranthene				<1									<1
Fluorene				<1									<1
Hexachlorobenzene				<1									<1
Hexachlorobutadiene				<1									<1
Hexachlorocyclopentadiene				<5									<5
Hexachloroethane				<1									<1
Indeno(1,2,3-cd)pyrene				<2									<2
Isophorone				<1									<1
Naphthalene				<1									<1
Nitrobenzene				<1									<1
N-Nitrosodimethylamine				<1									<1
N-Nitroso-di-n-propylamine				<1									<1
N-Nitrosodiphenylamine				<1									<1
Pentachlorophenol				<2									<2
Phenanthrene				<1									<1
Phenol				<1									<1
Pyrene				<1									<1

INLAND EMPIRE UTILITIES AGENCY

Regional Plant Nos. 1, 4, 5, & Carbon Canyon Water Recycling Facility, 2017 NPDES Annual Report

RP-5 (M-003) Effluent Remaining Priority Pollutants

Table 20c

RP-5 (M-003) Effluent Pesticides (EPA Method 608), µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
4,4-DDD				<0.006									**<0.006**
4,4-DDE				<0.006									**<0.006**
4,4-DDT				<0.008									**<0.008**
Aldrin				<0.004									**<0.004**
Alpha-BHC				<0.008									**<0.008**
Beta-BHC				<0.005									**<0.005**
Delta-BHC				<0.007									**<0.007**
Dieldrin				<0.006									**<0.006**
Endosulfan I				<0.01									**<0.01**
Endosulfan II				<0.007									**<0.007**
Endosulfan Sulfate				<0.009									**<0.009**
Endrin				<0.009									**<0.009**
Endrin aldehyde				<0.006									**<0.006**
Gamma-BHC				<0.01									**<0.01**
Heptachlor				<0.006									**<0.006**
Heptachlor epoxide				<0.007									**<0.007**
Chlordane				<0.1									**<0.1**
PCB-1016				<0.5									**<0.5**
PCB-1221				<0.5									**<0.5**
PCB-1232				<0.5									**<0.5**
PCB-1242				<0.5									**<0.5**
PCB-1248				<0.5									**<0.5**
PCB-1254				<0.5									**<0.5**
PCB-1260				<0.5									**<0.5**
Toxaphene				<0.5									**<0.5**
RP-5 (M-003) Effluent Dioxins & Furans, pg/L (reported values based on detection limit)													
PCDD/PCDF Congeners*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ND	0.0	0.0	0.0	0.0	**0.0**

*TEQ is calculated based on congener concentrations below the reporting limit (RL) set to zero

ND: No Discharge

INLAND EMPIRE UTILITIES AGENCY

Regional Plant Nos. 1, 4, 5, & Carbon Canyon Water Recycling Facility, 2017 NPDES Annual Report

CCWRF (M-004) Effluent Remaining Priority Pollutants

Table 21a

CCWRF (M-004) Effluent Remaining Priority Pollutant Metals & CN, µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
Antimony (Sb)	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1.0
Arsenic (As)	<2	<2	<2	<2	<2	<2	<2			<2	<2	<2	**<2**
Beryllium (Be)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	**<0.5**
Cadmium (Cd)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25			<0.25	<0.25	<0.25	**<0.25**
Chromium (Cr)	0.9	1.0	0.7	0.7	0.8	0.7	0.7			0.6	<0.5	0.6	**1.0**
Copper (Cu)	7.8	6.5	10.6	5.9	6.9	6.4	6.0			7.4	6.1	6.1	**10.6**
Lead (Pb)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	**<0.5**
Mercury (Hg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	<0.05	<0.05	**<0.05**
Nickel (Ni)	2.3	2.7	2.5	2.9	2.9	2.9	3.0			2.9	2.4	2.6	**3.0**
Selenium (Se)	<2	2.0	<2	<2	<2	<2	<2			<2	<2	<2	**2**
Silver (Ag)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25			<0.25	<0.25	<0.25	**<0.25**
Thallium (Tl)	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	**<1**
Zinc (Zn)	58	64	59	39	48	50	54			62	48	55	**64**
CN, Aquatic Free	2			<2			<2			<2			**2**

CCWRF (M-004) Effluent Volatile Organics (EPA Methods 624, 601/602), µg/L

1,1,1-Trichloroethane				<1									**<1**
1,1,2,2-Tetrachloroethane				<0.5									**<0.5**
1,1,2-Trichloroethane				<1									**<1**
1,1-Dichloroethane				<0.5									**<0.5**
1,1-Dichloroethene				<1									**<1**
1,2-Dichlorobenzene				<1									**<1**
1,2-Dichloroethane				<0.5									**<0.5**
1,2-Dichloropropane				<0.5									**<0.5**
1,3-Dichlorobenzene				<1									**<1**
1,4-Dichlorobenzene				<1									**<1**
2-Chloroethyl vinyl ether				<1									**<1**
Benzene				<1									**<1**
Bromodichloromethane	16	43	51	45	42	25	51			16	12	12	**51**
Bromoform	<1	29	13	3	5	<1	4			<1	<1	<1	**29**
Bromomethane				<1									**<1**
Carbon tetrachloride				<0.5									**<0.5**
Chlorobenzene				<1									**<1**
Chloroethane				<1									**<1**
Chloroform	58	26	31	46	36	77	50			87	42	57	**87**
Chloromethane				<1									**<1**
cis-1,3-Dichloropropene				<0.5									**<0.5**
Dibromochloromethane	3	62	55	32	35	6	36			2	4	4	**62**
Ethylbenzene				<1									**<1**
Methylene chloride				<1									**<1**
Tetrachloroethene				<1									**<1**
Toluene				<1									**<1**
trans-1,2-Dichloroethene				<0.5									**<0.5**
trans-1,3-Dichloropropene				<0.5									**<0.5**
Trichloroethene				<1									**<1**
Trichlorofluoromethane				<2									**<2**
Vinyl chloride				<0.5									**<0.5**
Acrolein				<2									**<2**
Acrylonitrile				<0.25									**<0.25**

INLAND EMPIRE UTILITIES AGENCY

Regional Plant Nos. 1, 4, 5, & Carbon Canyon Water Recycling Facility, 2017 NPDES Annual Report

CCWRF (M-004) Effluent Remaining Priority Pollutants

Table 21b

CCWRF (M-004) Effluent Base/Neutral and Acid Extractibles (EPA Method 625), µg/L

Constituent	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max.
1,2,4-Trichlorobenzene				<1									<1
1,2-Dichlorobenzene				<1									<1
1,3-Dichlorobenzene				<1									<1
1,4-Dichlorobenzene				<1									<1
2,4,6-Trichlorophenol				<1									<1
2,4-Dichlorophenol				<2									<2
2,4-Dimethylphenol				<1									<1
2,4-Dinitrophenol				<3									<3
2,4-Dinitrotoluene				<1									<1
2,6-Dinitrotoluene				<2									<2
2-Chloronaphthalene				<1									<1
2-Chlorophenol				<1									<1
2-Methyl-4,6-dinitrophenol				<2									<2
2-Nitrophenol				<1									<1
3,3-Dichlorobenzidine				<5									<5
4-Bromophenyl phenyl ether				<1									<1
4-Chloro-3-methylphenol				<1									<1
4-Chlorophenyl phenyl ether				<1									<1
4-Nitrophenol				<3									<3
Acenaphthene				<1									<1
Acenaphthylene				<1									<1
Anthracene				<1									<1
Azobenzene				<1									<1
Benzidine				<5									<5
Benzo(a)anthracene				<5									<5
Benzo(a)pyrene				<1									<1
Benzo(b)fluoranthene				<1									<1
Benzo(g,h,i)perylene				<2									<2
Benzo(k)fluoranthene				<1									<1
Bis(2-chloroethoxy)methane				<2									<2
Bis(2-chloroethyl)ether				<1									<1
Bis(2-chloroisopropyl)ether				<1									<1
Bis(2-ethylhexyl)phthalate	<2			<2			<2			<2			<2
Butyl benzyl phthalate				<1									<1
Chrysene				<1									<1
Dibenzo(a,h)anthracene				<1									<1
Diethyl phthalate				<2									<2
Dimethyl phthalate				<1									<1
Di-n-butyl phthalate				<1									<1
Di-n-octyl phthalate				<1									<1
Fluoranthene				<1									<1
Fluorene				<1									<1
Hexachlorobenzene				<1									<1
Hexachlorobutadiene				<1									<1
Hexachlorocyclopentadiene				<5									<5
Hexachloroethane				<1									<1
Indeno(1,2,3-cd)pyrene				<2									<2
Isophorone				<1									<1
Naphthalene				<1									<1
Nitrobenzene				<1									<1
N-Nitrosodimethylamine				<1									<1
N-Nitroso-di-n-propylamine				<1									<1
N-Nitrosodiphenylamine				<1									<1
Pentachlorophenol				<2									<2
Phenanthrene				<1									<1
Phenol				<1									<1
Pyrene				<1									<1

INLAND EMPIRE UTILITIES AGENCY

Regional Plant Nos. 1, 4, 5, & Carbon Canyon Water Recycling Facility, 2017 NPDES Annual Report

CCWRF (M-004) Effluent Remaining Priority Pollutants

Table 21c

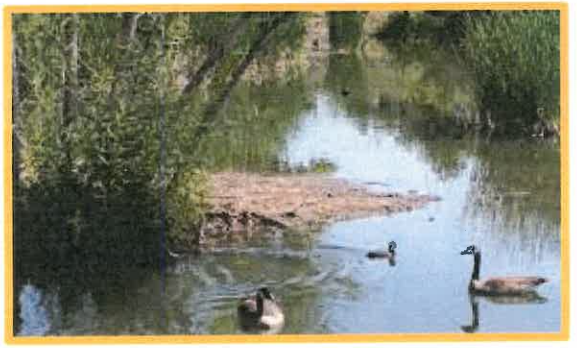
CCWRF (M-004) Effluent Pesticides (EPA Method 608), µg/L													Annual
Constituent	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Max.**
4,4-DDD				<0.006									**<0.006**
4,4-DDE				<0.006									**<0.006**
4,4-DDT				<0.008									**<0.008**
Aldrin				<0.004									**<0.004**
Alpha-BHC				<0.008									**<0.008**
Beta-BHC				<0.005									**<0.005**
Delta-BHC				<0.007									**<0.007**
Dieldrin				<0.006									**<0.006**
Endosulfan I				<0.01									**<0.01**
Endosulfan II				<0.007									**<0.007**
Endosulfan Sulfate				<0.009									**<0.009**
Endrin				<0.009									**<0.009**
Endrin aldehyde				<0.006									**<0.006**
Gamma-BHC				<0.01									**<0.01**
Heptachlor				<0.006									**<0.006**
Heptachlor epoxide				<0.007									**<0.007**
Chlordane				<0.1									**<0.1**
PCB-1016				<0.5									**<0.5**
PCB-1221				<0.5									**<0.5**
PCB-1232				<0.5									**<0.5**
PCB-1242				<0.5									**<0.5**
PCB-1248				<0.5									**<0.5**
PCB-1254				<0.5									**<0.5**
PCB-1260				<0.5									**<0.5**
Toxaphene				<0.5									**<0.5**
CCWRF (M-004) Effluent Dioxins & Furans, pg/L (reported values based on detection limit)													
PCDD/PCDF Congeners*	0.0			0.0			0.0			0.0			**0.0**

*TEQ is calculated based on congener concentrations below the reporting limit (RL) set to zero

Engineering, Operations, and Water Resources Committee

INFORMATION ITEM 2C

1st Quarter Planning & Environmental Resources Update

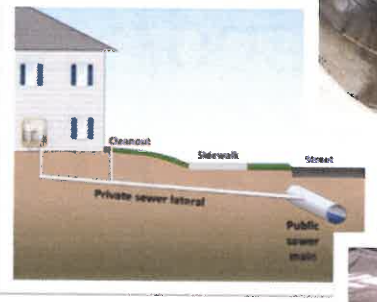


Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Pietro Cambiaso
October 2018

Feasibility Studies

- **CASA Study**
  - Participation in California Association of Sanitation Agencies (CASA) statewide wastewater monitoring study
    - Collaboration with other agencies in Northern/Southern California
    - Evaluation of residential/commercial flow and wastewater characteristics
    - IEUA site specific wastewater monitoring



- **Recycled Water Feasibility Studies**
  Title XVI/Water Infrastructure Improvements for the Nation (WIIN)
  - IEUA /Jurupa Community Services District RW Intertie ($33M)
  - IEUA/Pomona/MVWD RW Intertie ($87M)
  - USBR approved both studies, allowing projects to compete for funding
  - IEUA applied for funds for both projects in July 2018

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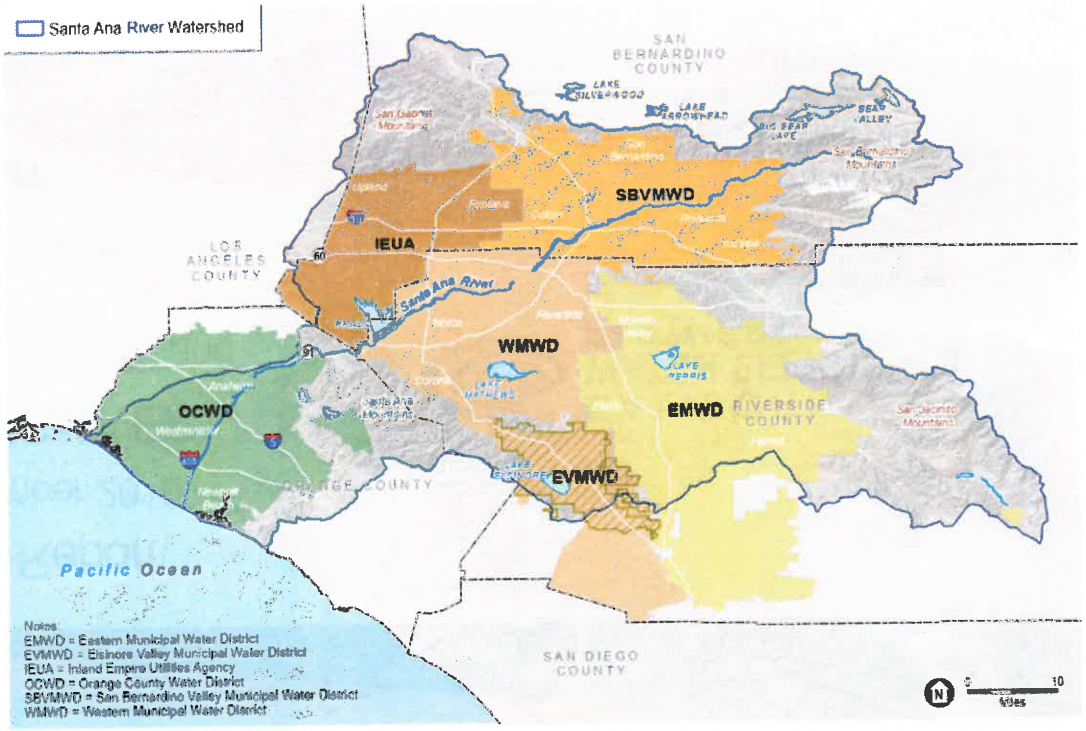
Santa Ana River Conservation & Conjunctive Use Program (SARCCUP)

- SARCCUP: Habitat improvement, water use efficiency, and groundwater banking
- Current activities:
  - Coordinating with IEUA member agencies
  - Water transfer discussions with Western Municipal Water District via Jurupa Community Services District
  - Pending development of local agency memorandum of understanding
  - Pending sub-grantee agreement with SAWPA
  - Prepared Joint Administrative Draft Environmental Impact Report (EIR)



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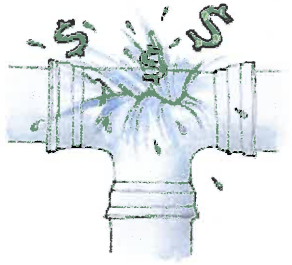
Regional Water Use Efficiency

- Annual Water Use Efficiency Programs Report
  - Draft completed – Board presentation November 2018
- California Water Efficiency Partnership (CalWEP)
  - IEUA hosted a joint Board meeting between CalWEP and the Alliance for Water Efficiency (AWE)
  - CalWEP will become the first National Chapter of the AWE
- Residential Pressure Regulation Program
  - RFP issued in July
  - Contract awarded to EcoTech Services (3-year term)
- Residential Large Landscape Retrofit Program
  - RFP issued in July
  - Contract award – October 2018 (3-year term)

CALIFORNIA WATER EFFICIENCY PARTNERSHIP
A Chapter of the Alliance for Water Efficiency

WUE
Water Use Efficiency



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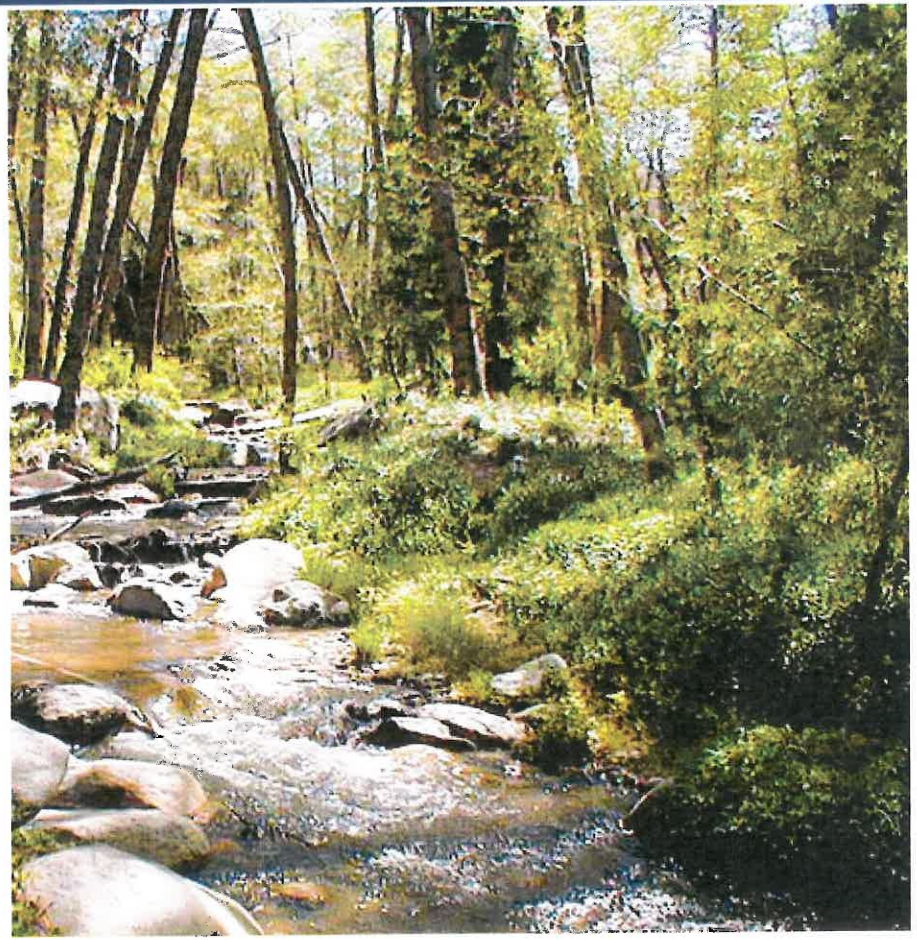
Upper Santa Ana River Multiple Species Habitat Conservation Plan (SAR HCP)

- Project impacts analysis underway
- Draft plan: December 2018
- Joint Power Authority Establishment: Spring 2019
- Participating Agency Agreements: Spring 2019



Inland Empire Utilities Agency
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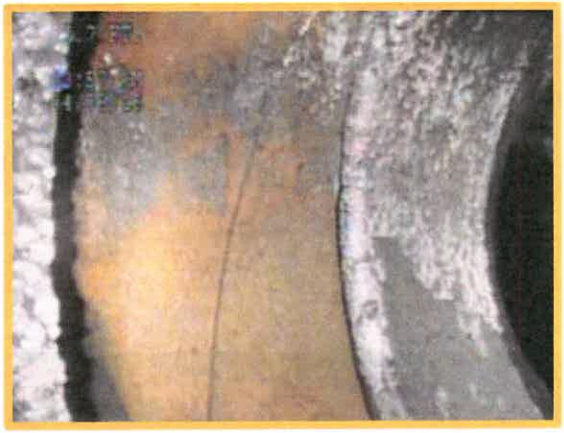
Engineering, Operations, and Water Resources Committee

INFORMATION ITEM 2D

Engineering and Construction Management Project Updates



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Jerry Burke, P.E.
October 2018

EN22002 – NRW East End Flowmeter Replacement

Project Goal: Provide a more accurate flow meter to meet current Los Angeles County Sanitation District standards.

Total Project Budget: $2 M

Project Completion: October 2019

Percent Complete: 64%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design (Current)	Civiltec Engineering	$227 K	6.5%
Construction	-	$0	0%

Inland Empire Utilities Agency
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EN19027 – NRW Pipeline Relining Along Cucamonga Creek

Project Goal: Reline portion of existing NRW pipe to extend asset's useful life

Total Project Budget: $2.3 M
Project Completion: June 2020
Percent Complete: 0%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design	-	$0	0.0%
Construction	-	$0	0.0%

Inland Empire Utilities Agency
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EN19029 – RP-4 Outfall Pipeline Air Release Valve Replacement/ Relocation

Project Goal: Provide sufficient air and vacuum relief on the RP-4 Outfall Pipeline

Total Project Budget: $665 K
Project Completion: June 2019
Percent Complete: 33%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design (Current)	CASC	$68 K	0.0%
Construction	-	$0	0.0%

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EN19025/EN23002 – Force Main Improvements

Project Goal: Replace aging pipelines and install access points for proper maintenance

EN19025/EN23002
Total Project Budget: $6.2 M
Project Completion: February 2021
Percent Complete: 14%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design (Current)	GHD	$888 K	1.6%
Construction	-	$0	0.0%

EN19010 – RP-4 Influent Screen Replacement

Project Goal: Replace fine screens with a reliable/efficient screening system

Design-Build

Total Project Budget: $3 M
Project Completion: January 2020
Percent Complete: 0%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design	-	$0	0.0%
Construction	-	$0	0.0%

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