

NOTICE OF MEETING

**OF THE
REGIONAL SEWERAGE PROGRAM
POLICY COMMITTEE**

OF THE



**WILL BE HELD ON
THURSDAY, FEBRUARY 6, 2020
4:00 P.M.
BOARDROOM
AT THE OFFICE OF THE AGENCY
6075 KIMBALL AVENUE, BUILDING A
CHINO, CA 91708**



Regional Sewerage Program Policy Committee Meeting

AGENDA

**Thursday, February 6, 2020
4:00 p.m.**

Location

Inland Empire Utilities Agency
Boardroom
6075 Kimball Avenue
Chino, CA 91708

Call to Order and Roll Call

Pledge of Allegiance

Public Comment

Changes/Additions/Deletions to the Agenda

1. Technical Committee Report (Oral)

- Regional Contract Negotiations Update

2. Action Item

- A. Meeting Minutes for November 7, 2019
- B. RP-4 Primary Clarifier and Process Rehabilitation Construction Contract Award

3. Informational Items

- A. Draft California 2020 Water Resilience Portfolio

4. Receive and File

- A. Building Activity Update
- B. Recycled Water Distribution – Operations Summary
- C. Proposed 2020 IEUA Legislative Policy Principles
- D. State Legislative Report
- E. Rate Study Workshop #6 and #7
- F. 2020 Land Use Demand Model
- G. Pilot Return to Sewer Flow Study

(Continued)

5. Other Business

- A. IEUA General Manager's Update
- B. Committee Member Requested Agenda Items for Next Meeting
- C. Committee Member Comments
- D. Next Meeting – March 5, 2020

6. Adjournment

DECLARATION OF POSTING

I, Laura Mantilla, Executive Assistant of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of this agenda has been posted to the IEUA Website at www.ieua.org and posted in the foyer at the Agency's main office at 6075 Kimball Avenue, Building A, Chino, CA, on Thursday, January 30, 2020.



Laura Mantilla

ACTION ITEM

2A



Regional Sewerage Program Policy Committee Meeting

MINUTES OF NOVEMBER 7, 2019 MEETING

CALL TO ORDER

A meeting of the IEUA/Regional Sewerage Program Policy Committee was held on Thursday, November 7, 2019, at the Inland Empire Utilities Agency located at 6075 Kimball Avenue, Chino, California. Chairwoman Tenice Johnson, City of Montclair, called the meeting to order at 4:00 p.m.

ATTENDANCE

Committee Members:

Eunice Ulloa	City of Chino
Kathy Tiegs	Cucamonga Valley Water District
Art Bennett (Alternate)	City of Chino Hills
Phillip Cothran (Alternate)	City of Fontana
Kati Parker	Inland Empire Utilities Agency
Tenice Johnson (Alternate)	City of Montclair
Jim Bowman	City of Ontario
Debbie Stone	City of Upland

Others Present:

Amanda Coker	City of Chino
Dave Crosley	City of Chino
Eduardo Espinoza	Cucamonga Valley Water District
Katie Gienger	City of Ontario
Nicole deMoet	City of Upland
Steve Nix	City of Upland
Kathy Besser	Inland Empire Utilities Agency
Jerry Burke	Inland Empire Utilities Agency
Pietro Cambiaso	Inland Empire Utilities Agency
Javier Chagoyen-Lazaro	Inland Empire Utilities Agency
Christiana Daisy	Inland Empire Utilities Agency
Randy Lee	Inland Empire Utilities Agency
Laura Mantilla	Inland Empire Utilities Agency
Jesse Pompa	Inland Empire Utilities Agency
Cathleen Pieroni	Inland Empire Utilities Agency
Ken Tam	Inland Empire Utilities Agency

Others Present Continued:

Christina Valencia	Inland Empire Utilities Agency
Sally Lee	Inland Empire Utilities Agency

PLEDGE OF ALLEGIANCE

Tenice Johnson/City of Montclair led those present in the pledge of allegiance to the flag. A quorum was present.

PUBLIC COMMENTS

There were no public comments.

ADDITIONS/CHANGES TO THE AGENDA

There were no additions or changes to the agenda.

1. TECHNICAL COMMITTEE REPORT

Nicole deMoet/City of Upland gave an update on the following:

- July 25, 2019 Regional Sewerage Program Technical (Tech) Committee Meeting minutes were approved with corrections made to Information Item C of changing 76,000 AF to 6,000 AF.
- Lower Day Basin Improvement Construction Contract Award – Ms. deMoet reported that the Lower Day Basin Improvement Construction Contract Award was recommended for approval.
- 1158 East & West Reservoir Rehabilitation Construction Contract Award – Ms. deMoet reported that the 1158 East & West Reservoir Rehabilitation Construction Contract Award was recommended for approval.
- Proposed Multi-Year EDU Monthly Rate Adoption for Fiscal Years 2020/21 and 2021/22 – Ms. deMoet stated that the Proposed Multi-Year EDU Monthly Rate Adoption for Fiscal Years 2020/21 and 2021/22 was recommended for approval after a brief and informative presentation from IEUA's finance department.

2. ACTION ITEMS**A. APPROVAL OF THE MINUTES OF THE AUGUST 1, 2019 POLICY COMMITTEE MEETING**

Motion: By Jim Bowman/City of Ontario and seconded by Kathy Tiegs/CVWD to approve the meeting minutes of the August 1, 2019 Regional Policy Committee meeting.

Motion carried: Approved with Phillip Cothran/City of Fontana and Eunice Ulloa/City of Chino abstaining.

B. LOWER DAY BASIN IMPROVEMENT CONSTRUCTION CONTRACT AWARD

Jerry Burke/IEUA gave a presentation on the Lower Day Basin Improvement Construction location, project scope, contract selection, budget and schedule, and staff recommendation. He explained that this project is part of the recharge master plan update and the goal is to increase the groundwater recharge by approximately 1,000 AFY by making a small modification in the basin.

Motion: By Debbie Stone/City of Upland and seconded by Phillip Cothran/City of Fontana to recommend to the IEUA Board of Directors to award the construction contract for the Lower Day Basin Improvement, Project No. RW15004, the lowest, responsive bidder, Ferreira Coastal Construction Co., for the not-to-exceed amount of \$2,988,000.

Motion carried: Unanimously approved.

C. 1158 EAST & WEST RESERVOIR REHABILITATION CONSTRUCTION CONTRACT AWARD

Jerry Burke/IEUA gave a presentation on the 1158 East & West Reservoir Rehabilitation Construction location, project scope, contract selection, budget and schedule, and staff recommendation. Mr. Burke explained why the bids received were higher than the engineer's estimate. He also stated that there are optional bid items in this contract due to the nature of the paint.

Kati Parker/IEUA clarified that these are recycled water reservoirs.

Motion: By Jim Bowman/City of Ontario and seconded by Art Bennet/City of Chino Hills to recommend to the IEUA Board of Directors to award the construction contract for the 1158 East & West Reservoir Rehabilitation, Project Nos. EN21004/22004, to the lowest, responsive bidder, Spiess Construction Company, Inc., for the not-to-exceed amount of \$2,715,800.

Motion carried: Unanimously approved.

D. PROPOSED MULTI-YEAR EDU MONTHLY RATE ADOPTION FOR FISCAL YEARS 2020/21 AND 2021/22

Christina Valencia/IEUA gave a presentation on the proposed multi-year EDU monthly rate adoption for Fiscal Years (FYs) 2020/21 and 2021/22 in combination with Information Item 3C, the 2020 Rate Study Update and Information Item 4D, FY 2018/19 Fourth Quarter Budget Variance Report. Ms. Valencia gave a background of the 5-year rate adoption and workshops. She stated that during the workshop, the city of Fontana had requested to adopt the EDU rate slightly earlier in January/February 2020 to accommodate their Prop 218 process. All contracting agencies were agreeable, and the rates were unanimously recommended to be approved at the October 31, 2019 Technical Committee. She gave an overview on the proposed monthly EDU rate for the next two FYs, background of the EDU formula, performance of a form and load study to more appropriately define the EDU, timeline to complete the study and evaluation of impact on rates. She also reviewed the projected and actual cost of service, rates approved and proposed, timeline to approve all other rates, and staff's recommendation.

Ms. Tiegs asked for clarification on the water resources program rates. Ms. Valencia stated that the water use efficiency program is the regional conservation program, including landscaping and rebates, which is overseen by Ms. Lisa Morgan-Perales in the Planning & Environmental Resources department. Ms. Tiegs asked for this section to be more clearly defined.

Motion: By Phillip Cothran/City of Fontana and seconded by Eunice Ulloa/City of Chino to recommend to the IEUA Board of Directors approve the proposed multiyear Equivalent Dwelling Unit (EDU) Monthly rate for Fiscal Years (FYs) 2020/21 and 2021/22 for the Agency's Regional Wastewater Operations and Maintenance fund.

Motion carried: Unanimously approved.

3. **INFORMATIONAL ITEMS**

A. **REGIONAL CONTRACT UPDATE**

Eduardo Espinoza/Cucamonga Valley Water District gave an update on the Regional Contract negotiations. He shared that since July, there have been two formal meetings with all the contracting agencies, IEUA, and Kearns & West. He stated that they have been satisfied with the progress of the negotiations and working with IEUA and Kearns & West. There have been discussions on various issues, agreements on several terms, and produced terms sheets on agreements made. He commented that over the past couple months, there have not been many meetings with Kearns & West. He stated that the contract agencies decided to meet to have more candid conversations as a caucus, working on issues on recycled water such as the Santa Ana River obligation, third party agreements, and monthly peaking. The first caucus meeting was held in March 2019 at the Cucamonga Valley Water District's office and a couple key individuals within the contracting agencies have been assigned to take notes and produce terms sheets and proposals to consider. He noted that Kearns and West have been helpful in vetting the proposals. He stated that a term sheet regarding third party agreements is almost completed and most recently, they are working on the matter of governance. It has been difficult to find time to meet with the caucus, which has been addition to the Regional Contract negotiation meetings. All member agencies recognize the importance of meeting regularly and maintain their commitment. A schedule has been created to ensure the group keeps moving forward on this matter. He acknowledged Mike Harty and Terra Alpaugh from Kearns and West who has been joining the caucus meeting and creating useful documents for contracting agencies. He also acknowledged Mike Harty from Kearns and West and the subcommittee of the Caucus group, Katie Gienger, Amanda Coker, Courtney Jones. He stated that there has been trust built throughout this process with continued collaboration.

B. **RP-5 EXPANSION UPDATE AND FINANCIAL PLANNING WORKSHOP**

Mr. Burke gave a presentation on the RP-5 Expansion Project with the description of the project, project budget and schedule, timeline of the project milestones, transition from the design phase to the construction phase, and pre-qualified construction team.

Javier Chagoyen-Lazaro/IEUA gave a presentation on the financial aspect of the project by giving an overview of the RP-5 Project within the Ten Year Capital Improvement Plan (TYCIP), how RP-5 will be financed, project cash flow and funding sources, existing annual debt service, project annual debt service, future financing and annual debt service, considerations in how to mitigate debt service cost increases, outstanding principal debt, debt coverage ratio, and the financing timeline.

Ms. Tiegs requested an estimate by agency of the potential rate increase if the federal funding was not granted.

Ms. Valencia stated that the Agency is pursuing the lowest cost of borrowing, which is the State Revolving Fund (SRF) loan and the WIFIA programs, and the Agency has been successful with SRF loans in the past. She added that the Agency has a double A rating, which is a high-grade investment grading, giving the Agency every opportunity to look to the market. She stated that the Agency does not anticipate an impact on rates at this time. The Agency has been planning for this and in 2015 the Agency paid down a significant amount of the bonds in the anticipation to ensure the debt capacity is there. She also stated that the debt coverage ratio is also very healthy, which gives the Agency many options on how to structure the debt moving forward.

Mr. Cothran stated that this decision is not just for constituents of today but those far into the future as the debt will be being paid off. Mr. Chagoyen-Lazaro shared that by paying debt over time, the Agency is distributing costs to future users as well those who benefits today. This rationale supports this level of project that requires long term debt financing. Mr. Cothran asked if staff had considered the possibility of a recession in the near future, with less connection fees and less rates being applied. Mr. Chagoyen-Lazaro stated that the Agency have asked member agencies for their projections. Using those numbers, the Agency plans for necessary facility expansions and is very conservative in their projections of future connection fee revenue.

C. 2020 RATE STUDY UPDATE

Chairwoman Johnson stated that this item was covered under 2D and asked if any Committee Members had any additional questions. There were no additional questions.

D. SAR UPPER AGENCY FLOWS MOU

Ken Tam/IEUA stated that this agreement is between IEUA, Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), Western Municipal Water District (WMWD). In 2013, these parties and seven other partners began work on the Upper Santa Ana River Multiple Species Habitat Conservation Plan (HCP). As the HCP is nearing completion, the purpose of this MOU is to reaffirm the commitments of the four leading agencies to continue to work in collaboration on the water supply project on the Santa Ana River consistent with the 1969 Santa Ana River Judgment. This MOU will also memorialize the desire of all four agencies to coordinate management of the wastewater discharges into the Santa Ana River, in support of the strategy that are within the HCP. This item is scheduled to be brought forth to the IEUA Board of Directors on November 20, 2019. An update on the HCP will also be provided at that time.

E. PFAS UPDATE

Pietro Cambiaso/IEUA gave an overview of what perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFAS) are, PFOA and PFAS sources, drinking water regulatory requirements, testing challenges, how the Agency is monitoring the data, potential impacts to the Agency, different treatment technologies, and the Agency's plan of response. He also expanded on testing requirements and capabilities.

F. GRANTS DEPARTMENT SEMI-ANNUAL UPDATE

Jesse Pompa/IEUA gave an overview of the history of grants and the SRF loan funding programs, active grants and SRF loans, current funding applications, SRF loan projects on State Water Resources Control Board fundable list, total interest savings, and the Climate Change Action Plan (CCAP).

G. LEGISLATIVE UPDATE

Cathleen Pieroni/IEUA provided the following legislative updates:

- October 13, 2019 was the deadline for all bills going to Governor Newsom for consideration to be signed into law. Legislature sent the Governor 1,042 bills and he vetoed 16.5 percent of those bills (172 bills). Ms. Pieroni stated that this is a high veto rate, tying Governor Brown's highest number of bills vetoed. The current Governor's vetoes reflected his spending concerns.
- SB 1 (Pro Tem Atkins), the Anti Backsliding Bill, aimed to pin all the environmental and labor laws and regulations on the last day of the Obama administration. Ms. Pieroni stated that the Governor vetoed this bill. IEUA opposed this bill and this action was positive for water supply reliability.
- SB 332 (Hertzberg), a similar bill to SB 163, was potentially impactful on wastewater as it would have required for each NPDES permit holder and affiliated water supplier to drastically reduce discharges by 50 percent by 2030 and 95 percent by 2040. This was a issue for IEUA with its brine line and the cost of having to purify all the water. She stated that an email was received from the California Oceans Protection Counsel stating that they are looking to reduce 80 to 100 percent of all coastal discharges by the year 2040. She stated that this announcement was posted today, comments are due on November 11, 2019, and Counsel will rule on it on November 13, 2019.
- Water Resiliency Portfolio - The Governor directed all state agencies to recommend a suite of priorities and actions to build a climate resilient water system and healthy water ways. She stated that she is hopeful to see some funding associated with the package. A draft of the program is anticipated to be distributed in the next week.
- Bond measures – SB 45, AB 352, AB 1298 all promoted a legislative route of bonds up to \$7.8 billion for wildfire prevention, safe drinking water, drought preparation, and flood protection. Joseph Caves initiative is going the signature gathering route to get additional bond funding. In total, there are four bond initiatives.
- ACWA, California Municipal Utilities Association (CMUA), and other agencies are working for potential new bill sponsorship in 2020, some of which have to do with the public safety power shutoffs (PSPS), ensuring that water agencies have the necessary generator usage in power shutoffs because there are regulations that limit that currently.
- It is hopeful that MWD will work with CMUA in the sponsorship of a bill that the MWD Board of Directors passed this week to address the PFAS issue. They are proposing a bill that will set up an independent program to evaluate constituents of emerging concern, to have a systematic approach to evaluate within the body of science of what is being brought forth to the regulators.

4. RECEIVE AND FILE**A. LETTER TO REGIONAL CONTRACTING AGENCIES RE: CBP**

Corresponding Letters to the Regional Contracting Agencies regarding the Chino Basin Program was received and filed by the Committee.

B. GROUNDWATER RECHARGE/RECYCLED WATER SEMI-ANNUAL UPDATE

The Groundwater Recharge/Recycled Water Semi-Annual Update was received and filed by the Committee.

C. PLANNING & ENVIRONMENTAL RESOURCES ANNUAL REPORTS

The Planning & Environmental Resources Annual Reports was received and filed by the Committee.

D. FY 2018/19 FOURTH QUARTER BUDGET VARIANCE REPORT

The FY 2018/19 Fourth Quarter budget variance, performance goal updates, and budget transfers were received and filed by the Committee.

E. BUILDING ACTIVITY REPORT

The Building Activity Report for August 2019 was received and filed by the Committee.

F. ENGINEERING QUARTERLY UPDATE

The Engineering Quarterly Update was received and filed by the Committee.

G. RECYCLED WATER DISTRIBUTION – OPERATIONS SUMMARY

The Recycled Water Distribution Operations Summary for September 2019 was received and filed by the Committee.

H. IEUA RATE STUDY WORKSHOP #4 AND #5

The IEUA Rate Study Workshop #4 and #5 were received and filed by the Committee.

5. OTHER BUSINESS**A. IEUA GENERAL MANAGER'S UPDATE**

- Ms. Valencia stated that General Manager Shivaji Deshmukh is out today and asked her to bring this item on his behalf. She reminded everyone that as part of the 2020 rate study, IEUA has asked their member agencies to let the Agency know if they want to meet one on one. Four member agencies have requested a meeting and staff has met with two of them to date. She stated that the November and December Technical Committees fall on major holidays. The Technical Committee has decided to cancel the November and December Technical Committee meetings unless there are urgent matters that need to be addressed. She brought it to the Policy Committee to see what they would like to do for the December and January Policy Committees.

B. COMMITTEE MEMBER REQUESTED AGENDA ITEMS FOR NEXT MEETING

There were no requested agenda items from the Committee members.

C. COMMITTEE MEMBER COMMENTS

Ms. Tiegs stated that it was been a pleasure serving on the Policy committee and this will be her last Policy Committee meeting.

D. NEXT MEETING – FEBRUARY 6, 2019**6. ADJOURNMENT**

The meeting was adjourned at 5:26 p.m.

Transcribed by:

Sally Lee, Executive Assistant

ACTION ITEM

2B

Date: January 2020/February 2020

To: Regional Committees

From: Inland Empire Utilities Agency *AM*

Subject: RP-4 Primary Clarifier and Process Rehabilitation Construction Contract Award

RECOMMENDATION

It is requested that the Regional Committees recommend the Inland Empire Utilities Agency (IEUA) Board of Directors award the construction contract for the Regional Water Recycling Plant No. 4 (RP-4) Primary Clarifier and Process Rehabilitation, Project Nos. EN17043/EN17110, to the lowest, responsive bidder for the not-to-exceed amount of \$10,553,000.

BACKGROUND

RP-4 continues to treat wastewater as a scalping plant; however, several components of the treatment process require repair, new installations, and demolition. The scope of the project includes structural rehabilitation and a myriad of upgrades to process facilities throughout the entire plant including headworks, primary/secondary clarifiers, aeration basins, etc.

On December 17, 2019, IEUA received three construction bids from a group of seven pre-qualified contractors. W.M. Lyles Co., was the lowest responsive, responsible bidder with a bid price of \$10,553,000; Engineer's estimate was \$13,120,000.

The following table presents the anticipated project cost:

Description	Estimated Cost
Design Services	\$1,945,094
Design Consultant Contract	\$1,645,094
IEUA Design Services (actuals)	\$300,000
Construction Services	\$1,947,474
Engineering Services During Construction	\$847,474
IEUA Construction Services (~10%)	\$1,100,000
Construction	\$11,608,300
Construction (This Action)	\$10,553,000
Contingency (~10%)	\$1,055,300
Total Project Cost (This Project):	\$15,500,868
Total Project Cost (Trident Filter):	\$5,000,000
Total Project Cost (Aeration Basin Rehabilitation):	\$6,500,000
Total Project Cost:	\$27,000,868
Total Project Budget:	\$28,643,938

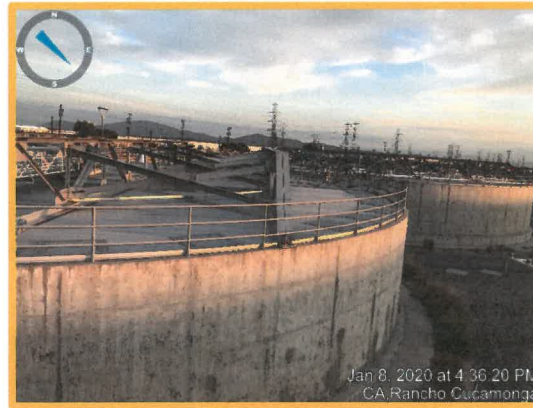
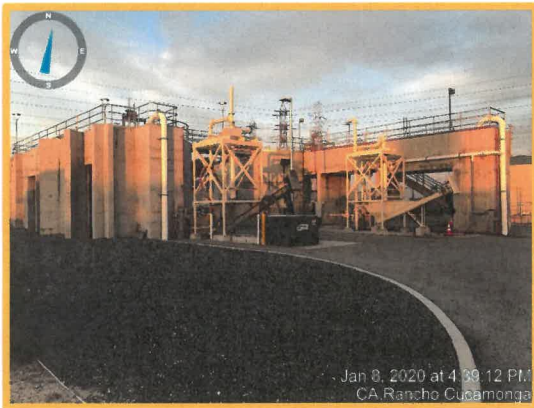
The following is the project schedule:

Project Milestone	Date
Construction Contract Award	February 2020
Construction Completion	August 2021

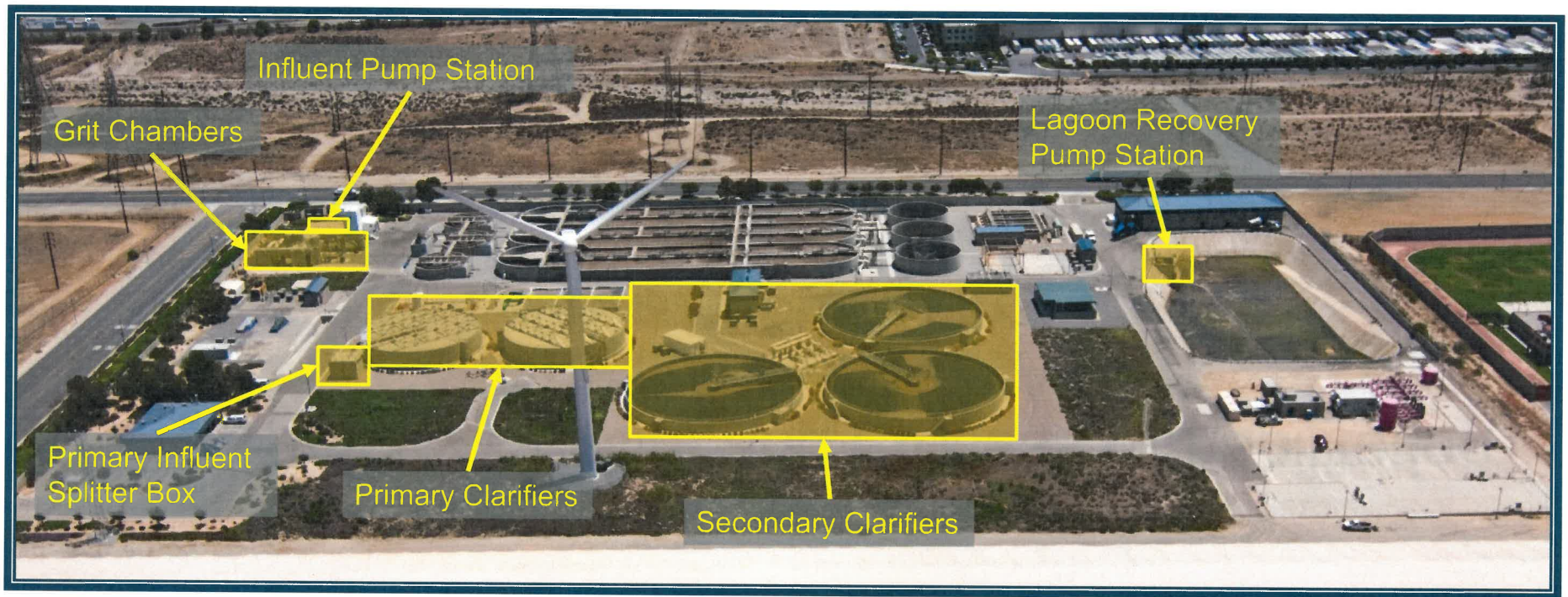
The RP-4 Primary Clarifier and Process Rehabilitation Project is consistent with IEUA's Business Goal of Wastewater Management, specifically the Asset Management objective that IEUA will ensure the treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, and can accommodate changes in regional water use.

RP-4 Primary Clarifier and Process Rehabilitation Construction Contract Award

Project No. EN17043 & EN17110



Project Location

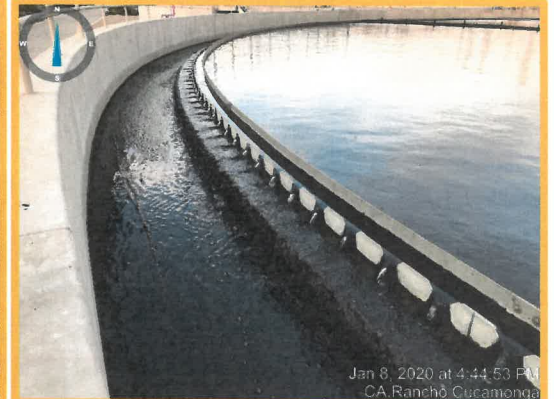


The Project

- Perform concrete rehabilitation and mechanical upgrades to RP-4
- Scope of Work:
 - Reestablish Grit Chamber No. 1
 - Replace/Rehabilitate internal components of primary clarifiers
 - Improve primary sludge wasting
 - Install sun covers and scum pump station for secondary clarifiers
 - Reconfigure Lagoon Pump Station



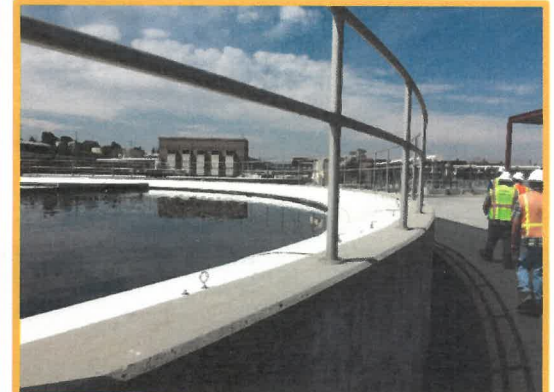
Influent Pump Station



Secondary Clarifier Effluent Channel



3 Lagoon Pump Station



Clarifier Weir Cover Example

Contractor Selection

Three bids were received on December 17, 2019:

Bidder's Name	Final Bid Amount
W.M. Lyles Co.	\$10,553,000
Stanek Constructors, Inc.	\$10,556,000
J.F. Shea Construction, Inc.	\$11,600,000
Engineer's Estimate	\$13,120,000

Project Budget and Schedule

Description		Estimated Cost	Project Milestone	Date
Design Services		\$1,945,094	Construction	
Design Consultant Contract		\$1,645,094	Construction Contract Award	February 2020
IEUA Design Services (actuals)		\$300,000	Construction Completion	August 2021
Construction Services		\$1,947,474		
Engineering Services During Construction		\$847,474		
IEUA Construction Services (~10%)		\$1,100,000		
Construction		\$11,608,300		
Construction Contract (this action)		\$10,553,000		
Contingency (~10%)		\$1,055,300		
Total Project Cost (This Project):		\$15,500,868		
Total Project Cost (Trident Filter):		\$5,000,000		
Total Project Cost (Aeration Basin Rehabilitation):		\$6,500,000		
Total Project Costs (All)		\$27,000,868		
Total Project Budget:		\$28,643,938		

Recommendation

- It is requested that the Regional Committees recommend the IEUA Board of Directors award the construction contract for the RP-4 Primary Clarifier and Process Rehabilitation, Project Nos. EN17043/EN17110, to the lowest, responsive bidder for the not-to-exceed amount of \$10,553,000.

The RP-4 Primary Clarifier and Process Rehabilitation Project is consistent with **IEUA's Business Goal of Wastewater Management**, specifically the Asset Management objective that IEUA will ensure the treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, and can accommodate changes in regional water use.

**INFORMATION
ITEM**

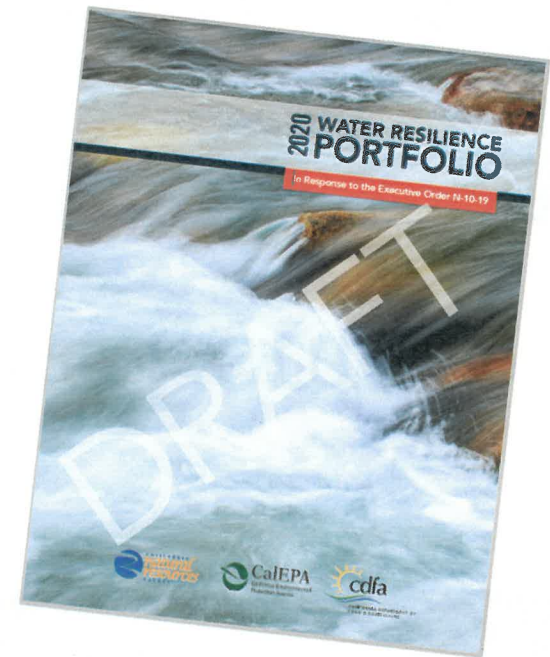
3A

Draft 2020 Water Resilience Portfolio



Background and Actions

- Executive Order N-10-19, April 2019
 - Develop a set of actions to meet California's water needs through the 21st century by:
 - Prioritizing multi-benefit approaches
 - Utilizing natural infrastructure
 - Encouraging regional approaches within watersheds
 - Incorporating successful approaches from other parts of the world
 - Integrating investments, policies, and programs across state government
 - Strengthening partnerships with local, federal and tribal governments, water agencies and irrigation districts, and other stakeholders



IEUA Engagement

- September 2019 – meetings with key State agencies
- October 2019 – IEUA letter to Ms. Vogel
 - Support integration and multi-benefit projects, such as Chino Basin Program
 - Support IRWM framework
 - Communication Plan needed
 - Develop metrics that define resilience and reliability instead of traditional “return on investment”
 - Focus and funding should be on projects addressing climate change and other impacts on water quality



Proposed Action Items

<http://waterresilience.ca.gov>

131 Recommended Actions within the Following Four Categories (with 32 subcategories):

- Maintain and Diversify Water Supplies
- Protect and Enhance Natural Systems
- Build Connections
- Be Prepared



Summary of Recommended Actions Impacting IEUA

- State Funding

- Plan, permit and build Delta conveyance (tunnel)
- Increase SRF funding capacity, pilot stormwater projects for SRF funding
- Fund the State Water Efficiency and Enhancement Program and prioritize on-farm irrigation efficiency projects to DAC farmers in stressed SGMA areas
- Fund water reuse and groundwater recharge projects with multiple benefits
- Encourage investments in upper watersheds
- Fund healthy soils program for farms/ranches
- Build on IRWM Program – structure funding sources to promote integrated solutions

- Regulatory

- Conservation: continue with SB 606/AB 1668 implementation
- Groundwater: continue with SGMA. Create flexible transfer markets
- Recycling/Reuse: complete direct potable reuse permitting regulations
- Stormwater: support cities in capturing stormwater
- Accelerate state permitting of WSIP projects
- Simplify permitting of multi-benefit/multi-partner projects, such as Voluntary Agreements
- Add requirement to UWMPs for districts receiving water from Delta-based projects to demonstrate efforts to reduce reliance

Discussion Regarding WSIP Recommendations

Expand smart surface water storage where it can benefit water supply and the environment

- 7.1. Accelerate state permitting and approvals of projects selected under Water Storage Investment Program (Proposition 1) so that they are ready to go; for example, advance the largest off-stream reservoir in the suite of projects – Sites Reservoir – in a manner that protects and enhances fish and wildlife and water reliability.
- 7.2. Acquire through contract a portion of storage, dedicated for environmental purposes, for the life of the water storage projects the Water Commission selected under the Water Storage Investment Program funded by Proposition 1.



Questions and Comments

RECEIVE AND
FILE

4A

Building Activity Report - YTD Fiscal Year 2019/20



Legend

- Service Area
- Unincorporated

EDU (YTD)

Residential

- ≤1.0
- 1.0 - 10.0
- >10.0

Commercial

- ≤1.0
- 1.0 - 10.0
- >10.0

Industrial

- ≤1.0
- 1.0 - 10.0
- >10.0

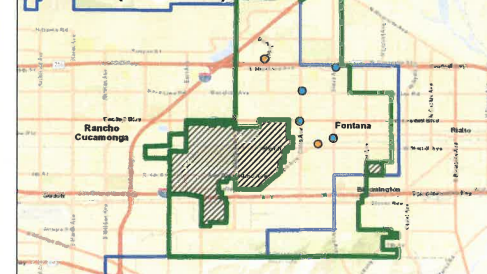
HALF MILE GRID: TOTAL EDU's (YTD)



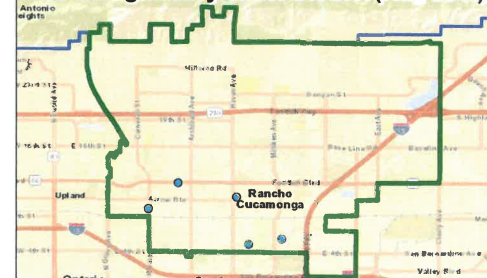
TOTAL EDU BY WASTEWATER CONNECTION TYPE (YTD)

Contracting Agency	YTD Actual			Total (EDUs)	Projected
	Commercial (EDUs)	Industrial (EDUs)	Residential (EDUs)		
Chino	22	5	226	253	470
Chino Hills	40	0	7	47	272
CVWD	48	1	17	66	1240
Fontana	41	0	252	293	595
Montclair	10	0	0	10	407
Ontario	110	43	490	643	2960
Upland	9	0	95	104	446
Total	280	49	1,087	1,416	6390

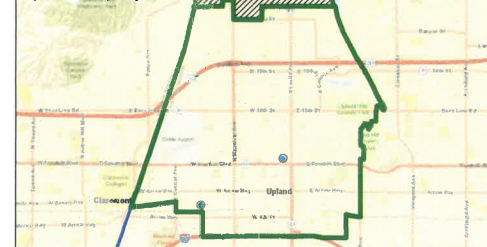
Fontana (Nov 2019)



Cucamonga Valley Water District (Nov 2019)



Upland (Nov 2019)



Chino Hills (Nov 2019)



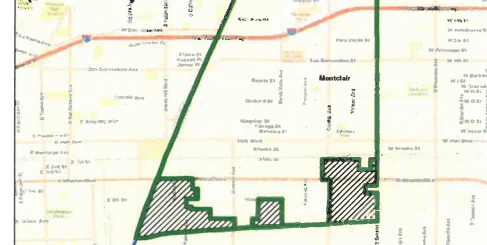
Chino (Nov 2019)



Ontario (Nov 2019)



Montclair (Nov 2019)



RECEIVE AND
FILE

4B

IEUA RECYCLED WATER DISTRIBUTION – DECEMBER 2019

TOTAL ALL PLANTS

Influent: 50.1 MGD

Delivered: 15.2 MGD

Percent Delivered: 30%

RP-4

Delivered: 7.4 MGD

RP-1

Delivered: 4.2 MGD

CCWRF

Delivered: 3.2 MGD

RP-5

Delivered: 0.4 MGD

Delivered For Groundwater Recharge

Storm/Local Runoff: 26.3 MGD 2,500 AFM

Imported Water (MWD): 27.0 MGD 2.577 AFM

SAWCo Transfers: 0.0 MGD 0 AFM

Recycled Water: 10.1 MGD 959 AFM

Total:	63.4 MGD	6,036 AFM
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Creek Discharges

Prado Park (001):	1.9 MGD	181 AFM
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RP-1 (002):	22.7 MGD	2,160 AFM
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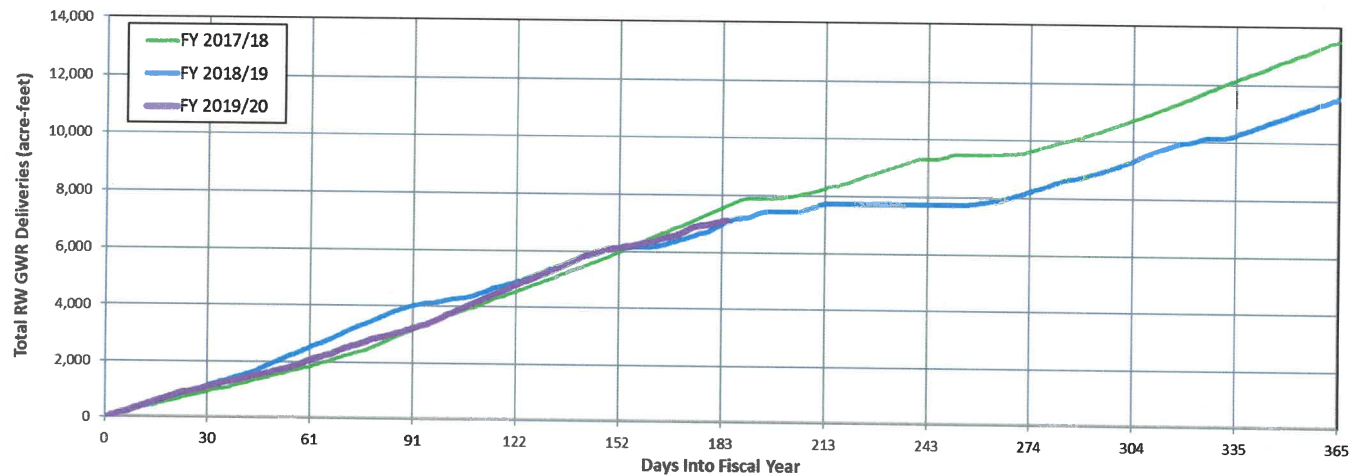
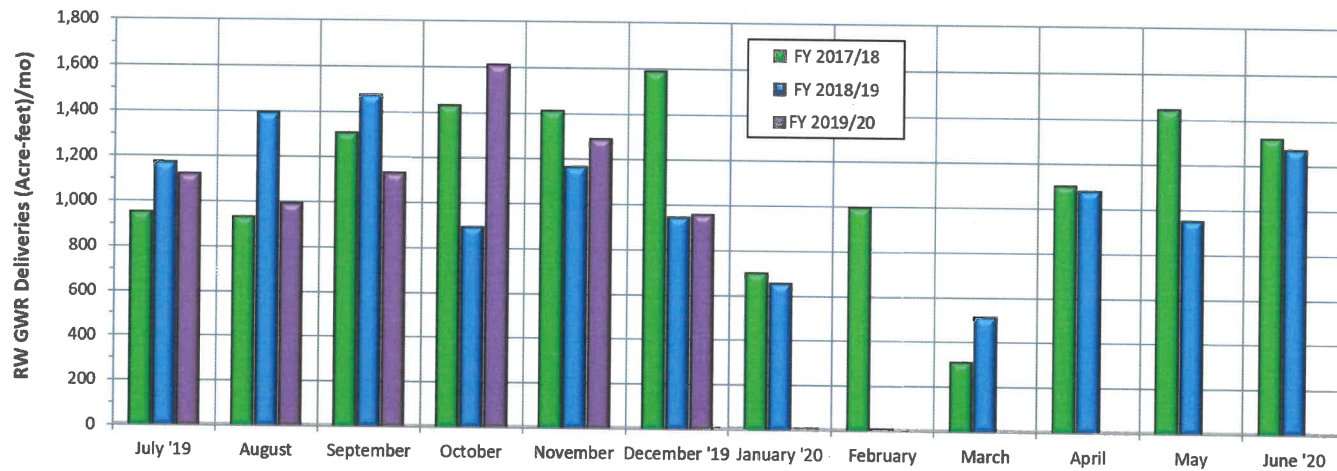
RP-5 (003):	9.4 MGD	895 AFM
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CCWRF (004): 4.6 MGD 438 AFM

Total:	38.6 MGD	3,674 AFM
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Recycled Water Recharge Deliveries / Plan - December 2019 (Acre-Feet)

Basin	12/1-12/8	12/9-12/15	12/16-12/22	12/23-12/31	Month Actual	FY To Date Actual	Deliveries are draft until reported as final.
Ely	0.1	0.0	42.8	0.8	43.7	615	
Banana	0.0	7.3	16.9	0.0	24.2	746	
Hickory	0.0	0.0	30.0	0.0	30.0	152	
Turner 1 & 2	0.0	0.0	0.0	0.0	0.0	199	
Turner 3 & 4	0.0	0.0	0.0	0.0	0.0		
8th Street	0.0	0.0	0.0	0.0	0.0	614	
Brooks	0.0	0.0	31.2	0.0	31.2	561	
RP3	196.4	204.7	201.8	202.6	805.5	3232	
Declez	0.0	0.0	0.0	0.0	0.0	407	
Victoria	0.0	0.0	27.0	0.0	27.0	591	
San Sevaine	0.0	0.0	0.0	0.0	0.0	0	
Total	196.5	212.0	349.7	203.4	961.6	7,117	945 AF previous FY to day actual



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Proposed 2020 IEUA Legislative Policy Principles

Water Resources and Systems Resiliency

- Support administrative/legislative and/or regulatory activities that preserve IEUA's and the region's ability to pursue water supply options and oppose constraints on supply development.
- Support administrative and legislative actions promoting the resiliency and improved operability of IEUA's systems.
- Support administrative and legislative action to identify and promote the use of salt-less water softening technology. Oppose any efforts to endorse salt-based technologies.
- Support administrative and legislative actions that protect, respond and plan for drought conditions while maintaining the necessary environmental protections.
- Support administrative and legislative actions on water-use efficiency that create and/or improve regulations and mandates recognizing the variations among the different communities, regions and counties with respect to their capability of withstanding the impacts of drought.
- Support administrative and legislative actions that promote and/or improve water quality from various constituents including salinity, perchlorates, nitrates and volatile organic compounds.
- Support alternative efforts to a sustainable approach to ensure every Californian has access to safe, clean and reliable water and oppose efforts to impose public goods charge.
- Support member agency and regional legislative positions that align with IEUA's current policy principles.

Organics Recycling/Compost Use

- Support legislation that promotes the use of compost for multiple uses such as erosion control to protect water resources, water conservation, fire ravaged land remediation, and healthy soils.
- Support administrative and legislative approaches for connecting carbon sequestration with healthy soils and the use of compost.

Regulations/Compliance

- Support regulations that restrict the use of uncomposted and contaminated organics in commercial compost products.
- Support administrative and legislative actions for environmental compliance (e.g., air, water, hazardous materials and waste) that provide for regulatory compliance flexibility, promote consistency and reduce regulatory redundancy.
- Support the development of Public Health Goals (PHGs), Response Levels (RLs), Notification Levels (NLs) or Maximum Contaminant Levels (MCLs) that are established in a process affording robust opportunities for scientific review and public comment and that consider feasibility and implementation costs. Support administrative/legislative actions to improve clarity and workability of California Environmental Quality Act (CEQA) and eliminate other duplicative state processes.
- Actively monitor and participate where appropriate in the development of water use efficiency regulations.

Energy

- Promote water-energy nexus administrative/legislative and/or regulatory activities that preserve IEUA's and the region's ability to pursue supply options and oppose constraints on supply development.
- Support administrative and legislative actions that remove barriers and encourage energy sector investments in water conservation and energy management programs.
- Support legislation and other programs that would increase the value of the Renewable Energy Credits (RECs) generated and sold by wastewater treatment agencies that utilize their renewable energy on-site in California.
- Support legislation and other programs that would facilitate self-generation projects interconnection to the electric grid by reducing interconnection costs, metering requirements, project review process and timeline.
- Support administrative and legislative actions that encourage renewable energy through organics management, including landfill diversion.

Financial

- Support maintaining tax exempt status for municipal debt.
- Support measures to reduce the cost of financing water infrastructure projects.
- Support efforts to reauthorize, increase of the funding cap federal funding, and extension of Title XVI/WIIN grant program, the federal EPA/State Revolving Loan program, and other funding mechanisms.
- Support funding and incentive programs to promote water use efficiency, including EPA's *WaterSense* program, education programs and tax exemptions incentives.
- Support funding programs that promote energy efficiency, increase renewable generation, strengthen local grids and energy reliance.
- Support federal funding for drought relief and adaptive water management opportunities in California.
- Advocate for funding that ensures a fair and equitable financing process for the public.
- Support efforts to reinstate public agency advanced bond refunding.
- Support funding opportunities that align with the Chino Basin Program and other regional programs promoting beneficial outcomes to IEUA and its member agencies.
- Support legislative or public initiatives that include bond funding for water projects.

Administrative/Other

- Support legislative actions that are aligned with the Agency's goals and objectives and support member agency and regional legislative positions.
- Support legislation that increases local control and limits additional financial burdens related to employee relations and collective bargaining that can be appropriately negotiated at the bargaining table.
- Oppose any measure that imposes mandates upon local government that are more properly decided at the local level.
- Support local government efforts to establish workforce engagement, succession planning and mentoring programs.

- Support legislation that streamlines the Workers' Compensation system and makes it easier for employers, employees, and health care providers to navigate.
- Support reform measures that provide sustainable and secure public pensions and other post-retirement benefits to ensure responsive and affordable public services.

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December 23, 2019

To: Inland Empire Utilities Agency

From: Michael Boccadoro
Beth Olhasso
Maddie Munson

RE: December Report

Overview:

A relatively dry fall turned itself around once December rolled in. Where over 90 percent of the state was experiencing drought conditions at the end of November, just 3.5 percent now has abnormally dry conditions. The snowpack is at 109 percent of normal for this time of the year and reservoirs, which never hit critically low levels in 2019, are starting to replenish.

The Public Policy Institute of California (PPIC) recently released a report titled “A Path Forward for California’s Freshwater Ecosystems.” The report highlights that while the Endangered Species Act (ESA) has been successful at protecting extinctions, it places an emphasis on reducing harm to listed species, rather than improving overall ecosystem conditions necessary to recover their populations.

The standoff over the Biological Opinions (BiOps) that permit the flow of water through and out of the Delta continues. As reported previously, the state announced that they were going to sue the federal government over the BiOps, but have yet to do so. Recently, Tom Birmingham, General Manager of Westlands Water District, sent a letter to the state stating that Westlands would have to pull out of the Voluntary Agreements should the state proceed with a lawsuit. He also asked the state to disclose their problems so an attempt can be made to make changes to the BiOps to alleviate any concerns. Additionally, Senator Diane Feinstein sent a letter to the Governor and Interior Secretary David Bernhardt urging them to work together to identify a solution.

December is a slow month in the Capitol. Final bill action was taken by Governor Newsom in October and members remain in their districts until January. Some planning is being done in preparation for the second year of the two-year session, but work will begin in earnest in January. It is believed that the Governor’s Water Resilience Portfolio will be released in January around the time of the budget release and the Governor’s State of the State address, at which time discussions on a resiliency/water/resources/wildfire bond will likely intensify.

Inland Empire Utilities Agency

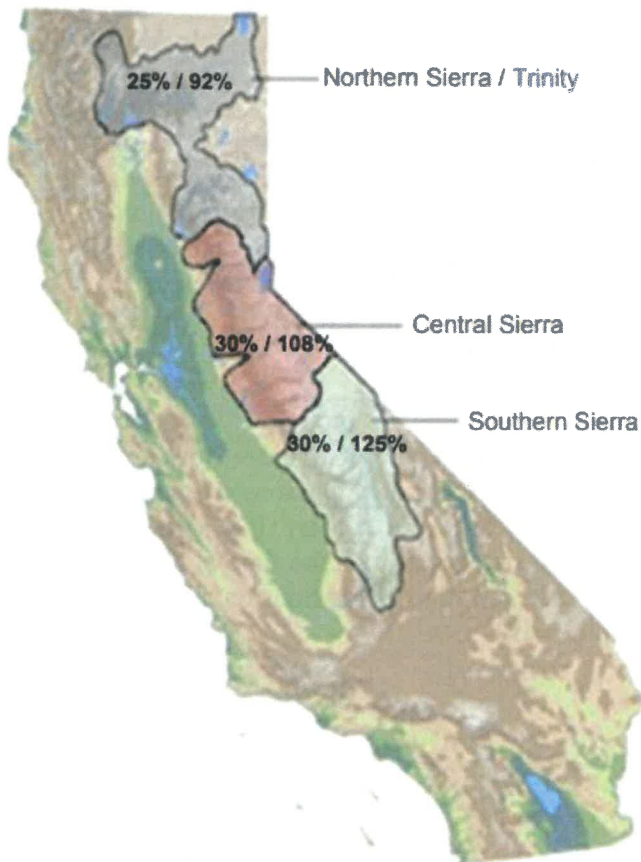
Status Report – December 2019

Water Supply Conditions

The high-pressure ridge that kept any significant precipitation away from California throughout the fall finally dissipated around the Thanksgiving holiday. At the end of November, over 90 percent of the state was experiencing abnormally dry conditions. By December 17, virtually all of the state was free of any drought conditions, with only 3.5 percent of the state experiencing abnormally dry conditions. Focus now shifts to the growing snowpack, as a healthy snowpack is the state's main way of storing water for the spring. While the first manual snow survey isn't set until after the first of the year, electronic sensors throughout the Sierras are measuring a snowpack at 109 percent of normal for this time of year. While this is a great start, Mother Nature still has a lot of work to do to build on the early storms with only 29 percent of the April 1 averages already on the ground.

Current Regional Snowpack from Automated Snow Sensors

% of April 1 Average / % of Normal for This Date



NORTH	
Data as of December 19, 2019	
Number of Stations Reporting	30
Average snow water equivalent (inches)	7.4
Percent of April 1 Average (%)	25
Percent of normal for this date (%)	92

CENTRAL	
Data as of December 19, 2019	
Number of Stations Reporting	42
Average snow water equivalent (inches)	9.1
Percent of April 1 Average (%)	30
Percent of normal for this date (%)	108

SOUTH	
Data as of December 19, 2019	
Number of Stations Reporting	27
Average snow water equivalent (inches)	7.5
Percent of April 1 Average (%)	30
Percent of normal for this date (%)	125

STATE	
Data as of December 19, 2019	
Number of Stations Reporting	99
Average snow water equivalent (inches)	8.1
Percent of April 1 Average (%)	29
Percent of normal for this date (%)	109

Statewide Average: 29% / 109%

PPIC Report on Ecosystem Management

The Public Policy Institute of California (PPIC) recently released a report titled “[A Path Forward for California’s Freshwater Ecosystems](#).” The report highlights that while the Endangered Species Act (ESA) has been successful at protecting extinctions, it places an emphasis on reducing harm to listed species, rather than improving overall ecosystem conditions necessary to recover their populations. It also notes that the ESA is not forward-looking enough to respond to change and reduce future species listings. They recommend a new ecosystem-based management system that emphasizes the simultaneous management of water, land and species to improve ecosystem condition for native biodiversity and human uses.

The report includes three “reform” initiatives:

Reform 1: Promote inclusive planning and governance: establish ecosystem-based management that relies on collaborative planning and governance:

- Identify the desired ecosystem condition
- Establish metrics
- Provide strong scientific support
- Set up transparent governance
- Ensure reliable funding

Reform 2: Employ multiple ecosystem management tools that go beyond traditional project of agency-specific approaches:

- Establish ecosystem water budgets
- Employ functional flows
- Manage flow and quality together
- Manage native and non-native species
- Manage at the appropriate scale

Reform 3: Encourage sustainable watershed management plans.

- Align agency actions
- Promote comprehensive agreements
- Set timelines and backstops
- Update water quality control plans
- Incentivize or mandate plans.

BiOps Next Steps

As reported last month, Governor Newsom has announced that the state will sue the Trump Administration over the recently released Biological Opinions (BiOps). However, the state has yet to file suit and no further detail has been given on what grounds will be included in the suit. Tom Birmingham, General Manager of Westlands Water District, recently sent a letter to Natural Resources Secretary Wade Crowfoot and CalEPA secretary Jared Blumenfeld outlining how such a lawsuit would require Westlands to pull out of the Voluntary Agreements. Birmingham notes that without certainty that comes with the BiOps, it would be impossible to reach an agreement with on the Voluntary Agreements.

The Voluntary Agreements are extremely important to Governor Newsom and Secretary Crowfoot. Newsom weighed in on the matter when he was still Governor-elect, and concerns of impacts to the Voluntary Agreements is the reason the Governor vetoed SB 1 (Atkins).

Birmingham asked the Secretaries to outline their concerns and noted that the federal government seemed open to working with the state to come up with an amicable solution without going to court. Senator Diane Feinstein posted the letter on Twitter that urged the Governor to work with Interior Secretary David Bernhardt to avoid “disastrous” consequences.

Legislative Update

December was a quiet month in the Capitol. With members back in their districts and all final action on bills taken by the Governor in October, there isn’t much to report on the legislative front. Attention is slowly turning to new bill ideas for January. Discussions of a broad resiliency bond continue, but remain very general as stakeholders await the release of the Water Resilience Portfolio, which will likely serve as an outline for water bond discussions. When members come back in January, things will move quickly with the Governor’s budget to be released by January 10, and all two-year bills needing to move out of their house of origin by January 31.

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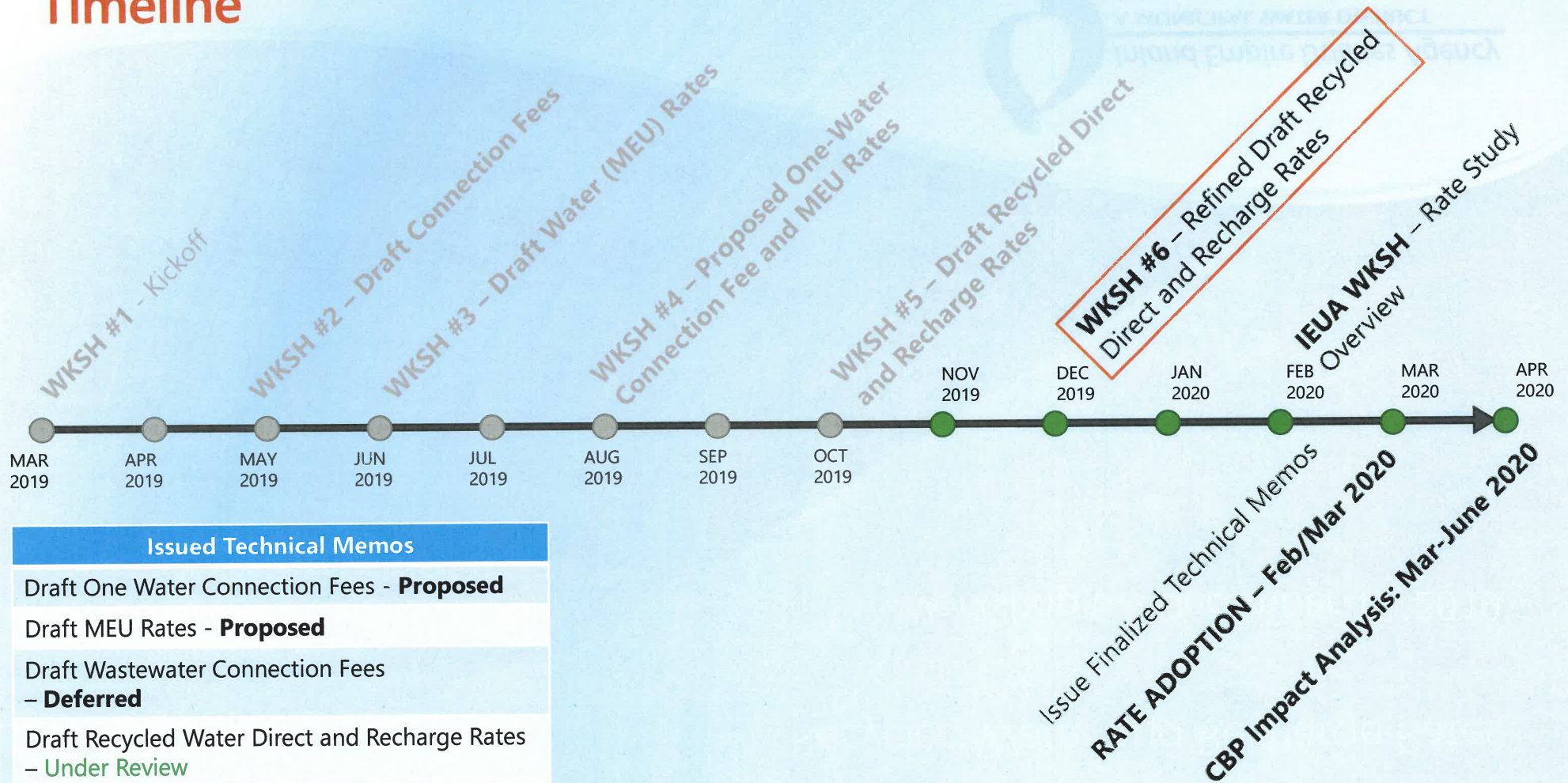


Recycled Water and Recharge Rates

Workshop 6 – December 16, 2019



Timeline



Rate Study Objectives

Establish rates that

- Meet cost/benefit nexus regulatory requirements, Prop 26
- Fully recover the cost of providing the service
- Continue to provide member agencies with a reliable, sustainable, cost effective local resource

IEUA Funding Strategy: Based upon a comprehensive and integrated approach

- ✓ Draft Analysis Complete
- ✓ Tech Memo Distributed
- ✓ Draft Recycled and Recharge Analysis Underway



- ✓ Approved rates for Fiscal Years 2020/21 and 2021/22

- ✓ Draft Analysis Complete
- ✓ Tech Memo Distributed



- ✓ Draft Analysis Complete
- ❑ On hold pending sampling study

2020 Rate Study

FY 2020/21 IEUA Proposed Rates/Fees

As July 1	Wastewater Connection Fee (EDU)	Monthly Sewer (EDU)	One Water Connection Fee (MEU)	Monthly Water (MEU)	Recycled Water Direct Use (AF)	Recycled Water Recharge (AF)
FY 2019/20 Adopted	\$6,955	\$20.00	\$1,684	\$1.04	\$490	\$550
FY 2020/21	\$7,164	\$20.60	\$1,735	\$1.06	TBD 2020 Rate Study	TBD 2020 Rate Study
FY 2021/22	\$7,379	\$21.22	\$1,787	\$1.08		
FY 2022/23	To be reviewed based on the sewer use evaluation results		\$1,841	\$1.10		
FY 2023/24			\$1,896	\$1.12		
FY 2024/25			\$1,953	\$1.14		

Monthly Sewer (EDU) Rates adopted November 20, 2019, effective July 1, 2020



Recycled Water Rate Structure Alternatives

Current Rate Structure: Rates per AF are calculated by dividing revenue requirements by projected usage

Calculated Direct Use Rates

TM Table 11: Recycled Water Direct Use Rate

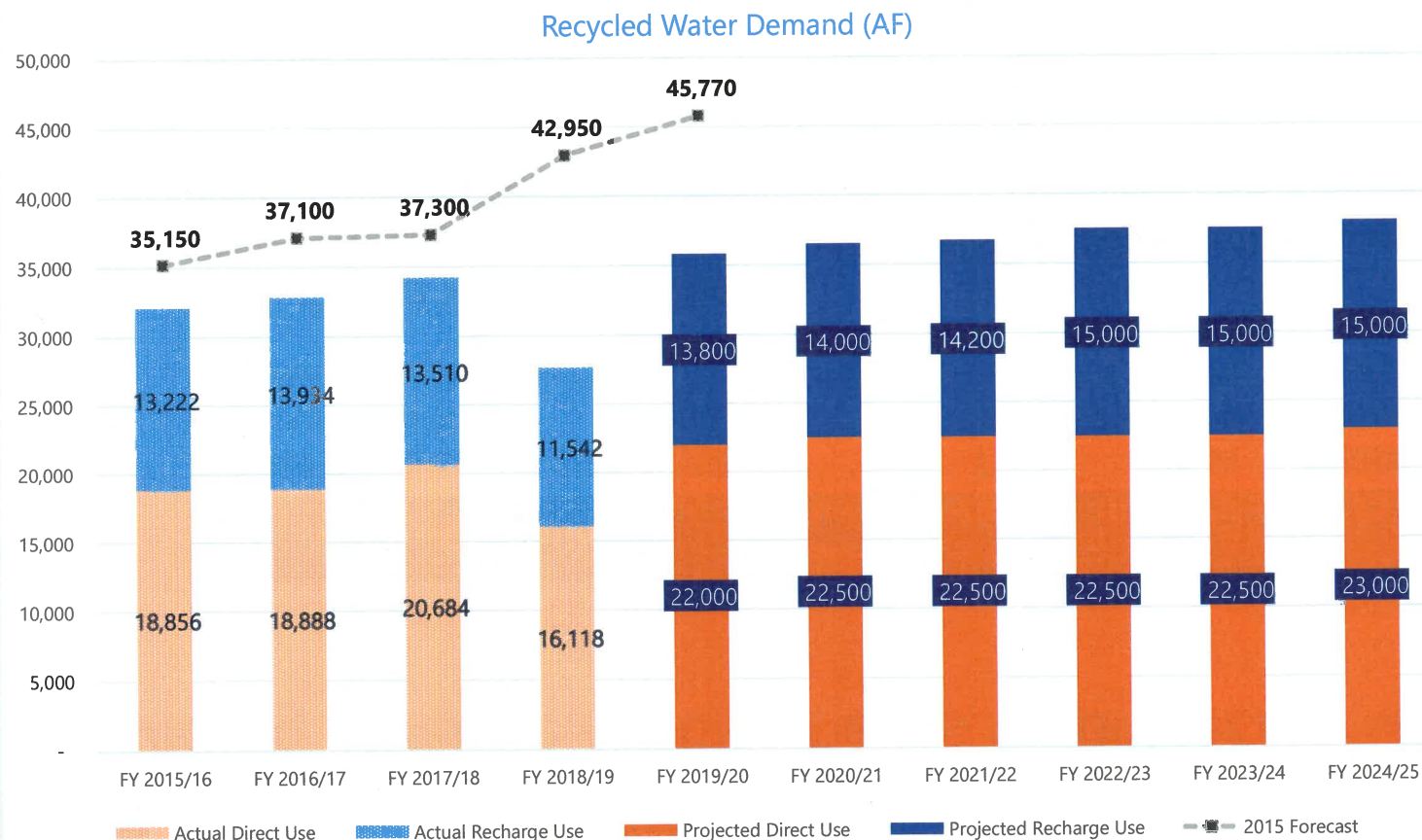
WC Rate Calculation	Current Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Required Revenues from Rates (\$Millions)		\$18.42	\$19.09	\$20.09	\$20.70	\$21.61
Projected Demands (AF)		36,500	36,700	37,500	37,500	38,000
Recycled Water Rate per AF	\$490	\$505	\$520	\$536	\$552	\$569

Calculated Recharge Rates

TM Table 12: Recharge Water Surcharge Rate

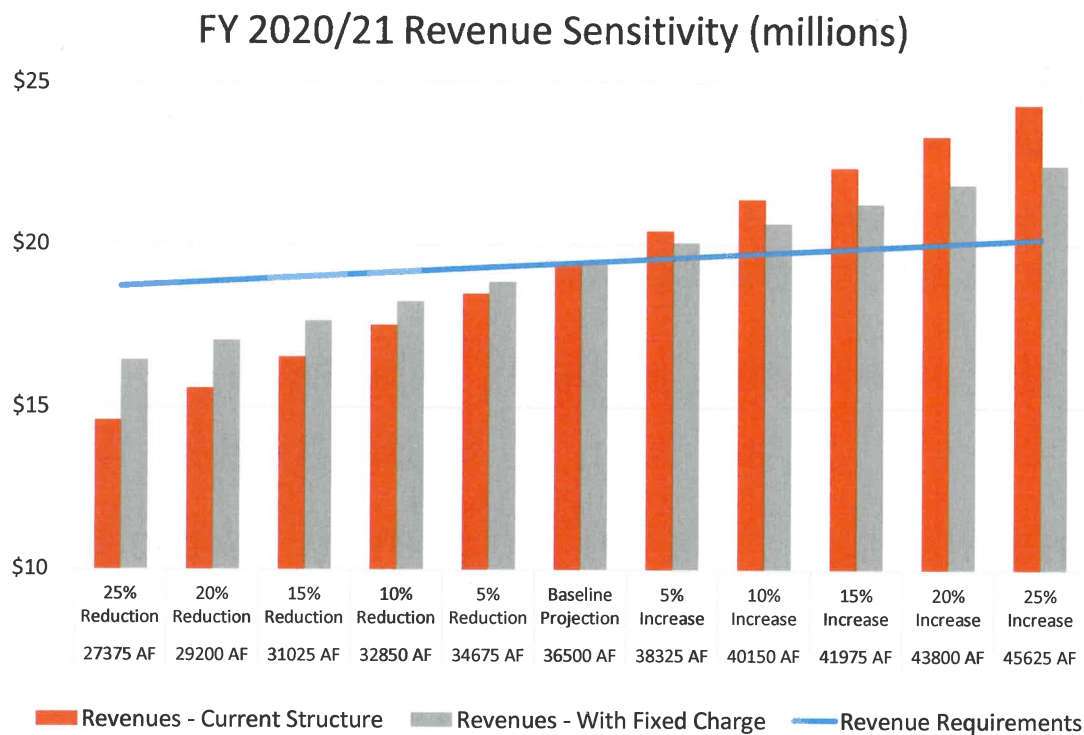
RW Rate Calculation	Current Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Required Revenues from Rates (\$Millions)		\$1.01	\$1.23	\$1.57	\$1.88	\$2.24
Projected Demands (AF)		14,000	14,200	15,000	15,000	15,000
Recharge Surcharge Rate per AF	\$60	\$72	\$87	\$105	\$125	\$149
Direct Usage Rate per AF	\$490	\$505	\$520	\$536	\$552	\$569
Total Recharge Rate per AF	\$550	\$577	\$607	\$641	\$677	\$718

Recycled and Recharge Usage:



- ~\$11 million in revenue shortfalls due to lower than projected deliveries between FYs 2015/16 – 2018/19

Fixed Rate Component: Will help to stabilize revenues for IEUA and costs for member agencies



- During times of **low usage**, the fixed charges will hold revenues higher to cover a greater share of fixed costs
- During times of **high usage**, the fixed charges will mitigate a portion of cost increases for member agencies

Fixed Rate Component: Annual debt service less offsetting revenues and transfers

- Recycled Water fund receives offsetting revenues for debt service from:
 - Property Taxes
 - Transfers from Regional Wastewater Capital Improvement (RC) fund
- Connection Fees for eligible debt service help smooth year-to-year changes in fixed revenue collection

TM Table 13: Direct Use Fixed Charge Revenue Requirement

RW Fixed Charge Revenues, (\$ Millions)	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Debt Service	\$9.12	\$9.47	\$9.42	\$9.41	\$9.18
Short Term Inter-Fund Loan	3.00	3.00	5.00	6.00	5.50
Fixed Offsetting Revenues and Transfers					
Property Tax - Debt and Capital	\$(2.17)	\$(2.17)	\$(2.17)	\$(2.17)	\$(2.17)
Transfer from RC Debt Service	(2.54)	(2.54)	(2.54)	(2.67)	(2.67)
Connection Fees for Debt Service	-	(0.10)	(1.63)	(2.25)	(1.15)
Fixed Rate Revenue Requirement	\$7.41	\$7.66	\$8.08	\$8.32	\$8.69

Note: Presented totals may vary from values above due to rounding for presentation purposes.

Alternative Rate Structure: Will set a specific amount of fixed costs to recover each year

- Volumetric rates would be calculated based on the total revenue requirements **less** fixed revenue requirements

TM Table 18: Direct Use Variable Revenue Requirement

Budget Item	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Total Revenue Requirement	\$18.42	\$19.09	\$20.09	\$20.70	\$21.61
Less: Fixed Rate Revenue Requirement	\$(7.41)	\$(7.66)	\$(8.08)	\$(8.32)	\$(8.69)
Variable Rate Revenue Requirement	\$11.01	\$11.43	\$12.01	\$12.38	\$12.92
Recycled & Recharge Water Demands (AF)	36,500	36,700	37,500	37,500	38,000
Direct Recycled Variable Water Rate (\$/AF)	\$302	\$311	\$320	\$330	\$340
Recharge Surcharge (\$/AF)	\$72	\$87	\$105	\$125	\$149
Total Recharge Variable Rate (\$/AF)	\$374	\$398	\$425	\$455	\$489

Rate Structure Alternatives

- **Presented 10/16/2019**

1. Retain current volumetric rate structure with per AF charges for direct and recharge use
2. Add a fixed component based on 3-year rolling average total use
3. Add a fixed component based on EDUs

- **Additional alternatives developed based on feedback from Workshop #5**

New Alternatives

4. Add a fixed component based on EDUs and 3-year rolling average
5. Add a fixed component based on EDUs and MEUs

Other Fixed Rate Structures: Fixed revenue split based on use of debt proceeds

- Recycled Water fund debt service cost was analyzed to determine the amounts attributable to use
 - 28.75% Recharge use
 - Infrastructure and investment specific to recharge use
 - 71.25% All recycled water use
 - Infrastructure and investments that serve both direct and recharge users

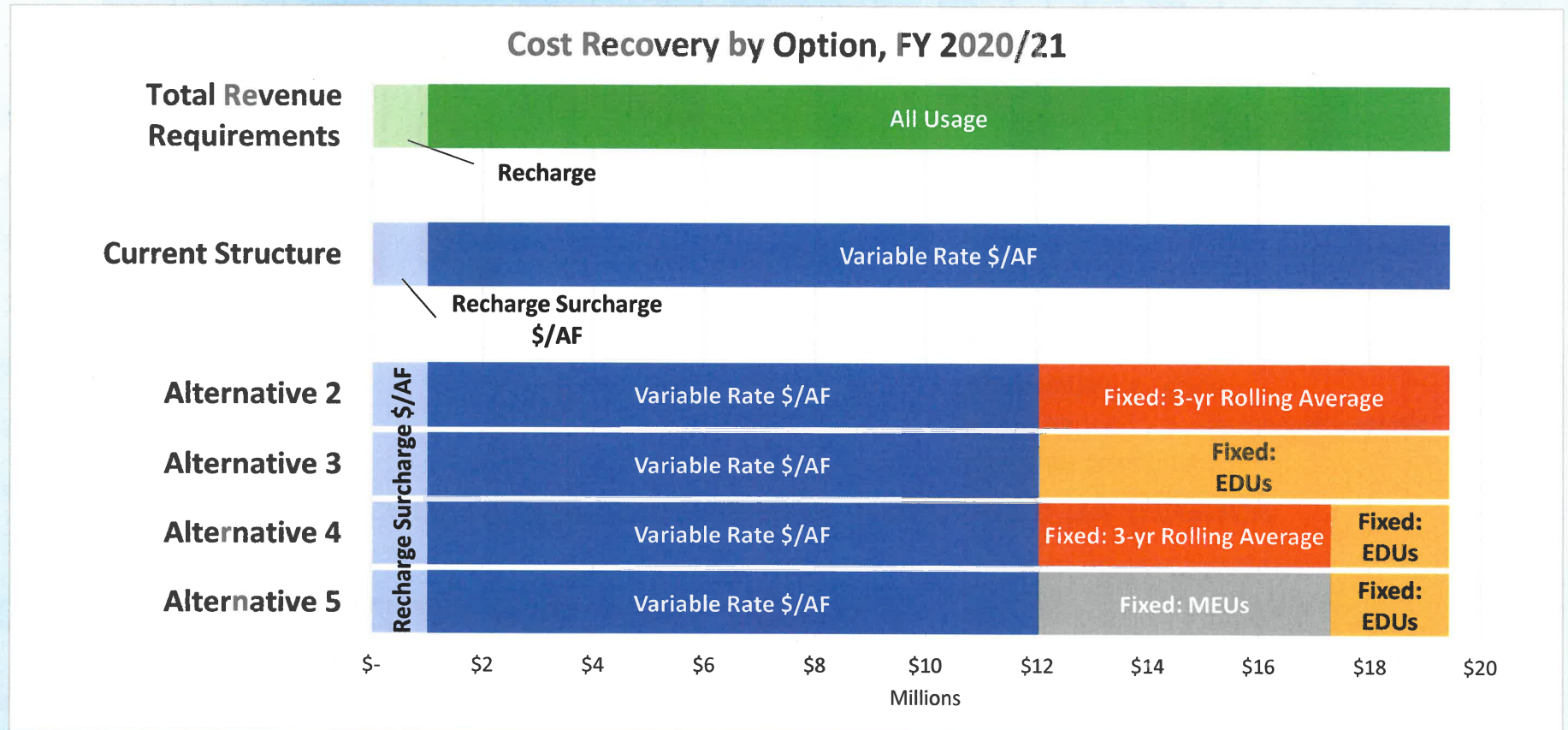
RW Fixed Charge Revenues, (\$ Millions)	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Fixed Rate Revenue Requirement	\$7.41	\$7.66	\$8.08	\$8.32	\$8.69
Related to Recharge Use	\$2.13	\$2.20	\$2.32	\$2.39	\$2.50
Related to All Recycled Water Use	\$5.28	\$5.46	\$5.75	\$5.93	\$6.19

Note: Column totals may not tie due to rounding.

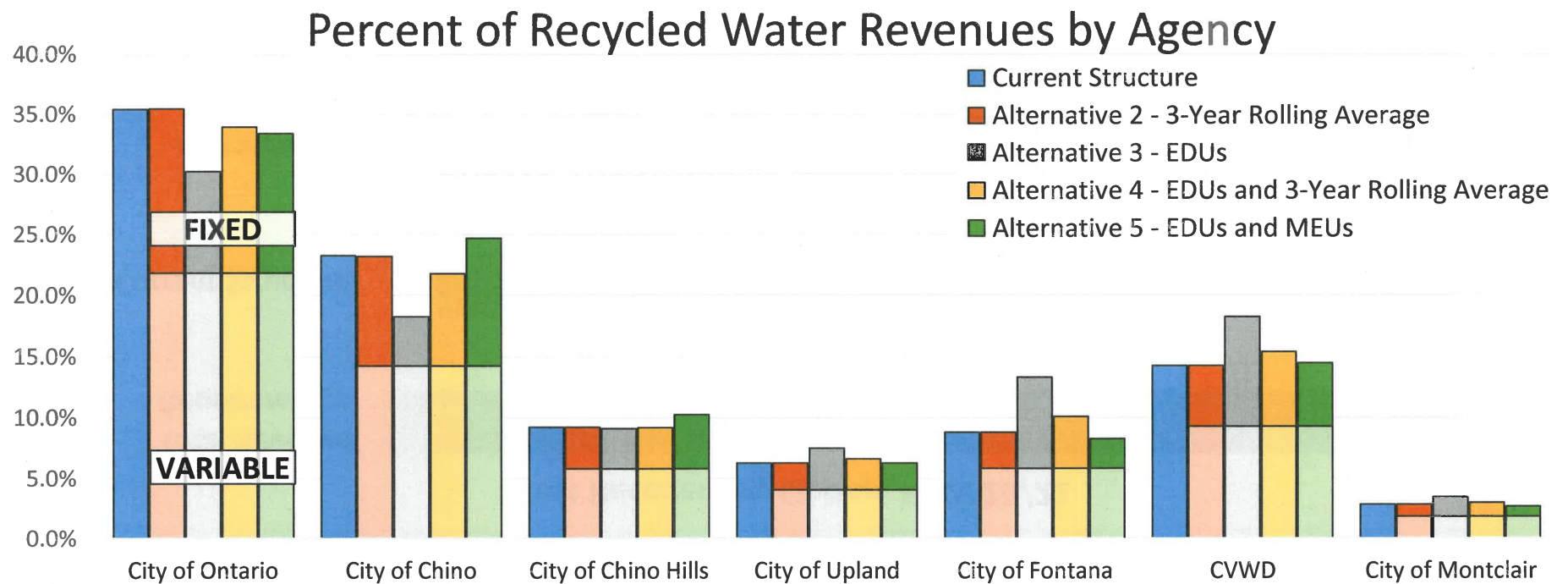
Fixed Revenue Collection: Set to reflect recharge water entitlements and recycled water capacity requirements

- For Rate Alternatives 4 and 5 the portion of fixed costs (debt service) related to recharge facilities allocated based on:
 - Contracting agency recharge EDU entitlements
- Portion of fixed costs (debt service) related to all recycled water use allocated based on:
 - **Alternative 4:** 3-year Rolling Average Direct Use
 - **Alternative 5:** Recycled Water MEUs

Rate Structure Alternatives: Comparison of cost recovery under each rate alternative



Member Agency Impacts: Revenues under each fixed charge option assessed by member agency



Note: Actual revenues by agency would vary as they would reflect actual rather than projected consumption

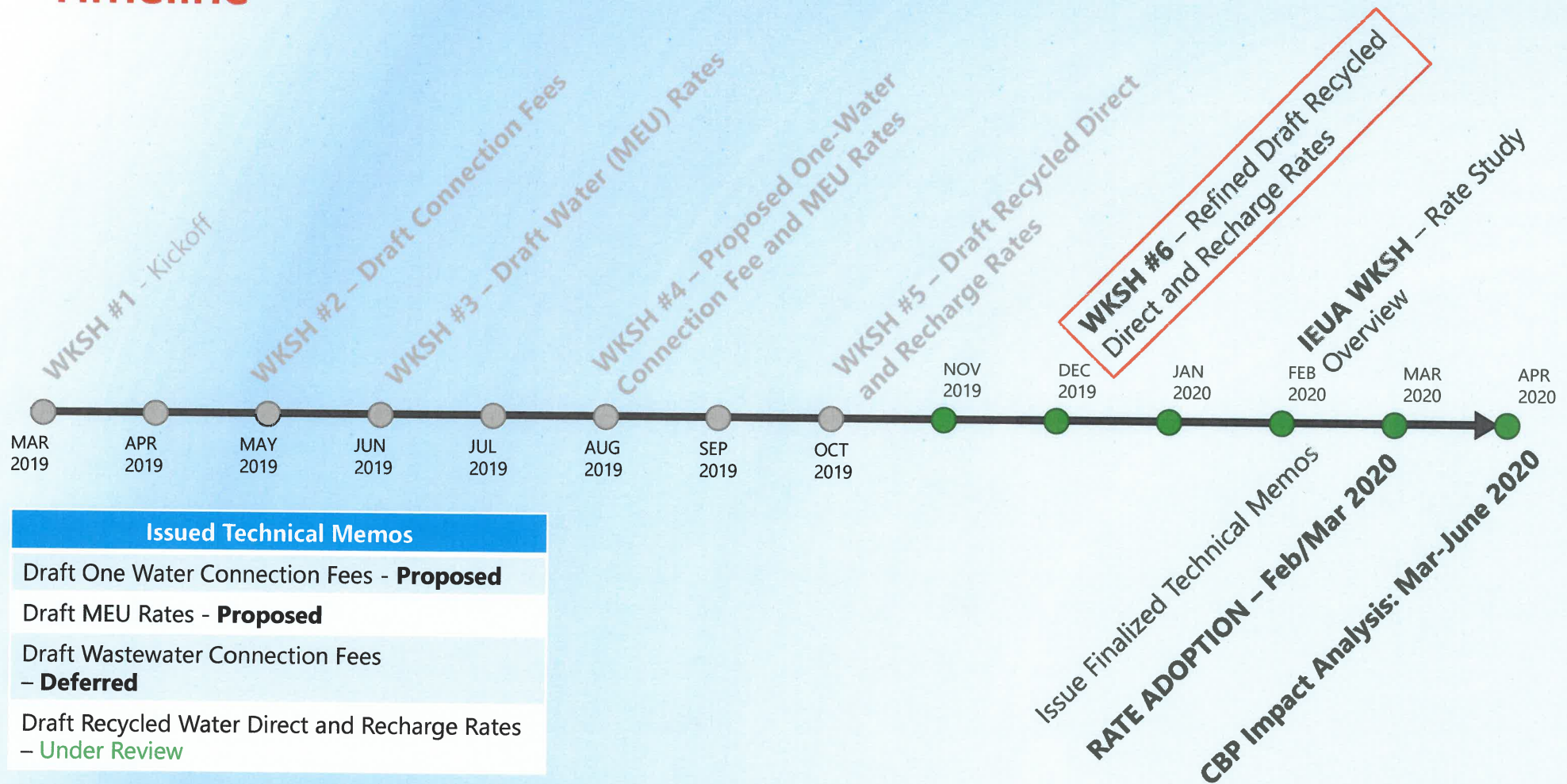
Recommended Rate Structure Alternative

- **Alternative 2:** Add a fixed component based on 3-year rolling average total use
 - Current variable rate structure is not sustainable
 - Most program costs are fixed in nature
 - Wet weather patterns = decreased demand = revenue shortfall
 - Adding a fixed component will
 - Mitigate a portion of cost increases during times of high demand
 - Provide revenue stability during times of low demand
 - More equitably recover capital investment

Next Steps:

1. Finalize and distribute Technical Memorandums:
 - One Water Connection Fees
 - Water Resources MEU Rates
 - Direct Use Recycled and Recharge Water Rates
2. Final rate workshop on proposed rates Feb 2020
3. Adopt proposed rate adjustments Mar 2020 to allow for Prop 218
4. Develop long-term projections to assess the impact of the CBP on all rates

Timeline

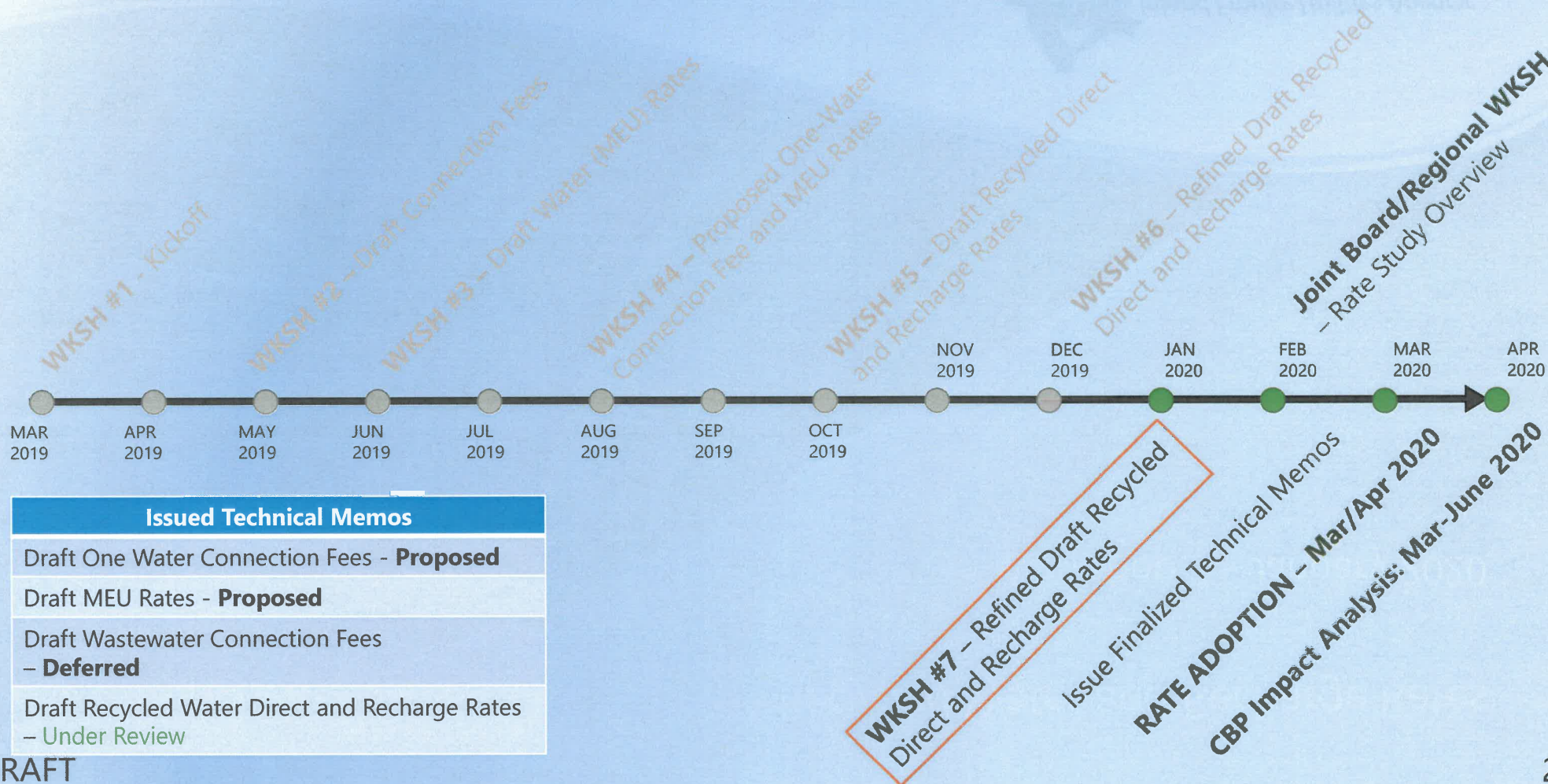


Recycled Water and Recharge Rates

Workshop 7 – January 2020



Timeline



Issued Technical Memos

Draft One Water Connection Fees - **Proposed**

Draft MEU Rates - **Proposed**

Draft Wastewater Connection Fees
- **Deferred**

Draft Recycled Water Direct and Recharge Rates
- **Under Review**

DRAFT

Rate Study Objectives

Establish rates that

- Meet cost/benefit nexus regulatory requirements, Prop 26
- Fully recover the cost of providing the service
- Continue to provide member agencies with a reliable, sustainable, cost effective local resource

IEUA Funding Strategy: Based upon a comprehensive and integrated approach



- ✓ Draft Analysis Complete
 - ✓ Tech Memo Distributed
 - ✓ Draft Recycled and Recharge Analysis Underway
- ✓ Approved rates for Fiscal Years 2020/21 and 2021/22

- ✓ Draft Analysis Complete
- ✓ Tech Memo Distributed

- ✓ Draft Analysis Complete
- ☐ On hold pending sampling study

2020 Rate Study

FY 2020/21 IEUA Proposed Rates/Fees

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FY 2019/20 Adopted	\$6,955	\$20.00	\$1,684	\$1.04	\$490	\$550
FY 2020/21	\$7,164	\$20.60	\$1,735	\$1.06	TBD 2020 Rate Study	TBD 2020 Rate Study
FY 2021/22	\$7,379	\$21.22	\$1,787	\$1.08		
FY 2022/23	To be reviewed based on the sewer use evaluation results		\$1,841	\$1.10		
FY 2023/24			\$1,896	\$1.12		
FY 2024/25			\$1,953	\$1.14		

Monthly Sewer (EDU) Rates adopted November 20, 2019, effective July 1, 2020



Recycled Water Rate Structure

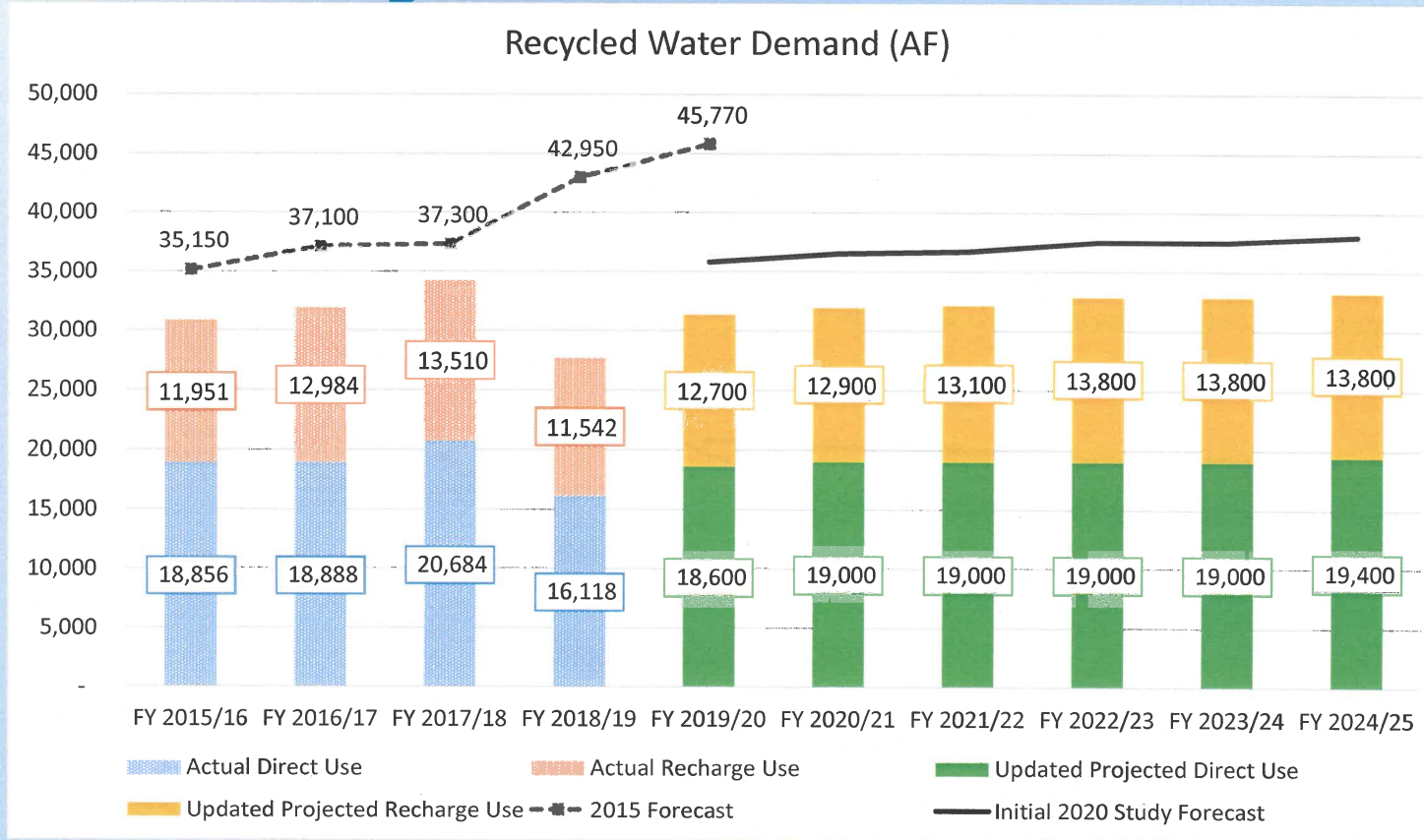
Baseline Assumptions: Certain assumptions remain unchanged

- Capital projects based on adopted TYCIP FY 2019/20-2028/29
- Excludes recycled water intertie projects (Jurupa and Pomona)
- Excludes Chino Basin Program (CBP)

Updated Assumptions: Several assumptions have been updated based on feedback from previous workshops

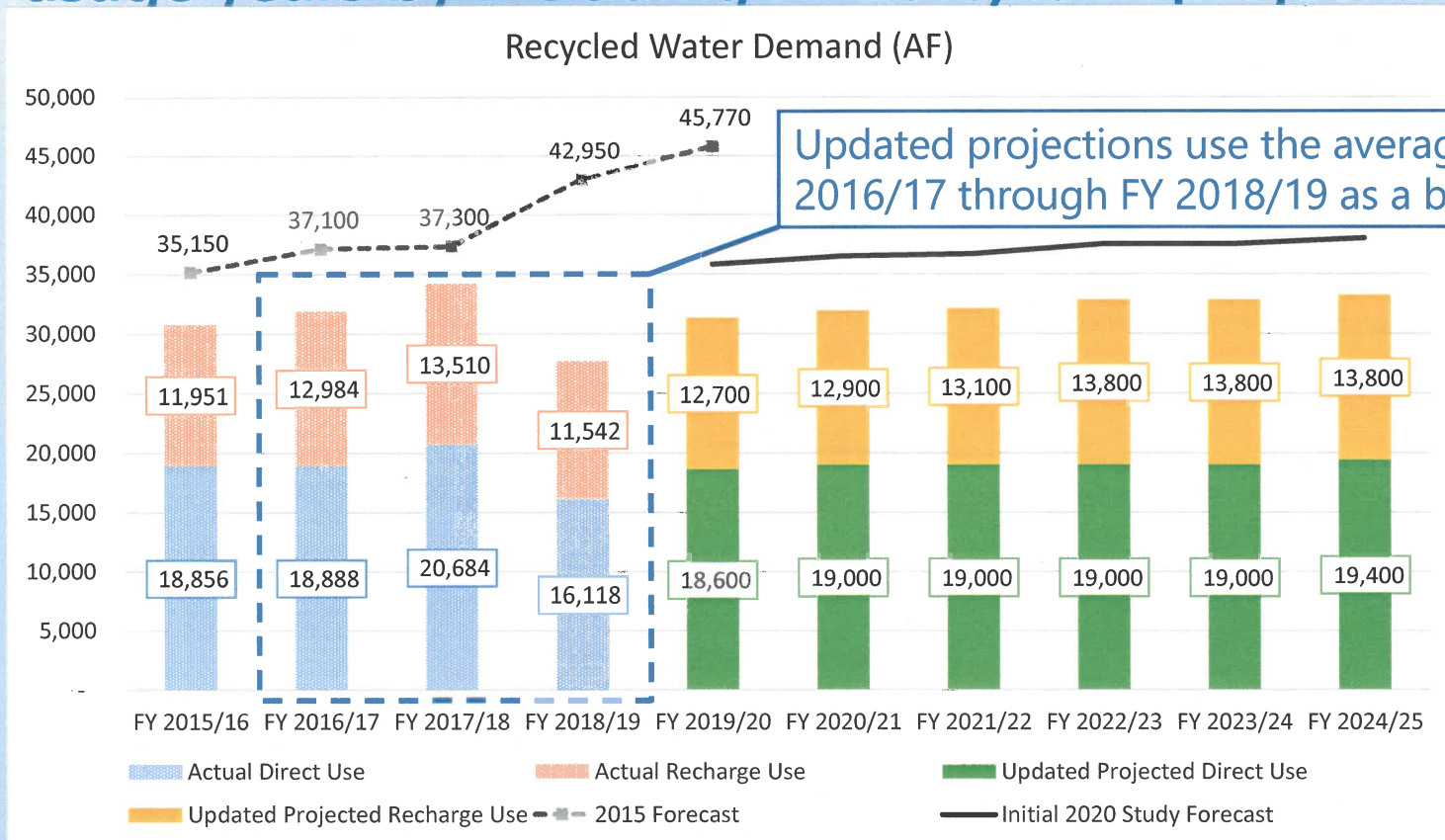
- Demand projections updated to reflect the past three years of actual demands as a starting point
- Applied additional connection fees, from ~\$5M to ~\$15M, over the five-year rate period to support debt service
- Implementation of fixed charges phased-in over a four-year period starting FY 2023/24

Recycled and Recharge Usage: Projections have been refined based on Regional feedback



- ~\$11 million in revenue shortfalls due to lower than projected deliveries between FYs 2015/16 – 2018/19

Recycled and Recharge Usage: Accounts for potential low usage years by including FY 2018/19 in projection basis



Current Rate Structure: Rates per acre-foot (AF) are calculated by dividing revenue requirements by projected usage

Initial Calculated Direct Use Rates

TM Table 11: Recycled Water Direct Use Rate

WC Rate Calculation	Current Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Required Revenues from Rates (\$Millions)		\$18.42	\$19.09	\$20.09	\$20.70	\$21.61
Projected Demands (AF)		36,500	36,700	37,500	37,500	38,000
Recycled Water Rate per AF	\$490	\$505	\$520	\$536	\$552	\$569

Calculated Direct Use Rates with Updated Demand Projection

WC Rate Calculation	Current Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Required Revenues from Rates (\$Millions)		\$18.42	\$19.09	\$20.09	\$20.70	\$21.61
Projected Demands (AF)		31,900	32,100	32,800	32,800	33,200
Recycled Water Rate per AF	\$490	\$577	\$595	\$612	\$631	\$651

Current Rate Structure: Rates per AF are calculated by dividing revenue requirements by projected usage

Initial Calculated Recharge Rates

TM Table 12: Recharge Water Surcharge Rate

RW Rate Calculation	Current Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Required Revenues from Rates (\$Millions)		\$1.01	\$1.23	\$1.57	\$1.88	\$2.24
Projected Demands (AF)		14,000	14,200	15,000	15,000	15,000
Recharge Surcharge Rate per AF	\$60	\$72	\$87	\$105	\$125	\$149
Direct Usage Rate per AF	\$490	\$505	\$520	\$536	\$552	\$569
Total Recharge Rate per AF	\$550	\$577	\$607	\$641	\$677	\$718

Calculated Recharge Rates with Updated Demand Projection

RW Rate Calculation	Current Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Required Revenues from Rates (\$Millions)		\$1.01	\$1.23	\$1.57	\$1.88	\$2.24
Projected Demands (AF)		12,900	13,100	13,800	13,800	13,800
Recharge Surcharge Rate per AF	\$60	\$78	\$94	\$114	\$136	\$162
Direct Usage Rate per AF	\$490	\$577	\$595	\$612	\$631	\$651
Total Recharge Rate per AF	\$550	\$655	\$689	\$726	\$767	\$813

Current Rate Structure:

- 100% volumetric based
- Most program costs are fixed in nature
- Unpredictable weather patterns = demand fluctuations = uncertain revenue
- Creates financial risk that could negatively impact the program's sustainability

Recommended Rate Structure:

- Combines a fixed and a variable component
- The fixed component recovers debt service costs
- The fixed component is allocated based on three-year rolling average total use
- Benefits of the proposed rate structure:
 - Mitigate a portion of cost increases during times of high demand
 - Provide revenue stability during times of low demand
 - More equitably recover capital investment

Fixed Rate Component: Annual debt service less offsetting revenues and transfers

- Debt service costs partly supported by offsetting revenues from:
 - Property Taxes
 - Transfers from Regional Wastewater Capital Improvement (RC) fund
 - Connection Fees
- Allocation of connection fees for eligible debt service will help smooth year-to-year changes in fixed revenue collection

RW Fixed Charge (\$ Millions)	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Debt Service	\$9.12	\$9.47	\$9.42	\$9.41	\$9.18
Short Term Inter-Fund Loan	3.00	3.00	5.00	6.00	5.50
Fixed Offsetting Revenues and Transfers					
Property Tax - Debt and Capital	(\$2.17)	(\$2.17)	(\$2.17)	(\$2.17)	(\$2.17)
Transfer from RC Debt Service	(2.54)	(2.54)	(2.54)	(2.67)	(2.67)
Connection Fees for Debt Service	(1.43)	(1.79)	(3.73)	(4.60)	(3.87)
Fixed Rate Revenue Requirement	\$5.98	\$5.97	\$5.98	\$5.97	\$5.97

Note: Presented totals may vary from values above due to rounding for presentation purposes.

Fixed Rate Structure: Will set a specific amount of fixed costs to recover each year

- Volumetric rates would be calculated based on the total revenue requirements **less** fixed revenue requirements

Calculated Rates with Fixed Component Beginning Year 1

Budget Item	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Recycled Water Revenue Requirement (\$M) ⁽¹⁾	\$18.42	\$19.09	\$20.09	\$20.70	\$21.61
Less: Fixed Rate Revenue Requirement (\$M)	(\$5.98)	(\$5.97)	(\$5.98)	(\$5.97)	(\$5.97)
Variable Rate Revenue Requirement (\$M)	\$12.44	\$13.12	\$14.11	\$14.73	\$15.64
Recycled & Recharge Water Demands (AF)	31,900	32,100	32,800	32,800	33,200
Direct Recycled Variable Water Rate (\$/AF)	\$390	\$409	\$430	\$449	\$471
Recharge Surcharge (\$/AF)	\$78	\$94	\$114	\$136	\$162
Total Recharge Variable Rate (\$/AF)	\$468	\$503	\$544	\$585	\$633

Note: (1) Recycled water revenue requirement not including recharge surcharge revenue requirements.

Note: Presented totals may vary from values above due to rounding for presentation purposes.

Phase-in of Fixed Rate Component: Fixed charges will be phased in to allow time for regional agencies to plan for the rate structure change

Budget Item	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Full Fixed Revenue Requirement (\$M)	\$5.98	\$5.97	\$5.98	\$5.97	\$5.97
Phase-In	0%	0%	0%	25%	50%
Phased Fixed Revenue Requirement (\$M)	\$0.00	\$0.00	\$0.00	\$1.49	\$2.99
Recycled Water Revenue Requirement (\$M)	\$18.42	\$19.09	\$20.09	\$20.70	\$21.61
Less: Phased Fixed Rate Revenue Requirement (\$M)	\$0.00	\$0.00	\$0.00	(\$1.49)	(\$2.99)
Variable Rate Revenue Requirement (\$M)	\$18.42	\$19.09	\$20.09	\$19.21	\$18.62
Recycled & Recharge Water Demands (AF)	31,900	32,100	32,800	32,800	33,200
Direct Recycled Variable Water Rate (\$/AF)	\$577	\$595	\$612	\$586	\$561
Recharge Surcharge (\$/AF)	\$78	\$94	\$114	\$136	\$162
Total Recharge Variable Rate (\$/AF)	\$655	\$689	\$726	\$722	\$723

Note: Presented totals may vary from values above due to rounding for presentation purposes.

Smoothing Revenue Requirements: IEUA would take on more risk in the early years to avoid sudden rate changes in FY 2020/21

- Higher revenue requirements in later years would be needed to cover shortfalls due to smoothing in FY 2020/21 and FY 2021/22

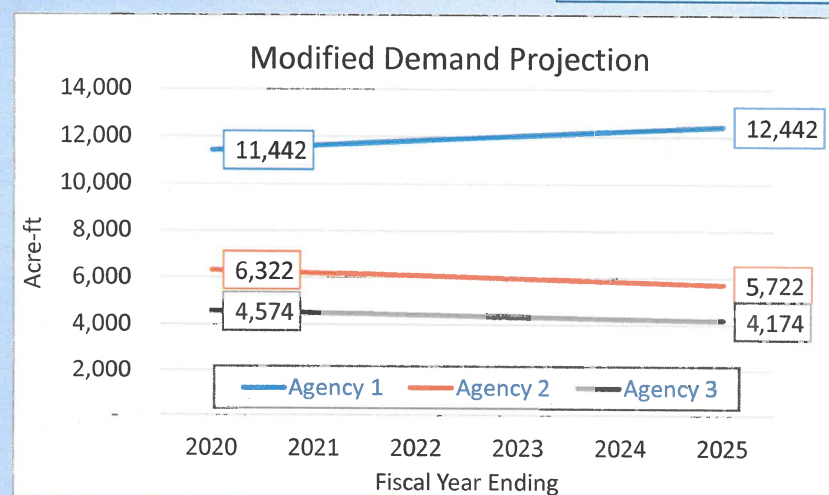
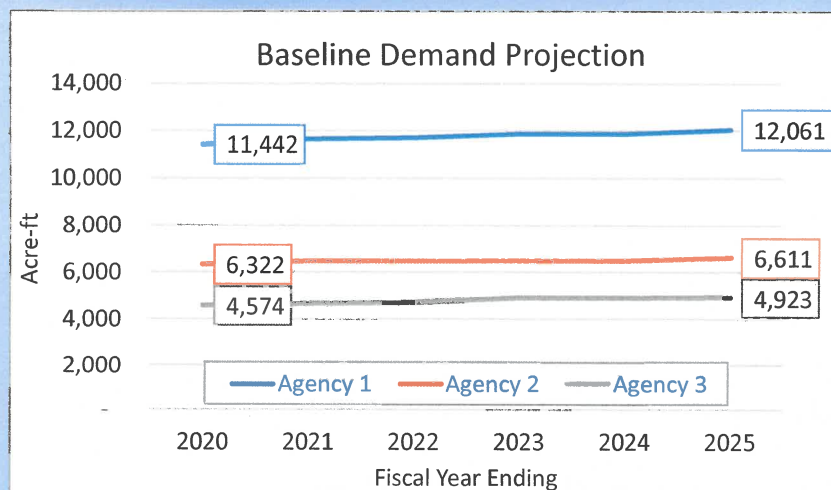
Budget Item	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Full Fixed Revenue Requirement (\$M)	\$5.98	\$5.97	\$5.98	\$5.97	\$5.97
Phase-In	0%	0%	0%	25%	50%
Phased Fixed Revenue Requirement (\$M)	\$0.00	\$0.00	\$0.00	\$1.49	\$2.99
Recycled Water Revenue Requirement	\$16.88	\$18.34	\$20.23	\$21.49	\$23.09
Less: Phased Fixed Rate Revenue Requirement (\$M)	\$0.00	\$0.00	\$0.00	(\$1.49)	(\$2.99)
Variable Rate Revenue Requirement	\$16.88	\$18.34	\$20.23	\$20.00	\$20.10
Recycled & Recharge Water Demands (AF)	31,900	32,100	32,800	32,800	33,200
Direct Recycled Variable Water Rate (\$/AF)	\$529	\$571	\$617	\$610	\$606
Recharge Surcharge (\$/AF)	\$74	\$92	\$114	\$138	\$167
Total Recharge Variable Rate (\$/AF)	\$603	\$663	\$731	\$748	\$773

Note: Presented totals may vary from values above due to rounding for presentation purposes.

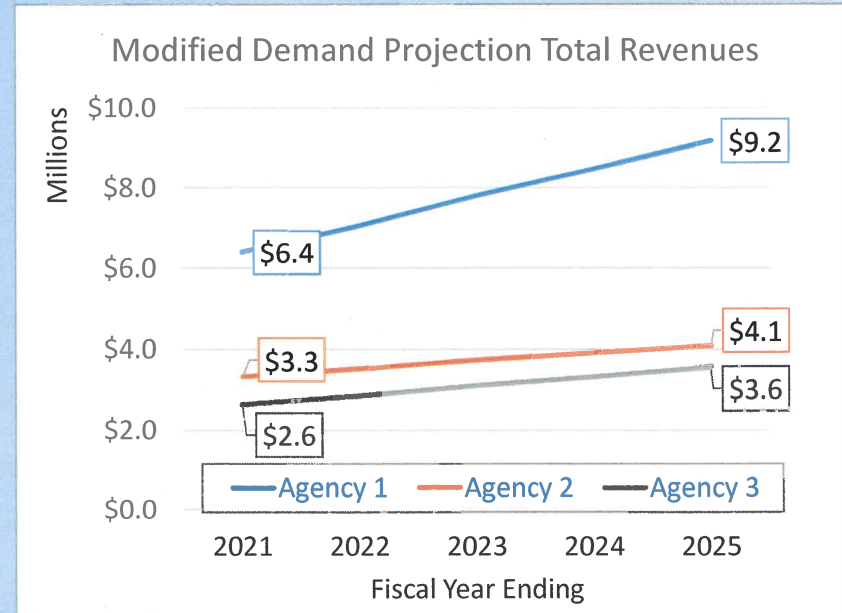
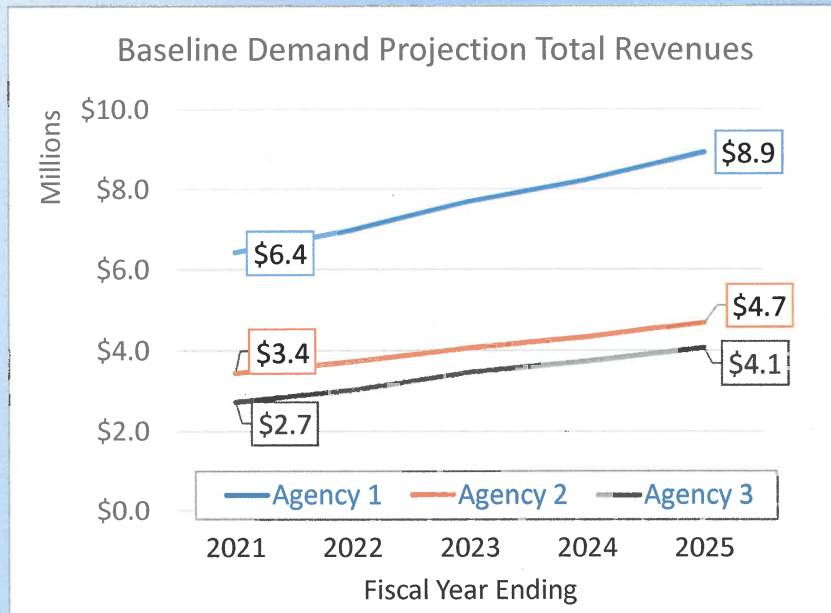
Sensitivity Analysis: Impact of changing agency demands on revenue collection

- Tested hypothetical scenario over five years:
 - Agency 1 increases direct use demands by 1,000 AFY
 - Agency 2 decreases direct use demands by 600 AFY
 - Agency 3 decreases direct use demands by 400 AFY
- Recharge allocations held constant for illustrative purposes

Other agencies' growth set to hold overall projections constant with Baseline



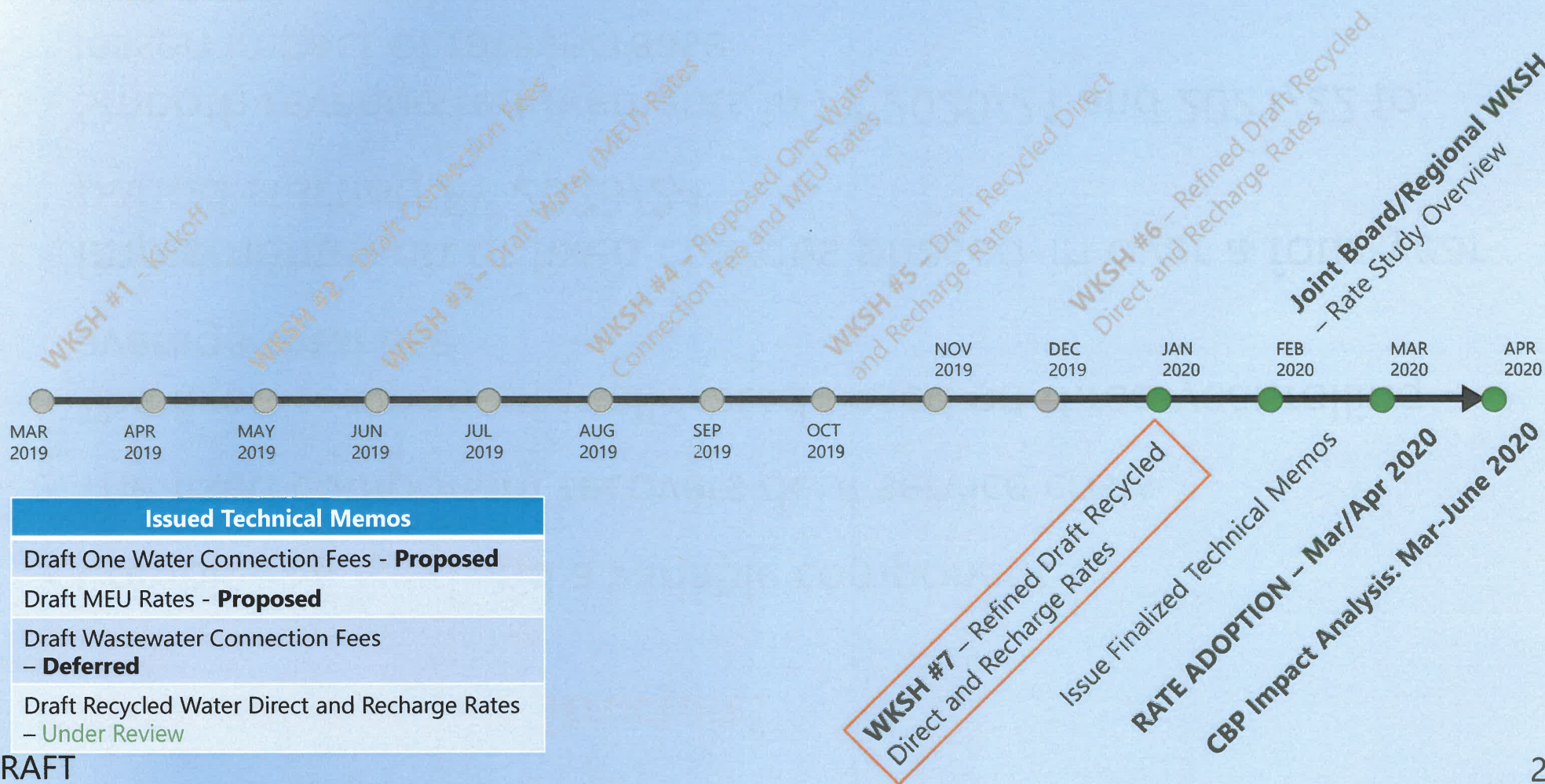
Sensitivity Analysis: Hypothetical Revenue Impacts



Recommended Rate Structure:

- Combines a fixed and a variable component
- The fixed component recovers debt service costs
- The fixed component is allocated based on three-year rolling average total use
- Implementation of fixed charges phased-in over a four-year period starting FY 2023/24
- Smooth revenue requirements in FY 2020/21 and 2021/22 to lessen impact of rate increase

Timeline




Next Steps:

	Description	Date
1	Final Joint Rate Workshop with IEUA Board, Regional Policy Committee, and Water Member Agencies	Feb 5, 2020
2	Finalize and distribute Technical Memorandums for proposed rates: <ul style="list-style-type: none"> • One Water Connection Fees • Water Resources MEU Rates • Direct Use Recycled Recharge Water Rates 	Feb 14, 2020
3	Regional Committee recommend approval of proposed rates to IEUA Board	Feb 27, 2020 & Mar 5, 2020
4	IEUA Board Approval of proposed rates	Mar 25, 2020
5	Adopt proposed rate adjustments with time to allow for Prop 218	Mar/Apr 2020
6	Develop long-term projections to assess the impact of the CBP on all rates	Mar to Jun 2020

RECEIVE AND
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Date: January 30, 2020
To: Regional Technical Committee
From: Inland Empire Utilities Agency 
Subject: 2020 Land Use Demand Model

This is an information item regarding the 2020 Land Use Demand Model scope of work.

BACKGROUND

In 2015, a land use-based water demand model (Model) was developed as part of the Inland Empire Utilities Agency (IEUA) Urban Water Management Plan (UWMP). The Model was based on General Plan land use data of existing and future development in each City and retail agency boundaries within the IEUA service area. The various land use categories were aligned into 13 main categories that were utilized for the development of corresponding water unit use factors and demands. This model was capable of forecasting water demands for each City and retail agency in order to be totaled as a regional demand for the IEUA service area.

This year, IEUA intends to update the Model to reflect existing and future development based on current General Plans aligning with the established 13 land use categories. Unit use factors will be similarly developed for water, recycled water and sewer demands in 5-year increments to the furthest build-out date. Based on the recommendations during the 2019 Regional Contract Negotiations, the 2020 Model will be utilized in planning projections for water, recycled water and wastewater.

Attached is the draft scope of work that was circulated to the Regional Contracting Agencies (RCA) in December 2019. Based on feedback and input from the RCA by mid-February, the Request For Proposal will be released at the beginning of March 2020. The proposed schedule is as follows:

- March 2020 - Issue Request For Proposal
- April 2020 - Award Consulting Services Contract
- December 2020 - Complete the scope of work

**Request for Proposals For Consulting Services For The
2020 Land Use-Based Water Demand Model Update**

1. REQUEST FOR PROPOSALS

Proposals are being accepted by Inland Empire Utilities Agency (hereinafter referred to as "IEUA"), a Municipal Water District, for Consulting Services (hereinafter referred to as "Consultant") required for the 2020 Land Use-Based Water Demand Model Update (hereinafter referred to as "Model").

2. PROCESSING OF PROPOSALS

A non-mandatory pre-proposal meeting will be held on (date and time) with prospective Consultants at IEUA Headquarters, located on 6075 Kimball Ave, Building A, Chino, California, 91708.

Any relevant questions concerning the Request For Proposals (RFP) for the Scope of Work other than those asked at the pre-proposal meeting shall be directed in writing to IEUA's Project Manager:

Liza Muñoz
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91708
Office: (909) 993-1522
Email: lmunoz@ieua.org

All questions must be received prior to (date and time). The answers to these questions will be sent to all prospective Consultants. No answers will be given on an individual basis.

To receive consideration, ten (10) copies of the proposal, one complete electronic copy of the proposal (provided on USB drive), and one separately sealed fee proposal envelope must be received at IEUA's Headquarters located on 6075 Kimball Ave, Building A, Chino, California, 91708 by (date and time) and addressed to the attention of Liza Muñoz. The package of the ten proposals and one electronic copy shall be clearly marked **"Consulting Services for the 2020 Land Use-Based Water Demand Model Update – DO NOT OPEN"** and the fee proposal envelope marked **"FEE PROPOSAL - Consulting Services for the 2020 Land Use-Based Water Demand Model Update - DO NOT OPEN"**. All proposals will be held in confidence prior to the opening date of all proposals. IEUA reserves the right, after opening the proposals, to reject any or all proposals, or, to accept proposal(s) that in its sole judgment, are in the best interest of IEUA.

Prospective Consultants assume the risk of any delay in mail or handling of mail by IEUA's employees. Applicants are therefore responsible for ensuring that proposals are received on time at the specified location by the specified time whether they are sent by mail or delivered in person. Oral, telegraphic, or telephonic proposals or modifications will not be considered. More than one proposal from an individual, firm, partnership, corporation or association under the same or different names shall not be considered.

3. IEUA DESCRIPTION

Inland Empire Utilities Agency (IEUA) is a regional sewage treatment and water agency that provides wastewater treatment, solids handling, and recycled water to the west end of San Bernardino county. Its 242 square mile service area includes the cities of Upland, Montclair, Ontario, Fontana, Chino and Chino Hills; Cucamonga Valley Water District which services the City of Rancho Cucamonga and the unincorporated areas of San Bernardino County, including the Chino Agricultural Preserve. IEUA, a special assessment district, is governed by a five seat publicly elected Board of Directors. Each director is assigned to one of the five divisions which are: Division 1 - Upland/Montclair; Division 2 - Ontario/ Agricultural Preserve; Division 3 - Chino/ Chino Hills; Division 4 - Fontana; Division 5 - Rancho Cucamonga. The Regional Technical and Policy Committees provide information on technical and policy issues, and there are representatives from each of the contracting agencies on these committees.

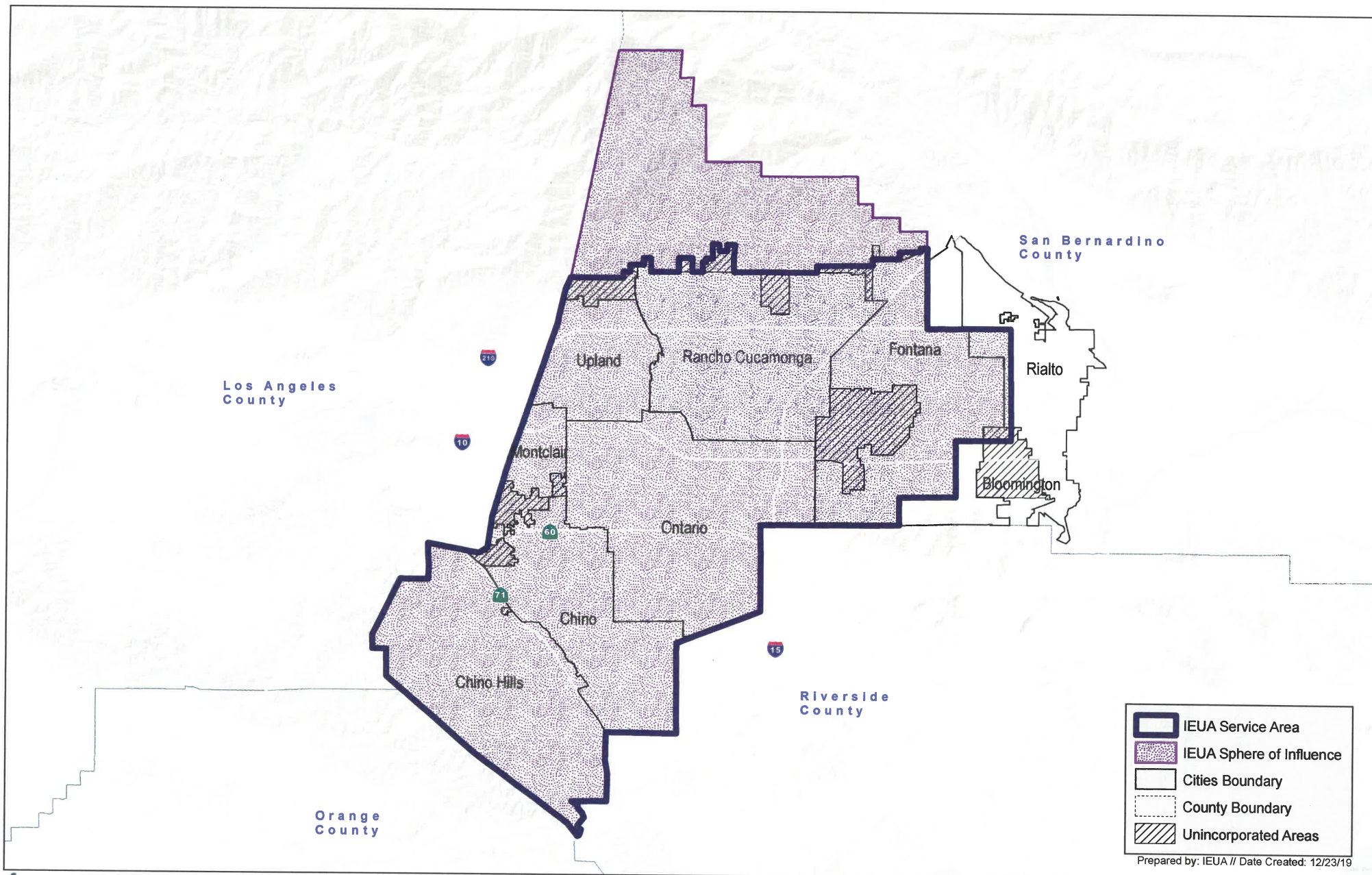
Five regional water recycling plants are used to treat wastewater from IEUA's service area. They are: Regional Water Recycling Plant No. 1 (RP-1), located in the City of Ontario; Regional Water Recycling Plant No. 2 (RP-2), located in the City of Chino; Regional Water Recycling Plant No. 4 (RP-4), located in the City of Rancho Cucamonga; and Carbon Canyon Water Recycling Facility (CCWRF), located in the City of Chino and Regional Water Recycling Plant No. 5 (RP-5), located in the City of Chino. In conjunction to these facilities, IEUA maintains and operates a desalter facility, Chino I Desalter, in the City of Chino and biosolids composting facility, Inland Empire Composting Facility, in the City of Rancho Cucamonga on behalf of the Chino Basin Desalter Authority and Inland Empire Regional Composting Authority, respectively. IEUA is also the Metropolitan Water District of Southern California (MWD) representative for the contracting agencies.

The water resource inventory for the IEUA service area is made up of Stormwater, Recycled Water, Local Surface Water, Groundwater, and Imported Water.

- Stormwater comes primarily from rain and snow starting in the San Gabriel Mountains and moving down through the Santa Ana watershed and diverted into groundwater recharge basins.
- Recycled water is generated from IEUA's four recycling plants.
- Local surface water is similar to stormwater, but the water is diverted and treated at a water treatment facility within the service area.
- Groundwater makes up for the majority of the area's annual water supply and comes primarily from the Chino basin and from basins adjacent to the Chino Basin. These basins include Cucamonga, Rialto, Lytle Creek, Colton, and the Six Basins groundwater basins.
- Imported water is purchased from MWD. The focus of this effort will primarily deal with recycled water and groundwater. The following provides a brief overview of these water supply sources.

4. REQUEST FOR PROFESSIONAL SERVICES

- Inland Empire Utilities Agency (IEUA) is seeking professional services from a qualified consultant to update the comprehensive land use-based water demand model developed in 2015. The model will be based on the latest General Plan land use data and will incorporate existing and future development in the region for the next 25 years. The model scenarios and corresponding results will support updates of the Urban Water Management Plan, Recycled Water Program Strategy, Equivalent Dwelling Unit factors, Integrated Resources Plan and others. The model boundary shall be IEUA's sphere of influence which includes the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, Rialto, and Upland. See Figure 1.



The consultant shall perform the following tasks, including but not limited to:

- Review available information to familiarize with the extent and quality of existing information.
 - Land Use Based Demand Model Development Technical Memorandum – May 2016
 - Land Use Based Demand Model in Excel format - 2015
 - Land Use Based Demand Model in Access database format - 2015
 - Land Use Based Demand Model shapefiles - 2015
- Utilize City General Plans to identify existing and future development in land use. The consultant shall include all relevant General Plans within the IEUA service area until a build-out date as specified in general plans. Compare these categories and correlate with the 2015-developed land use categories as listed below:

Residential Very Low (1 - 2)
Residential Low (3 - 7)
Residential Medium (8 - 14)
Residential High (15 - 24)
Residential Very High (25+)
Commercial
Industrial
Public/Institutional
Parks, Schools, Irrigation
Agriculture
Unique Water Users

- The model shall have the ability to forecast demands to the furthest build-out date among the corresponding general plans in 5-year increments.
- Update the IEUA service area shapefiles to show the 2015-developed land use categories as designated by each of the Cities' General Plans within the IEUA sphere of influence.
- Collect data to populate and update the 2015 Land Use-Based Water Demand Model that can be integrated into IEUA's Geographic Information System (GIS) version 10.6.1. such as:
 - Land use category
 - Acreage
- Map layers and data shall be broken down to a resolution similar to that of the General Plan documents. The land use data shall be formatted in a way and aligned with each city and retail agency boundary within the IEUA sphere of influence. The data shall also roll up to align with the IEUA service area boundary.
 - The model shall have a summary page indicating statistics for each city and retail agency, including but not limited to land use categories, corresponding unit factors, demands and projections. Other statistics shall be added as necessary to provide a "snapshot" for each agency.
 - The model and corresponding data shall be standardized in such a manner that will allow IEUA streamlined data collecting, processing and performing updates from General Plans.
- Develop/update unit factors for water use, recycled water use, and wastewater flow for each land category. Coordinate with each City and Retail agency on the unit factor development for their service area. These factors shall be applied to each land use section on a per-acre basis. The calculated demand per land use area shall be in acre-foot (AF) and incorporated into the overall demand forecast.
- Update adjustment factors based on socio-economic conditions, climate change, densification of existing lands, conservation, and unbilled consumption

- The model shall have the ability to forecast water and recycled water demands and wastewater flows for each City and Retail agency and shall sum up to a regional demand for the IEUA sphere of influence through 2050 in 5-year increments. The demand projections will be utilized in other planning studies such as the Urban Water Management Plan, Recycled Water Program Strategy, Integrated Resources Plan, Equivalent Dwelling Unit (EDU) projections, growth projections, and recycled water supply projections. IEUA as well as its member agencies can use the model for system or supply planning purposes based on land use.
- Provide recommendations for database and model improvements or efficiencies (i.e. user-friendly updates, scenario development, web-based model for consolidation of inputs, updates, scenarios, results) for IEUA's consideration.
- Meetings/Workshops - Provide resources to lead meetings as described:
 - Kickoff meeting – Attend a meeting with IEUA to discuss scope of work and schedule of completion. Duration of two hours.
 - As needed conference calls with IEUA for tracking progress and status updates. Duration of one hour per week.
 - Monthly meetings – Once a month, a meeting to be held at IEUA headquarters to discuss progress. Duration of two hours.
 - Retail agency meetings – Coordinate at least four (4) meetings with each City to obtain the data, develop unit factors and finalize the model update. Duration of two hours for each meeting to be held at City offices.
 - Modeling Workshops – Conduct two (2) workshops with retail member agencies: 1) to provide an overview of the data needs, collection process and schedule; and 2) after the completion of the update, demonstrate demand forecasting for each retail agency and the regional demand for the IEUA sphere of influence. Duration of four (4) hours for each workshop to be held at IEUA headquarters.
- Deliverables:
 - A Technical Memorandum (TM) summarizing the process used to develop/update the recycled water and water demands, and wastewater flow projections which include the following, not limited to: assumptions, land use unit factor development/methodologies, model input summaries, demand projections by member agency in 5-year increments through 2050
 - Updated Land Use-based Demand Model and GIS shapefiles
 - A User Guide for updating data and running scenarios.

5. PROJECT SCHEDULE *(Tentative)*

- ♦ February 2020 - Issue Request for Proposal
- ♦ April 2020 – Award Contract
- ♦ December 2020 – Complete scope of work

RECEIVE AND
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Date: January 30, 2020

To: Regional Technical Committee

From: Inland Empire Utilities Agency *AM*

Subject: Pilot Return to Sewer Flow Study

RECOMMENDATION

This action item is seeking authorization from the Regional Technical Committee for IEUA to initiate the Pilot Return to Sewer Flow Study.

BACKGROUND

In February 2019, IEUA presented to the Regional Contract Negotiation (RCN) group an overview of the growth forecasting process. The overview included background on the forecasting projections provided by the Regional Contracting Agencies (RCAs) and the use of the projections in the Ten-Year Capital Improvement Plan (TYCIP), the Comprehensive Annual Financial Report (CAFR), and IEUA's budget projections for revenue forecasting. During this RCN session, IEUA proposed an alternative growth forecasting methodology via the use of the 2016 Land Use Demand Model (LUDM).

In May 2019, the alternative growth forecasting method was presented to the RCN group. During that meeting the LUDM was discussed and it was identified that wastewater return to sewer and strength would be needed to move forward with the alternative growth forecasting method. IEUA proposed to the RCN group that the study by Applied Research in Government Operations (ARGO), which was previously brought before the Regional Technical Committee for consideration in April 2018, was an alternative study that could determine return to sewer factors utilizing water consumption data from the Montclair and Monte Vista Water District service areas. The RCN group established a subcommittee to review the LUDM and the pilot return to sewer flow study.

In July 2019, the RCN subcommittee held two meetings to discuss both the LUDM and the pilot return to sewer flow study. Representatives from ARGO were invited to present their proposal. The RCN subcommittee were in favor of region-wide joint IEUA-RCA forecasting method utilizing the LUDM with appropriate input from their respective Planning Departments. After further discussion on the pilot return to sewer study, the RCN group requested to bring the pilot study back to the main RCN group for discussion.

In November 2019, IEUA presented a memorandum summarizing the RCN subcommittee findings. The RCN group discussed the pilot return to sewer flow study and agreed to move

forward pending an approval by the Regional Technical Committee in January 2020. IEUA will coordinate with the RCN group to request participation from interested representatives from the RCAs to serve as part of the technical group to work with ARGO on the review of the data and results of the pilot study.

Pilot Return to Sewer Flow Study

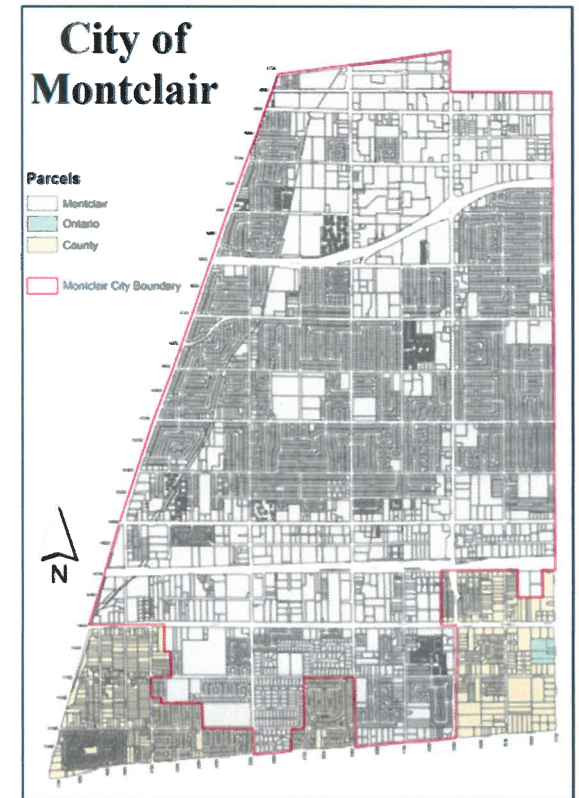


Forecasting Method/Pilot Return to Sewer Flow Study

- April 2018 – Pilot Return to Sewer Flow Study with Advanced Research in Government Operations (ARGO) presented to Regional Technical Committee
- February to May 2019 – Regional Contract Negotiation (RCN) Growth Forecast Discussions
 - Land Use Demand Model (LUDM)
 - Development of Wastewater Strength & Return to Sewer Factors
- July 2019 – RCN Subcommittee
 - Discussion on LUDM
 - ARGO discussion on Pilot Return to Sewer Flow Study
- November 2019 – RCN Group
 - Agreement to move forward upon approval by Regional Technical Committee

Pilot Return to Sewer Flow Study

- Pilot Study for the Montclair/Monte Vista Water District Service Area
- Calculation of Return to Sewer Factor
 - Water demands and subtracting estimated outdoor demands
 - Minimum-month water consumption data
 - Regression model
- RCN Subcommittee Involvement
 - Data review with Technical Group
- Timeline for completion ~ 6 months
 - Monthly meetings with Technical Group



Tentative Timeline/Schedule



Recommendation

This action item is seeking authorization from the Regional Technical Committee for IEUA to initiate the Pilot Return to Sewer Flow Study.

*The Pilot Return to Sewer Flow Study is consistent with the **IEUA's Business Goal of Business Practices & Wastewater Management**. The project will specifically support planning efforts related regional growth forecasting.*



Inland Empire Utilities Agency

Sewer Return Flow Estimation

Proposed Scope of Work

May 2018

Updated: 22 May 2019



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Project Overview

In collaboration with the Inland Empire Utilities Agency (IEUA) and Monte Vista Water District (MVWD), Applied Research in Government Operations (ARGO) proposes to estimate indoor sewer flows in the IEUA service area. The goal is to research the potential need to update Exhibit J “Equivalent Dwelling Unit Computations” utilized to calculate sewer fees.¹ The intended outcome of this preliminary research and development study is to offer recommendations and scope a potential full study to update the rates in Exhibit J.

This novel research is important particularly in light of recent legislation (SB 606 / AB 1668) to make conservation a California way of life, which sets new standards for indoor and outdoor water use. Team ARGO which staffs the California Data Collaborative (CaDC) was funded by the Water Foundation to conduct the first ever rapid assessment of residential water budgets statewide. That planning tool and parcel level landscape area measurements will be invaluable in supporting this study.

The proposed methodology uses a land use based demand model provided by IEUA in concert with creative external customer categorization tools. Those classifications of commercial and other sewer customers will be integrated with water use (where available), vegetation, and evapotranspiration information maintained by ARGO to establish return to sewer factors by land

¹ <https://www.ieua.org/download/equivalent-dwelling-unit-computations-regional-contract-exhibit-j/>



use type and business category. These estimated sewer flows will be broken down by subcategories of commercial and industrial use to enable easy and straightforward fees.

NOTE ON EXPERIMENTAL NATURE OF THIS APPROACH: This research and development project leverages novel data integration and new methodological approaches. As an experiment, the final results may not reach the level of accuracy required to update return to sewer flow specifications. The goal of this study is to 1) identify whether a full study is needed to update Exhibit J and 2) leverage the results of this applied research and development to scope that study.

Project goals

- Integrate IEUA land use categories with novel data on commercial customers to explore appropriate categories for sewer fee setting.
- Estimate return to sewer flows through a more granular understanding of customer demand utilizing customer metered use data.
- Collaborate with Agency staff to incorporate return to sewer flow estimation in IEUA planning and operations.
- Develop reusable tools so the estimation methodology developed in this study can serve as an ongoing resource for IEUA.

Data Assets

- Maintained by ARGO:
 - Bi-Monthly meter reads from customers in the MVWD, geocoded and matched to parcel data
 - Use of this data in this study will require written permission from MVWD
 - Additional IEUA retailers may provide their data by becoming SCUBA subscribers: <http://californiadatacollaborative.org/join-us/>
 - Parcel polygons for IEUA from San Bernardino County Assessor
 - Aerial measurements of Photosynthetically Active Vegetation (PSAV) areas for each parcel
 - Evapotranspiration data from the DWR CIMIS program
- To be developed as part of this project:
 - Categorization of commercial and industrial customers
 - Integration of Yelp and other available categorizations of IEUA customers within a defined shapefile
 - OPTIONAL integration of business listing data (this would require additional funds to purchase the data). Some potential vendors include:



- Factual <http://developer.factual.com/places/categories/>
- Dunn & Bradstreet
- Provided by IEUA
 - Land use types for all properties in the IEUA service area
 - The SAWPA commercial and industrial NAICS code integration would be useful to obtain as well
 - Estimated annual unit water demands for each land use type and retail service area in IEUA
 - Measured sewers flows at IEUA treatment facilities (coarse grained and to be utilized as an order of magnitude check).
 - If possible, it would be highly useful for IEUA or IEUA's engineering firm consultants to measure sewer flows at regional sewer trunks
 - Wastewatershed shapefile indicating the area provided service by each wastewater treatment plant.

Proposed Approach to Categorize Commercial

Goal: analytical foundation of granular commercial entity linkages to enable return to sewer flow analysis.

The category of “commercial” encompasses a wide variety of customer types and water use patterns. ARGO proposes to tackle that by linking various novel data sources that have subcategories of commercial types. Such data sources will include Yelp, County Assessor and other useful linkages. A presentation describing this approach is provided here:

https://docs.google.com/presentation/d/1OjMr7GqNbQqW0iVEyfT8pNNCMqx4a4na7pvsp2ZOqeA/edit#slide=id.g24b20221c9_2_4

That ongoing study has only matched about 1/3 of commercial customers in MNWD's service area. Note in addition to issues with granular classification, it is often challenging to correctly and precisely assign landscape area to commercial customers. This is a known issue with many remote sensing vendors. Shopping centers for example with many business entities are an outstanding area of open research. The goal is to leverage and improve upon that commercial entity classification pipeline in conjunction with IEUA provided land use information to develop best available customer categorizations. Those granular categories will be integrated with estimates of indoor use and return to sewer volumes to scope prospective categories.

Proposed Methodologies to Estimate Indoor Use

Goal: estimates of indoor use returned to sewer flow broken down by commercial subcategories developed through an iterative process incorporating the linkages described above.



Isolating indoor consumption from total consumption is a complex problem, and in the absence of dedicated indoor and outdoor metering, any approach is bound to be inexact. To get the most robust estimates possible, ARGO proposes to use a combination of different methods, each with distinct benefits and drawbacks. These different methods can then be compared and integrated to show the return to sewer flows by subcategory of commercial customer. The following sections details the different proposed methodologies and their expected benefits and drawbacks.

Method 1: Subtract Estimated Outdoor Demands from Outdoor Allocations

The first method will subtract estimates of annual outdoor water use from estimates of total water use for each retail agency and land use type. The estimated sewer flow per acre using Method 1 for a given land use and retail agency is then

$$\text{Indoor Sewer Flow} = LUD - \text{Outdoor allocation per acre}$$

Where *LUD* is the Land Use Unit Demand from the IEUA demand model (af/ac/year) and

$$\text{Outdoor allocation per acre} = ET \text{ Factor} \times \text{evapotranspiration} \times PSAV \text{ Area} \times C$$

Is an estimate of outdoor water use under an assumption about the intensity of watering. Specifically,

- *ET Factor* (also called a crop coefficient, or landscape factor) is a coefficient capturing our assumptions about both the average water needs of vegetation in the IEUA service area and the irrigation efficiency of customers in the area. These factors often range from 1.2 for heavily trafficked turf with low irrigation efficiency, to 0.5 for drought tolerant plants with efficient irrigation
- *evapotranspiration* is the (yearly) reference evapotranspiration for the area
- *PSAV Area* is the area of photosynthetically active turf and shrubs/trees in the area. This value is derived from 4-band aerial imagery and provided to ARGO through a partnership with Claremont Graduate University
- *C* is a unit conversion factor to convert to af/ac/year

This process is shown in Figure 1. Assessor parcel polygons with PSAV area are joined with land use data shapefiles. The average PSAV area per acre for each retailer and land use is combined with evapotranspiration data as specified above to calculate outdoor LUDs. These outdoor LUDs are then subtracted from total LUDs in the IEUA demand model to obtain estimates of the indoor LUD.



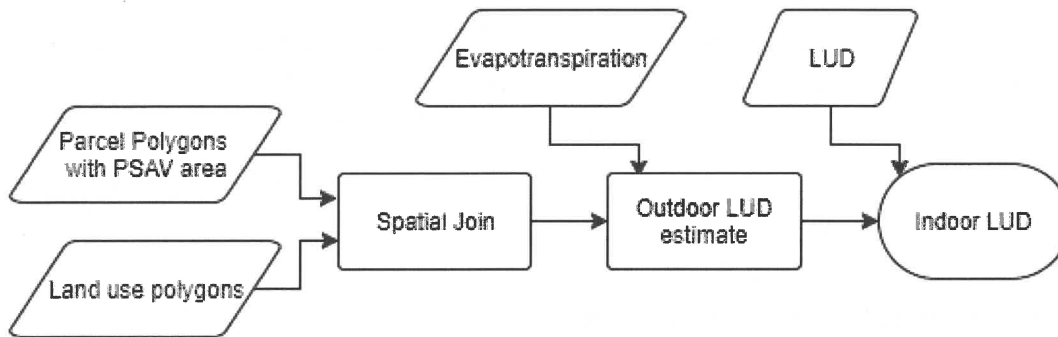


Figure 1. Indoor land use unit demand calculation using Method 1.

Benefits and Drawbacks

Simplicity - Method 1 benefits from conceptual simplicity and fits neatly into the existing framework of the IEUA demand model. Calculations can be done at the aggregate level for each land use type and retailer without resorting to customer-level calculations.

Accuracy (under assumptions) - To the extent that, on average, vegetation is irrigated as indicated by the ET factor, then this method should produce an accurate estimate of indoor sewer flows.

Assumptions - This method relies on empirically estimated vegetation area that is classified as commercial and an assumed ET factor, and therefore has a higher level of uncertainty. Fortunately, we can build confidence in this approach by looking at agency-wide efficiency targets in the Statewide Efficiency Explorer (SEE). The SEE uses the same efficiency framework used here and produces highly accurate estimates of residential water production for most IEUA retailers using an ET factor of 0.8.

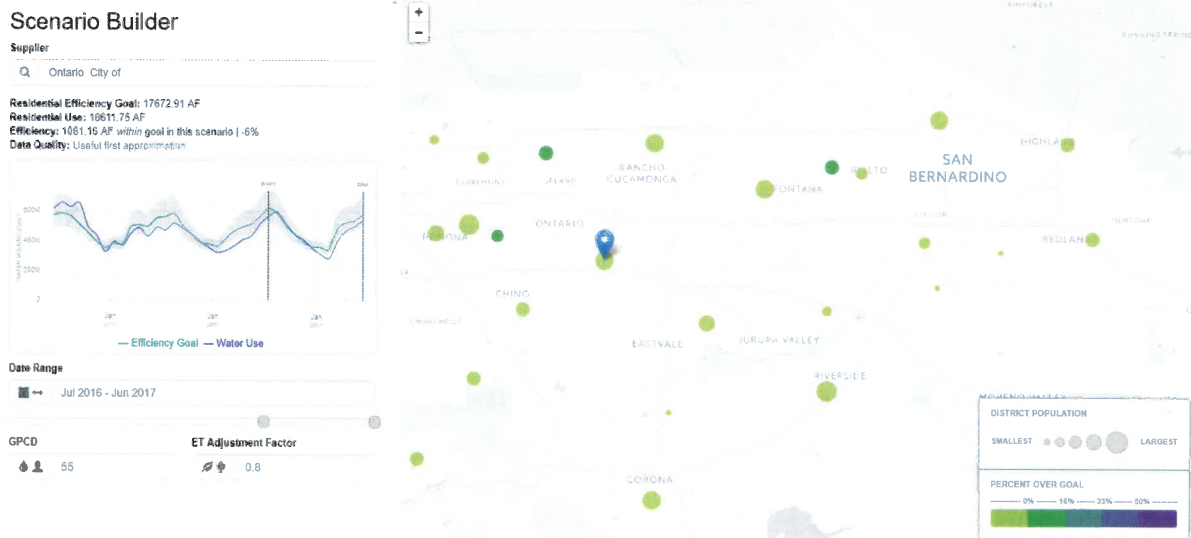


Figure 2. IEUA retailer water production is well-approximated using an efficiency budget framework.

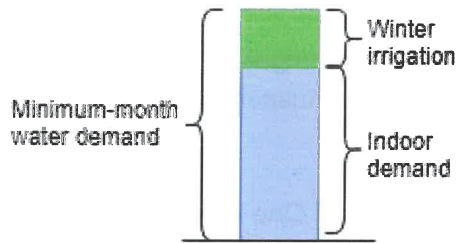
The SEE also opens the possibility of tailoring the ET factor to specific circumstances of each retail agency by selecting an ET factor that best fits the observed water production trends in the SEE.

Method 1 may produce a slight overestimate of indoor sewer flows because both the LUDs and the SEE budgets are estimates of water production, not consumption. This can be compensated for by subtracting reported distribution system water loss from the IEUA 2015 Urban Water Management Plan ("UWMP") to develop estimates of consumption.

Method 2: Extrapolate Minimum-Month from MVWD to subtract estimated outdoor demands

The second method aims to make use of meter-level consumption data from the Monte Vista Water District to estimate indoor sewer flows using the minimum-month method. These estimates can then be converted to unit demands and extrapolated to other retailers in the IEUA service area. This process is shown in Figure 3.

First, MVWD customers will be matched with IEUA land use types, and indoor sewer flows will be estimated for each customer using meter reads from the lowest month of water use available, which should correspond to the month with the most precipitation, and therefore the least demand for outdoor irrigation. The customer-level estimates of indoor sewer flows can then be summed within each land use type and divided by the area devoted by that land use to obtain indoor unit demands (indoor LUDs) for each land use type in MVWD.



At this point the indoor LUD is almost certain to be an overestimate of true sewer flows due to the presence of small amounts of outdoor irrigation even in periods of high precipitation (due to sprinkler timers, moderate climate, etc). An approach that has been used in Orange County is to directly account for this winter irrigation and subtract it away. This is done by deriving irrigation intensities (*volume water / vegetation area*) from dedicated irrigation meters during the minimum month. The average irrigation intensity can then be subtracted from each indoor LUD to obtain an adjusted indoor LUD.

From here, there are several possibilities. One is to assume that differences in indoor sewer flows are negligible across retailers, and that most inter-agency variation in unit demands comes from differences in outdoor irrigation. In this case, no extrapolation is necessary. A second approach assumes that while total LUDs vary across retailers, the ratio of water for indoor use remains fixed across retailers. In this case, an *indoor ratio* can be calculated for each land use in MVWD, and this can be used to estimate indoor LUDs for the same land use in a different retailer as follows:

$$\text{indoor LUD for retailer} = \text{MVWD indoor ratio} \times \text{LUD}$$

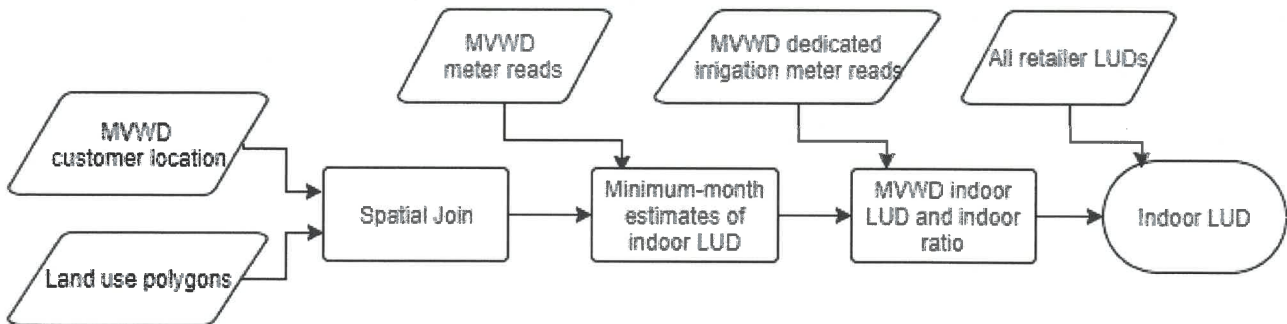


Figure 3. Indoor land use unit demand calculation using Method 2.

Benefits and Drawbacks

Directness - Method 2 estimates indoor sewer flows directly, so it is able to avoid the uncertainty in PSAV area estimates and ET factor assumptions used by Method 1.

Inaccuracy - As state above, Method 2 without an adjustment for winter irrigation is likely an overestimate. In one respect this is a benefit as well as a drawback because it allows one to place a hard upper bound on what realistic indoor flows may be.

Generalizability - There are several assumptions made in this approach. One is the assumption that winter irrigation for dedicated irrigation accounts can accurately model winter irrigation for other customer types. Another is that customer behavior in MVWD can accurately be extrapolated to other retail service areas.

Method 3: Regression model of residential water demand

This method approaches the problem of sewer flow estimation by estimating per-capita water use as it is influenced by factors like evapotranspiration, income, and education. This could be done using a regression model of water use at the level of census block groups, for example:

$$\begin{aligned} \text{water use} &= \beta_1 * \text{population} + \beta_2 * \text{income} * \text{population} + \dots + \beta_n * \text{PSAV area} + \dots \\ &= (\beta_1 + \beta_2 * \text{income} + \beta_3 * \text{education} + \dots) * \text{population} + \dots + \beta_n * \text{PSAV area} + \dots \end{aligned}$$

In a model like this, the value $(\beta_1 + \beta_2 * \text{income} + \beta_3 * \text{education} + \dots)$ can be interpreted as a per-capita water use that is modulated by income, education, etc. If outdoor water use is properly controlled for by including factors like vegetation area and evapotranspiration in the model, then this per-capita value should capture only indoor use.

This per-capita value can then be customized to individual census blocks in the IEUA service area by providing the correct values of income, education, etc. Multiplying by population and dividing by the area of residential land use in each area can then create residential unit demands for each census block.

For CII demand the model above would need to change slightly because population is not the primary driver of indoor demand for CII customers. Instead we can utilize the fine-grained customer categories derived earlier to estimate unit demands for each CII category while controlling for outdoor use with a model similar to the following:

$$\text{water use} = \beta_1 * \text{restaurant} + \beta_2 * \text{office} + \dots + \beta_n * \text{PSAV area} * \text{ET} + \dots$$



Accuracy and Quality Control

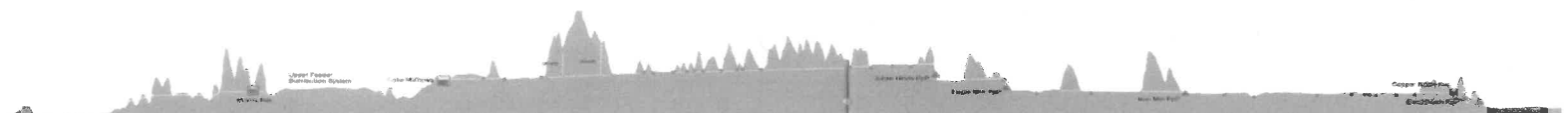
There are a number of quality control steps that should be taken to ensure that the estimates provided by the methods above are realistic.

- The simplest check is to compare LUDs derived from MVWD customers to the LUDs provided by IEUA. This will serve as a baseline to ensure that data from multiple sources is compatible.
- The second natural check is to compare the results from the multiple estimation methods used above. The estimates will probably differ, but there should be rough consensus between approaches, and the differences should be explicable.
- As an optional additional step, if metered sewer flow data become available for each sewershed in the future, then aggregate indoor sewer flows can be computed for each of IEUA's sewer catchment basins using the LUD estimates derived during the study. These values can then be compared against these future "ground-truth" sewer flow measurements for each catchment provided by IEUA to gain another estimate of the accuracy of each method.

Cost of Service

Given the exploratory nature of this project, ARGO proposes to investigate the three methodologies discussed above. That exploratory analysis, cost of potential external data and integration of IEUA land use is costed out below:

Item Type	Item	Task Description	Cost
Necessary Foundational Data Integration and Exploratory Analysis	Incorporating IEUA Land Use Information	Aligning IEUA land use data formats to make compatible with SCUBA data infrastructure	\$2,500
	Integrate data to categorize commercial and industrial customers	Integrate publicly available information to categorize commercial entities (such as Yelp and County Assessor information) along with IEUA provide CII categorization (from for example SAWPA).	\$2,500
	Investigate three proposed methodologies	Method 1: Subtract estimated outdoor demands from outdoor allocations	\$4,500
		Method 2: Utilize metered use data and minimum month method to subtract estimated outdoor demands	\$4,500



		Method 3: Regression model of residential water demand	\$4,500
Dissemination of Results	Bi-weekly calls/webinars and/or in person meetings to update and collaborate with staff	Ad hoc presentations developed to discuss results with agency staff and others at agency staff direction	\$2,500
		Final report summarizing results from this analysis and next steps	\$8,000
Subtotal	Professional services		\$29,000
Data purchase	OPTIONAL - Data purchase to improve accuracy of CII customer classification	Business and commercial entity classifications.	\$9,000
Subtotal	Data purchase		\$9,000
TOTAL			\$38,000

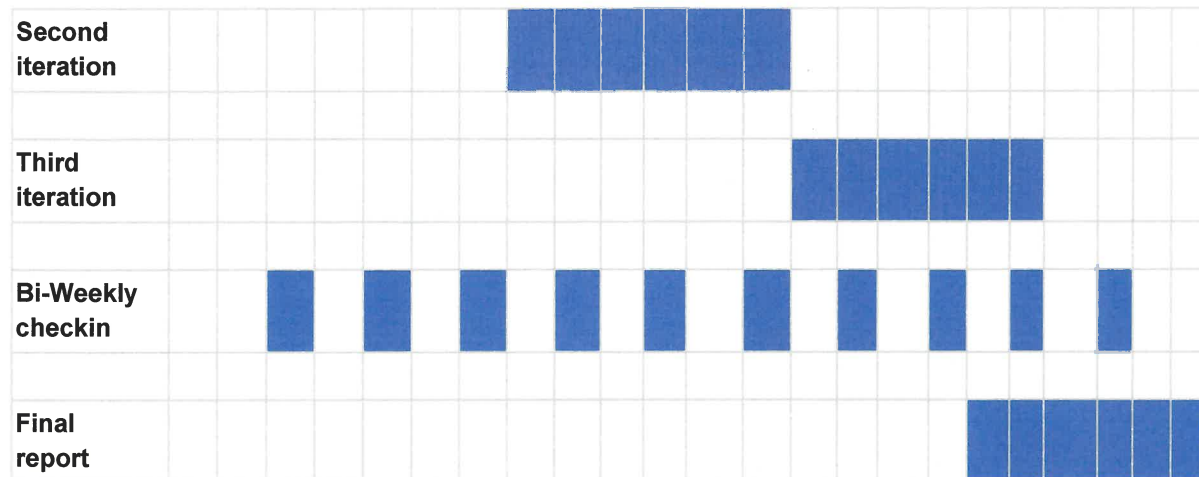
This work will be collaboratively developed with IEUA staff through three month iterations to test and refine the methodologies proposed above. That work will result in reusable code as a resource for IEUA and a final report summarizing results of the project for senior management.

Project Timeline

The following timeline provides ARGO staff's estimation of the time required to complete the work. We estimate 6 months to conduct the study with monthly check-ins and focused research iterations developed in conjunction with IEUA staff.

Month	M1			M2			M3			M4			M5			M6							
Week	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Task																							
Kickoff meeting																							
First iteration																							





November 7, 2019

To: Regional Contract Negotiation (RCN) Group
Cc: Kearns & West
From: RCN Forecasting Subcommittee
Subject: Forecasting (Return to Sewer Factor) Recommendation

Background:

Annual Growth Forecasting (under Section 9A.A.1 of the Regional Contract) was identified as a subtopic as part of Topic No. 6 – Reports Required Under Contract. During the Reports subcommittee discussion session on January 23, 2019, the subcommittee members requested a report back to the main RCN group on growth forecasting from IEUA. Key questions posed by the subcommittee members were how the forecasting projections (expressed as Equivalent Dwelling Units (EDUs)) were used and whether any adjustments were made to the Regional Contracting Agencies (RCAs) projections. During this meeting, subcommittee members also expressed an interest in sharing their respective forecasting methods.

On February 27, 2019, IEUA presented to the main RCN group an overview of the growth forecasting process. The overview included background on the forecasting information request, the use of the forecast projections in the Ten-Year Capital Improvement Plan (TYCIP), the Comprehensive Annual Financial Report (CAFR), and IEUA's budget projections for revenue forecasting. As part of this presentation, IEUA noted that there were adjustments made to the RCAs forecast projections for revenue and budgeting purposes. IEUA also shared a potential alternative methodology to growth forecasting via the use of the 2016 Land Use Demand Model (LUDM) which was developed during the last Urban Water Master Plan update. The main RCN group agreed to consider this alternative method and requested IEUA to provide further detail on the methodology.

On May 23, 2019, IEUA presented the proposed alternative method of forecasting. The presentation described the development of the 2016 LUDM which was based on Planning documents from the respective City Planning Departments from 2015. The LUDM grouped 13 land use categories based on water demand. IEUA proposed to use the LUDM as a foundation for the proposed forecasting method by establishing wastewater strength and return to sewer factors for the land use categories in the LUDM.

In order to establish the wastewater strength and return to sewer factors for the proposed forecasting alternative, it was noted that IEUA was currently participating in a statewide study of current sewer system flows and loadings associated with different types of land uses. As a supplement to that statewide flow and loading study, IEUA proposed the study by Applied Research in Government Operations (ARGO) which was brought before the Regional Technical Committee for consideration in April 2018, as an alternative pathway to determine return to sewer factors. IEUA recommended to the main RCN group that a subcommittee be established to review the ARGO study. The main RCN group

agreed with the establishment of the subcommittee with IEUA to coordinate the meetings and discussions.

Subcommittee Meeting Summaries:

July 8, 2019 Meeting Summary:

IEUA and representatives from the Cities of Chino, Chino Hills, Fontana, Ontario, and Montclair met to review and discuss the proposal to use the LUDM and ARGO study. IEUA staff recapped the presentation given on May 23, 2019 to describe the LUDM. IEUA introduced Chris Tull from ARGO to present their proposal for the return to sewer project.

Chris described the project as a pilot study which would utilize data that ARGO currently has for the Monte Vista Water District (MVWD) as part of their work in the California Data Collaborative to calculate water demand for assessments of residential water budgets. The proposal focused on three separate methods to calculate a return to sewer factor. The first step would be to acquire the business classifications. ARGO proposed to use Yelp, County Assessor and other third-party data sources to identify all commercial users within the MVWD/Montclair service area. The subcommittee members commented that in place of Yelp data, each of the contracting agencies had the capability of providing a comprehensive list to ARGO during the study. Chris mentioned that Yelp and other third-party data would be used only in the case of where commercial lists were unavailable.

The first method of calculating the return to sewer factors would entail subtracting estimated outdoor water demands from the Land Use Demand. Using existing parcel information from the residential water budget data, ARGO would then calculate a return to sewer factor.

The second method ARGO proposed would evaluate a minimum-month of water consumption data to subtract estimated outdoor demands. This method would focus on the lowest months of water use which typically correspond with the months of highest precipitation.

The third method would use a regression model to estimate both the commercial and residential return to sewer factor. The residential regression model would be influenced by factors such as evapotranspiration, income, and education. The commercial regression model would use the categories derived in the first step of the study to estimate the indoor water use while controlling the outdoor use.

IEUA thanked Chris Tull for presenting their proposal and requested the subcommittee members review the proposal and provide feedback during the next subcommittee meeting. In the meantime, IEUA staff would re-confirm with MVWD on their willingness to participate in the study.

July 22, 2019 Meeting Summary:

IEUA and representatives from the Cities of Chino, Chino Hills, Fontana, Ontario, and Montclair met to further discuss the ARGO proposal. IEUA advised that on July 15th, a conference call with MVWD, IEUA, and ARGO was held. During the call, MVWD confirmed they would allow IEUA to use their consumption data for the pilot study.

Discussion ensued regarding subcommittee members concerns for the ARGO study. The City of Chino wanted to have a tie-in with the ongoing statewide loading study as there were concerns the ARGO study would not be defensible. City of Montclair did not question the defensibility of the proposed

study but had concerns about the data derived from their service area due to the age of the facilities (old v. new) and questioned whether this study should be performed at a later date. The City of Fontana echoed concerns about why Montclair's service area was selected. IEUA reiterated the ARGO study is considered a pilot based on available data which would allow the contracting agencies an opportunity to evaluate an alternative should the ongoing statewide loading study be inconclusive. Fontana mentioned that they would work internally to provide the data ARGO would need should the study move forward. City of Ontario staff echoed Chino's concerns on any potential tie-ins to the statewide loading study and was also concerned about the old v. new commercial facilities. The proposal from the subcommittee group was to bring the proposal back to the larger negotiation group for discussion.

The subcommittee also discussed forecasting and the methods the contracting agencies are currently utilizing. In general, some contracting agencies are having the projections provided by their respective Planning departments, while others were unsure due to recent staff turnover. In general, members of the subcommittee were in favor of a region-wide joint forecasting method with appropriate input from their respective Planning Departments.

Recommendations:

The determination of the subcommittee was to bring the ARGO proposal back to the main RCN group for discussion. IEUA staff is in support of initiating the ARGO study as it provides a data-based approach using an available dataset which is independent of the statewide flow and loading study. As reported to the main RCN group, the statewide loading study's anticipated completion is in 2021. The ARGO proposal would be completed prior to the date and should the data from the MVWD/Montclair service area be promising, a full-scale study could be planned for the remainder of the contracting agencies' service areas.