NOTICE OF SPECIAL TECHNICAL COMMITTEE MEETING

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

WILL BE HELD ON

THURSDAY, JULY 25, 2019

4:00 P.M.

ANZA CONFERENCE ROOM, BUILDING B
AT THE OFFICE OF THE AGENCY
6075 KIMBALL AVENUE
CHINO, CA 91710

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Special Regional Sewerage Program
Technical Committee Meeting

AGENDA
Thursday, July 25, 2019
4:00 p.m.

Location
Inland Empire Utilities Agency
Anza Conference Room
6075 Kimball Avenue
Chino, CA 91709

Call to Order and Roll Call

Additions/Changes to the Agenda

1. **Action Items**
   A. Meeting Minutes for May 30, 2019

2. **Informational Items**
   A. Asset Management Program
   B. Engineering Quarterly Project Updates
   C. IEUA/JCSD Recycled Water Interconnection Analysis

3. **Receive and File**
   A. Draft Regional Policy Committee Agenda
   B. Building Activity Report
   C. Recycled Water Distribution - Operations Summary
   D. Legislative Update
   E. IEUA Rate Study Workshop #3

4. **Previous Technical Committee Items Requested**
   A. IEUA Recycled Sales Projections Inquiry and Response

5. **Other Business**
   A. IEUA General Manager's Update
   B. Committee Member Requested Agenda Items for Next Meeting
   C. Committee Member Comments
   D. Next Regular Meeting – August 29, 2019

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, July 18, 2019.

Laura Mantilla

ACTION ITEM

1A

Inland Empire Utilities Agency
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Regional Sewerage Program
Technical Committee Meeting
MINUTES OF MAY 30, 2019

CALL TO ORDER

A regular meeting of the IEUA/Regional Sewerage Program – Technical Committee was held on Thursday, May 30, 2019, at the Inland Empire Utilities Agency located at 6075 Kimball Avenue, Chino, California. Committee Chairman Noel Castillo called the meeting to order at 2:00 p.m.

ATTENDANCE

Committee Members:

Amanda Coker (Alternate)	City of Chino
John Bosler	Cucamonga Valley Water District
Chuck Hays	City of Fontana
Noel Castillo	City of Montclair
Katie Gienger (Alternate)	City of Ontario
Steve Nix (Alternate)	City of Upland
Shivaji Deshmukh	Inland Empire Utilities Agency

OTHERS PRESENT

Nicole deMoet	City of Montclair
Eduardo Espinoza	Cucamonga Valley Water District
Kathy Besser	Inland Empire Utilities Agency
Christina Valencia	Inland Empire Utilities Agency
Shaun Stone	Inland Empire Utilities Agency
Neetu Gupta	Inland Empire Utilities Agency
Chander Letulle	Inland Empire Utilities Agency
Eddie Lin	Inland Empire Utilities Agency
Liza Munoz	Inland Empire Utilities Agency

ADDITIONS/CHANGES TO THE AGENDA

There were none.

1. ACTION ITEMS

A. APPROVAL OF THE MEETING MINUTES OF APRIL 25, 2019

> **Motion:** By Chuck Hays/City of Fontana and seconded by Amanda Coker/City of Chino to approve the meeting minutes of April 25, 2019.
>
> **Motion carried:** Unanimously.

B. & C. APPROVAL OF REQUESTS FROM CITY OF ONTARIO REGIONAL CONNECTION O-100 AND CITY OF CHINO REGIONAL CONNECTION C-40

Shaun Stone/IEUA stated the requests are for connections to the Regional System.

> **Motion:** By Chuck Hays/City of Fontana and seconded by Steve Nix/City of Upland to approve the connection point request to the Regional System for the City of Ontario (Connection #O-100) and City of Chino (Connection # C-40).
>
> **Motion carried:** Unanimously.

D. RP-1 MECHANICAL RESTORATION AND UPGRADES CONSTRUCTION CONTRACT AWARD

Shaun Stone/IEUA gave a presentation on the RP-1 Mechanical Restoration and Improvements Construction Contract. He reviewed the project location and stated that the scope includes replacement of outdated pumps, outdated electrical system and replacement of pipes due to corrosion. Mr. Stone stated that if awarded, construction would begin in July 2019 and completed in March 2021. Mr. Stone explained that due to the cancellation of the June Technical Committee meeting, this item would be presented to the IEUA Board in July. IEUA is requesting the Committee recommend the IEUA Board of Directors award the construction contract for the RP-1 Mechanical Restoration and improvements project for a not-to-exceed amount of $8,075,000.

> **Motion:** By John Bosler/Cucamonga Valley Water District and seconded by Chuck Hays/City of Fontana to recommend to the IEUA Board of Directors award the construction contract for the RP-1 Mechanical Restoration and Improvements, Project No. EN17082, to the lowest, responsive bidder for the not-to-exceed amount of $8,075,000.
>
> **Motion carried:** Unanimously.

E. BIENNIAL REGIONAL PROGRAMS BUDGET AND TYCIP

Chuck Hays/City of Fontana requested that Jurupa Community Services District (JCSD) Water Resources Management Partnership (Receive & File Item F) be discussed prior to the Biennial Regional Program Budget. Shivaji Deshmukh/IEUA explained that JCSD has committed to 5,000 AF per year of recycled water for Chino Basin Program (CBP) operations, and CBP water conveyance facilities accessible to JCSD to meet its future water demands. Amanda Coker/City of Chino requested that any contracts/term sheets related to this project come to the Technical Committee for approval. Mr.

Deshmukh stated that moving forward IEUA will bring design construction contracts related to recycled water intertie projects to both Regional Committees regardless of the $2 million threshold.

Katie Gienger entered the meeting room at 2:12 p.m.

Christina Valencia/IEUA stated that the proposed Biennial Regional Program Budget for Fiscal Years 2019/20 and 2020/21 and the Ten-Year Capital Improvement Plan (TYCIP) was brought to the Regional Committees in May 2019. Ms. Valencia stated that since then, the TYCIP was adjusted from $924 million to $921 million due to an adjustment to the CBP planning project budget. Ms. Valencia noted that 68% or $686 million of the TYCIP is driven by the RP-5 Expansion project which is planned in the first five years and the RP-1 Capacity Recovery of approximately $80 million planned in 2026. Ms. Valencia reviewed the breakdown of the TYCIP by the Regional Program Funds and funding sources. She stated that IEUA continues to look for grants and various options to leverage low-cost borrowing to support the planned capital expenditures.

Ms. Valencia noted that the Wastewater Capital Fund increase from $76 million in FY 2019/20 to $155 million in FY 2020/21 is primarily due to the RP-5 Expansion project and associated debt proceeds needed to finance the construction. She noted the anticipated debt proceeds account for the temporary increase in reserves for this fund in 2021. Ms. Valencia stated that the Wastewater Operations Fund remains stable over the two-year budget period. The $20 million decrease in reserves projected over the next two years is to support the planned rehabilitation and replacement (R&R) projects that are not fully covered by monthly EDU rate. She then reviewed the 2015 Cost of Service per EDU projection versus the actual to date. Ms. Valencia explained that the cost of service per EDU related to R&R for FY 2018/19 and 2019/20 was reduced from $5.44 presented on April 1, to $4.77 per unit due to the deferral of R&R projects into the later years.

The Recycled Water Fund Budget remained the same at $49 million over the two-year budget period. Katie Gienger/City of Ontario asked if the recycled water interties are included. Ms. Valencia stated yes but did not have a fiscal impact in the two-year period. Ms. Valencia noted that that the volumetric delivery of the water projected for FY 2018/19 decreased to 33,000 AF from the 43,000 AF projected in 2015. As a result, the projected cost of service per acre feet increased. Ms. Valencia then reviewed the Recharge Water Fund. She stated that the projects are being planned over the next 10 years and will be primarily funded by Chino Basin Watermaster. Discussion ensued on the sales projections, cost of service, MWD rates, IEUA Rate Study, and the recycled water interconnection projects and funding.

Motion: By Katie Gienger/City of Ontario and seconded by John Bosler/Cucamonga Valley Water District to recommend to the IEUA Board of Directors to approve the proposed Fiscal Years 2019/20 and 2020/21 Biennial Budget as presented with the commitment from IEUA to bring back agreements related to the recycled water interties for action to the Regional Committees.

Motion carried: Unanimously.

2. **INFORMATIONAL ITEMS**

A. **OPERATIONS DIVISION SEMI-ANNUAL UPDATE**

Chander Letulle/IEUA gave a presentation on the Operations Division Semi Annual Update. He informed the Committee of the following: The Advance Water Treatment Operator Certification Training from American Water Works Association and California Water Environment Association; Touch a Truck public education event at Rancho Cucamonga; Total recordable injuries by year and location; Permit compliance issue with RP-1 flare capacity and the Sanitary Sewer System.

Mr. Letulle informed the Committee of two emergency responses related to recycled water leaks in the City of Chino. Repairs were made and service was back in place within 1-2 days. Mr. Letulle reviewed the status on the following projects: IERCF Compost Screening Replacement, RP-4/IERCF Energy Project, Chino 1 Desalter Maintenance Shutdown, RP-1 Headworks & Primary Upgrades, RP-4 Trident Filter Rehabilitation, and RP-4 SCADA Migration. Mr. Letulle then discussed cybersecurity and new energy reports from Integrated Systems Services.

B. **FY 2017/18 RECYCLED WATER RECONCILIATION**

Eddie Lin/IEUA gave an overview of the FY 2017/18 Recycled Water Reconciliation. He stated that IEUA completed the recycled water reconciliation in February 2019 and billing was completed in March. Mr. Lin reported that for FY 2017/18 a total of 53,418 AF of recycled water was produced of which 13,510 AF was recharged to the basins and approximately 20,000 AF was direct use. Mr. Lin reviewed the three options for replacing water (Resolution No. 2016-6-17). Ms. Gienger asked if option one (Offer stored water in the Chino Groundwater Basin) has been exercised, and if not, how that would be executed. Mr. Lin stated that it has not yet been exercised and that he will find out and provide the information to the Committee. Mr. Lin reviewed the Recycled Water/Groundwater Recharge Reconciliation Chart for FY 2017/18. He noted that the City of Chino exceeded their base entitlement from direct use and paid a surcharge, along with their GWR allocation being curtailed and redistributed. The City of Ontario also exceeded their base entitlement and are working with CVWD to purchase excess entitlement. Mr. Lin then reviewed the redistributed allocations and final GWR invoice.

3. **RECEIVE AND FILE**

A. **DRAFT REGIONAL POLICY COMMITTEE AGENDA**

The draft Regional Policy Committee Agenda was received and filed by the Committee.

B. **BUILDING ACTIVITY REPORTS**

The Building Activity Reports for March 2019 were received and filed by the Committee.

C. **RECYCLED WATER DISTRIBUTION - OPERATIONS SUMMARY**

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

D. **LEGISLATIVE UPDATE**

The IEUA Bill Matrix was received and filed by the Committee.

E. **PRETREATMENT COMMITTEE MINUTES**
The May 7, 2019 Pretreatment Committee minutes were received and filed by the Committee.

F. **JCSD WATER RESOURCES MANAGEMENT PARTNERSHIP**
The JCSD Water Resources Management Partnership document was pulled by Chuck Hays/City of Fontana and discussed prior to the Biennial Regional Program Budget. The JCSD Water Resources Management Partnership was received and filed.

G. **IEUA RATE STUDY WORKSHOP #2**
The IEUA Rate Study Workshop #2 was received and filed by the Committee.

4. **PREVIOUS TECHNICAL COMMITTEE ITEMS REQUESTED**
None.

5. **OTHER BUSINESS**

A. **IEUA GENERAL MANAGER'S UPDATE**
None.

B. **COMMITTEE MEMBER REQUESTED AGENDA ITEMS FOR NEXT MEETING**
None.

C. **COMMITTEE MEMBER COMMENTS**
None.

D. **NEXT MEETING – JULY 25, 2019**

6. **ADJOURNMENT** – Chairman Castillo adjourned the meeting at 3:17 p.m.

Transcribed by:

Laura Mantilla, Executive Assistant

INFORMATION ITEM

2A

Asset Management Program Update

Inland Empire Utilities Agency
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GHD

Shaun J. Stone, P.E.
July 2019/August 2019

Agenda

1. Recap
2. Assessment Preliminary Outcomes
3. Implementation Outcomes
4. Next Steps
5. Questions
6. Additional Information: Assessment Key Findings, Recommendations, and Initiatives

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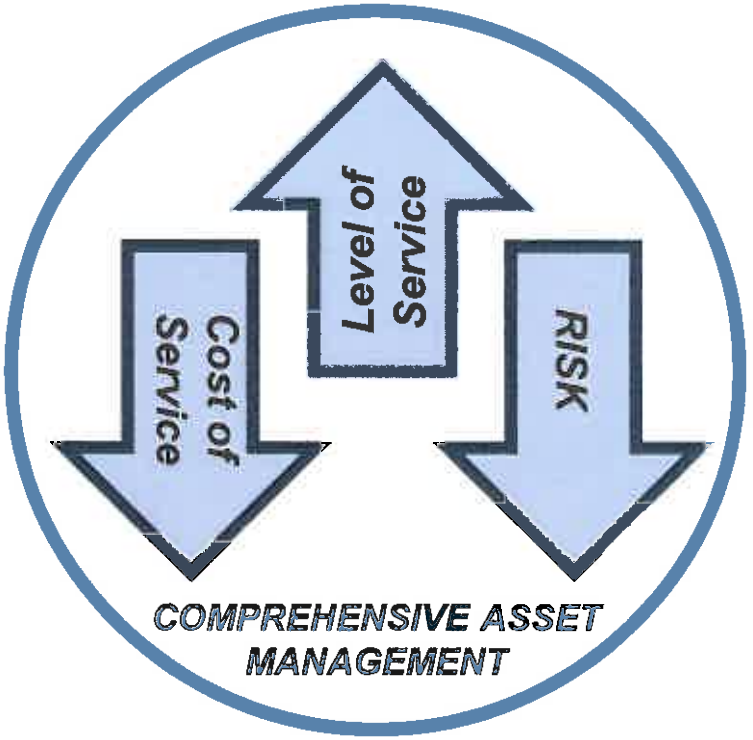
Recap

What is Asset Management (AM)?

Definition
Asset Management is an integrated set of processes that minimize the lifecycle costs of owning, operating, and maintaining assets, at an acceptable level of risk, while continuously delivering established levels of service now and for the future.
Doing the right projects, at the right cost, at the right time.



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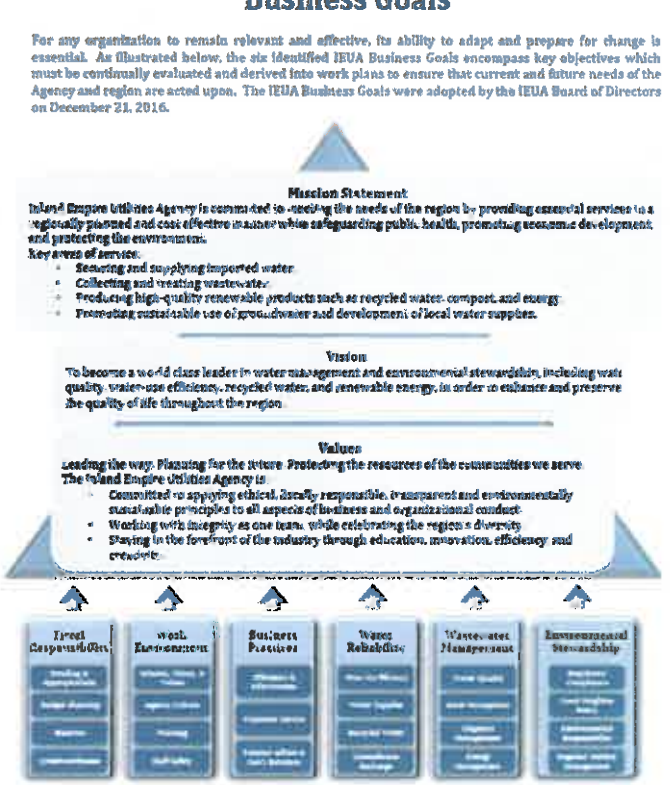
Effective Asset Management Consistent with IEUA's Business Goals

- Fund operations and capital investments… (Fiscal Responsibility)
- Plan for multi-year budgets and rate requirements… (Fiscal Responsibility)
- Apply best industry practices in all processes… (Business Practices)
- Ensure that Agency systems are planned, constructed, and managed… (Wastewater Management)



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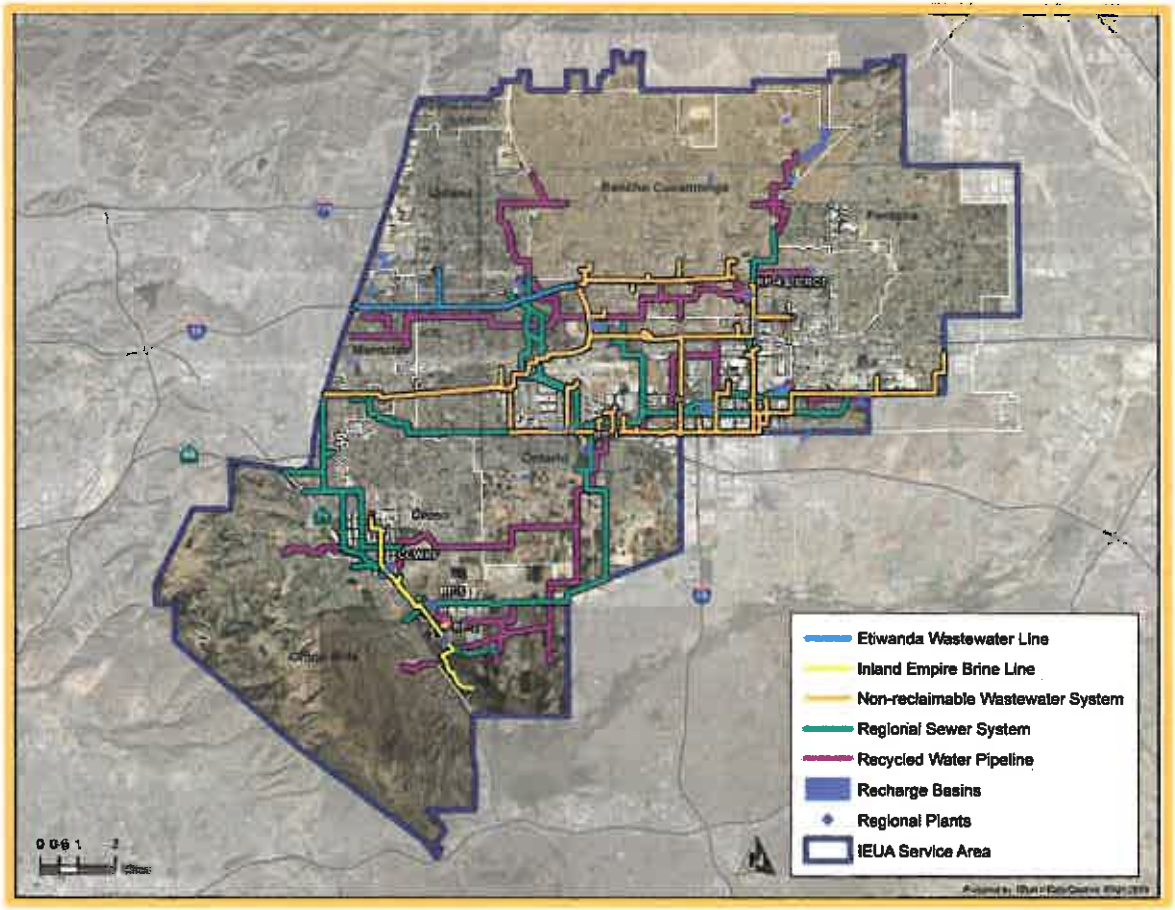
IEUA Service Area



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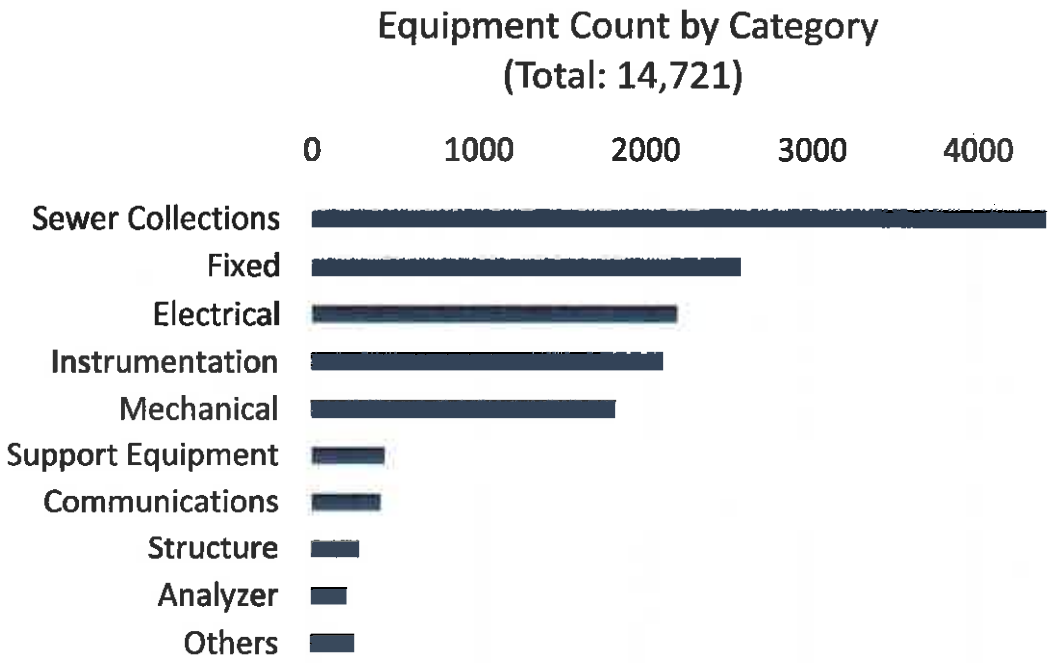
Assets by the Numbers

Six Treatment Plants + One Composting Facility + 19 Groundwater Recharge Sites
2 Sewage Collection Systems + 277 miles of pipelines



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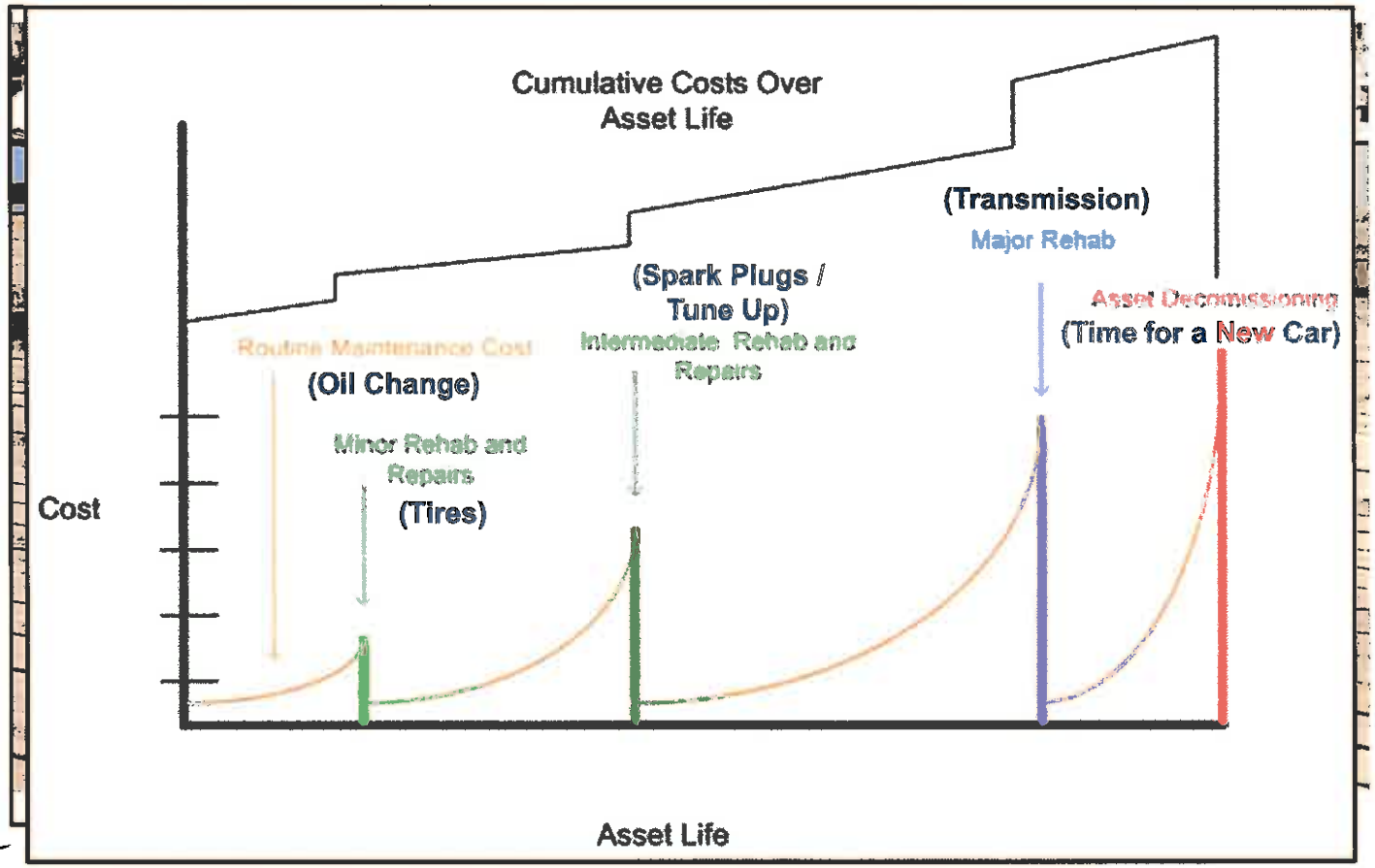
We Need to Manage Full Asset Lifecycle



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Comprehensive Asset Management

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Assessment Preliminary Outcomes

Category Assessment

100	• Setting Policy and Direction
200	• Capital Project and Maintenance Planning
300	• Asset Life Cycle Decision Making
400	• Project, Operations and Maintenance Delivery
500	• Asset Monitoring and Performance
600	• IEUA Quality and Risk Assurance Practices
700	• IEUA Organization
800	• Data and Information Management
900	• Technology/Systems and Tools

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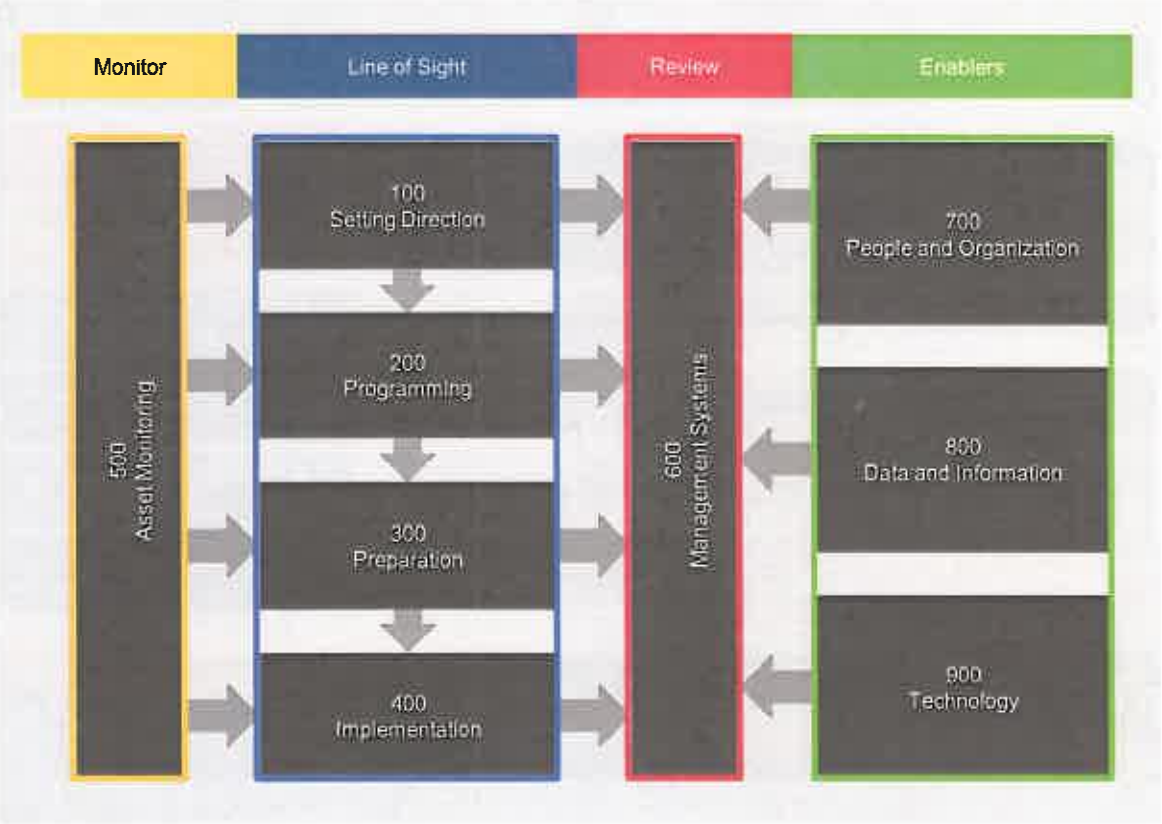
Components Gap Analysis



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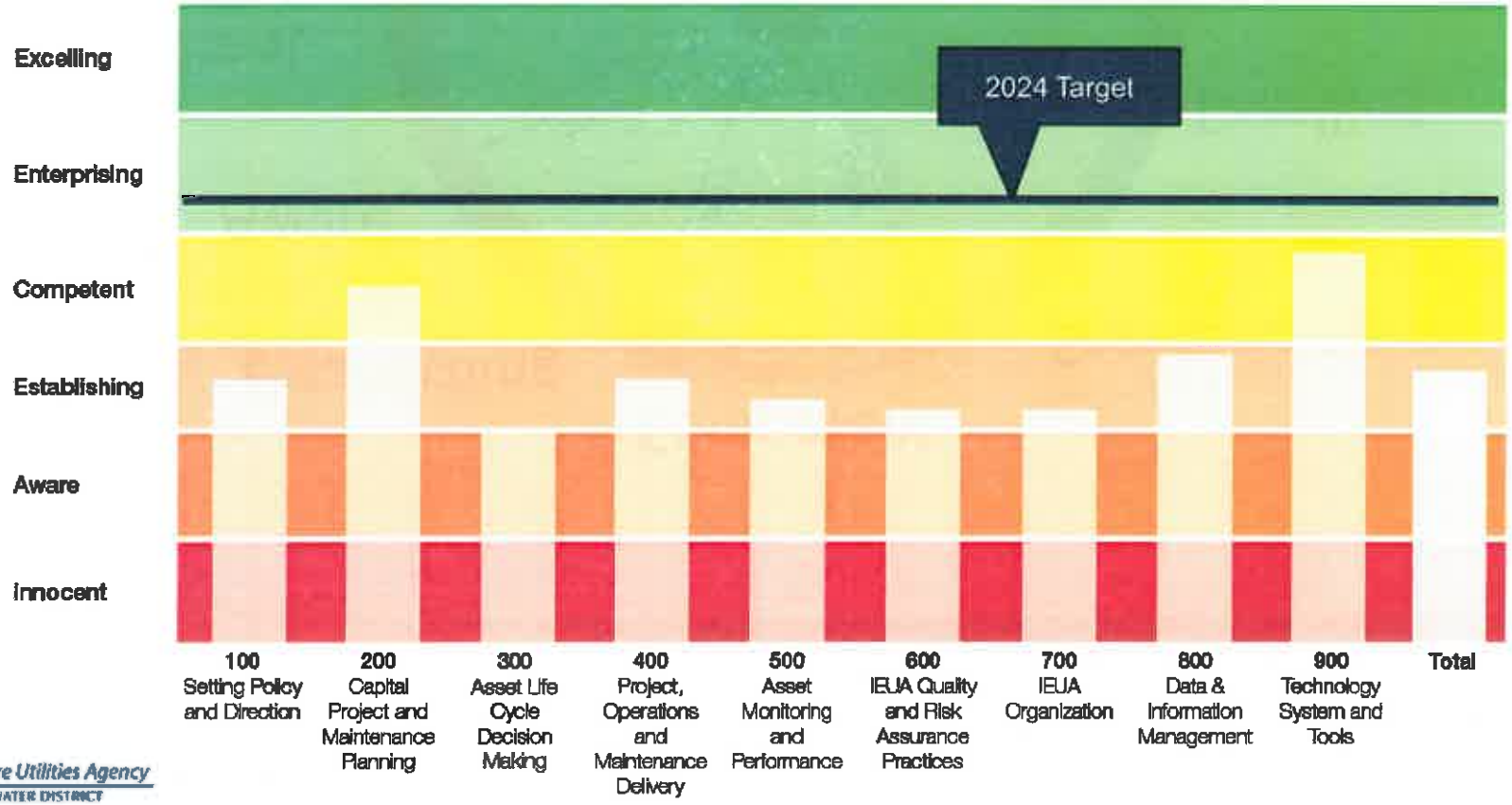
Category Average Scores



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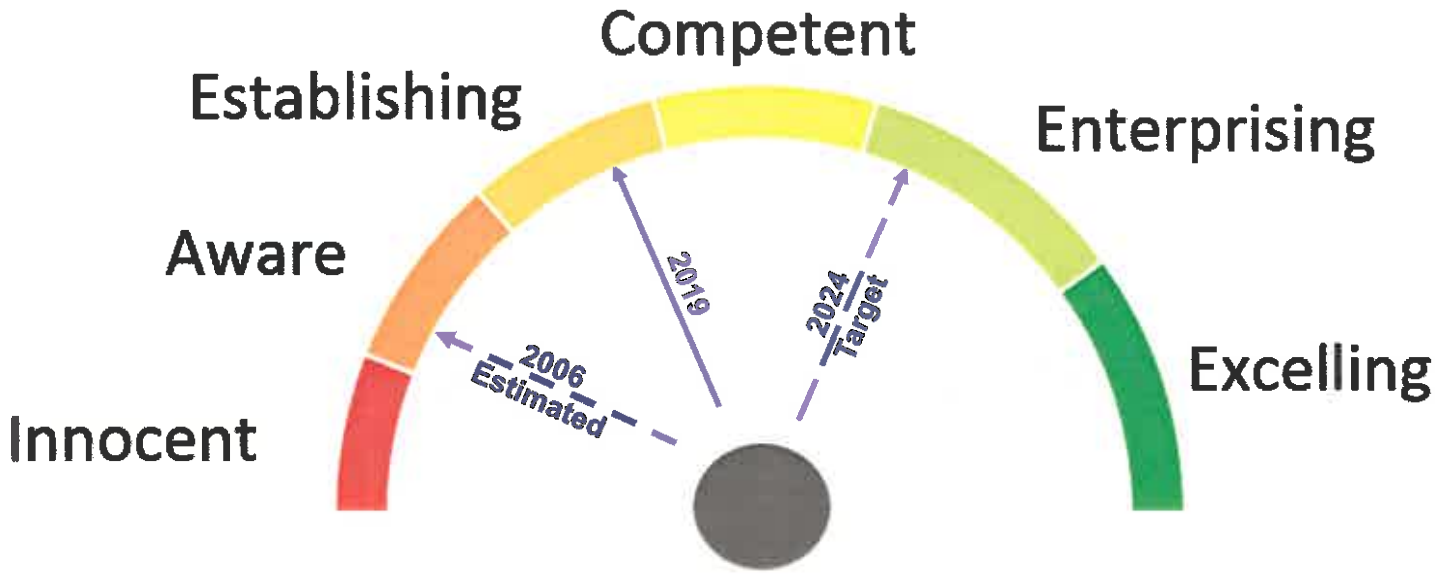
Asset Management Progress



Expected Implementation Outcomes

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What it can do...

Case Studies

- Case Study 1 - Orange County Sanitation District
  - Savings: Up to $70M since 2012
- Case Study 2 – Seattle Public Utilities
  - Savings: $16M/year; approximately $100M over ten years
- Case Study 3 – Washington Suburban Sanitation Commissioners
  - Savings: Initially $50M in deferred projects; $100M over ten years

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What it means to IEUA

- Forward planning of Repair and Rehabilitation (R&R)
  - Rate Stabilization
  - Risk Based Project Prioritization
  - Better Defined Budgeting for R&R Projects
- Overall Cost Reduction
  - Useful life of Equipment will be Extended
  - Life Cycle Equipment Selection (lower operation costs)
  - Spending Maintenance Effort Where it Matters Most

3 Rs! - **R**ight Projects, **R**ight Time, **R**ight Cost

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How it Works

- San Bernardino Lift Station
  - High Risk Facility
  - Past Sewage Spill
    - $20M pipeline planned
- Criticality Analysis
  - Reviewed All Equipment Maintenance and Failure Records
  - Small Adjustments to Maintenance and Spare Parts Management
  - Eliminated the Need for the Project

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Next Steps

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Next Steps

- Finalize Assessment Findings and Recommendations
- Plan to Achieve Enterprising by 2024
- Develop Asset Management Staffing and Resource Needs

- Early Wins/Initiatives
  - Begin Criticality Analysis on Remainder of IEUA Assets
  - Computerized Maintenance Management System Improvements

QUESTIONS

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GHD

Additional Information: Assessment Key Findings, Recommendations, and Initiatives

100 - Setting Policy and Direction

Range: 25-43%, Average: 32%

Strengths

- Strong Foundation in Place

Opportunities/ Recommendations

- Develop AM Policy
- Implement Governance Model
- Begin Integration of AM Objectives

Initiatives

- Develop AM Policy
- Executive Approval
- Develop Departmental AM Objectives

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200 – Capital Project and Maintenance Planning

IEUA Score - Range: 36-48%, Average: 44%

Strengths

- Good understanding on effective / residual asset life based on condition / age / industry standards
- Life cycle costs evaluated for major projects and expenditures

Opportunities/ Recommendations

- Consistency across databases
- Define critical assets
- Develop formal risk management program
- Establish budgeting consistency amongst staff budgeting of projects during the initial planning of projects

Initiatives

- Develop and implement Standards to capture Asset Data around the asset life cycle
- Further develop and refine the options analysis and business case evaluation process for decision making
- Redesign Planning Workflows to be based on formal risk management and robust cost estimating

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300 - Asset Life Cycle Decision Making

IEUA Score - Range: 24-29%, Average: 27%

Strengths

- Work in progress on Asset Management elements at IEUA
  - Asset Management Ready Specifications being developed for RP-5 and collection system
- Business Case Evaluations (BCEs) performed for large projects and initiatives

Opportunities/ Recommendations

- Develop consistency in maintenance maturity (use of time based, predictive, proactive, run to failure – is inconsistent)
- Link O&M strategies to Level of Service (LoS), currently done but not consistent
- Establish formal maintenance management policy or strategy
- Develop process for preparing comprehensive Asset Management Plans (asset inventory, level of service, condition, risk, life cycle strategies, and funding strategies)

Initiatives

- Establish effective master plans to drive lifecycle decision making (**Right** activities, at the **Right** time, & **Right** cost)
  - Develop and rollout an O&M Master Plan
  - Develop the formal Renewal/Replacement Plans based on a standard risk management framework
  - Develop comprehensive Asset Management Plans at the asset class level
  - Execute lifecycle strategies as per the Asset Management Plan and evaluate the effectiveness of the Asset Management Plan recommendations

400 – Project, Operations and Maintenance Delivery

IEUA Score - Range: 21-49%, Average: 34%

Strengths

- Good engagement of O&M with Finance/BIS
- Project management capability has been developed and documented
- Good collaboration between engineering and O&M in capital projects

Opportunities/ Recommendations

- Dedicated engineering staff to address O&M Rehabilitation & Replacement projects
- Apply asset criticality to prioritize work
- Establish consistency for the optimization of project managers across IEUA
- Establish a consistent process for demolition planning and costing

Initiatives

- Implement advanced practices for Operations, Maintenance, and Engineering to execute the Master Plans
- Implement digital engineering techniques (e.g. BIM/3D, digital twins), especially for significant projects
- Implement advanced planning and scheduling practices based on asset criticality
- Implement advanced maintenance practices
- Develop and implement a formal process for disposal of assets and update all relevant databases

500 - Asset Monitoring and Performance

IEUA Score - Range: 31-36%, Average: 33%

Strengths

- SAP is being used to manage mechanical assets
- Root cause analysis is being done selectively to reduce future occurrences of incidence (through O&M programs)
- Asset performance monitoring is effective for regulatory compliance

Opportunities/ Recommendations

- Implement SAP to track asset criticality, condition, performance, and update/add critical assets (e.g. electrical assets)
- Extend root cause failure analysis technique to all critical assets
- Develop level of service framework (service level outcomes, O&M program outputs, and asset inputs)
- For the work order process, implement proper coding, formalized assessment, correction, and close out requirements
- Implement Incident Management Tool for Safety and include reporting of near misses

Initiatives

- Develop a LOS Framework to track and report on asset performance (e.g. capacity, condition) and failures on critical assets
- Develop inspection and condition assessment (CA) protocols with standards by asset class and implement the program across all asset classes by asset criticality

600 - IEUA Quality and Risk Assurance Practices

IEUA Score - Range: 22-48%, Average: 32%

Strengths

- Formal processes in place to meet and comply with legal and regulatory requirements

Opportunities/ Recommendations

- Eliminate Manual duplication of CCTV data into various databases
- Currently no asset management process flow diagrams, work flows, or assurance processes in place
- No formal risk management program exists
- Informal approach to continuous improvement initiatives and asset failure investigations
- No alignment of tag numbering between Operations and Maintenance and Finance (SAP)

Initiatives

- Development and implement an overall asset management quality assurance process and an enterprise risk management framework to guide ongoing business effectiveness at the IEUA
  - Refine detailed business continuity planning leveraging the IEUA corporate risk framework based on major threats to levels of service
  - Develop a common IEUA Risk Management Framework and use to support Capital Planning and Preventive Maintenance
  - Develop best in class continuous improvement (e.g. root cause analysis) on critical assets (Laserfiche to capture and share this knowledge)

700 - Agency Organization

IEUA Score - Range: 25-46%, Average: 32%

Strengths

- Management and staff are committed to ongoing culture change in line with new and emerging business needs
- Good teamwork and collaboration amongst departments
- Training is being delivered for compliance with operator certifications and career development
- Effective use of external resources to supplement IEUA staff workload

Opportunities/ Recommendations

- Implement a Human Resources (HR) Master Plan to support business continuity and future growth
- Implement an asset management staffing and resources (e.g. roles and responsibilities)
- Change informal technical training for staff development to a well documented and tracked feature (training is tracked through Excel or on paper)
- "North and South areas" use different resourcing strategies for service delivery, develop strategy that builds on both areas (as applicable), and creates consistency
- Deploy HR module in SAP to support asset management practices (work scheduling)

Initiatives

- Develop and implement an asset management staffing and resource plan and overall HR Master Plan to ensure succession planning, business continuity and adequacy of resources
- Formalize and match people resource requirements to asset management lifecycle needs (capital and operational) – as the number of assets and service requirements increase
- Develop a formal training plan to deliver appropriate skills and competencies to effectively execute lifecycle strategies

800 – Data and Information Management

IEUA Score - Range: 38-40%, Average: 39%

Strengths

- Good data and information in place for capital project delivery supported by SAP and Primavera

Opportunities/ Recommendations

- Implement improvements to address the capture and management of asset data and information resulting from the following:
  - Data is being collected in silos across IEUA
  - Accessibility of data is challenging – varied collection locations
  - Lack of developed specification sheets to collect data/information when assets are being renewed / acquired
  - Labor costs are not tracked in SAP at the asset level

Initiatives

- Enhance capture and management of asset data and information to support decision making
  - Develop an Asset Knowledge Management Strategy/Plan
  - Develop and implement a plan for capture of asset knowledge to close data gaps using the top down and bottom up approach, asset criticality and Asset Management Ready Specifications
  - Develop and implement asset management performance dashboards across IEUA leveraging SAP analytics, business intelligence, and dash boarding tools

900 – Technology System and Tools

IEUA Score - Range: 42-70%, Average: 55%

Strengths

- Very good Enterprise Information Systems are in place to support IEUA business processes
- ISS has its own warehouse and tracking of assets
- SAP has mirroring redundancy and reliability and there is full accessibility for staff
- Staff are provided with adequate computer hardware to perform their duties

Opportunities/ Recommendations

- Deploy SAP modules including: HR, Scheduling, Mobile etc.
- Provide Wi-Fi connectivity to WWTPs, currently limited to offices
- Improve/integrate GIS and SAP (e.g. work orders cannot be pushed from GIS to SAP)
- Improve inventory management to support O&M practices

Initiatives

- Tailor existing and acquire new technology/systems and tools to support business processes and asset management best practices
  - Establish data management standards and an enabling integration architecture to support asset, sensors, reporting, and continuous improvement
  - Continue to collect/clean-up data/information in SAP
  - Select and implement an Enterprise Decision Support System initiative to support asset management planning
  - Ongoing refinement to the project management portal to support best in class project management practices

INFORMATION ITEM

2B

Engineering and Construction Management Quarterly Project Updates

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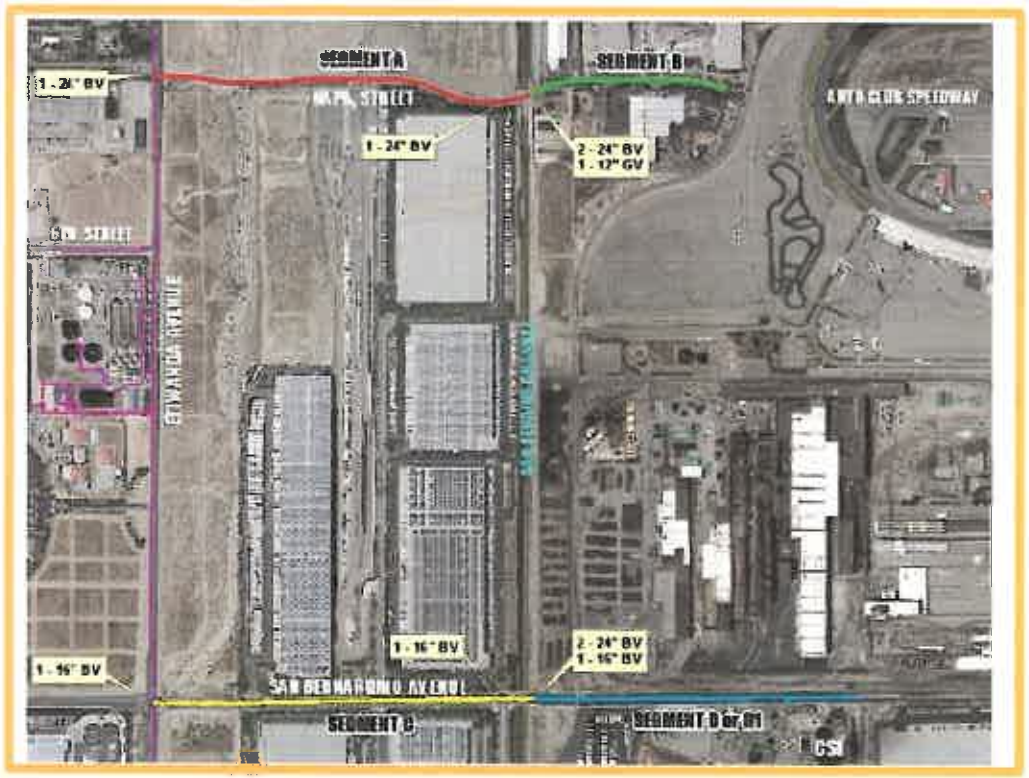
Shaun J. Stone, P.E.
July 2019/August 2019

Napa Lateral

Project Goal: Increased recycled water use

Design-Build Delivery



Total Project Budget: $7.2 M

Project Completion: October 2019

Design Percent Complete: 70%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design-Build (Current)	KEC/Ferreira	$5.3 M	0.00%

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Baseline Recycled Water Pipeline Extension

Project Goal: Increase Recycled Water Usage

Total Project Budget: $6.7 M
Project Completion: February 2020
Percent Complete: 30%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design	Carollo Engineers	$556 K	2.52%
Construction (Current)	Trautwein Construction	$4.9M	1.53%

Proposed Alignment

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Agency-Wide Lighting Pole Replacements and Upgrades

Project Goal: Asset Replacement and Enhanced Safety

Total Project Budget: $342 K
Project Completion: March 2019
Construction Percent Complete: 100%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design	In-House	$0	0%
Construction (Current)	Southern Contracting	$233 K	-1.48%

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San Sevaine Basin Improvements

Project Goal: Storm Water and Recycled Water Recharge

Total Project Budget: $6.4 M
Project Completion: February 2019
Construction Percent Complete: 95%

Phase	Consultant/ Contractor	Current Contract	Amendments/ Change Orders
Design	Scheevel/Dudek	$359 K	17.69%
Construction (Current)	Gwinco/Yellow Jacket Drilling	$4.5 M	-1.78%

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

INFORMATION ITEM

2C

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: July 25, 2019

To: Regional Technical Committee

From: Inland Empire Utilities Agency AMD

Subject: JCSD Cost Benefit Analysis

This is an information item regarding the cost benefit analysis of the Inland Empire Utilities Agency (IEUA) and Jurupa Community Services District (JCSD) recycled water interconnection in response to the request from the Regional Technical Committee during the discussion of the Biennial Regional Programs Budget and TYCIP on May 30, 2019.

BACKGROUND

IEUA, through its Chino Basin Program (CBP), has initiated a Chino Basin-wide water resources management program with a vision to meet water resources needs of the future efficiently, economically, and in a timely manner, while improving resiliency in light of an uncertain future resulting from climate change. In May 2019, IEUA and JCSD entered into a Water Resources Management Partnership to collaborate on the development of facilities needed for the mutual benefit of IEUA and JCSD (Attachment 1). The mutual needs in water resources management were identified in the Partnership as follows:

- IEUA's need to secure added local supply to balance the needs of the CBP and current uses of recycled water within the IEUA service area accounting for the seasonal variation.
- JCSD's need to diversify its current water portfolio beyond groundwater supplies to meet its projected 2040 water demands of 40,000 acre-feet per year (AFY) (including 10,000 AFY of new demand) to support growth and future regulatory requirements.
- The visions of the two agencies are unified by developing water resources management programs with a Chino Basin-wide perspective.

It is currently contemplated that the terms will include commitments for CBP investment in the CBP Network and JCSD Recycled Water (RW) Interconnection capital construction costs and JCSD's commitment of 5,000 acre-feet per year of recycled water for a period of 50 years for the CBP. The Partnership will enable IEUA and JCSD to collaboratively develop the formulation of CBP facilities, cost estimates for such facilities, and terms for equitable sharing of resources and costs. The comprehensive terms of this Water Resources Management Partnership will be negotiated to be equitable amongst the parties.

The following assumptions were made for the proposed partnership:

- IEUA anticipates the construction of a CBP Network, a distribution system across the Chino Basin to provide flexibility in physically transferring water across the quadrants of the Chino Basin (West, East, North and South).
    - It is anticipated that through partnerships and agreements with Metropolitan Water District and Western Municipal Water District, a connection with State Water Project conveyance facilities will be constructed with a capacity of 10,000 acre-feet per year that would be accessible to JCSD to meet new demands.
    - The CBP Network will provide flexibility in managing Management Zone 3 and meeting demands through physical connection to retail agencies within the Chino Basin.
- IEUA anticipates the construction of regional pipelines and pump stations to augment its recycled water system to meet the needs of the CBP.
    - IEUA anticipates the construction of a recycled water interconnection between JCSD (WRCWRA) and IEUA, with an ultimate capacity of 6,000 acre-feet per year.
    - IEUA anticipates using 5,000 acre-feet per year of JCSD's recycled water for CBP Operations.
    - JCSD anticipates using 1,000 acre-feet per year of recycled water from the regional interconnection to serve current and future users.

The CBP benefit to JCSD is not included in the analysis; the focus was limited to the recycled water interconnection between the two agencies. The anticipated facilities for the recycled water interconnection consist of approximately 31,000 linear feet of a 24-inch pipeline and two pump stations which will convey the 6,000 acre-feet per year of recycled water from the Western Riverside County Regional Wastewater Authority (WRCRWA) treatment plant to IEUA's RW distribution system in the 930-pressure zone. The estimated IEUA-JCSD RW interconnection project cost was estimated at $34 million. JCSD will construct the needed infrastructure to enable the use of its 1,000 AFY of recycled water.

Based on the above assumptions, a cost analysis was conducted to evaluate the present value of the IEUA - JCSD RW Interconnection for IEUA needs, assuming that the CBP is implemented (Attachment 2). The benefit analysis compares the acquisition of the 5,000 AFY of the JCSD RW for 50 years to the alternative cost of the water supply to the IEUA Agencies at the Metropolitan Water District's fully burdened Tier 1 rate. The analyses also include design and construction costs, operations and maintenance costs, loan repayment, and facility replacement costs for the 50-year partnership with JCSD. The following table summarizes the term savings for IEUA with and without the JCSD interconnection:

IEUA Net Present Value of Project Term Cost		Value
1.1	With IEUA/JCSD Interconnection	$133,679,281
1.2	Without IEUA/JCSD Interconnection	$439,461,072
1.3	IEUA Savings	$305,781,791
1.4	**Percent Savings**	**69.6%**

The results show that with the IEUA-JCSD RW interconnection, IEUA agencies will realize a savings of $306 million in purchases of Metropolitan Water District Tier 1 water to meet the IEUA Agencies' needs. If the JCSD interconnection is achieved, the net present value of the project is almost a 70% savings to IEUA Agencies. Therefore, this analysis supports IEUA's pursuit of external supplies which will prove to be cost effective for IEUA, the CBP and the Chino Basin stakeholders.

The need for the external supplies to augment the IEUA RW system to maximize the beneficial use of recycled water has been considered by the Regional Contracting Agencies to be value added and has encouraged IEUA to pursue such long-term opportunities. Projects such as the IEUA-JCSD RW Interconnections provide opportunities for the IEUA Agencies to maximize the use of the recycled water and have diversified portfolios as we move into the new era of water management.

Attachment 1 – Water Resources Management Partnership Document
Attachment 2 – IEUA JCSD RW Benefit Analysis

Attachment 1

INLAND EMPIRE UTILITIES AGENCY AND JURUPA COMMUNITY SERVICES DISTRICT

WATER RESOURCES MANAGEMENT PARTNERSHIP

GUIDING PRINCIPLES:

- IEUA, through its Chino Basin Program, has initiated a Chino Basin-wide water resources management program with a vision to meet water resources needs of the future efficiently, economically, and in a timely manner, while improving resiliency in light of an uncertain future resulting from climate change.
- JCSD has a desire to diversify its water portfolio to support growth within its service area and continue to be a steward in the sustainable management of the Chino groundwater Basin.
- The visions of the two agencies are unified by developing all water resources management programs with a Chino Basin-wide perspective.

IEUA's needs for the Chino Basin Program

- Meet the California Water Commission's Water Storage Investment Program performance requirements, including all necessary agreements with local partners and stakeholders, by 2020/2021.
    - Produce and store 15,000 acre-feet of advanced treated recycled water within the Chino Basin.
    - Exchange the stored CBP water with a local State Water Project contractor to facilitate releases of up to 50,000 acre-feet per year of water from Lake Oroville to the Feather River during dry and critically dry years for the benefit of the Chinook Salmon.
    - Secure added local supply to balance the needs of the CBP and current uses of recycled water within the IEUA service area.
    - Secure support from stakeholders to enable the construction and operation of the CBP by 2026.
- Incorporate to the maximum extent feasible local stakeholder needs, long term water resources management objectives of the Chino Basin, and programs and projects identified in regional and local planning documents while developing the CBP to provide broad mutual benefits across the Chino Basin.

JCSD's needs for Water Resources Management

- Diversify its current water portfolio beyond current groundwater supplies to meet the projected 2040 water demands of 40,000 acre-feet per year (including 10,000 acre-feet per year of new demand) to support growth and future regulatory requirements.
- Identify alternatives to reduce groundwater pumping constraints in Management Zone 3 of the Chino Groundwater Basin, including mechanisms to provide added recharge or reduce pumping by diversifying supply sources.
- Maximize the beneficial use of JCSD's recycled water.

INLAND EMPIRE UTILITIES AGENCY AND JURUPA COMMUNITY SERVICES DISTRICT

WATER RESOURCES MANAGEMENT PARTNERSHIP

Water Resources Management Partnership

IEUA and JCSD intend to enter into a Water Resources Management Partnership to achieve their respective goals and contribute to the sustainable management of water resources in the Chino Basin.

- IEUA anticipates the construction of a CBP Network, a distribution system across the Chino Basin to provide flexibility in physically transferring water across the quadrants of the Chino Basin (West, East, North and South).
    - It is anticipated that through partnerships and agreements with Metropolitan Water District and Western Municipal Water District a connection with State Water Project conveyance facilities will be constructed with a capacity of 10,000 acre-feet per year that would be accessible to JCSD to meet new demands.
    - The CBP Network will provide flexibility in managing Management Zone 3 and meeting demands through physical connection to retail agencies within the Chino Basin.
- IEUA anticipates the construction of regional pipelines and pump stations to augment its recycled water system to meet the needs of the CBP.
    - IEUA anticipates the construction of a recycled water interconnection between JCSD (WRCWRA) and IEUA, with an ultimate capacity of 6,000 acre-feet per year.
    - IEUA anticipates using 5,000 acre-feet per year of JCSD's recycled water for CBP Operations.
    - JCSD anticipates using 1,000 acre-feet per year of recycled water from the regional interconnection to serve current and future users.

Terms of Engagement

The Partnership will enable IEUA and JCSD to collaboratively develop the formulation of CBP facilities, cost estimates for such facilities, and terms for equitable sharing of resources and costs. The CBP is committed to include operations to provide defined public benefits for the state of California for 25 years in return for Water Storage Investment Program funding provided from the California Water Commission. The comprehensive terms of this Water Resources Management Partnership will be negotiated to be equitable amongst the parties; it is currently contemplated that the terms will include commitments for CBP investment in the CBP Network and JCSD RW Interconnection and JCSD's commitment of 5,000 acre-feet per year of recycled water for a period of 50 years for the CBP.

Attachment 2

IEUA JCSD RW Interconnection
Total Project Cost

Pipeline Cost

Project Component	Size	Pipe Length	Unit Cost	Project Cost		
				Design and CM	Construction	TOTAL
WRCWRA to Pine Ave	24 in	16,500 ft	$672.00/LF	$4,435,000	$11,088,000	$15,523,000
Pine Ave to Heroes Park	24 in	2,200 ft	$672.00/LF	$591,000	$1,478,000	$2,069,000
Heroes Park to 930 PZ	24 in	12,900 ft	$672.00/LF	$3,468,000	$8,669,000	$12,137,000
Total Pipe Line Cost				**$8,494,000**	**$21,235,000**	**$29,729,000**

Pump Station Cost

Project Component	Pump Size	Number of Pumps	Unit Cost	Project Cost		
				Design and CM	Construction	TOTAL
WRCRWA Pump Station	220 HP	3	$2,500/HP	$660,000	$1,650,000	$2,310,000
American Heroes Pump Station	250 HP	3	$2,500/HP	$750,000	$1,875,000	$2,625,000
Total Pump Station Cost				**$1,410,000**	**$3,525,000**	**$4,935,000**
Total Project Cost				**$9,904,000**	**$24,760,000**	**$34,664,000**

IEUA JCSD RW Interconnection

Financial Analysis Assumptions

Note#	Assumption Description	Value	Notes
1.0 Project Assumption			
1.1	**Total RW Supply**	6,000 AFY	Total RW Water Conveyance Capacity
1.1.1	RW to IEUA for CBP	5,000 AFY	RW to IEUA for direct use or GW recharge (for CBP)
1.1.2	RW to JCSD	1,000 AFY	RW Available to JCSD for direct use from the 930 PZ
1.2	**JCSD RW Usage**		JCSD Actual Direct RW Use Assumption.[1)]
1.2.1	Start Year	2023	RW to IEUA for direct use or GW recharge (for CBP)
1.2.2	Initial RW Usage	300 AFY	Projected JCSD RW Usage at the Start Year
1.2.3	End-of-Term RW Usage	1,000 AFY	Projected JCSD RW Usage by the Agreement's End-of-Term
1.3	**Project Cost**		JCSD Actual Direct RW Use Assumption.[1)]
1.3.1	Project Cost	$34.66 mill	The Estimated Project Design and Construction Cost
1.3.2	Project Cost Base Year	2018	The base year for the Project Cost
1.3.3	Construction Start Year	2020	Project Design and Construction Start Year
1.3.3	Construction Duration	4 years	Project Design and Construction Duration
1.3.4	JCSD Contribution	0.0%	JCSD Percentage Contribution to the Project Cost.
1.4	**RW System O&M Cost**		RW System O&M Cost (pumping cost)
1.4.1	Annual O&M Cost	$175/AF	The annual O&M Cost of the RW System (see PumpSystem[3.2.3]
1.4.2	O&M Cost Base	2018	The base year for the Estimated O&M Cost (see PumpSystem[3.1.1]
1.5	**RW System Replacement Cost**		RW System O&M Cost (pumping cost)
1.5.1	**Pipe System**		RW System O&M Cost (pumping cost)
1.4.1	Annual Repalcement Cost	$19/AF	The annual pipe replacement value (see PumpSystem[2.1.7]
1.4.2	O&M Cost Base	2018	The base year for the pipe replacement value (see PumpSystem[2.1.1]
1.5.2	**Pump System**		RW System O&M Cost (pumping cost)
1.4.1	Annual O&M Cost	$10/AF	The annual pump replacement value (see PumpSystem[2.2.6]
1.4.2	O&M Cost Base	2018	The base year for thepump replacement value (see PumpSystem[2.2.1]
2.0 Financial Anlaysis Assumptions			
2.1	Agreement Term	50 years	2017 Cost including extraction, treatment, & pumping cost
2.2	Start-of-Term Year	2020	The first year of Agreement Term.
2.3	End-of-Term Year	2070	The final year of the Agreement Term.
2.4	Present Value Base Year	2018	The Base Year for the present value analysis
2.5	Escalation Rate	2.00%/yr	The annual escalation rate on capital cost
2.6	O&M Escalation Rate	5.00%/yr	The annual escalation rate on O&M cost
2.7	**Loan Period**		Construction Loan Details (see 'ProjectCost' tab)
2.7.1	Loan Amount	$37.27 mill	The Loan amount at the end
2.7.2	Loan Period	50 years	The payback period of the capital loan
2.7.3	Loan Interest Rate	5.00%/yr	The interest of the capital loan
3.0 MWD Water Purchases [2)]			
3.1	Full Service (Tier 1) Rate Increase	3.0%/yr	After 2026 - Use publish rates 2018-2026
3.2	Readiness-to-Serve Charge Increase	8.6%/yr	After 2026 - Use publish rates 2018-2026
3.3	Capacity Charge Increase	3.0%/yr	After 2026 - Use publish rates 2018-2026
3.4	Capacity Charge Flow Rate	150 cfs	3-Year Rolling Average of Max Rate

1) Assuming the JCSD RW usage will increase linear between the initial (Start Year) projected 'Initial RW Usage' and 'End-of-Term RW Usage'.

2) Only Full Serviceand Ready-to-Serve Rates (i.e., without Capacity charges) were used in calculating the cost of imported water.

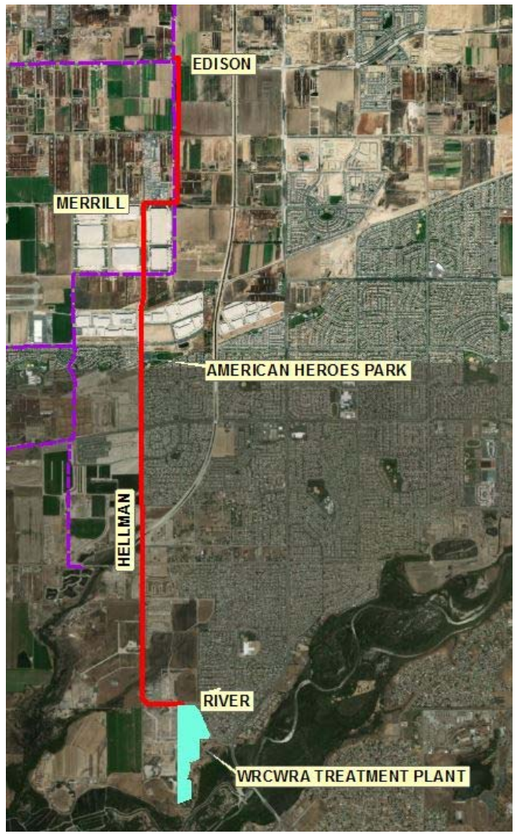
Financial Analysis Results

Item#	Assumption Description	Value
1.0 IEUA Net Present Value of Project Term Cost		
1.1	With IEUA/JCSD Agreement	$133,679,281
1.2	Without IEUA/JCSD Agreement	$439,461,072
1.3	IEUA Saving	$305,781,791
1.4	**Percent Savings**	**69.6%**
2.0 JCSD Net Present Value of Project Term Cost		
2.1	With IEUA/JCSD Agreement	$10,965,651
2.2	Without IEUA/JCSD Agreement	$64,087,512
2.3	JCSD Saving	$53,121,861
2.4	**Percent Savings**	**82.9%**

IEUA JCSD RW Interconnection
Preliminary Design Criteria Replacement Cost

Preliminary Pump System Design Criteria, Repalcement Cost & O&M Cost Summary

Note#	Assumption Description	Value	Notes
1.0 Project Assumption			
1.1	**Pipe System**		The JCSD-IEUA Delivery Pipe Line.
1.1.1	Design Flow	3,720 gpm	The total RW pump capacity (from Summary[1.1]).
1.1.2	Design Velocity @ Design Flow	3.00 fps	The maximum velocity in the pipe at *Design Flow* .
1.1.3	Selected Pipe Diameter	24 in	The pipe diameter selected from the *Pipe Sizing Table* .
1.1.4	**Force Main Pipe Length**	31,600.0 ft	The Force Main length - form the JCSD WRCWRA to IEAU.
1.1.4.1	WRCWRA to Pine Ave	16,500.0 ft	From JCSD WRCWRA to Pine Ave (800 PZ)
1.1.4.2	Pine Ave to Heroes Park	2,200.0 ft	From Pine Ave to American Heroes Park
1.1.4.3	Heroes Park to 930 PZ	12,900.0 ft	From American Heroes Park to Eucalyptis & Carpernter
1.1.5	***Pipe Losses***		
1.1.5.1	- Actual Velocity	2.64 fps	The actual velocity in the 24-in pipe line @ 3,720 gpm.
1.1.5.2	- Minor Loss Coeficient	15.00 ft/ft	Minor Losses (e.g., in- and outlet, bends, etc)
1.1.5.3	- Velocity Head	0.11 ft/ft	Velocity header at 2.64 fps (i.e., V2/2g).
1.1.5.4	- Friction Headloss	0.223 ft/100 ft	Friction headloss for a 24-in pipe line @ 2.64 fps.
1.2	**Pump System**		
1.2.1	**WRCRWA Pump Station**		The WRCRWA 800 Zone Booster Station
1.2.1.1	Static Head	250.00 ft	The static pump head (800 Pz - 550 ft El at plant)
1.2.1.2	Total PumpHead	293.34 ft	The Total Design Pump Head for a 24-in pipe line @ 2.64 fps.
1.2.1.3	HP per Pump	220 HP	The Pump Design HP per pump
1.2.1.4	Number of Pumps	3	The number of pumps (including 1 standby).
1.2.2	**American Heroes Pump Station**		The WRCRWA 800 Zone Booster Station
1.2.2.1	Static Head	305.00 ft	The static pump head (930 Pz - 625 ft El at Heroes Park)
1.2.2.2	Total PumpHead	335.40 ft	The Total Design Pump Head for a 24-in pipe line @ 2.64 fps.
1.2.2.3	HP per Pump	250 HP	The Pump Design HP per pump
1.2.2.4	Number of Pumps	3	The number of pumps (including 1 standby).
2.0 Replacement Value Assumptions and Calculations			
2.1	**Pipe Line Repacement**		
2.1.1	Base Year for Cost	2018	The Base year for the estimated *Pipe Replacement Cost.*
2.1.2	Per LF-Inch Diameter	$28.00/LF-in Dia	The estimated unit pipe replacement cost in 2018.
2.1.3	Per LF of Pipe	$672.00/LF	The replacement cost per LF for the a 24-in pipe line.
2.1.4	2018 Pipe System Cost	$21.24 mill	The pipe line replacement cost in 2018.
2.1.5	Annual Replace Cost (ARC)	50 years	The fraction of the pipe system cost to invest annually.
2.1.6	Replacement Percent	60%	The percent of Capital Components to replace
2.1.7	Annual Replacement Value	$18.83/AF	The pipe replacement value per AF in 2018.
2.2	**Pump System Replacement**		
2.2.1	Base Year for Cost	2018	The Base year for the estimated *Pump System Replacement Cost.*
2.2.2	Unit Pump Capital Cost	$2500.00/HP	The estimated unit pump system per installed HP in 2018.
2.2.3	2018 Pump System Cost	$3.53 mill	The pump system replacement cost in 2018.
2.2.4	Replacement Cycle	25 years	The pump system replacement period
2.2.5	Replacement Percent	60%	The percent of Capital Components to replace
2.2.6	Annual Replacement Value	$9.67/AF	The pipe replacement value per AF in 2018.
3.0 Operation & Maintenance Cost			
3.1	**Pump System Operation & Maintenance Cost Assumptions**		
3.1.1	Base Year for Cost	2018	The Base year for the estimated *Pump System Replacement Cost.*
3.1.2	Pump & Motor Efficiency	65%	The combined pump and motor efficency.
3.1.3	**Pumping HP**	909 HP	The Total calculated HP usage at 3,720 gpm
3.1.3.1	WRCRWA Pump Station	424 HP	The calculated HP usage for WRCRWA at 3,720 gpm
3.1.3.2	American Heroes Pump Station	485 HP	The calculated HP usage for Heroes Park at 3,720 gpm
3.1.4	% Annual Pump System Operations	96.00%	Assumed pump station operations for a year (8,410 hours per year)
3.1.5	Power Unit Cost	$0.12/KWh	The fraction of the pump system cost to invest annually.
3.1.6	Maintenance Cost (% of Power)	2.00%	The maintenance cost as a % of the *Power Cost* .
3.2	**Annual O&M Cost**		
3.2.1	Power Cost	$113.95/AF	The Pumping power cost in 2018.
3.2.2	Maintenance Cost	$2.28/AF	The Pump System maintenance cost in 2018.
3.2.3	**TOTAL O&M Cost**	**$116.23/AF**	The Pump System O&M cost in 2018.



IEUA JCSD RW Interconnection
Annual O Costs

	Annual Project Cost & Unit Costs								With Agreements										Without the Agreement	
	MWD Rates			($/AF)					IEAU Annual Costs					JCSD Annual Costs					IEAU Costs	JCSD Costs
Year	Full Service (Tier 1)	Ready to Service Charge	Capacity Charge	Project Construction Cost	Construction Loan Payments	Pipe Repalcement Value		Annual O&M Cost ($/AF)	Annual RW Usage (AF)	Loan Payment	Replacement Cost	RW O&M Cost	TOTAL COST	Annual RW Usage (AF)	Loan Payment	Replacement Cost	RW O&M Cost	TOTAL COST	Import MWD 'Tier 1' Water	Import MWD 'Tier 1' Water
Notes ->	3.1	3.2	3.3/3.4	1.3	2.7	1.5.1	1.5.2	1.4												
Present Values ->				$34,664,000	$57,850,901								$133,679,281					$10,965,651	$439,461,072	$64,087,512
YEAR	MWD_FSC	MWD_RTSC	MWD_CC	CONST_COST	CONST_LOAN	PIPE_REPL	PUMP_REPL	OM_COST	IEUA_RW	IEUA_LOAN	IEUA_RPL_COS	IEAU_OM	IEAU_COST	JCSD_RW	JCSD_LOAN	JCSD_RPL_COS	JCSD_OM	JCSD_COST	IEUA_MWD	JCSD_MWD
2018	$695/AF	$83	$1,305,000	$0	$0	$0	$0	$116/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2019	$738/AF	$88	$1,350,000	$0	$0	$0	$0	$122/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2020	$783/AF	$95	$1,395,000	$5,409,664	$0	$0	$0	$128/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2021	$835/AF	$104	$1,455,000	$11,035,714	$0	$0	$0	$135/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2022	$876/AF	$114	$1,500,000	$11,256,429	$0	$0	$0	$141/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2023	$917/AF	$124	$1,575,000	$9,567,964	$2,041,516	$21	$11	$148/AF	5,000 AF	$2,041,516	$157,300	$741,703	$2,940,520	300 AF	$0	$9,438	$44,502	$53,940	$5,203,311	$312,199
2024	$961/AF	$133	$1,665,000	$0	$2,041,516	$21	$11	$156/AF	5,000 AF	$2,041,516	$160,446	$778,788	$2,980,751	315 AF	$0	$10,105	$49,047	$59,152	$5,471,085	$344,562
2025	$1,008/AF	$147	$1,665,000	$0	$2,041,516	$22	$11	$164/AF	5,000 AF	$2,041,516	$163,655	$817,728	$3,022,900	330 AF	$0	$10,794	$53,935	$64,730	$5,773,035	$380,775
2026	$1,056/AF	$165	$1,695,000	$0	$2,041,516	$22	$11	$172/AF	5,000 AF	$2,041,516	$166,929	$858,614	$3,067,059	345 AF	$0	$11,507	$59,190	$70,697	$6,102,872	$420,709
2027	$1,088/AF	$179	$1,745,850	$0	$2,041,516	$22	$12	$180/AF	5,000 AF	$2,041,516	$170,267	$901,545	$3,113,328	360 AF	$0	$12,245	$64,835	$77,079	$6,332,039	$455,368
2028	$1,120/AF	$194	$1,798,226	$0	$2,041,516	$23	$12	$189/AF	5,000 AF	$2,041,516	$173,672	$946,622	$3,161,811	374 AF	$0	$13,007	$70,896	$83,903	$6,572,044	$492,204
2029	$1,154/AF	$211	$1,852,172	$0	$2,041,516	$23	$12	$199/AF	5,000 AF	$2,041,516	$177,146	$993,953	$3,212,615	389 AF	$0	$13,795	$77,401	$91,196	$6,823,553	$531,366
2030	$1,189/AF	$229	$1,907,737	$0	$2,041,516	$24	$12	$209/AF	5,000 AF	$2,041,516	$180,689	$1,043,651	$3,265,856	404 AF	$0	$14,609	$84,380	$98,989	$7,087,281	$573,014
2031	$1,224/AF	$249	$1,964,970	$0	$2,041,516	$24	$13	$219/AF	5,000 AF	$2,041,516	$184,303	$1,095,833	$3,321,652	419 AF	$0	$15,450	$91,863	$107,314	$7,363,997	$617,322
2032	$1,261/AF	$270	$2,023,919	$0	$2,041,516	$25	$13	$230/AF	5,000 AF	$2,041,516	$187,989	$1,150,625	$3,380,130	434 AF	$0	$16,319	$99,884	$116,203	$7,654,526	$664,478
2033	$1,299/AF	$293	$2,084,636	$0	$2,041,516	$25	$13	$242/AF	5,000 AF	$2,041,516	$191,748	$1,208,156	$3,441,421	449 AF	$0	$17,217	$108,477	$125,694	$7,959,758	$714,685
2034	$1,338/AF	$318	$2,147,175	$0	$2,041,516	$26	$13	$254/AF	5,000 AF	$2,041,516	$195,583	$1,268,564	$3,505,664	464 AF	$0	$18,143	$117,680	$135,823	$8,280,649	$768,162
2035	$1,378/AF	$346	$2,211,591	$0	$2,041,516	$26	$14	$266/AF	5,000 AF	$2,041,516	$199,495	$1,331,992	$3,573,004	479 AF	$0	$19,101	$127,531	$146,632	$8,618,226	$825,149
2036	$1,419/AF	$376	$2,277,938	$0	$2,041,516	$27	$14	$280/AF	5,000 AF	$2,041,516	$203,485	$1,398,592	$3,643,593	494 AF	$0	$20,089	$138,074	$158,162	$8,973,598	$885,904
2037	$1,462/AF	$408	$2,346,276	$0	$2,041,516	$27	$14	$294/AF	5,000 AF	$2,041,516	$207,555	$1,468,522	$3,717,593	509 AF	$0	$21,109	$149,352	$170,461	$9,347,958	$950,707
2038	$1,506/AF	$443	$2,416,665	$0	$2,041,516	$28	$14	$308/AF	5,000 AF	$2,041,516	$211,706	$1,541,948	$3,795,170	523 AF	$0	$22,162	$161,412	$183,574	$9,742,592	$1,019,863
2039	$1,551/AF	$481	$2,489,165	$0	$2,041,516	$29	$15	$324/AF	5,000 AF	$2,041,516	$215,940	$1,619,045	$3,876,501	538 AF	$0	$23,248	$174,306	$197,554	$10,158,886	$1,093,701
2040	$1,597/AF	$522	$2,563,840	$0	$2,041,516	$29	$15	$340/AF	5,000 AF	$2,041,516	$220,259	$1,699,997	$3,961,772	553 AF	$0	$24,369	$188,085	$212,454	$10,598,334	$1,172,582
2041	$1,645/AF	$567	$2,640,755	$0	$2,041,516	$30	$15	$357/AF	5,000 AF	$2,041,516	$224,664	$1,784,997	$4,051,177	568 AF	$0	$25,526	$202,806	$228,332	$11,062,548	$1,256,894
2042	$1,695/AF	$616	$2,719,977	$0	$2,041,516	$30	$16	$375/AF	5,000 AF	$2,041,516	$229,157	$1,874,247	$4,144,920	583 AF	$0	$26,719	$218,529	$245,248	$11,553,268	$1,347,062
2043	$1,745/AF	$669	$2,801,577	$0	$2,041,516	$31	$16	$394/AF	5,000 AF	$2,041,516	$233,740	$1,967,959	$4,243,216	598 AF	$0	$27,949	$235,318	$263,267	$12,072,369	$1,443,547
2044	$1,798/AF	$727	$2,885,624	$0	$2,041,516	$32	$16	$413/AF	5,000 AF	$2,041,516	$238,415	$2,066,357	$4,346,289	613 AF	$0	$29,219	$253,239	$282,457	$12,621,879	$1,546,852
2045	$1,852/AF	$789	$2,972,193	$0	$2,041,516	$32	$17	$434/AF	5,000 AF	$2,041,516	$243,183	$2,169,675	$4,454,375	628 AF	$0	$30,527	$272,363	$302,891	$13,203,985	$1,657,522
2046	$1,907/AF	$857	$3,061,359	$0	$2,041,516	$33	$17	$456/AF	5,000 AF	$2,041,516	$248,047	$2,278,159	$4,567,722	643 AF	$0	$31,877	$292,768	$324,644	$13,821,051	$1,776,152
2047	$1,964/AF	$931	$3,153,199	$0	$2,041,516	$33	$17	$478/AF	5,000 AF	$2,041,516	$253,008	$2,392,067	$4,686,591	657 AF	$0	$33,268	$314,531	$347,799	$14,475,631	$1,903,391
2048	$2,023/AF	$1,011	$3,247,795	$0	$2,041,516	$34	$18	$502/AF	5,000 AF	$2,041,516	$258,068	$2,511,670	$4,811,255	672 AF	$0	$34,702	$337,739	$372,441	$15,170,483	$2,039,946
2049	$2,084/AF	$1,098	$3,345,229	$0	$2,041,516	$35	$18	$527/AF	5,000 AF	$2,041,516	$263,229	$2,637,254	$4,942,000	687 AF	$0	$36,180	$362,482	$398,662	$15,908,591	$2,186,585
2050	$2,147/AF	$1,192	$3,445,586	$0	$2,041,516	$35	$18	$554/AF	5,000 AF	$2,041,516	$268,494	$2,769,116	$5,079,127	702 AF	$0	$37,703	$388,855	$426,558	$16,693,180	$2,344,149
2051	$2,211/AF	$1,295	$3,548,954	$0	$2,041,516	$36	$19	$582/AF	5,000 AF	$2,041,516	$273,864	$2,907,572	$5,222,953	717 AF	$0	$39,273	$416,958	$456,231	$17,527,737	$2,513,552
2052	$2,277/AF	$1,406	$3,655,422	$0	$2,041,516	$37	$19	$611/AF	5,000 AF	$2,041,516	$279,341	$3,052,951	$5,373,808	732 AF	$0	$40,891	$446,900	$487,791	$18,416,034	$2,695,794
2053	$2,346/AF	$1,527	$3,765,085	$0	$2,041,516	$38	$19	$641/AF	5,000 AF	$2,041,516	$284,928	$3,205,598	$5,532,043	747 AF	$0	$42,557	$478,794	$521,351	$19,362,152	$2,891,964
2054	$2,416/AF	$1,658	$3,878,037	$0	$2,041,516	$38	$20	$673/AF	5,000 AF	$2,041,516	$290,627	$3,365,878	$5,698,021	762 AF	$0	$44,274	$512,759	$557,034	$20,370,506	$3,103,252
2055	$2,489/AF	$1,801	$3,994,379	$0	$2,041,516	$39	$20	$707/AF	5,000 AF	$2,041,516	$296,439	$3,534,172	$5,872,128	777 AF	$0	$46,043	$548,925	$594,967	$21,445,875	$3,330,955
2056	$2,563/AF	$1,955	$4,114,210	$0	$2,041,516	$40	$21	$742/AF	5,000 AF	$2,041,516	$302,368	$3,710,881	$6,054,765	791 AF	$0	$47,864	$587,425	$635,289	$22,593,431	$3,576,492
2057	$2,640/AF	$2,124	$4,237,636	$0	$2,041,516	$41	$21	$779/AF	5,000 AF	$2,041,516	$308,415	$3,896,425	$6,246,357	806 AF	$0	$49,740	$628,402	$678,142	$23,818,773	$3,841,411
2058	$2,719/AF	$2,306	$4,364,765	$0	$2,041,516	$42	$21	$818/AF	5,000 AF	$2,041,516	$314,584	$4,091,246	$6,447,346	821 AF	$0	$51,672	$672,009	$723,681	$25,127,964	$4,127,402
2059	$2,801/AF	$2,505	$4,495,708	$0	$2,041,516	$42	$22	$859/AF	5,000 AF	$2,041,516	$320,875	$4,295,808	$6,658,200	836 AF	$0	$53,661	$718,405	$772,067	$26,527,569	$4,436,313
2060	$2,885/AF	$2,720	$4,630,579	$0	$2,041,516	$43	$22	$902/AF	5,000 AF	$2,041,516	$327,293	$4,510,599	$6,879,408	851 AF	$0	$55,709	$767,762	$823,471	$28,024,697	$4,770,161
2061	$2,971/AF	$2,954	$4,769,497	$0	$2,041,516	$44	$23	$947/AF	5,000 AF	$2,041,516	$333,839	$4,736,129	$7,111,484	866 AF	$0	$57,818	$820,257	$878,075	$29,627,051	$5,131,153
2062	$3,061/AF	$3,208	$4,912,582	$0	$2,041,516	$45	$23	$995/AF	5,000 AF	$2,041,516	$340,515	$4,972,935	$7,354,967	881 AF	$0	$59,989	$876,083	$936,072	$31,342,975	$5,521,699
2063	$3,152/AF	$3,484	$5,059,959	$0	$2,041,516	$46	$24	$1,044/AF	5,000 AF	$2,041,516	$347,326	$5,221,582	$7,610,424	896 AF	$0	$62,223	$935,441	$997,664	$33,181,508	$5,944,432
2064	$3,247/AF	$3,784	$5,211,758	$0	$2,041,516	$47	$24	$1,097/AF	5,000 AF	$2,041,516	$354,272	$5,482,661	$7,878,450	911 AF	$0	$64,523	$998,544	$1,063,067	$35,152,445	$6,402,233
2065	$3,344/AF	$4,109	$5,368,111	$0	$2,041,516	$48	$25	$1,151/AF	5,000 AF	$2,041,516	$361,358	$5,756,794	$8,159,668	926 AF	$0	$66,890	$1,065,619	$1,132,509	$37,266,404	$6,898,249
2066	$3,445/AF	$4,462	$5,529,154	$0	$2,041,516	$49	$25	$1,209/AF	5,000 AF	$2,041,516	$368,585	$6,044,634	$8,454,735	940 AF	$0	$69,325	$1,136,906	$1,206,231	$39,534,888	$7,435,924
2067	$3,548/AF	$4,846	$5,695,029	$0	$2,041,516	$50	$26	$1,269/AF	5,000 AF	$2,041,516	$375,957	$6,346,866	$8,764,338	955 AF	$0	$71,832	$1,212,656	$1,284,488	$41,970,369	$8,019,019
2068	$3,654/AF	$5,263	$5,865,880	$0	$2,041,516	$51	$26	$1,333/AF	5,000 AF	$2,041,516	$383,476	$6,664,209	$9,089,201	970 AF	$0	$74,411	$1,293,140	$1,367,551	$44,586,366	$8,651,652
2069	$3,764/AF	$5,715	$6,041,856	$0	$2,041,516	$52	$27	$1,399/AF	5,000 AF	$2,041,516	$391,145	$6,997,419	$9,430,081	985 AF	$0	$77,064	$1,378,640	$1,455,704	$47,397,535	$9,338,323
2070	$3,877/AF	$6,207	$6,223,112	$0	$2,041,516	$53	$27	$1,469/AF	5,000 AF	$2,041,516	$398,968	$7,347,290	$9,787,775	1,000 AF	$0	$79,794	$1,469,458	$1,549,252	$50,419,766	$10,083,953

The results show that with the IEUA-JCSD RW interconnection, IEUA agencies will realize a savings of $306 million in purchases of Metropolitan Water District Tier 1 water to meet the IEUA Agencies' needs. If the JCSD interconnection is achieved, the net present value of the project is almost a 70% savings to IEUA Agencies. Therefore, this analysis supports IEUA's pursuit of external supplies which will prove to be cost effective for IEUA, the CBP and the Chino Basin stakeholders.

The need for the external supplies to augment the IEUA RW system to maximize the beneficial use of recycled water has been considered by the Regional Contracting Agencies to be value added and has encouraged IEUA to pursue such long-term opportunities. Projects such as the IEUA-JCSD RW Interconnections provide opportunities for the IEUA Agencies to maximize the use of the recycled water and have diversified portfolios as we move into the new era of water management.

Attachment 1 – Water Resources Management Partnership Document
Attachment 2 – IEUA JCSD RW Benefit Analysis

Attachment 1

INLAND EMPIRE UTILITIES AGENCY AND JURUPA COMMUNITY SERVICES DISTRICT

WATER RESOURCES MANAGEMENT PARTNERSHIP

GUIDING PRINCIPLES:

- IEUA, through its Chino Basin Program, has initiated a Chino Basin-wide water resources management program with a vision to meet water resources needs of the future efficiently, economically, and in a timely manner, while improving resiliency in light of an uncertain future resulting from climate change.
- JCSD has a desire to diversify its water portfolio to support growth within its service area and continue to be a steward in the sustainable management of the Chino groundwater Basin.
- The visions of the two agencies are unified by developing all water resources management programs with a Chino Basin-wide perspective.

IEUA's needs for the Chino Basin Program

- Meet the California Water Commission's Water Storage Investment Program performance requirements, including all necessary agreements with local partners and stakeholders, by 2020/2021.
    - Produce and store 15,000 acre-feet of advanced treated recycled water within the Chino Basin.
    - Exchange the stored CBP water with a local State Water Project contractor to facilitate releases of up to 50,000 acre-feet per year of water from Lake Oroville to the Feather River during dry and critically dry years for the benefit of the Chinook Salmon.
    - Secure added local supply to balance the needs of the CBP and current uses of recycled water within the IEUA service area.
    - Secure support from stakeholders to enable the construction and operation of the CBP by 2026.
- Incorporate to the maximum extent feasible local stakeholder needs, long term water resources management objectives of the Chino Basin, and programs and projects identified in regional and local planning documents while developing the CBP to provide broad mutual benefits across the Chino Basin.

JCSD's needs for Water Resources Management

- Diversify its current water portfolio beyond current groundwater supplies to meet the projected 2040 water demands of 40,000 acre-feet per year (including 10,000 acre-feet per year of new demand) to support growth and future regulatory requirements.
- Identify alternatives to reduce groundwater pumping constraints in Management Zone 3 of the Chino Groundwater Basin, including mechanisms to provide added recharge or reduce pumping by diversifying supply sources.
- Maximize the beneficial use of JCSD's recycled water.

INLAND EMPIRE UTILITIES AGENCY AND JURUPA COMMUNITY SERVICES DISTRICT

WATER RESOURCES MANAGEMENT PARTNERSHIP

Water Resources Management Partnership

IEUA and JCSD intend to enter into a Water Resources Management Partnership to achieve their respective goals and contribute to the sustainable management of water resources in the Chino Basin.

- IEUA anticipates the construction of a CBP Network, a distribution system across the Chino Basin to provide flexibility in physically transferring water across the quadrants of the Chino Basin (West, East, North and South).
    - It is anticipated that through partnerships and agreements with Metropolitan Water District and Western Municipal Water District a connection with State Water Project conveyance facilities will be constructed with a capacity of 10,000 acre-feet per year that would be accessible to JCSD to meet new demands.
    - The CBP Network will provide flexibility in managing Management Zone 3 and meeting demands through physical connection to retail agencies within the Chino Basin.
- IEUA anticipates the construction of regional pipelines and pump stations to augment its recycled water system to meet the needs of the CBP.
    - IEUA anticipates the construction of a recycled water interconnection between JCSD (WRCWRA) and IEUA, with an ultimate capacity of 6,000 acre-feet per year.
    - IEUA anticipates using 5,000 acre-feet per year of JCSD's recycled water for CBP Operations.
    - JCSD anticipates using 1,000 acre-feet per year of recycled water from the regional interconnection to serve current and future users.

Terms of Engagement

The Partnership will enable IEUA and JCSD to collaboratively develop the formulation of CBP facilities, cost estimates for such facilities, and terms for equitable sharing of resources and costs. The CBP is committed to include operations to provide defined public benefits for the state of California for 25 years in return for Water Storage Investment Program funding provided from the California Water Commission. The comprehensive terms of this Water Resources Management Partnership will be negotiated to be equitable amongst the parties; it is currently contemplated that the terms will include commitments for CBP investment in the CBP Network and JCSD RW Interconnection and JCSD's commitment of 5,000 acre-feet per year of recycled water for a period of 50 years for the CBP.

Attachment 2

IEUA JCSD RW Interconnection
Total Project Cost

Pipeline Cost

Project Component	Size	Pipe Length	Unit Cost	Project Cost		
				Design and CM	Construction	TOTAL
WRCWRA to Pine Ave	24 in	16,500 ft	$672.00/LF	$4,435,000	$11,088,000	$15,523,000
Pine Ave to Heroes Park	24 in	2,200 ft	$672.00/LF	$591,000	$1,478,000	$2,069,000
Heroes Park to 930 PZ	24 in	12,900 ft	$672.00/LF	$3,468,000	$8,669,000	$12,137,000
Total Pipe Line Cost				**$8,494,000**	**$21,235,000**	**$29,729,000**

Pump Station Cost

Project Component	Pump Size	Number of Pumps	Unit Cost	Project Cost		
				Design and CM	Construction	TOTAL
WRCRWA Pump Station	220 HP	3	$2,500/HP	$660,000	$1,650,000	$2,310,000
American Heroes Pump Station	250 HP	3	$2,500/HP	$750,000	$1,875,000	$2,625,000
Total Pump Station Cost				**$1,410,000**	**$3,525,000**	**$4,935,000**
Total Project Cost				**$9,904,000**	**$24,760,000**	**$34,664,000**

IEUA JCSD RW Interconnection

Financial Analysis Assumptions

Note#	Assumption Description	Value	Notes
1.0 Project Assumption			
1.1	**Total RW Supply**	6,000 AFY	Total RW Water Conveyance Capacity
1.1.1	RW to IEUA for CBP	5,000 AFY	RW to IEUA for direct use or GW recharge (for CBP)
1.1.2	RW to JCSD	1,000 AFY	RW Available to JCSD for direct use from the 930 PZ
1.2	**JCSD RW Usage**		JCSD Actual Direct RW Use Assumption.[1)]
1.2.1	Start Year	2023	RW to IEUA for direct use or GW recharge (for CBP)
1.2.2	Initial RW Usage	300 AFY	Projected JCSD RW Usage at the Start Year
1.2.3	End-of-Term RW Usage	1,000 AFY	Projected JCSD RW Usage by the Agreement's End-of-Term
1.3	**Project Cost**		JCSD Actual Direct RW Use Assumption.[1)]
1.3.1	Project Cost	$34.66 mill	The Estimated Project Design and Construction Cost
1.3.2	Project Cost Base Year	2018	The base year for the Project Cost
1.3.3	Construction Start Year	2020	Project Design and Construction Start Year
1.3.3	Construction Duration	4 years	Project Design and Construction Duration
1.3.4	JCSD Contribution	0.0%	JCSD Percentage Contribution to the Project Cost.
1.4	**RW System O&M Cost**		RW System O&M Cost (pumping cost)
1.4.1	Annual O&M Cost	$175/AF	The annual O&M Cost of the RW System (see PumpSystem[3.2.3]
1.4.2	O&M Cost Base	2018	The base year for the Estimated O&M Cost (see PumpSystem[3.1.1]
1.5	**RW System Replacement Cost**		RW System O&M Cost (pumping cost)
1.5.1	**Pipe System**		RW System O&M Cost (pumping cost)
1.4.1	Annual Repalcement Cost	$19/AF	The annual pipe replacement value (see PumpSystem[2.1.7]
1.4.2	O&M Cost Base	2018	The base year for the pipe replacement value (see PumpSystem[2.1.1]
1.5.2	**Pump System**		RW System O&M Cost (pumping cost)
1.4.1	Annual O&M Cost	$10/AF	The annual pump replacement value (see PumpSystem[2.2.6]
1.4.2	O&M Cost Base	2018	The base year for thepump replacement value (see PumpSystem[2.2.1]
2.0 Financial Anlaysis Assumptions			
2.1	Agreement Term	50 years	2017 Cost including extraction, treatment, & pumping cost
2.2	Start-of-Term Year	2020	The first year of Agreement Term.
2.3	End-of-Term Year	2070	The final year of the Agreement Term.
2.4	Present Value Base Year	2018	The Base Year for the present value analysis
2.5	Escalation Rate	2.00%/yr	The annual escalation rate on capital cost
2.6	O&M Escalation Rate	5.00%/yr	The annual escalation rate on O&M cost
2.7	**Loan Period**		Construction Loan Details (see 'ProjectCost' tab)
2.7.1	Loan Amount	$37.27 mill	The Loan amount at the end
2.7.2	Loan Period	50 years	The payback period of the capital loan
2.7.3	Loan Interest Rate	5.00%/yr	The interest of the capital loan
3.0 MWD Water Purchases [2)]			
3.1	Full Service (Tier 1) Rate Increase	3.0%/yr	After 2026 - Use publish rates 2018-2026
3.2	Readiness-to-Serve Charge Increase	8.6%/yr	After 2026 - Use publish rates 2018-2026
3.3	Capacity Charge Increase	3.0%/yr	After 2026 - Use publish rates 2018-2026
3.4	Capacity Charge Flow Rate	150 cfs	3-Year Rolling Average of Max Rate

1) Assuming the JCSD RW usage will increase linear between the initial (Start Year) projected 'Initial RW Usage' and 'End-of-Term RW Usage'.

2) Only Full Serviceand Ready-to-Serve Rates (i.e., without Capacity charges) were used in calculating the cost of imported water.

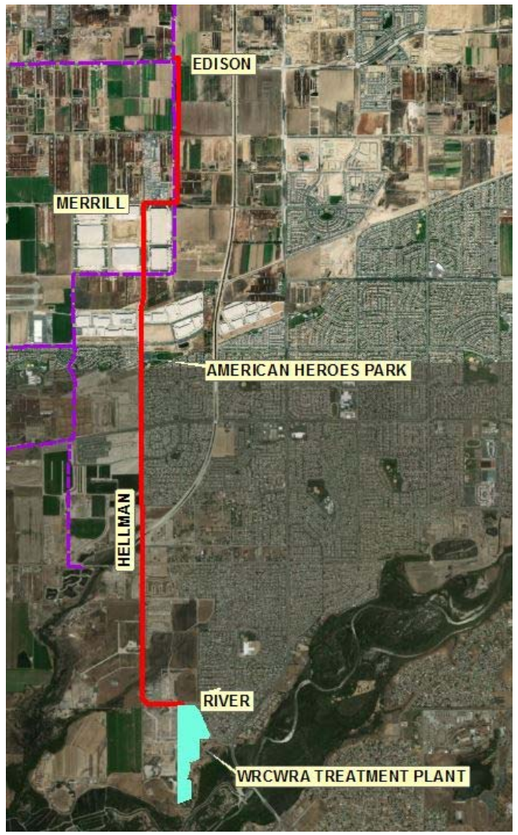
Financial Analysis Results

Item#	Assumption Description	Value
1.0 IEUA Net Present Value of Project Term Cost		
1.1	With IEUA/JCSD Agreement	$133,679,281
1.2	Without IEUA/JCSD Agreement	$439,461,072
1.3	IEUA Saving	$305,781,791
1.4	**Percent Savings**	**69.6%**
2.0 JCSD Net Present Value of Project Term Cost		
2.1	With IEUA/JCSD Agreement	$10,965,651
2.2	Without IEUA/JCSD Agreement	$64,087,512
2.3	JCSD Saving	$53,121,861
2.4	**Percent Savings**	**82.9%**

IEUA JCSD RW Interconnection
Preliminary Design Criteria Replacement Cost

Preliminary Pump System Design Criteria, Repalcement Cost & O&M Cost Summary

Note#	Assumption Description	Value	Notes
1.0 Project Assumption			
1.1	**Pipe System**		The JCSD-IEUA Delivery Pipe Line.
1.1.1	Design Flow	3,720 gpm	The total RW pump capacity (from Summary[1.1]).
1.1.2	Design Velocity @ Design Flow	3.00 fps	The maximum velocity in the pipe at *Design Flow* .
1.1.3	Selected Pipe Diameter	24 in	The pipe diameter selected from the *Pipe Sizing Table* .
1.1.4	**Force Main Pipe Length**	31,600.0 ft	The Force Main length - form the JCSD WRCWRA to IEAU.
1.1.4.1	WRCWRA to Pine Ave	16,500.0 ft	From JCSD WRCWRA to Pine Ave (800 PZ)
1.1.4.2	Pine Ave to Heroes Park	2,200.0 ft	From Pine Ave to American Heroes Park
1.1.4.3	Heroes Park to 930 PZ	12,900.0 ft	From American Heroes Park to Eucalyptis & Carpernter
1.1.5	***Pipe Losses***		
1.1.5.1	- Actual Velocity	2.64 fps	The actual velocity in the 24-in pipe line @ 3,720 gpm.
1.1.5.2	- Minor Loss Coeficient	15.00 ft/ft	Minor Losses (e.g., in- and outlet, bends, etc)
1.1.5.3	- Velocity Head	0.11 ft/ft	Velocity header at 2.64 fps (i.e., V2/2g).
1.1.5.4	- Friction Headloss	0.223 ft/100 ft	Friction headloss for a 24-in pipe line @ 2.64 fps.
1.2	**Pump System**		
1.2.1	**WRCRWA Pump Station**		The WRCRWA 800 Zone Booster Station
1.2.1.1	Static Head	250.00 ft	The static pump head (800 Pz - 550 ft El at plant)
1.2.1.2	Total PumpHead	293.34 ft	The Total Design Pump Head for a 24-in pipe line @ 2.64 fps.
1.2.1.3	HP per Pump	220 HP	The Pump Design HP per pump
1.2.1.4	Number of Pumps	3	The number of pumps (including 1 standby).
1.2.2	**American Heroes Pump Station**		The WRCRWA 800 Zone Booster Station
1.2.2.1	Static Head	305.00 ft	The static pump head (930 Pz - 625 ft El at Heroes Park)
1.2.2.2	Total PumpHead	335.40 ft	The Total Design Pump Head for a 24-in pipe line @ 2.64 fps.
1.2.2.3	HP per Pump	250 HP	The Pump Design HP per pump
1.2.2.4	Number of Pumps	3	The number of pumps (including 1 standby).
2.0 Replacement Value Assumptions and Calculations			
2.1	**Pipe Line Repacement**		
2.1.1	Base Year for Cost	2018	The Base year for the estimated *Pipe Replacement Cost.*
2.1.2	Per LF-Inch Diameter	$28.00/LF-in Dia	The estimated unit pipe replacement cost in 2018.
2.1.3	Per LF of Pipe	$672.00/LF	The replacement cost per LF for the a 24-in pipe line.
2.1.4	2018 Pipe System Cost	$21.24 mill	The pipe line replacement cost in 2018.
2.1.5	Annual Replace Cost (ARC)	50 years	The fraction of the pipe system cost to invest annually.
2.1.6	Replacement Percent	60%	The percent of Capital Components to replace
2.1.7	Annual Replacement Value	$18.83/AF	The pipe replacement value per AF in 2018.
2.2	**Pump System Replacement**		
2.2.1	Base Year for Cost	2018	The Base year for the estimated *Pump System Replacement Cost.*
2.2.2	Unit Pump Capital Cost	$2500.00/HP	The estimated unit pump system per installed HP in 2018.
2.2.3	2018 Pump System Cost	$3.53 mill	The pump system replacement cost in 2018.
2.2.4	Replacement Cycle	25 years	The pump system replacement period
2.2.5	Replacement Percent	60%	The percent of Capital Components to replace
2.2.6	Annual Replacement Value	$9.67/AF	The pipe replacement value per AF in 2018.
3.0 Operation & Maintenance Cost			
3.1	**Pump System Operation & Maintenance Cost Assumptions**		
3.1.1	Base Year for Cost	2018	The Base year for the estimated *Pump System Replacement Cost.*
3.1.2	Pump & Motor Efficiency	65%	The combined pump and motor efficency.
3.1.3	**Pumping HP**	909 HP	The Total calculated HP usage at 3,720 gpm
3.1.3.1	WRCRWA Pump Station	424 HP	The calculated HP usage for WRCRWA at 3,720 gpm
3.1.3.2	American Heroes Pump Station	485 HP	The calculated HP usage for Heroes Park at 3,720 gpm
3.1.4	% Annual Pump System Operations	96.00%	Assumed pump station operations for a year (8,410 hours per year)
3.1.5	Power Unit Cost	$0.12/KWh	The fraction of the pump system cost to invest annually.
3.1.6	Maintenance Cost (% of Power)	2.00%	The maintenance cost as a % of the *Power Cost* .
3.2	**Annual O&M Cost**		
3.2.1	Power Cost	$113.95/AF	The Pumping power cost in 2018.
3.2.2	Maintenance Cost	$2.28/AF	The Pump System maintenance cost in 2018.
3.2.3	**TOTAL O&M Cost**	**$116.23/AF**	The Pump System O&M cost in 2018.



IEUA JCSD RW Interconnection
Annual O Costs

	Annual Project Cost & Unit Costs								With Agreements										Without the Agreement	
	MWD Rates			($/AF)					IEAU Annual Costs					JCSD Annual Costs					IEAU Costs	JCSD Costs
Year	Full Service (Tier 1)	Ready to Service Charge	Capacity Charge	Project Construction Cost	Construction Loan Payments	Pipe Repalcement Value		Annual O&M Cost ($/AF)	Annual RW Usage (AF)	Loan Payment	Replacement Cost	RW O&M Cost	TOTAL COST	Annual RW Usage (AF)	Loan Payment	Replacement Cost	RW O&M Cost	TOTAL COST	Import MWD 'Tier 1' Water	Import MWD 'Tier 1' Water
Notes ->	3.1	3.2	3.3/3.4	1.3	2.7	1.5.1	1.5.2	1.4												
Present Values ->				$34,664,000	$57,850,901								$133,679,281					$10,965,651	$439,461,072	$64,087,512
YEAR	MWD_FSC	MWD_RTSC	MWD_CC	CONST_COST	CONST_LOAN	PIPE_REPL	PUMP_REPL	OM_COST	IEUA_RW	IEUA_LOAN	IEUA_RPL_COS	IEAU_OM	IEAU_COST	JCSD_RW	JCSD_LOAN	JCSD_RPL_COS	JCSD_OM	JCSD_COST	IEUA_MWD	JCSD_MWD
2018	$695/AF	$83	$1,305,000	$0	$0	$0	$0	$116/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2019	$738/AF	$88	$1,350,000	$0	$0	$0	$0	$122/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2020	$783/AF	$95	$1,395,000	$5,409,664	$0	$0	$0	$128/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2021	$835/AF	$104	$1,455,000	$11,035,714	$0	$0	$0	$135/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2022	$876/AF	$114	$1,500,000	$11,256,429	$0	$0	$0	$141/AF	-	$0	$0	$0	$0	-	$0	$0	$0	$0	$0	$0
2023	$917/AF	$124	$1,575,000	$9,567,964	$2,041,516	$21	$11	$148/AF	5,000 AF	$2,041,516	$157,300	$741,703	$2,940,520	300 AF	$0	$9,438	$44,502	$53,940	$5,203,311	$312,199
2024	$961/AF	$133	$1,665,000	$0	$2,041,516	$21	$11	$156/AF	5,000 AF	$2,041,516	$160,446	$778,788	$2,980,751	315 AF	$0	$10,105	$49,047	$59,152	$5,471,085	$344,562
2025	$1,008/AF	$147	$1,665,000	$0	$2,041,516	$22	$11	$164/AF	5,000 AF	$2,041,516	$163,655	$817,728	$3,022,900	330 AF	$0	$10,794	$53,935	$64,730	$5,773,035	$380,775
2026	$1,056/AF	$165	$1,695,000	$0	$2,041,516	$22	$11	$172/AF	5,000 AF	$2,041,516	$166,929	$858,614	$3,067,059	345 AF	$0	$11,507	$59,190	$70,697	$6,102,872	$420,709
2027	$1,088/AF	$179	$1,745,850	$0	$2,041,516	$22	$12	$180/AF	5,000 AF	$2,041,516	$170,267	$901,545	$3,113,328	360 AF	$0	$12,245	$64,835	$77,079	$6,332,039	$455,368
2028	$1,120/AF	$194	$1,798,226	$0	$2,041,516	$23	$12	$189/AF	5,000 AF	$2,041,516	$173,672	$946,622	$3,161,811	374 AF	$0	$13,007	$70,896	$83,903	$6,572,044	$492,204
2029	$1,154/AF	$211	$1,852,172	$0	$2,041,516	$23	$12	$199/AF	5,000 AF	$2,041,516	$177,146	$993,953	$3,212,615	389 AF	$0	$13,795	$77,401	$91,196	$6,823,553	$531,366
2030	$1,189/AF	$229	$1,907,737	$0	$2,041,516	$24	$12	$209/AF	5,000 AF	$2,041,516	$180,689	$1,043,651	$3,265,856	404 AF	$0	$14,609	$84,380	$98,989	$7,087,281	$573,014
2031	$1,224/AF	$249	$1,964,970	$0	$2,041,516	$24	$13	$219/AF	5,000 AF	$2,041,516	$184,303	$1,095,833	$3,321,652	419 AF	$0	$15,450	$91,863	$107,314	$7,363,997	$617,322
2032	$1,261/AF	$270	$2,023,919	$0	$2,041,516	$25	$13	$230/AF	5,000 AF	$2,041,516	$187,989	$1,150,625	$3,380,130	434 AF	$0	$16,319	$99,884	$116,203	$7,654,526	$664,478
2033	$1,299/AF	$293	$2,084,636	$0	$2,041,516	$25	$13	$242/AF	5,000 AF	$2,041,516	$191,748	$1,208,156	$3,441,421	449 AF	$0	$17,217	$108,477	$125,694	$7,959,758	$714,685
2034	$1,338/AF	$318	$2,147,175	$0	$2,041,516	$26	$13	$254/AF	5,000 AF	$2,041,516	$195,583	$1,268,564	$3,505,664	464 AF	$0	$18,143	$117,680	$135,823	$8,280,649	$768,162
2035	$1,378/AF	$346	$2,211,591	$0	$2,041,516	$26	$14	$266/AF	5,000 AF	$2,041,516	$199,495	$1,331,992	$3,573,004	479 AF	$0	$19,101	$127,531	$146,632	$8,618,226	$825,149
2036	$1,419/AF	$376	$2,277,938	$0	$2,041,516	$27	$14	$280/AF	5,000 AF	$2,041,516	$203,485	$1,398,592	$3,643,593	494 AF	$0	$20,089	$138,074	$158,162	$8,973,598	$885,904
2037	$1,462/AF	$408	$2,346,276	$0	$2,041,516	$27	$14	$294/AF	5,000 AF	$2,041,516	$207,555	$1,468,522	$3,717,593	509 AF	$0	$21,109	$149,352	$170,461	$9,347,958	$950,707
2038	$1,506/AF	$443	$2,416,665	$0	$2,041,516	$28	$14	$308/AF	5,000 AF	$2,041,516	$211,706	$1,541,948	$3,795,170	523 AF	$0	$22,162	$161,412	$183,574	$9,742,592	$1,019,863
2039	$1,551/AF	$481	$2,489,165	$0	$2,041,516	$29	$15	$324/AF	5,000 AF	$2,041,516	$215,940	$1,619,045	$3,876,501	538 AF	$0	$23,248	$174,306	$197,554	$10,158,886	$1,093,701
2040	$1,597/AF	$522	$2,563,840	$0	$2,041,516	$29	$15	$340/AF	5,000 AF	$2,041,516	$220,259	$1,699,997	$3,961,772	553 AF	$0	$24,369	$188,085	$212,454	$10,598,334	$1,172,582
2041	$1,645/AF	$567	$2,640,755	$0	$2,041,516	$30	$15	$357/AF	5,000 AF	$2,041,516	$224,664	$1,784,997	$4,051,177	568 AF	$0	$25,526	$202,806	$228,332	$11,062,548	$1,256,894
2042	$1,695/AF	$616	$2,719,977	$0	$2,041,516	$30	$16	$375/AF	5,000 AF	$2,041,516	$229,157	$1,874,247	$4,144,920	583 AF	$0	$26,719	$218,529	$245,248	$11,553,268	$1,347,062
2043	$1,745/AF	$669	$2,801,577	$0	$2,041,516	$31	$16	$394/AF	5,000 AF	$2,041,516	$233,740	$1,967,959	$4,243,216	598 AF	$0	$27,949	$235,318	$263,267	$12,072,369	$1,443,547
2044	$1,798/AF	$727	$2,885,624	$0	$2,041,516	$32	$16	$413/AF	5,000 AF	$2,041,516	$238,415	$2,066,357	$4,346,289	613 AF	$0	$29,219	$253,239	$282,457	$12,621,879	$1,546,852
2045	$1,852/AF	$789	$2,972,193	$0	$2,041,516	$32	$17	$434/AF	5,000 AF	$2,041,516	$243,183	$2,169,675	$4,454,375	628 AF	$0	$30,527	$272,363	$302,891	$13,203,985	$1,657,522
2046	$1,907/AF	$857	$3,061,359	$0	$2,041,516	$33	$17	$456/AF	5,000 AF	$2,041,516	$248,047	$2,278,159	$4,567,722	643 AF	$0	$31,877	$292,768	$324,644	$13,821,051	$1,776,152
2047	$1,964/AF	$931	$3,153,199	$0	$2,041,516	$33	$17	$478/AF	5,000 AF	$2,041,516	$253,008	$2,392,067	$4,686,591	657 AF	$0	$33,268	$314,531	$347,799	$14,475,631	$1,903,391
2048	$2,023/AF	$1,011	$3,247,795	$0	$2,041,516	$34	$18	$502/AF	5,000 AF	$2,041,516	$258,068	$2,511,670	$4,811,255	672 AF	$0	$34,702	$337,739	$372,441	$15,170,483	$2,039,946
2049	$2,084/AF	$1,098	$3,345,229	$0	$2,041,516	$35	$18	$527/AF	5,000 AF	$2,041,516	$263,229	$2,637,254	$4,942,000	687 AF	$0	$36,180	$362,482	$398,662	$15,908,591	$2,186,585
2050	$2,147/AF	$1,192	$3,445,586	$0	$2,041,516	$35	$18	$554/AF	5,000 AF	$2,041,516	$268,494	$2,769,116	$5,079,127	702 AF	$0	$37,703	$388,855	$426,558	$16,693,180	$2,344,149
2051	$2,211/AF	$1,295	$3,548,954	$0	$2,041,516	$36	$19	$582/AF	5,000 AF	$2,041,516	$273,864	$2,907,572	$5,222,953	717 AF	$0	$39,273	$416,958	$456,231	$17,527,737	$2,513,552
2052	$2,277/AF	$1,406	$3,655,422	$0	$2,041,516	$37	$19	$611/AF	5,000 AF	$2,041,516	$279,341	$3,052,951	$5,373,808	732 AF	$0	$40,891	$446,900	$487,791	$18,416,034	$2,695,794
2053	$2,346/AF	$1,527	$3,765,085	$0	$2,041,516	$38	$19	$641/AF	5,000 AF	$2,041,516	$284,928	$3,205,598	$5,532,043	747 AF	$0	$42,557	$478,794	$521,351	$19,362,152	$2,891,964
2054	$2,416/AF	$1,658	$3,878,037	$0	$2,041,516	$38	$20	$673/AF	5,000 AF	$2,041,516	$290,627	$3,365,878	$5,698,021	762 AF	$0	$44,274	$512,759	$557,034	$20,370,506	$3,103,252
2055	$2,489/AF	$1,801	$3,994,379	$0	$2,041,516	$39	$20	$707/AF	5,000 AF	$2,041,516	$296,439	$3,534,172	$5,872,128	777 AF	$0	$46,043	$548,925	$594,967	$21,445,875	$3,330,955
2056	$2,563/AF	$1,955	$4,114,210	$0	$2,041,516	$40	$21	$742/AF	5,000 AF	$2,041,516	$302,368	$3,710,881	$6,054,765	791 AF	$0	$47,864	$587,425	$635,289	$22,593,431	$3,576,492
2057	$2,640/AF	$2,124	$4,237,636	$0	$2,041,516	$41	$21	$779/AF	5,000 AF	$2,041,516	$308,415	$3,896,425	$6,246,357	806 AF	$0	$49,740	$628,402	$678,142	$23,818,773	$3,841,411
2058	$2,719/AF	$2,306	$4,364,765	$0	$2,041,516	$42	$21	$818/AF	5,000 AF	$2,041,516	$314,584	$4,091,246	$6,447,346	821 AF	$0	$51,672	$672,009	$723,681	$25,127,964	$4,127,402
2059	$2,801/AF	$2,505	$4,495,708	$0	$2,041,516	$42	$22	$859/AF	5,000 AF	$2,041,516	$320,875	$4,295,808	$6,658,200	836 AF	$0	$53,661	$718,405	$772,067	$26,527,569	$4,436,313
2060	$2,885/AF	$2,720	$4,630,579	$0	$2,041,516	$43	$22	$902/AF	5,000 AF	$2,041,516	$327,293	$4,510,599	$6,879,408	851 AF	$0	$55,709	$767,762	$823,471	$28,024,697	$4,770,161
2061	$2,971/AF	$2,954	$4,769,497	$0	$2,041,516	$44	$23	$947/AF	5,000 AF	$2,041,516	$333,839	$4,736,129	$7,111,484	866 AF	$0	$57,818	$820,257	$878,075	$29,627,051	$5,131,153
2062	$3,061/AF	$3,208	$4,912,582	$0	$2,041,516	$45	$23	$995/AF	5,000 AF	$2,041,516	$340,515	$4,972,935	$7,354,967	881 AF	$0	$59,989	$876,083	$936,072	$31,342,975	$5,521,699
2063	$3,152/AF	$3,484	$5,059,959	$0	$2,041,516	$46	$24	$1,044/AF	5,000 AF	$2,041,516	$347,326	$5,221,582	$7,610,424	896 AF	$0	$62,223	$935,441	$997,664	$33,181,508	$5,944,432
2064	$3,247/AF	$3,784	$5,211,758	$0	$2,041,516	$47	$24	$1,097/AF	5,000 AF	$2,041,516	$354,272	$5,482,661	$7,878,450	911 AF	$0	$64,523	$998,544	$1,063,067	$35,152,445	$6,402,233
2065	$3,344/AF	$4,109	$5,368,111	$0	$2,041,516	$48	$25	$1,151/AF	5,000 AF	$2,041,516	$361,358	$5,756,794	$8,159,668	926 AF	$0	$66,890	$1,065,619	$1,132,509	$37,266,404	$6,898,249
2066	$3,445/AF	$4,462	$5,529,154	$0	$2,041,516	$49	$25	$1,209/AF	5,000 AF	$2,041,516	$368,585	$6,044,634	$8,454,735	940 AF	$0	$69,325	$1,136,906	$1,206,231	$39,534,888	$7,435,924
2067	$3,548/AF	$4,846	$5,695,029	$0	$2,041,516	$50	$26	$1,269/AF	5,000 AF	$2,041,516	$375,957	$6,346,866	$8,764,338	955 AF	$0	$71,832	$1,212,656	$1,284,488	$41,970,369	$8,019,019
2068	$3,654/AF	$5,263	$5,865,880	$0	$2,041,516	$51	$26	$1,333/AF	5,000 AF	$2,041,516	$383,476	$6,664,209	$9,089,201	970 AF	$0	$74,411	$1,293,140	$1,367,551	$44,586,366	$8,651,652
2069	$3,764/AF	$5,715	$6,041,856	$0	$2,041,516	$52	$27	$1,399/AF	5,000 AF	$2,041,516	$391,145	$6,997,419	$9,430,081	985 AF	$0	$77,064	$1,378,640	$1,455,704	$47,397,535	$9,338,323
2070	$3,877/AF	$6,207	$6,223,112	$0	$2,041,516	$53	$27	$1,469/AF	5,000 AF	$2,041,516	$398,968	$7,347,290	$9,787,775	1,000 AF	$0	$79,794	$1,469,458	$1,549,252	$50,419,766	$10,083,953

RECEIVE AND FILE

3A

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Regional Sewerage Program Policy Committee Meeting

AGENDA
Thursday, August 1, 2019
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 Update

2. **Action Items**
   A. Meeting Minutes for June 6, 2019

3. **Informational Items**
   A. Asset Management Program
   B. Legislative Update

4. **Receive and File**
   - Building Activity Report
   - Recycled Water Distribution – Operations Summary
   - IEUA/JCSD Recycled Water Interconnection Analysis
   - Engineering Quarterly Update
   - IEUA Rate Study Workshop #3

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 – September 5, 2019

6. Adjournment

DECLARATION OF POSTING

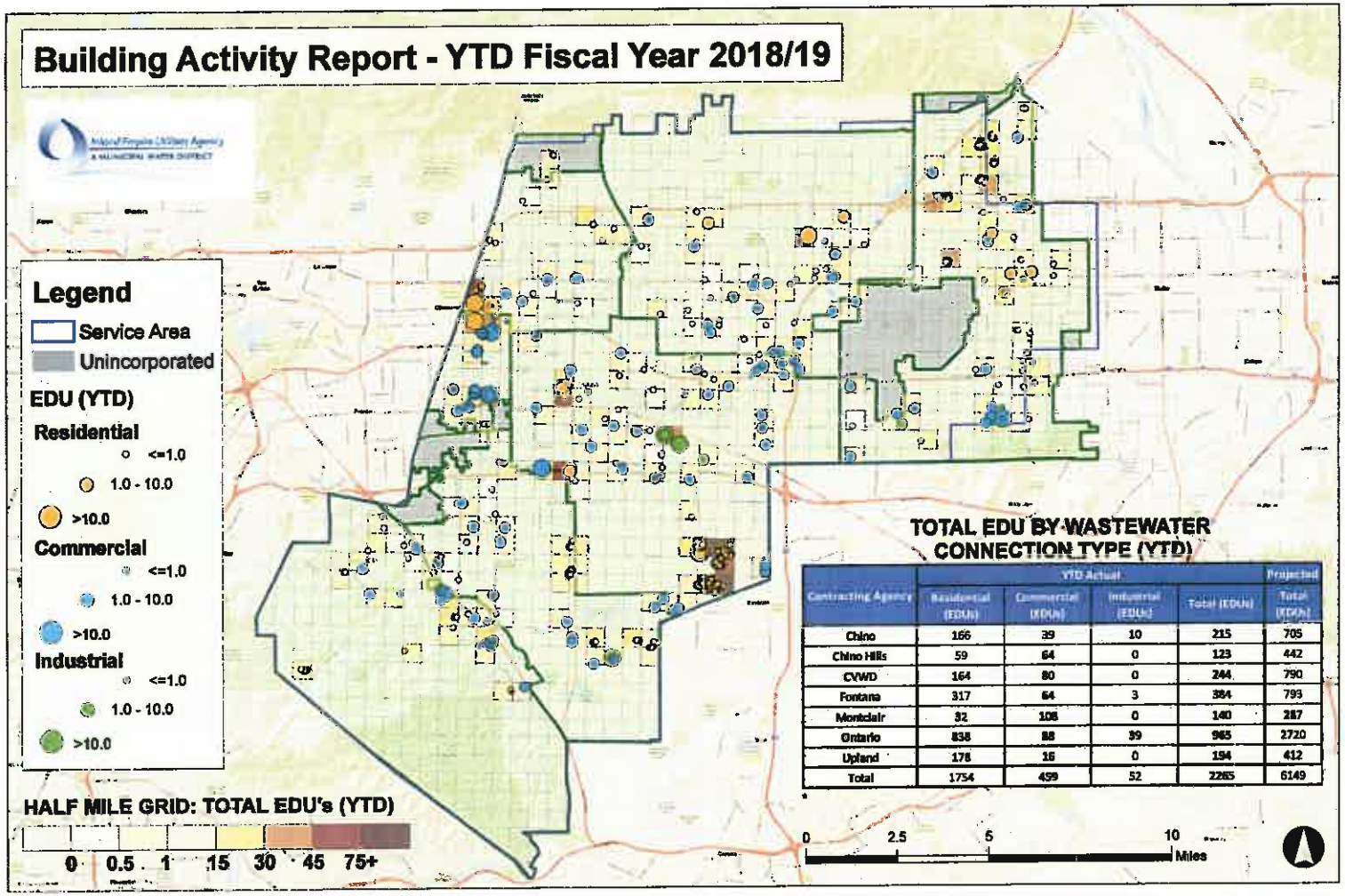
I, Laura Mantilla, Executive Assistant of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of this agenda has been posted to the IEUA Website at www.ieua.org and posted in the foyer at the Agency's main office at 6075 Kimball Avenue, Building A, Chino, CA, on Thursday, July 25, 2019.

_____
Laura Mantilla

RECEIVE AND FILE

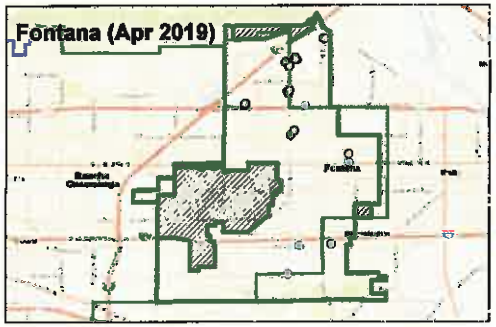
3B

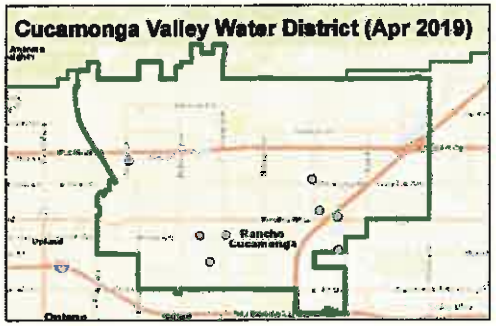
Building Activity Report - YTD Fiscal Year 2018/19

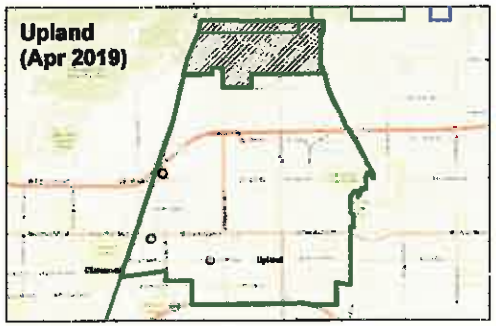


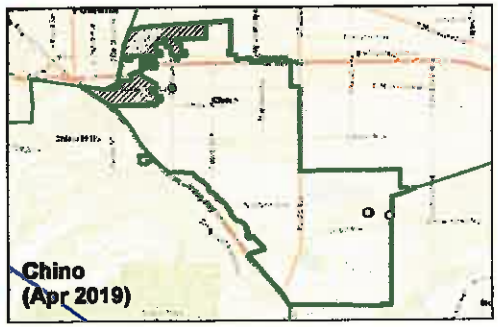
TOTAL EDU BY WASTEWATER CONNECTION TYPE (YTD)

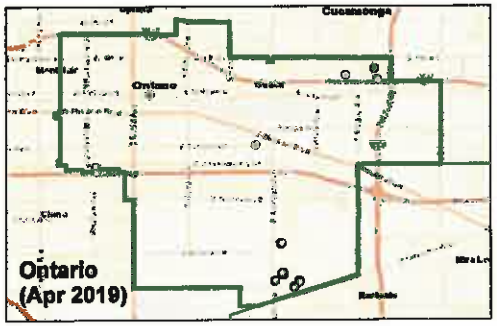
Contracting Agency	YTD Actual				Projected
	Residential (EDUs)	Commercial (EDUs)	Industrial (EDUs)	Total (EDUs)	Total (EDUs)
Chino	166	39	10	215	705
Chino Hills	59	64	0	123	442
CVWD	164	80	0	244	790
Fontana	317	64	3	384	793
Montclair	32	108	0	140	287
Ontario	838	88	59	985	2720
Upland	178	16	0	194	412
Total	1754	459	52	2265	6149

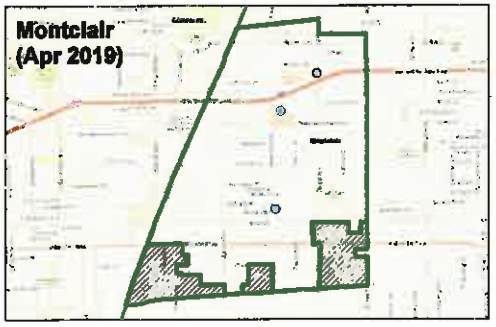












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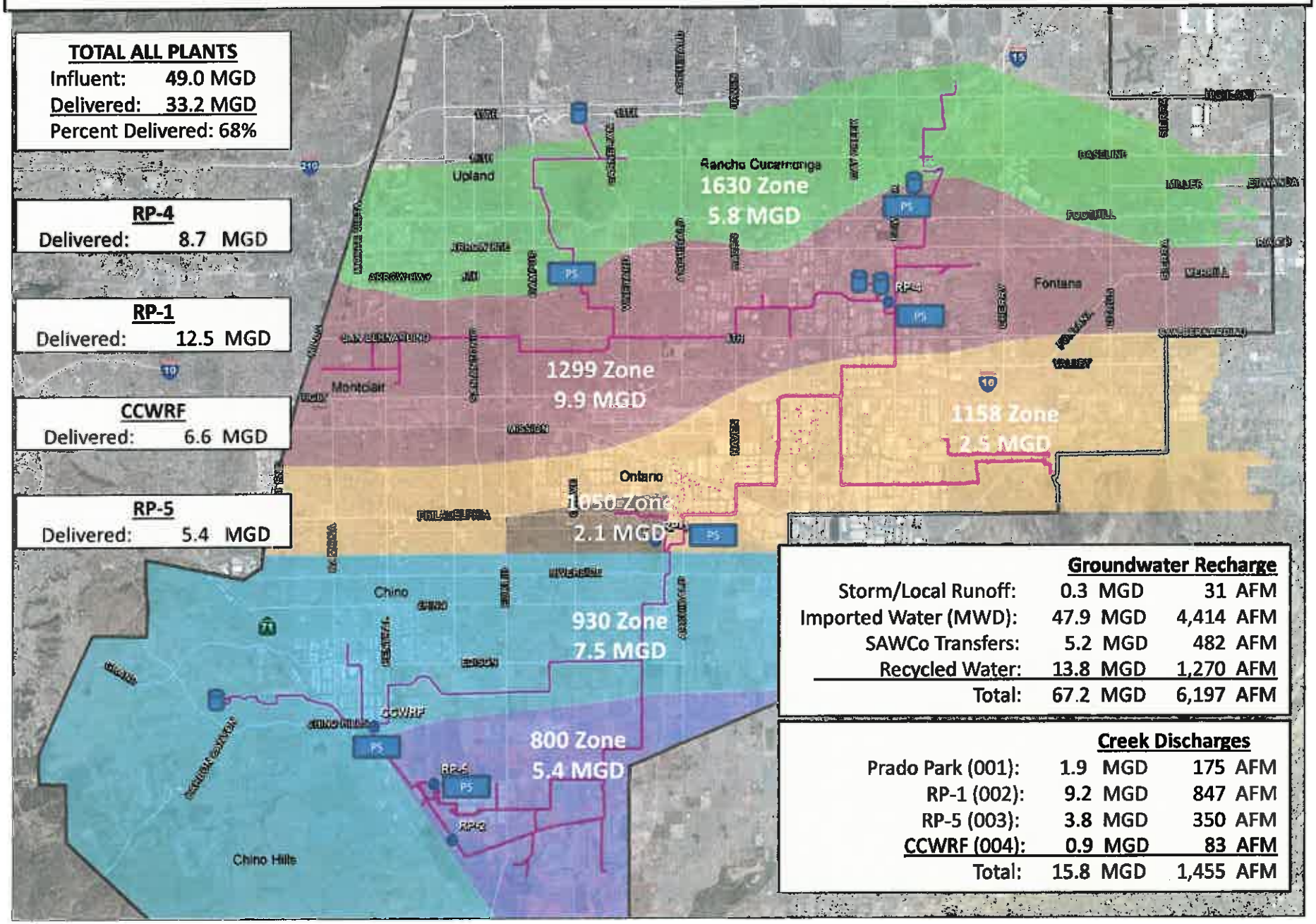
IEUA RECYCLED WATER DISTRIBUTION – JUNE 2019

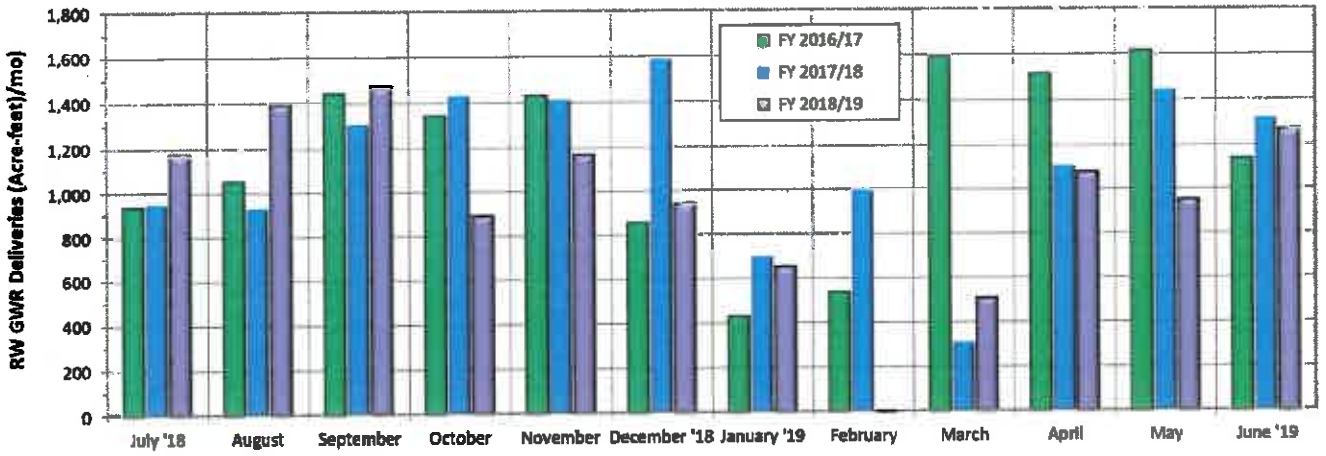


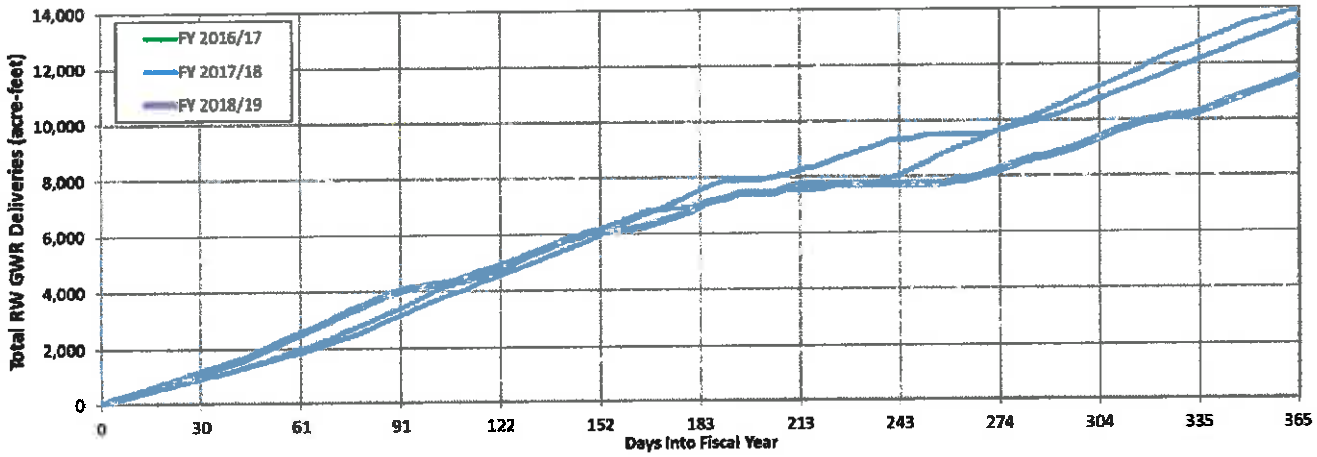
Groundwater Recharge		
Storm/Local Runoff:	0.3 MGD	31 AFM
Imported Water (MWD):	47.9 MGD	4,414 AFM
SAWCo Transfers:	5.2 MGD	482 AFM
Recycled Water:	13.8 MGD	1,270 AFM
Total:	67.2 MGD	6,197 AFM

Creek Discharges		
Prado Park (001):	1.9 MGD	175 AFM
RP-1 (002):	9.2 MGD	847 AFM
RP-5 (003):	3.8 MGD	350 AFM
CCWRF (004):	0.9 MGD	83 AFM
Total:	15.8 MGD	1,455 AFM

Recycled Water Recharge Deliveries / Plan - June 2019 (Acre-Feet)

Basin	6/1-6/8	6/9-6/15	6/16-6/22	6/23-6/30	Month Actual	FY To Date Actual	Deliveries are draft until reported as final.	
Ely	0.0	0.0	0.0	0.0	0.0	1438		
Banana	0.0	0.0	0.0	0.0	0.0	309		
Hickory	0.0	0.0	0.0	0.0	0.0	188		
Turner 1 & 2	0.0	0.0	0.0	0.0	0.0	547		
Turner 3 & 4	0.0	0.0	0.0	0.0	0.0			
8th Street	125.0	104.6	106.2	116.8	452.6	2959		
Brooks	79.4	67.5	69.9	86.5	303.3	1424		
RP3	0.0	0.0	0.0	0.0	0.0	1148		
Declez	48.7	42.4	42.4	47.8	181.3	1682		
Victoria	94.1	78.3	80.8	79.7	332.9	1847		
San Sevaine	0.0	0.0	0.0	0.0	0.0	0		
Total	347.2	292.8	299.3	330.8	1,270.1	11,542	13,510	AF previous FY to day actual





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Bill No.	Author	Bill Name	Description	IEUA Action	Comments
ACA 1	Aguiar	Local government financing: affordable housing and public infrastructure: voter approval	Creates a new constitutional vote threshold of 55 percent for both G.O. bonds and special taxes, when proposed specifically for the construction, reconstruction, rehabilitation, or replacement of public infrastructure or affordable housing.	Support	
AJR 8	Quirk	Invasive Species: Federal Nutria Eradication and Contro Act of 2003	This measure would urge the United States Congress to reauthorize and specifically add California to the Nutria Eradication and Control Act of 2003 and to authorize an appropriation of $4,000,000 to help the State implement a Nutria eradication program.	Support	
AB 292	Quirk	Recycled Water: raw water and groundwater augmentation	Updates terminology related to potable reuse in order to promote a better understanding of the various types of reuse.	Support	Sponsored by WateReuse
AB 405	Rubio	Sales and use taxes: exemption: water treatment	Chemicals used in the treatment of drinking water are already exempted from sales tax. This bill would also exempt from sales tax chemicals related to wastewater treatment and recycled water treatment. Estimated to save IEUA $75K/year.	Support	
AB 533	Holden	Income taxes: exclusion: turf removal water conservation program	This bill would exclude from gross income any amount received as a rebate, voucher, or other financial incentive issued by a water service provider for turf removal before January 1, 2024.	Support MWD Coalition Letter 3/21/19	
AB 557	Wood	Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program	Would appropriate $9.25 million from the General Fund to the Department of Water Resources in Fiscal Year 2019/20 to operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program.	Support	
AB 654	Rubio	Public Records: utility customers: disclosure of personal information	Would allow a local agency to share utility usage data and other personal customer information with anothe governmental agency for scientific, educational, or research purposes and maintain that data as confidential.	Support	Two year bill
AB 756	C. Garcia	Public Water Systems: perfluoralkyl substances and polyfluoralkyl substances	Would require that a public water system monitor for the entire family of PFAS chemicals and would establish new notification criteria for customers.	Oppose	
AB 841	Ting	Drinking water: contaminants: perfluoralkyl and polyfluoralkyl substances	As amended on March 20, 2019, this bill would require the State to adopt and complete a work plan within prescribed timeframes to assess which substances in the class of perfluoroalkyl and polyfluoroalkyl substances should be identified as a potential risk to human health.	Support	
AB 1180	Friedman	Water: recycled water	This bill requires the State Water Resources Control Board to update by January 1, 2023, the uniform statewide criteria for nonpotable recycled water uses established in Title 22 of the California Code of Regulations.	Support	Sponsored by WateReuse
AB 1194	Frazier	Sacramento - San Joaquin Delta: Delta Stewardship Council	Would increase the membership of the Delta Stewardship Council to 13 members, including 11 voting members and 2 nonvoting members.	Oppose MWD Coalition Letter 3/28/19	Two year bill
AB 1204	Rubio	Public water systems: primary drinking water standards: implementation date	This bill would require the adoption or amendment of a primary drinking water standard for a contaminant in drinking water not regulated by a federal primary drinking water standard. It would also authorize the State Board to delay the effective date of the primary drinking water standard adoption or amendment.	Support	Sponsored by ACWA
AB 1588	Gloria	Drinking water and wastewater operator certification programs	This bill would allow military veterans to apply relevant experience and education towards obtaining water and wastewater system operator certifications from the SWRCB.	Support	
AB 1672	Bloom	Product labeling: flushable products	Would establish labeling requirements and performance standards for wet wipes so that Californians will know whether a product can be discarded safely by their plumbing.	Support	Sponsored by CASA Two Year Bill
SB 1	Atkins	California Environmental Public Health, and Workers Defense Act of 2019	SB 1 is intended to prevent weakening of California environmental and worker safety standards that may result from weakening federal law during the tenure of the Trump Administration.	Oppose Unless Amended	
SB 200	Monning	Safe and Affordable Drinking Water Fund	Would establish the Safe and Affordable Drinking Water Fund in the State Treasury to provide the mechanism by which funds could be collected and distributed to failing water systems. This bill, as currently written, does not institute any fees or taxes.	Support	
SB 204	Dodd	State Water Project: Contracts	This bill would add requirements to the Government Code that would significantly and unnecessarily delay any action on California WaterFix moving forward and would increase costs to implement the project by creating excessive delays in the contracting process.	Watch MWD Coalition Letter 3/6/19	Two year bill
SB 307	Roth	Water Conveyance: use of facility with unused capacity	Would impose additional state environmental review by unrelated agencies on a project that has already undergone environmental review under the California Environmental Quality Act.	Oppose IEUA Letter 3/28/19	
SB 332	Hertzberg	Ocean Discharge	Bill seeks to reuse 50% of all wastewater discharged to the ocean by 1/1/2030 and 95% of all discharged wastewater by 1/1/2040.	Oppose Unless Amended	
SB 414	Caballero	Small System Water Authority Act of 2019	Would promote the voluntary consolidation of smaller, non-compliant water agencies with compliant water agencies.	Support	Sponsored by Eastern MWD and CMUA
SB 667	Hueso	Greenhouse gasses: recycling infrastructure and facilities	This bill would require the Department of Resources Recycling and Recovery to develop, by 2021, a 5-year investment strategy to drive innovation and support technological development and infrastructure, in order to meet specified organi waste reduction and recycling targets. The bill would require, on or before June 1, 2021, the department to develop financial incentive mechanisms, including, but not limited to, loans and incentive payments, to fund organic waste recycling infrastructure, in accordance with the investment strategy.	Support If Amended	
SB 669	Caballero	Safe Drinking Water Trust	Would establish a Fund to collect moneys from the General Fund. Interest earnings from the Fund are to be used by the Trust to assist chronically noncompliant water systems in need of financial assistance.		Sponsored by ACWA and CMUA

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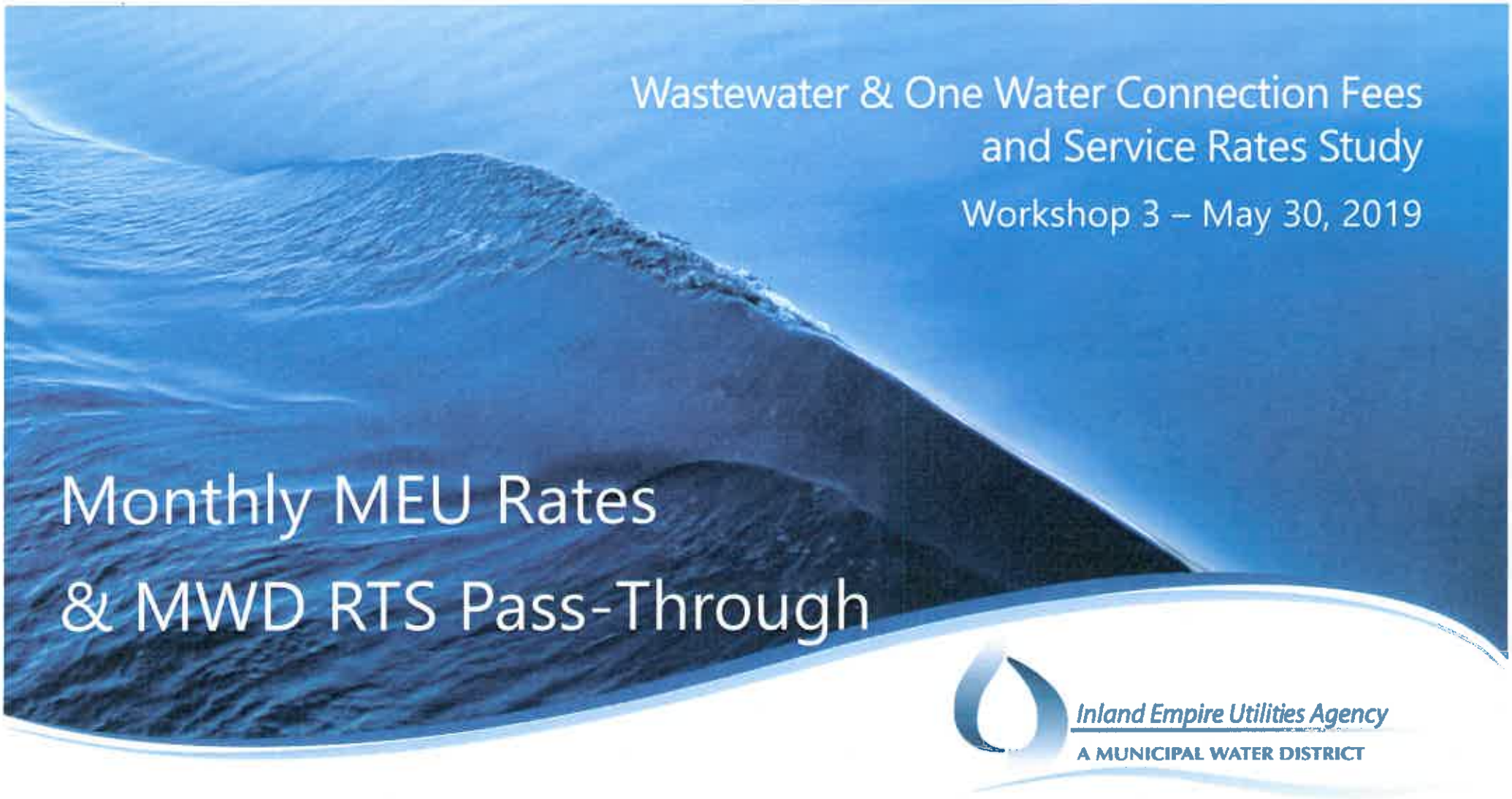

Wastewater & One Water Connection Fees and Service Rates Study

Workshop 3 – May 30, 2019

Monthly MEU Rates & MWD RTS Pass-Through

Inland Empire Utilities Agency

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Workshop Agenda

1. Monthly MEU Rate Update
2. RTS Pass-Though Outlook

IEUA Funding Strategy: Based upon a comprehensive and integrated approach

General Study Approach: Each fee or rate analysis follows a similar approach.

Policy & Rate and Fee Structure Review

Revenue Requirement and Funding Needs Analysis

Demand Analysis and Flow and Loading Analysis

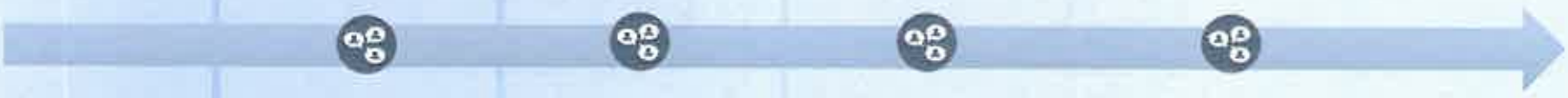
Cost Allocation Analyses

-growth/existing

-functional group

Rate and Fee Design Analysis

Outreach, Engagement, & Messaging



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Current Rate Structure: Implemented on October 1, 2016 following a 2015 Study and extensive work with member agencies.

- This update will maintain the current rate structure.
- MEU Rate
  - Reflects the capacity needed to serve each customer
- MWD Readiness-to-Serve Charge Pass-through
  - Based on ten-year rolling average consumption (TYRA) to match MWD charge structure

Water Resources Fund: Records activities associated with water deliveries and water resources planning

- Manages delivery of imported water from MWD
- Implements water use efficiency programs throughout the service area
- Provides water resources planning and stewardship in the region
- Supports regional water supply programs
  - Recycled Water
  - Groundwater Recharge
  - Storm Water Management

MWD Readiness-to-Serve (RTS) Charge Pass-through:

Recovers costs from member agencies as they are imposed by MWD.

- Phasing in direct pass-through of RTS charges based on TYRA*
- Amount passed through to member agencies is net of standby charge collected directly by MWD
- Under collections during phasing are supported with Agency property taxes

Example RTS Pass-Through	FY 2019/20
IEUA MWD RTS Charge Obligation	$4.95M
Less: Standby Charge Collected by MWD	($1.90M)
Net RTS Obligation to IEUA	**$3.05M**
Pass-Through (FY 2019/20)	*60%*
Amount Collected in Pass-Through	**$1.85M**
Amount Supported with Property Tax	**$1.20M**

*Ten-Year-Rolling Average MWD structure

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Adopted Rates:

Adopted MEU Rates
FY 2018/19: $0.99 per MEU/Month
FY 2019/20: $1.04 per MEU/Month

Adopted RTS Pass-Through
FY 2018/19: 45% of MWD RTS
FY 2019/20: 60% of MWD RTS
FY 2020/21: 75% of MWD RTS
FY 2021/22: 90% of MWD RTS
FY 2022/23: 100% of MWD RTS

MEU Rate and RTS Pass-through Update:

- MEU Rates
  - Developing updated rates for FY 2020/21 through FY 2024/25
  - No change in the existing rate structure
- RTS Pass-Through
  - Continue phase in until full pass-through in FY 2022/23

RTS Pass-Through Outlook

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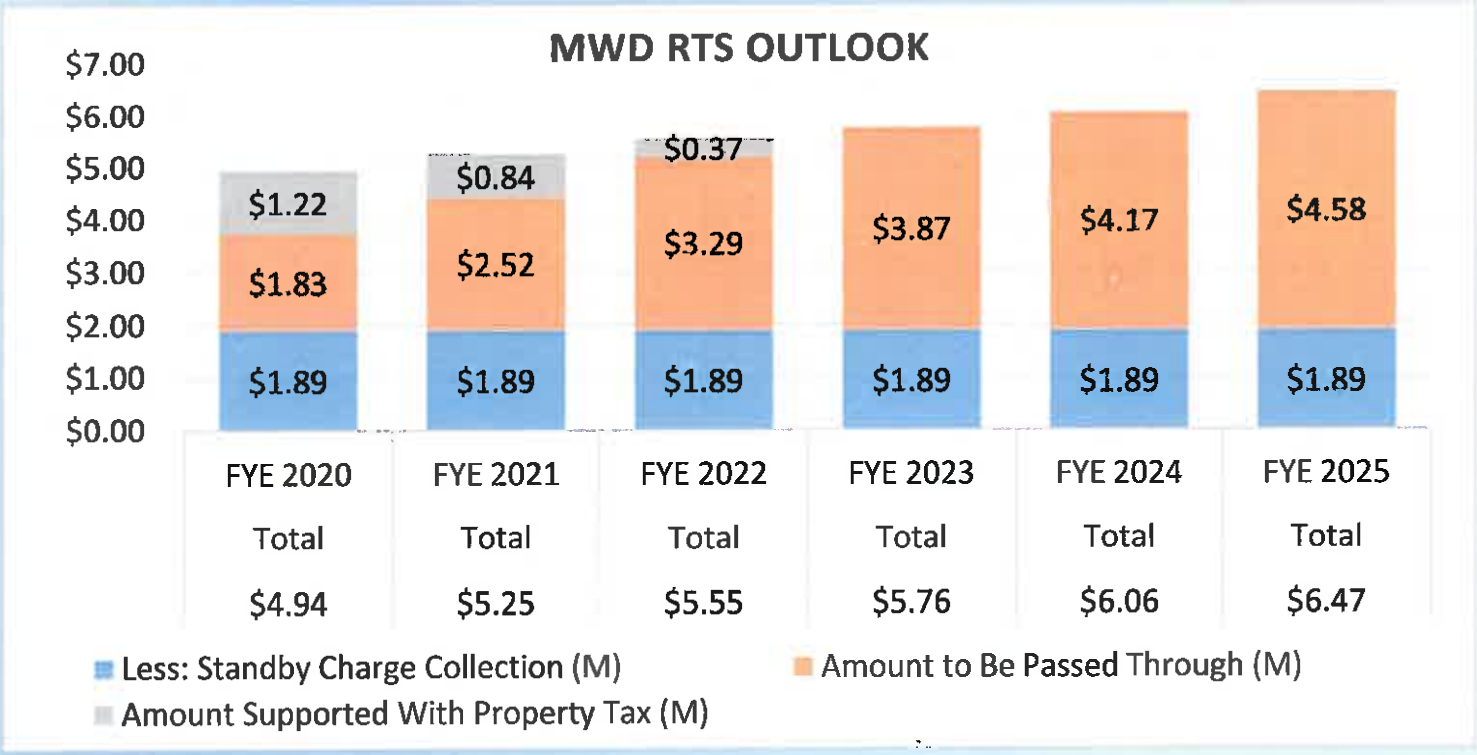
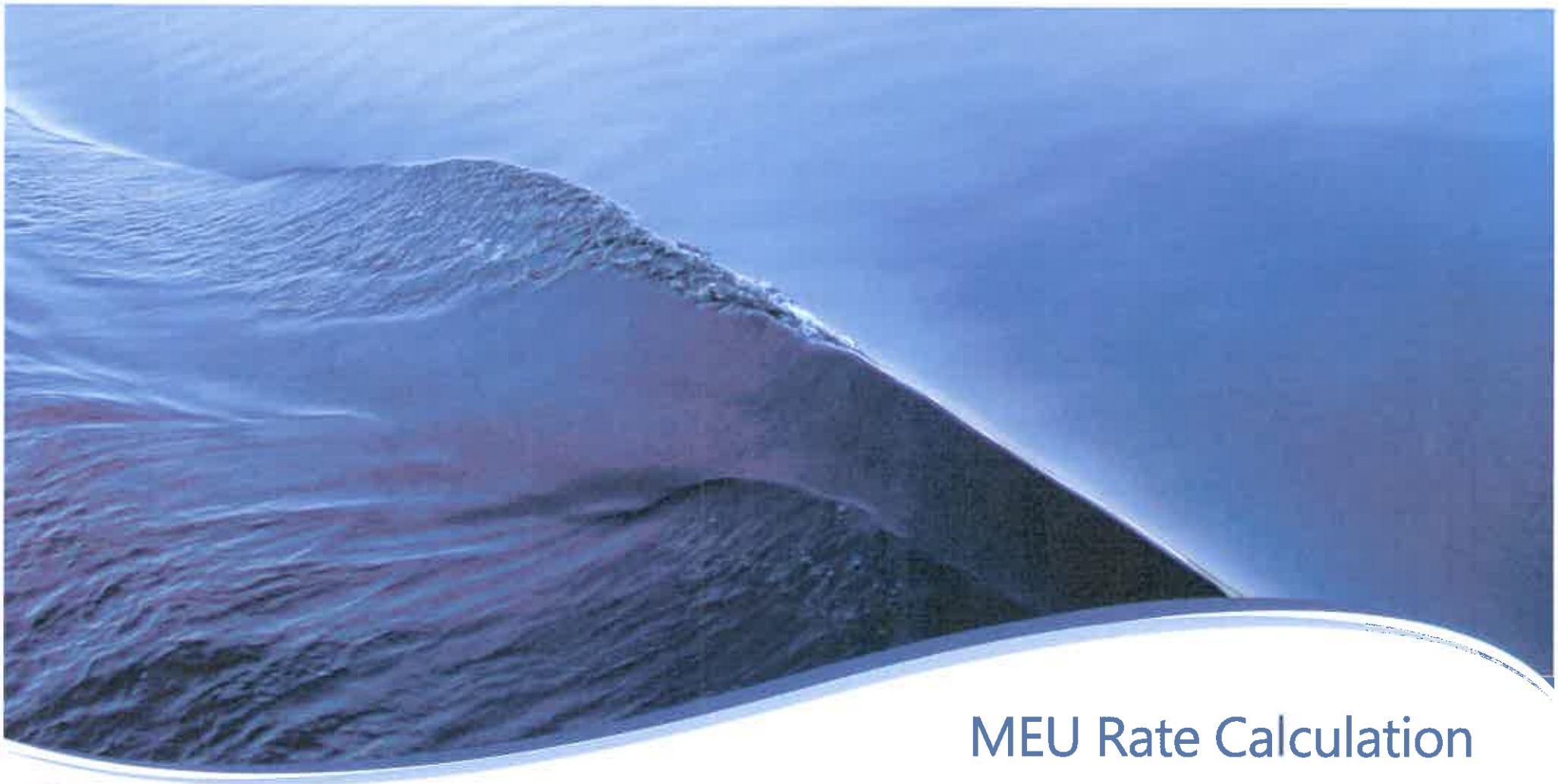
RTS Outlook: MWD expects the RTS to increase by up to 30% over the next five years

- Average annual increase of approximately 5.4%





MEU Rate Calculation

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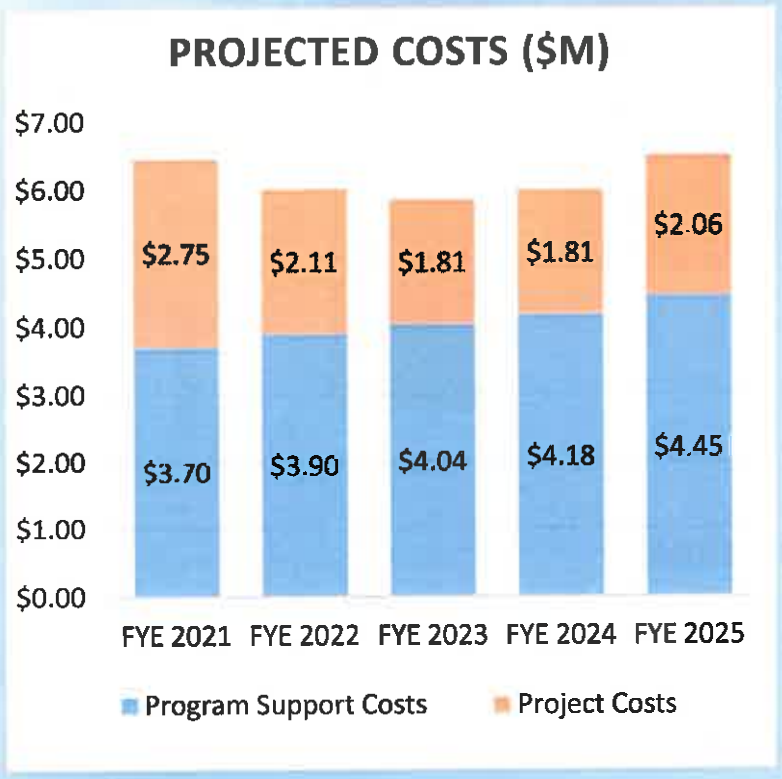
MEU Rate Assumptions

Customer Growth	• Customer growth of 0.9% per year
Water Use Efficiency	• $1.6 million per year regional conservation program budget • ~$900,000 supported by MEU net of grants/reimbursements
O&M Cost Projections	• Projected based on current costs and typical escalation factors
Financial Policies	• Operating contingency reserve • Minimum Level of 4 Months of O&M, Target of 6 Months of O&M

User Rates: Need to collect all annual revenue requirements less offsetting revenues

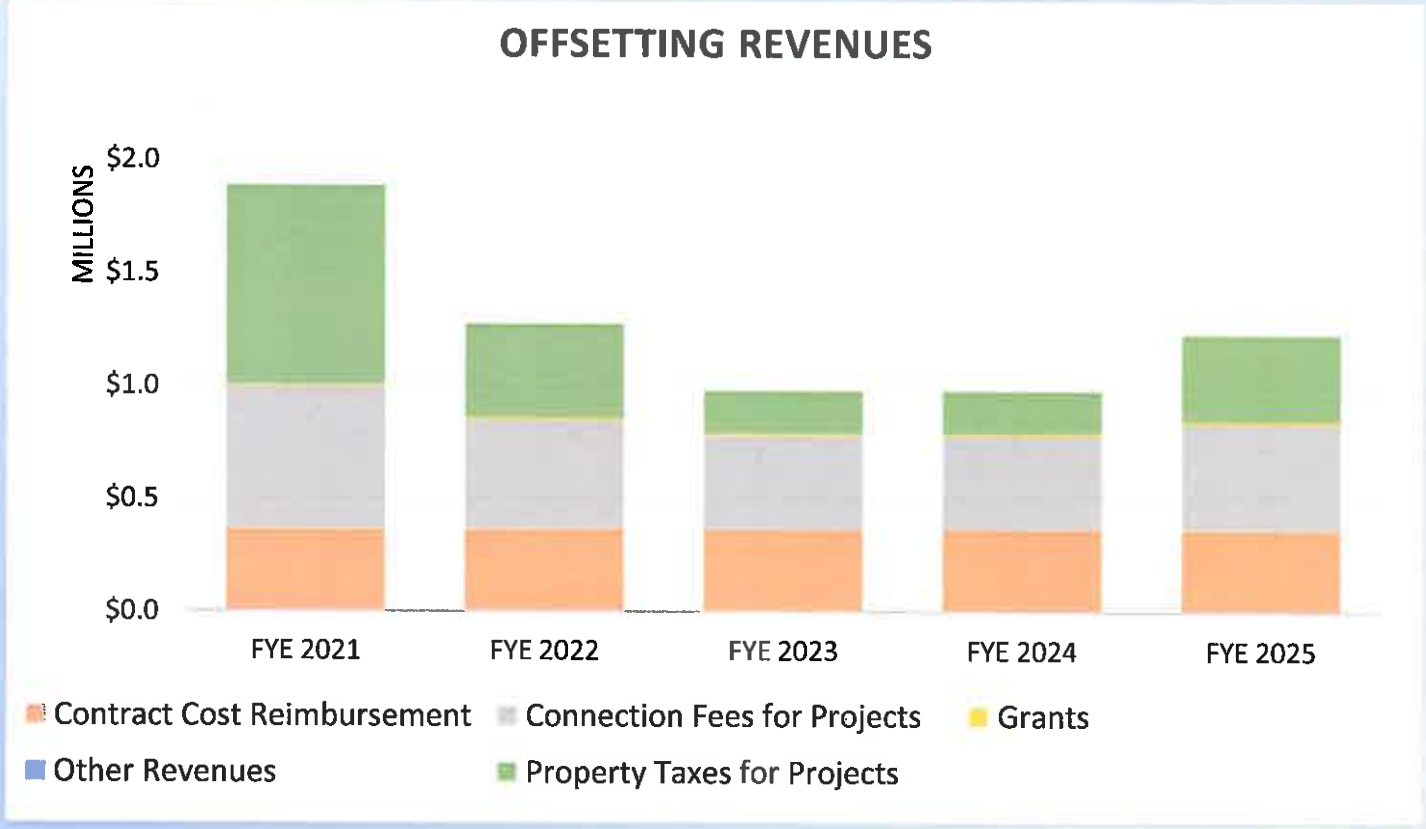
The monthly MEU rate does not currently support capital projects

Total Projected Program Costs: O&M projected from current level using escalation factors

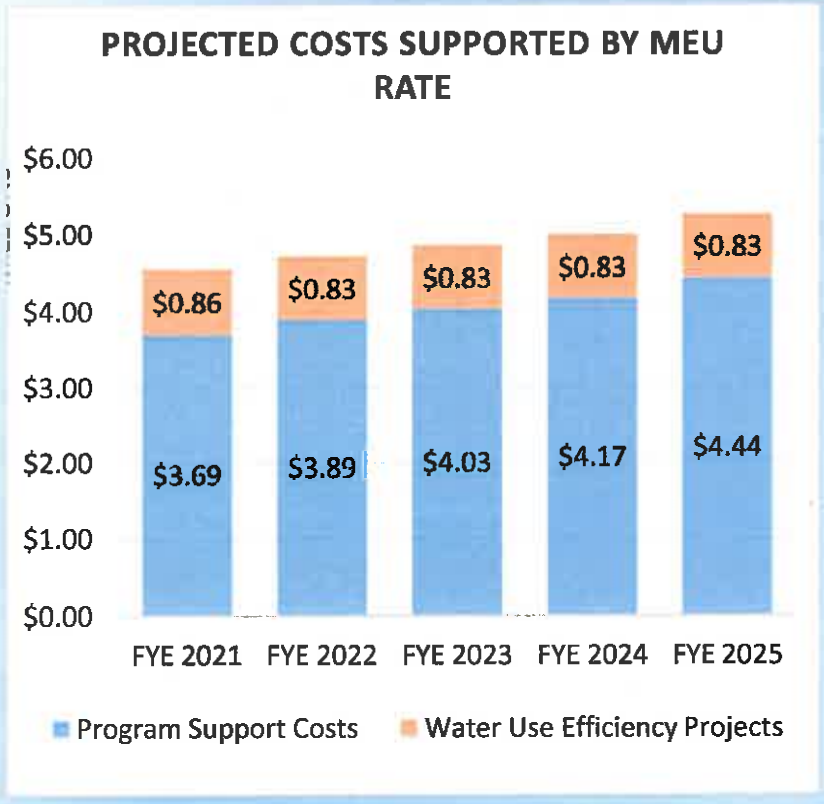


- Program Support Costs
  - Employment
  - Water resource planning
- Project Costs
  - Water Use Efficiency Projects
  - Other Non-capital Project Costs

Offsetting Revenues: Offset the amount to be collected through monthly MEU rates.



Costs Supported By MEU Rate: Total Costs Net of Offsetting Revenues



- Program Support Costs
  - Employment
  - Water resource planning
- Water Use Efficiency Projects, net of offsetting revenues
  - Align with 2015 Integrated Water Resources Plan (IRP) and 2016 Water Use Efficiency Business Plan
  - Fully vetted through the Water Use Efficiency Workgroup

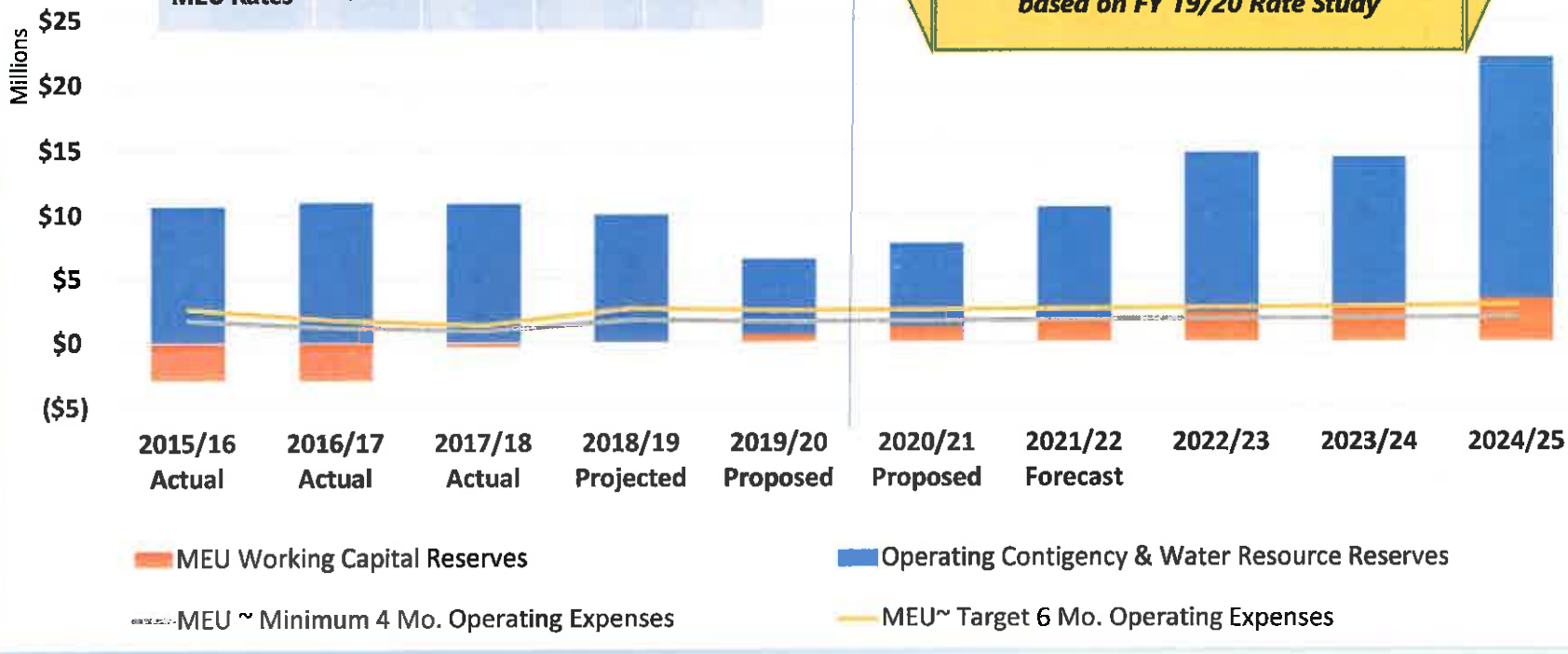
Reserve Requirements: IEUA's Reserve Policy sets reserve targets and minimums for the Water Resources Fund

- Funded primarily with property taxes;
  - Capital Reserve – Support water resources capital projects
  - Supplemental Water Resource Reserve – Support purchases of supplemental water as needed
- **Funded with MEU Rate Revenues**
  - Operating Contingency Reserve – legally mandated
    - Minimum Level of: 4-months of program costs
    - Target Level: 6-months of program costs
- Reserve balances and target levels reviewed annually

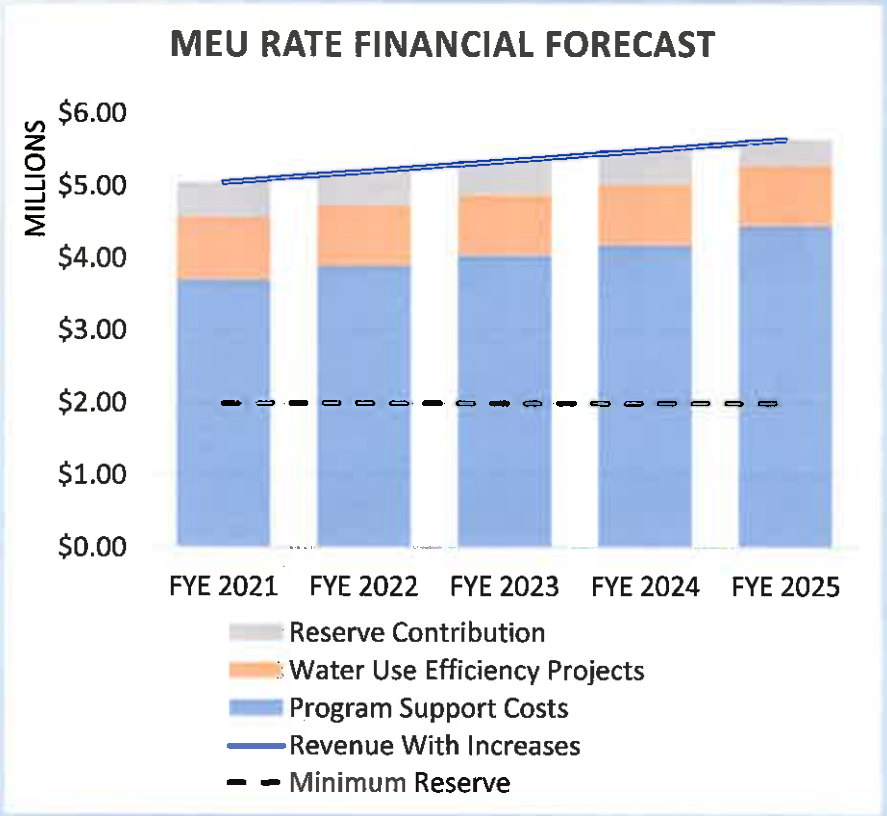
Fund Reserves

	FY 16/17	FY 17/18	FY 18/19	FY 19/20
Adopted MEU Rates	$0.90	$0.95	$.99	$1.04

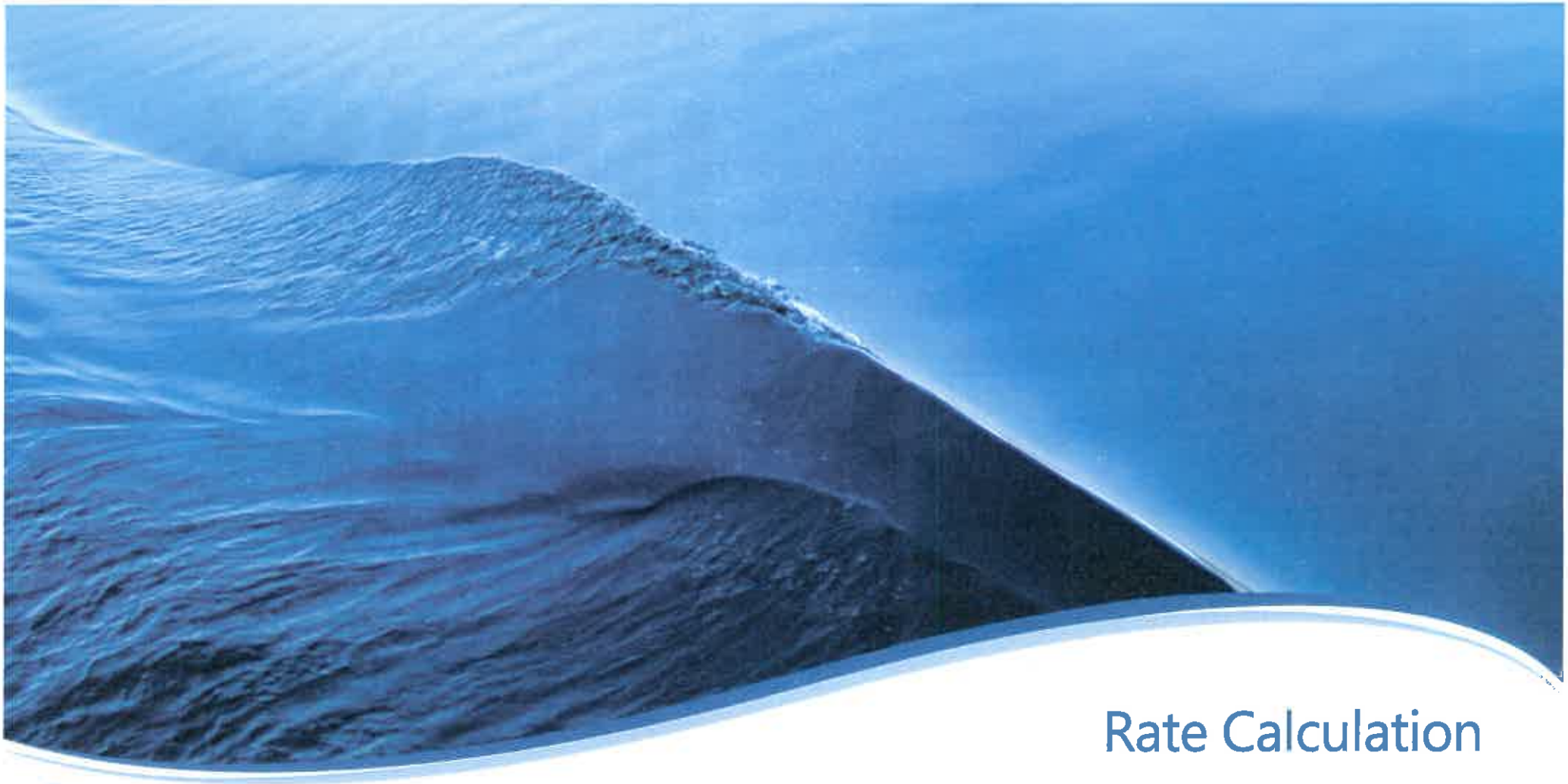
Proposed MEU Rates
FY 20/21 - FY 24/25 TBD
based on FY 19/20 Rate Study



Financial Forecast: Based on the analysis, 2% rate revenue increases are needed in each year



	FYE 2021	FYE 2025
Program Support Costs	$4.85	$4.95
Water Use Efficiency Projects	$1.60	$1.56
Reserve Contribution	$0.49	$0.37
Total Requirements	**$6.95**	**$6.88**
Less: Offsetting Revenues	**($1.90)**	**($1.24)**
MEU Rate Revenues to be Collected	**$5.05**	**$5.64**



Rate Calculation

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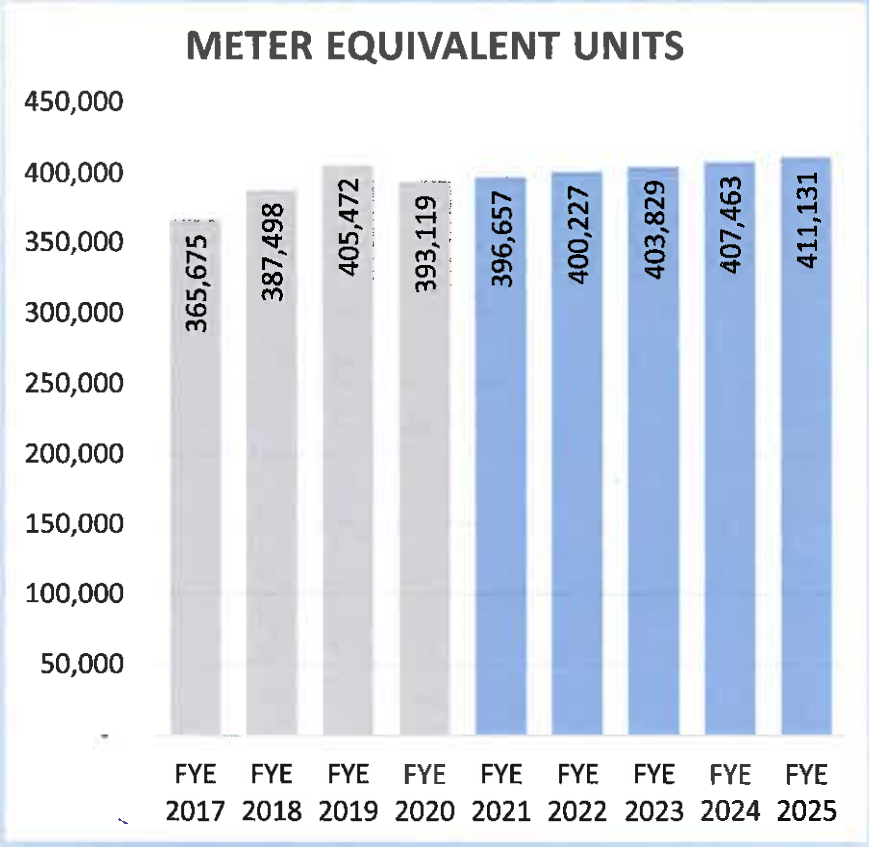
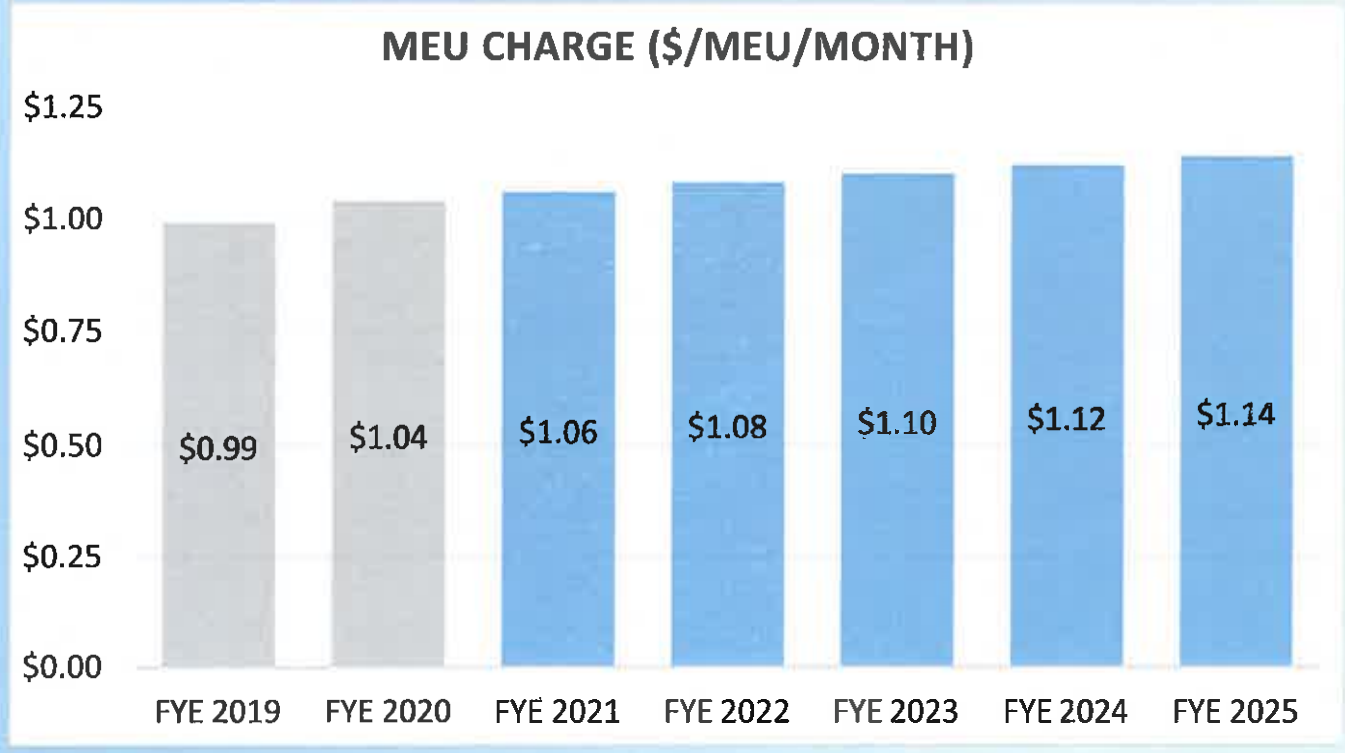
MEU Projection: Future MEUs are projected based on current MEUs and a 0.9% growth factor.



- MEU counts for monthly billing have fluctuated since the rate structure was established
- Future MEUs are projected based on the most recent survey completed for FY 2019/20 monthly billing
- Estimated drop of ~3% in 2020

Preliminary Calculated Rates: Rates are calculated by dividing the required rate revenue for each year by the corresponding number of MEUs



Next Steps

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Next Steps:

- Continue to refine connection fee analyses and MEU Rate Analysis
- Develop analyses for other service rates
  - Wastewater Monthly EDU Rate
  - Recycled Water Volumetric Rates
  - Recharge Water Volumetric Rate
- Incorporate scenarios to assess the impact of the Chino Basin Program

REQUESTED
ITEM

4A

Sent via email to Technical Committee on 6/19/19

On behalf of Christina Valencia:

Good Morning:

At the June 6, 2019 Regional Policy meeting Director Tiegs raised a question regarding the drop in recycled sales projections from 43,000 to 33,000 in FY 2018/19 and 46,000 to 36,000 in FY 2019/20. There are multiple reasons for the downward trend, as listed below:

1. The wastewater influent from a high of 60 MGD has started declining steadily and has maintained at ~48 MGD since 2015.
2. Direct use has declined due to changes in land use, primarily conversion of agricultural lands to commercial/residential development
3. The base entitlement discussions since 2015 have resulted in targeted reduced new agricultural connections by the City of Chino. Chino's RW use has declined by ~2,000 AF.
4. At present, the RW supply is ~53 TAF, with reuse of ~34 TAF.

Projections are revised based on actual trends in data and forecasts. Our last update in forecast was in 2018, and projections were revised to align with current volumetric flows. Please let us know if you have further questions.

Thank you.

Christina Valencia
Executive Manager of Finance and Admin/AGM
Inland Empire Utilities Agency

Emailed to Technical Committee on July 17, 2019

On behalf of Eddie Lin:

Good morning:

At the May 30, 2019 Regional Technical meeting, Katie Gienger asked if Resolution No. 2016-6-17: Option 1 (Offer Stored Water in the Chino Groundwater) has been exercised and if not, how that would be executed. Please see response below:

Per Resolution No. 2016-6-17, Contracting Agencies exceeding entitlement can provide replacement water by offering stored water in the Chino Groundwater Basin (Option I). No Contracting Agencies have yet exercised this option but in the event this option is chosen – the Contracting Agency would notify IEUA of the selected option during the reconciliation period and IEUA would curtail and redistribute the quantify of GWR exceeding the Contracting Agency's base entitlement.

Please let me know if you have any other questions.

Thank you,

Eddie Lin P.E.
Associate Engineer
Inland Empire Utilities Agency