## **NOTICE OF MEETING**

### **OF THE**

## REGIONAL SEWERAGE PROGRAM POLICY COMMITTEE

**OF THE** 



### WILL BE HELD ON

THURSDAY, AUGUST 1, 2019 4:00 P.M.

BOARDROOM AT THE OFFICE OF THE AGENCY 6075 KIMBALL AVENUE, BUILDING A CHINO, CA 91710



### 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
  - A. Building Activity Report
  - B. Recycled Water Distribution Operations Summary
  - C. IEUA/JCSD Recycled Water Interconnection Analysis
  - D. Engineering Quarterly Update
  - E. 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

Regional Sewerage Program Policy Committee Meeting Agenda August 1, 2019 Page 2 of 2

### 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 <a href="www.ieua.org">www.ieua.org</a> 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

# ACTION ITEM **2A**



## Regional Sewerage Program Policy Committee Meeting

### **MINUTES OF JUNE 6, 2019 MEETING**

### **CALL TO ORDER**

A meeting of the IEUA/Regional Sewerage Program Policy Committee was held on Thursday, June 6, 2019, at the Inland Empire Utilities Agency located at 6075 Kimball Avenue, Chino, California. Chairwoman Tenice Johnson, City of Montclair, called the meeting to order at 4:00 p.m.

### **ATTENDANCE**

### **Committee Members:**

| Peter Rogers               | City of Chino Hills             |
|----------------------------|---------------------------------|
| Kathy Tiegs                | Cucamonga Valley Water District |
| Jesse Armendarez           | City of Fontana                 |
| Tenice Johnson (Alternate) | City of Montclair               |
| Jim Bowman                 | City of Ontario                 |
| Debbie Stone               | City of Upland                  |
| Kati Parker                | Inland Empire Utilities Agency  |

### **Others Present:**

| Dave Crosley       | City of Chino                   |
|--------------------|---------------------------------|
| Noel Castillo      | City of Montclair               |
| Courtney Jones     | City of Ontario                 |
| Eduardo Espinoza   | Cucamonga Valley Water District |
| Shivaji Deshmukh   | Inland Empire Utilities Agency  |
| Kathy Besser       | Inland Empire Utilities Agency  |
| Randy Lee          | Inland Empire Utilities Agency  |
| Christina Valencia | Inland Empire Utilities Agency  |
| Shaun Stone        | Inland Empire Utilities Agency  |
| Chander Letulle    | Inland Empire Utilities Agency  |
| Cathleen Pieroni   | Inland Empire Utilities Agency  |
| Sally Lee          | Inland Empire Utilities Agency  |

### **PLEDGE OF ALLEGIANCE**

Shivaji Deshmukh/IEUA led those present in the pledge of allegiance to the flag. A quorum was present.

### **PUBLIC COMMENTS**

There were no public comments.

### ADDITIONS/CHANGES TO THE AGENDA

There were no additions or changes to the agenda.

### 1. TECHNICAL COMMITTEE REPORT

Noel Castillo/City of Montclair stated that the Technical Committee approved the following:

- The regional connections requests for the City of Ontario (Connection No. 0-100) and the City of Chino (Connection No. C-40).
- The recommendation for the IEUA Board to approve the RP-1 Mechanical Restoration and Upgrades Construction Contract Award.
- The recommendation for the IEUA Board to approve the Biennial Regional Program Budget and TYCIP. Mr. Castillo noted that the Technical Committee requested that in the future, third party agreements related to recycled water intertie projects be brought to the Regional Committees for review and approval.

### 2. ACTION ITEMS

### A. APPROVAL OF THE MINUTES OF THE MAY 2, 2019 POLICY COMMITTEE MEETING

<u>Motion</u>: By Jesse Armendarez/City of Fontana and seconded by Eunice Ulloa/City of Chino to approve the meeting minutes of the May 2, 2019 Regional Policy Committee meeting.

**Motion carried:** Unanimously approved.

### B. RP-1 MECHANICAL RESTORATION AND UPGRADES CONSTRUCTION CONTRACT AWARD

Shaun Stone/IEUA stated that the project is located at RP-1 in the City of Ontario. The plant uses a conventional activated sludge to treat wastewater. Mr. Stone indicated that the mechanical and electrical equipment are at the end of their useful life. The project scope includes replacing all sludge pumps, scum pumps, piping and appurtenances, upgrade inefficient motor drives, replace motor control centers and install grinder on sludge transfer pumps. Mr. Stone noted that the recommendation is for the Committee to recommend the IEUA Board of Directors award the construction contract for the RP-1 Mechanical Restoration and Improvements Project to the lowest responsive bidder for a not-to exceed amount of \$8,075.000. He stated that this amount is based on the engineers estimate. Since the next meeting is scheduled on July 4, IEUA brought this item a month early and therefore, the Agency has not received bids yet. He explained that if the bids are higher than the engineer's estimate, IEUA will come back through the Committee process. Mr. Stone then reviewed the project timeline.

<u>Motion</u>: By Jim Bowman/City of Ontario and seconded by Peter Rogers/City of Chino Hills to recommend the IEUA Board of Directors to award the construction contract for the RP-1 Mechanical Restoration and Improvements, Project No. EN171082, to the lowest, responsive bidder for a not to exceed amount of \$8,075,000.

Motion carried: Unanimously approved.

### C. BIENNIAL REGIONAL PROGRAMS BUDGET AND TYCIP

Christina Valencia/IEUA stated that a preliminary Biennial Budget for Fiscal Years (FY) 2019/20 and 2020/21 and the FY 2020-2029 Ten Year Capital Improvement Plan (TYCIP) was presented in March and April to both the Regional Committees for review. She reported that the TYCIP was reduced by \$3 million from \$924 to \$921 million due to an adjustment to the Chino Basin Program planning project budget. Ms. Valencia noted that the Regional Wastewater Capital, Recycled Water and Regional Wastewater Operations & Maintenance make up 90% of the TYCIP. Ms. Valencia highlighted that the Wastewater Capital Fund increased from \$76 million in FY 2019/20 to \$155 million in FY 2020/21. She stated the increase is primarily due to the RP-5 Expansion project and associated debt proceeds needed to finance the construction. For the Wastewater Operations Fund, there were no significant changes and the rates adopted through FY 2019/20 will not change. Ms. Valencia reviewed the cost of service per EDU for operations and maintenance and for rehabilitation and replacement costs. Ms. Valencia reported that IEUA is currently going through a 2020 rate study update and rates will be adjusted as need based on the results of the study.

The Recycled Water Fund budget remains the same over the next two years at \$49 million. Ms. Valencia pointed out that there has been a drop of approximately 10,000 AF in sales projections for this year and next year compared to the 2015 projections resulting in a higher cost per acre feet. She confirmed that the cost of service for recycled water remains below the 75% of the MWD untreated rate. She stated there will be no change in the adopted rate for FY 2019/20. Any adjustment to future rates will be part of the rate study underway. Kathy Tiegs/CVWD asked what caused the decrease in recycled water. Ms. Valencia stated she will need to look at the assumptions and will provide the information to the Committee. Ms. Valencia then discussed the Recharge Water Fund capital projects and explained that the projects are primarily funded by Chino Basin Watermaster. Ms. Valencia noted that included in the staff report is the commitment from the Agency to bring forth for the Regional Committees review and recommendation any third-party agreements such as the City of Pomona and Jurupa Community Services District (JCSD) recycled water intertie projects. Jesse Armendarez/City of Fontana commented regarding the cost analysis for the JCSD intertie. Ms. Valencia stated that the Agency will bring this item to the Committees in July.

<u>Motion</u>: By Jim Bowman/City of Ontario and seconded by Kathy Tiegs/Cucamonga Valley Water District to recommend to the IEUA Board of Directors to approve the proposed Fiscal Years (FYs) 2019/20 and 2020/21 Biennial Budget for the Agency's Regional Wastewater Operations and Maintenance fund, Regional Wastewater Capital Improvement fund, Recycled Water fund, Recharge Water fund, and the FY 2020-2029 Ten-Year Capital Improvement Plan.

Motion carried: Unanimously approved.

### 3. INFORMATIONAL ITEMS

### A. OPERATIONS DIVISION SEMI-ANNUAL UPDATE

Chander Letulle/IEUA stated that the Agency held an Advance Water Treatment Operator Certification Training at IEUA with American Water Works Association and California Water Environment Association. The Agency also attended a public outreach event, Touch a Truck in

Rancho Cucamonga. Mr. Letulle reviewed the recordable injuries trends by calendar and location. Mr. Letulle informed the Committee that the Agency is compliant on the National Pollutant Discharge Elimination System. For Air Quality Management District, there is one issue with the RP-1 flare capacity, and he reported there were three events that resulted in sanitary sewer overflows.

Mr. Letulle stated that IEUA had two emergency responses in the City of Chino. On April 27, 2019, a leak was caused by a damaged gasket which has been repaired and was back in service on April 29. The second leak occurred on May 9, due to a damaged saddle on a service lateral. The leak was repaired and back in service the next day. Mr. Letulle then discussed the recent completed projects: IERCF Compost Screening Replacement Project, RP-4/IERCF Energy Project, Chino 1 Desalter winter maintenance shutdown, RP-1 Headworks & Primary Upgrades, RP-4 Trident Filter Rehabilitation Project, and RP-4 SCADA Migration Project. Mr. Letulle stated that Integrated Systems Services Department is training and testing staff on Cybersecurity and created new energy reports.

### **B. LEGISLATIVE UPDATE**

Kathy Besser/IEUA stated that IEUA is following the bills below:

- HR 2313 The bill would amend federal tax law so that homeowners who receive rebates from public agencies for water conservation improvements would be exempt from federal taxes on the amount of the rebate.
- HR 1162 The bill would increase Title XVI Water Recycling Grant Program from \$50 million to \$500 million per year. Ms. Besser stated that Title XVI and the State Revolving Fund loans have significant increases that are being proposed by the House.
- AB 533 The bill would exclude from gross income any amount received as a rebate. Ms. Besser stated that the bill stopped in appropriations.
- State Affordable Drinking Water Tax There are three proposals: one from Governor Newsom, the Assembly and the Senate. Ms. Besser explained the difference among the three proposals and stated the budget deadline is June 15.

### 4. RECEIVE AND FILE

### A. BUILDING ACTIVITY REPORT

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

### B. RECYCLED WATER DISTRIBUTION - OPERATIONS SUMMARY

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

### C. <u>IEUA RATE STUDY WORKSHOP #2</u>

The IEUA Rate Study Workshop #2 was received and filed by the Committee.

### 5. OTHER BUSINESS

### A. IEUA GENERAL MANAGER'S UPDATE

Shivaji Deshmukh gave an update on the rate study schedule. The second workshop was presented on May 2. The third workshop was on May 30 on the MEU Rates and the fourth workshop is scheduled for June 27 regarding recycled water EDUs.

## B. <u>COMMITTEE MEMBER REQUESTED AGENDA ITEMS FOR NEXT MEETING</u> None.

### **C. COMMITTEE MEMBER COMMENTS**

Ms. Tiegs/CWVD commented that the Water Tax bill is in the Conference Committee now and there is no longer the opportunity for outside input.

### D. <u>NEXT MEETING - AUGUST 1, 2019</u>

### 6. ADJOURNMENT

The meeting was adjourned at 4:42 p.m.

Transcribed by:

Laura Mantilia, Executive Assistant

INFORMATION ITEM

3A

## Asset Management Program Update











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





## Recap

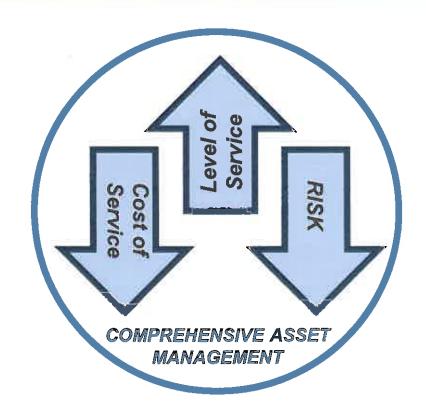


## What is Asset Management (AM)?

### 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.





## **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)



### **Business Goals**

For any organization to remain relevant and effective, its ability to adapt and prepare for change is essential. As illustrated below, the six identified IEUA Business Goals encompass key objectives which must be continually evaluated and derived into work plans to ensure that current and future needs of the Agency and region are acted upon. The IEUA Business Goals were adopted by the IEUA Board of Directors on December 21, 2016.



### **Mission Statement**

releases and resident of the second of the second of the second by providing escential services in a regionally placed and east effective manner with asteguarding public health, promoting economic development, and protecting the environment.

### hier areas of species

- Securing and supplying imported water
- Collecting and treating a servicester

  Producing high quality renormable products such as recycled water compact and energy.

  Protecting amain able too of procedurator and development of local vistor supplies.

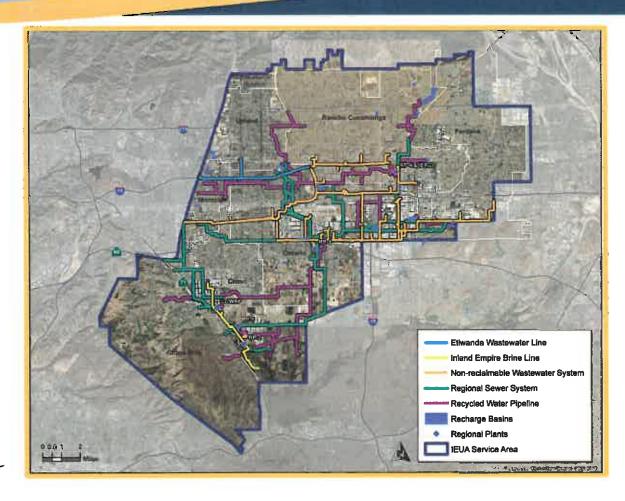
To become a world class leader in water management and environmental prevariable, including water quality. "water-use efficiency-recycled water, and renewable amongs, in order to enhance and present of the quality of life throughout the region

Leading the way. Pleasing for the future. Proterting the resources of the commutations we serve The Inland Empire Utilities agency is:

- Com nitived to applying ethical fiscally responsible, irrasparent and environmentally measurable principles to all aspects of broiners and organizational conduct
- Working with inceptity as one case, while celebrating the regions diversity Staying to the fermions of the industry through education, himovation, efficiency and



## **IEUA Service Area**

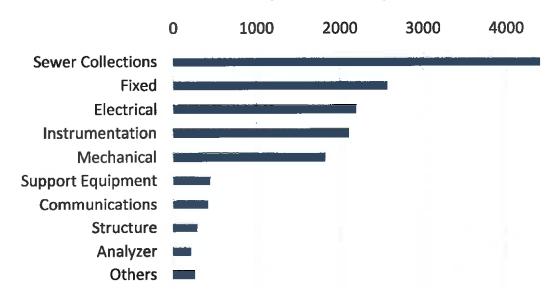




## **Assets by the Numbers**

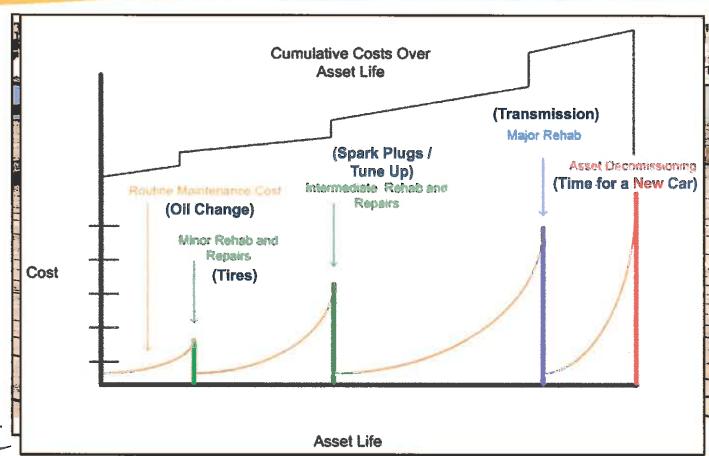
## Six Treatment Plants + One Composting Facility + 19 Groundwater Recharge Sites 2 Sewage Collection Systems + 277 miles of pipelines

Equipment Count by Category (Total: 14,721)





## We Need to Manage Full Asset Lifecycle





## **Comprehensive Asset Management**



## **Assessment Preliminary Outcomes**

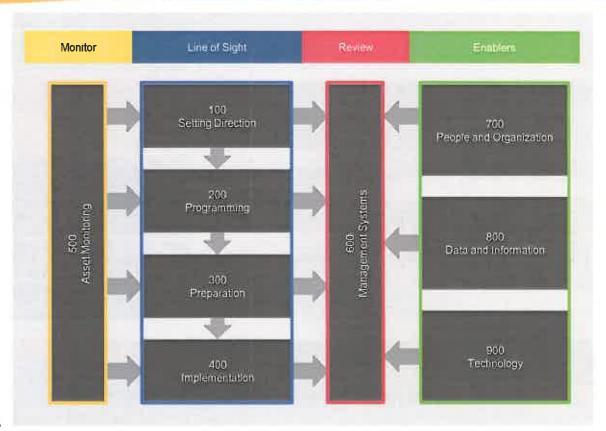


## **Category Assessment**

| 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                 |

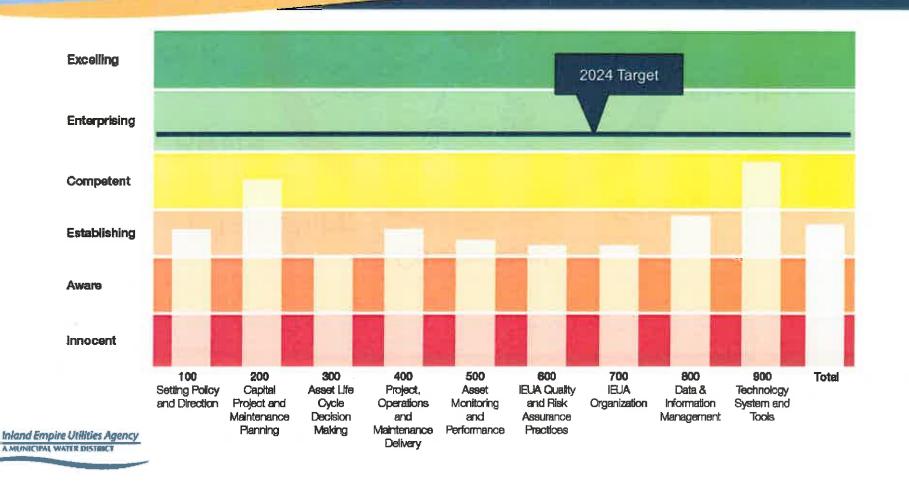


## **Components Gap Analysis**

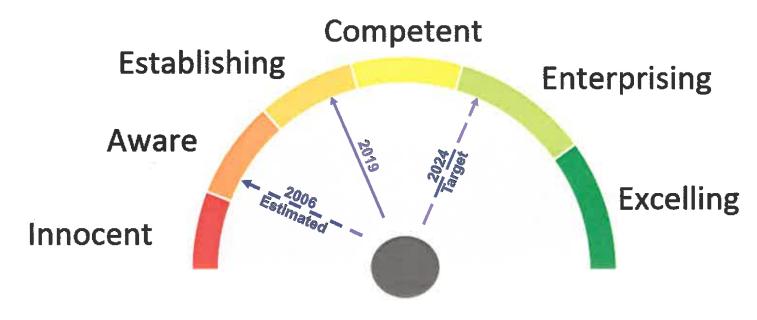




## **Category Average Scores**



## **Asset Management Progress**







# **Expected Implementation Outcomes**



## 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



## 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! - Right Projects, Right Time, Right Cost



## 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





## **Next Steps**



## **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



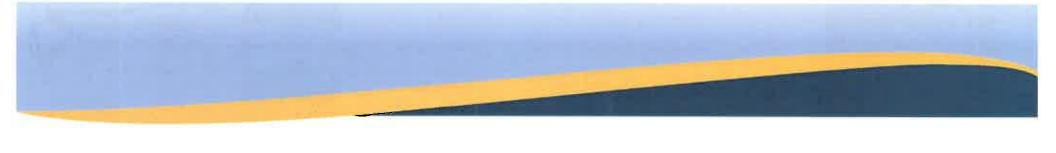


## QUESTIONS









# 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

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



## 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

- 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



## 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)

- 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 ○&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

- 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

- 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)

- 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)

- 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

- 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

- 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



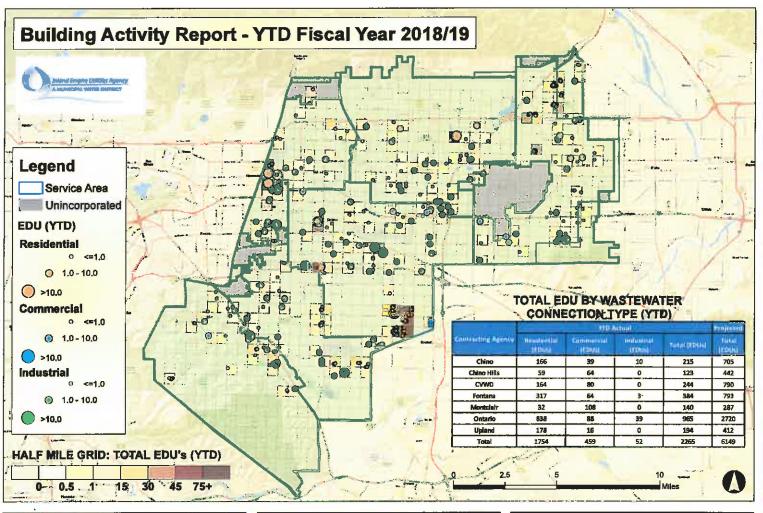
INFORMATION ITEM

3B

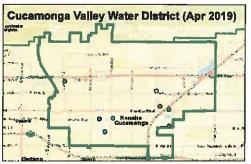
| ACA 1 Aguiar Local government financing: affordable housing and public infrastructure: voter approval for the construction, reconstruction, rehabilitation, or replacement of public infrastructure or affordable housing.  AUR 8 Culrik Invasive Species: Federal Nutria Eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize an appropriation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize and special transportation of \$4,000,000 to help the State Implement a Nutria eradication and Control Act of 2003 and to authorize and special flow program.  Updates terminology related to potable reuse in order to promote a better understanding of the various types of reuse.  Support  Support  AB 533 Holden Income taxes: exclusion: turf removal water conservation program  Would appropriate \$9.25 millilion from the General Fund to the D |
|---|
| AB 292 Quirk Recycled Water: raw water and groundwater augmentation   |
| AB 405 Rubio Sales and use taxes: exemption: water treatment Sales tax chemicals related to wastewater treatment and recycled water treatment. Estimated to save IEUA \$75K/year.    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.   MWD Coalition Letter 3/21/19   |
| AB 533 Holden Income taxes: exclusion: turf removal water conservation program water service provider for turf removal before January 1, 2024.  AB 557 Wood Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program.  AB 654 Rubio Public Roderds: utility customers: disclosure of personal information agency for scientific, educational, or research purposes and maintain that data as confidential.  AB 756 C. Garcia Public Water Systems: perfluoralkyl substances and polyfluoralkyl substances and polyfluoralkyl substances and polyfluoralkyl substances  Ting Drinking water: contaminants: perfluoralkyl and polyfluoralkyl substances opticities of assess which substances in the class of perfluoralkyl substances should be Identified as a polyfluoralkyl substances opticities for customers.  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 perfluoralkyl substances should be Identified as a polyfluoralkyl substances should be Identified as a support substance should be Identified as a support substance should be Identified as a support substance should be Identi            |
| AB 533 Holden Income taxes: exclusion: turf removal water conservation program water service provider for turf removal before January 1, 2024. MWD Coalition Letter 3/21/19  AB 557 Wood Climate Forecasting Program Operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program Operate the Atmospheric Rivers: Research, Mitigation, and Operate the Atmospheric Rivers: Research, Mitigation, and Operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program Operate the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program.  Would allow a local agency to share utility usage data and other personal customer information with another governmental agency for scientific, educational, or research purposes and maintain that data as confidential.  Would require that a public water system monitor for the entire family of PFAS chemicals and would establish new notification criteria for customers.  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 perfituoroalkyl substances should be identified as a potential risk to human health.   |
| AB 557 Wood Climate Forecasting Program operate \$9.25 million from the General Fund to the Department of Water Resources in Fiscal Year 2019/20 to Climate Forecasting Program.  AB 654 Rubio Public Records: utility customers: disclosure of personal information personal information personal information agency for scientific, educational, or research purposes and maintain that data as confidential.  AB 756 C. Garcia Public Water Systems: perfluoralkyl substances and polyfluoralkyl substances  Ting Principle Wood appropriate \$9.25 million from the General Fund to the Department of Water Resources in Fiscal Year 2019/20 to Support  Would appropriate \$9.25 million from the General Fund to the Department of Water Resources in Fiscal Year 2019/20 to Support  Would appropriate \$9.25 million from the General Fund to the Department of Water Resources in Fiscal Year 2019/20 to Support  Two year bill would require that a public water system monitor for the entire family of PFAS chemicals and would establish new notification criteria for customers.  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.   |
| AB 654 Rubio personal information agency for scientific, educational, or research purposes and maintain that data as confidential.  AB 756 C. Garcia Public Water Systems: perfluoralkyl substances and polyfluoralkyl substances 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 perfluoralkyl substances should be identified as a potential risk to human health.   |
| AB 756 C. Garcia and polyfluoralkyl substances notification criteria for customers.  Oppose  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 substances should be identified as a polyfluoralkyl substances should be identified as a potential risk to human health.  |
| AB 841 Ting Drinking water: contaminants: periluoralkyl and polyfluoralkyl substances bould be identified as a Support polyfluoralkyl substances polyfluoralkyl substances potential risk to human health.  |
|   |
| AB 1180 Friedman Water: recycled water Mater Resources the State Water Resources Control Board to update by January 1, 2023, the uniform statewide criteria for Support Support   |
| Oppose  Sacramento - San Joaquin Delta: Delta Stewardship Would increase the membership of the Delta Stewardship Council to 13 members, including 11 voting members and 2  AB 1194 Frazier Council nonvoting members.  MWD Coalition Letter 3/28/19   |
| Public water systems: primary drinking water  AB 1204 Rubio  Standards: Implementation date  This bill would require the adoption or amendment of a primary drinking water standard. It would also authorize the State Board to delay the effective  Support  Sponsored by ACW/  date of the primary drinking water standard adoption or amendment.   |
| AB 1588 Gloria Drinking water and wastewater operator This bill would allow military veterans to apply relevant experience and education towards obtaining water and wastewater Support  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 Support Sponsored by CASA Two product can be discarded safely by their plumbing.  |
| SB 1 Atkins California Environmental Public Health, and SB 1 is intended to prevent weakening of California environmental and worker safety standards that may result from Oppose Unless  Workers Defense Act of 2019 weakening federal law during the tenure of the Trump Administration. 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.  |
| This bill would add requirements to the Government Code that would significantly and unnecessarily delay any action on  SB 204 Dodd State Water Project: Contracts California WaterFix moving forward and would increase costs to implement the project by creating excessive delays in the contracting process.  Watch  Two year bill would add requirements to the Government Code that would significantly and unnecessarily delay any action on  Two year bill would add requirements to the Government Code that would significantly and unnecessarily delay any action on  Two year bill add requirements to the Government Code that would significantly and unnecessarily delay any action on  Two year bill add requirements to the Government Code that would significantly and unnecessarily delay any action on   |
| 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.    EUA 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 Oppose Unless 1/1/2040. 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  |
| 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 organic  SB 667 Hueso facilities waste reduction and recycling targets. The bill would require, on or before June 1, 2021, the department to develop financial support if Amended  incentive mechanisms, including, but not limited to, loans and incentive payments, to fund organic waste recycling  Infrastructure, in accordance with the investment strategy.   |
| 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 Sponsored by ACWA and to assist chronically noncompliant water systems in need of financial assistance.  |

| Bill No. | Author             | Bill Name  | Description  | IEUA Action | Comments |
|----------|--------------------|--|--|-------------|----------|
| HR 1162  | Rep.<br>Napolitano | The Water Recycling Investment and Improvement Act | This bill would increase the funding authorization for the US Bureau of Reclamation's Title XVI water recycling grant program to \$500 million from its current \$50 million authorization. It would also make the Title XVI program permanent, as it currently expires in 2021. | Support     |          |
| HR 1764  | Rep.<br>Garamendi  | Amend the Federal Water Pollution Control<br>Act   | The bill would extend the maximum term for National Pollutant Discharge Elimination System (NPDES) permits from 5 to 10 years.   | Support     |          |
| HR 2313  | Rep. Huffman       | The Water Conservation Rebate Tax Parity Act       | This bill would amend Federal tax law so that homeowners who receive rebates from water utilities for water conservation improvements will not pay income tax on the rebates.  | Support     |          |

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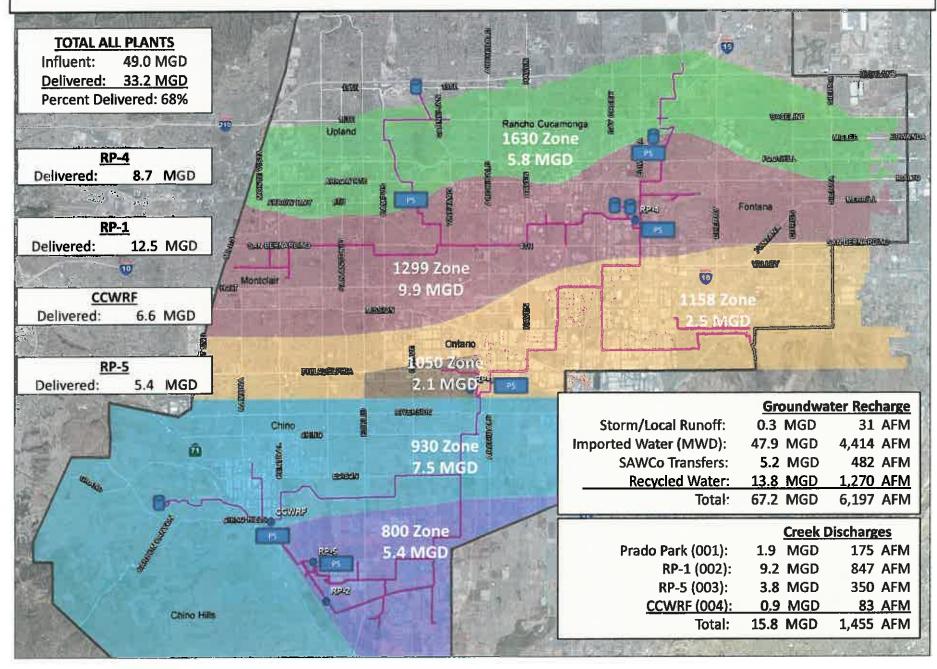






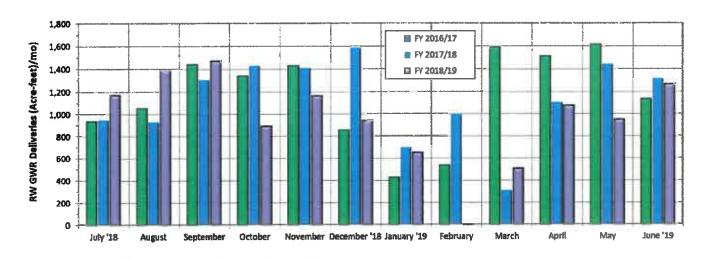
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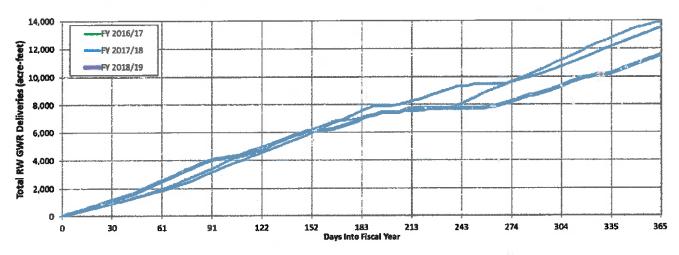
## **IEUA RECYCLED WATER DISTRIBUTION – JUNE 2019**



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<br>Actual | FY To Date<br>Actual | Deliveries a | e 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             | 547                  |              |                                  |
| Sth Street   | 125.0   | 104.6    | 108.2     | 116.5     | 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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Date:

July 25, 2019

To:

Regional Technical Committee

From:

Inland Empire Utilities Agency

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).
  - O 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.
  - o 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.
  - o IEUA anticipates using 5,000 acre-feet per year of JCSD's recycled water for CBP Operations.
  - o 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.
  - o 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 Cost |              |
|-------------------------|-------|-------------|-------------|---------------|--------------|--------------|
| Project Component       | Size  | Pipe Length | Unit 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**

|                              |           | Number of |            |               | Project Cost |              |
|------------------------------|-----------|-----------|------------|---------------|--------------|--------------|
| Project Component            | Pump Size | Pumps     | Unit 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 Proje | ct 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. <sup>1)</sup>                 |
| 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 Finan | cial 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 <sup>2)</sup>     |              |   |
| 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                            |
|           |                                     |              | .6  |
| 3.3       | Capacity Charge Increase            | 3.0%/yr      | After 2026 - Use publish rates 2018-2026                            |

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

#### **Financial Analysis Results**

| Item#    | Assumption Description                          | Value         |  |  |  |  |  |  |  |  |
|----------|---|---------------|--|--|--|--|--|--|--|--|
| 1.0 IEUA | 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%         |  |  |  |  |  |  |  |  |

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

## IEUA JCSD RW Interconnection Preliminary Design Criteria Replacement Cost

| ote#           | Assumption Description                    | Value                           | Notes  |
|----------------|---|---------------------------------|--|
|                | ct Assumption                             |                                 |  |
| .1             | Pipe System                               |                                 | The JCSD-IEUA Delivery Pipe Line.  |
| .1.1           | Design Flow                               | 3,720 gpm                       | The total RW pump capacity (from Summary[1.1]).  |
| 1.2            | Design Velocity @ Design Flow             | 3.00 fps                        | The maximum velocity in the pipe at <i>Design Flow</i> .   |
| 1.3            | Selected Pipe Diameter                    | 24 in                           | The pipe diameter selected from the Pipe Sizing Table .  |
| L.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  |
| L.1.4.3        | Heroes Park to 930 PZ                     | 12,900.0 ft                     | From American Heroes Park to Eucalyptis & Carpernter   |
| .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.  |
| .1.5.2         | - 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).   |
| 1.5.4          | - Friction Headloss                       | 0.223 ft/100 ft                 | Friction headloss for a 24-in pipe line @ 2.64 fps.  |
| .2             | Pump System                               |                                 |  |
| .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)   |
| .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 Repla      | cement 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.   |
| 1.1.4          | 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.   |
| 1.1.6          | 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.   |
| .0 Opera       | ation & Maintenance Cost                  |                                 |  |
| 3.1            | Pump System Operation & Maintenance C     | ost 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   |
| .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 <i>Power Cost</i> .   |
| 3.2            | Annual O&M Cost                           | 2.00/0                          | The state of the s |
| 3.2.1          | Power Cost                                | \$113.95/AF                     | The Pumping power cost in 2018.  |
|                | Maintanana Cast                           | ¢2.20/AF                        | T D C : :: 2040  |
| 3.2.2<br>3.2.3 | Maintenance Cost TOTAL O&M Cost           | \$2.28/AF<br><b>\$116.23/AF</b> | The Pump System maintenance cost in 2018.  The Pump System O&M cost in 2018.   |



# IEUA JCSD RW Interconnection Annual O Costs

|              |                          |                    |                            | Annual Project (            | Cost & Unit Cost           | ts           |              |                          |                      |                            |                        |                            | With Ag                    | reements         |              |                      |                        |                        | Without the                  | e Agreement                |
|--------------|--------------------------|--------------------|----------------------------|-----------------------------|----------------------------|--------------|--------------|--------------------------|----------------------|----------------------------|------------------------|----------------------------|----------------------------|------------------|--------------|----------------------|------------------------|------------------------|------------------------------|----------------------------|
|              |                          | MWD Rates          |                            |                             |                            | (\$/AF)      |              |                          |                      | ı                          | EAU Annual Cost        | ts                         | J                          |                  | j            | CSD Annual Cos       | ts                     |                        | IEAU Costs                   | JCSD Costs                 |
|              |                          |                    |                            | Project                     | Construction               | Pipe         |              | Annual                   | Annual RW            |                            |                        |                            |                            | Annual RW        |              |                      |                        |                        | Import                       | Import                     |
|              | Full Service             | Ready to           | Capacity                   | Construction                | Loan                       | Repalcement  |              | O&M Cost                 | Usage                |                            | Replacement            | RW O&M                     |                            | Usage            |              | Replacement          | RW O&M                 |                        | MWD 'Tier 1'                 | MWD 'Tier 1'               |
| Year         | (Tier 1)                 | Service Charge     |                            | Cost                        | Payments                   | Value        |              | (\$/AF)                  | (AF)                 | Loan Payment               |                        | Cost                       | TOTAL COST                 | (AF)             | Loan Payment |                      | Cost                   | TOTAL COST             | Water                        | Water                      |
| Notes ->     | 3.1                      | 3.2                | 3.3/3.4                    | 1.3                         | 2.7                        | 1.5.1        | 1.5.2        | 1.4                      |                      |                            |                        |                            |                            |                  |              |                      |                        |                        |                              |                            |
| Present V    | alues ->                 |                    |                            | \$34,664,000                | \$57,850,901               |              |              |                          |                      |                            |                        |                            | \$133,679,281              |                  |              |                      |                        | \$10,965,651           | \$439,461,072                | \$64,087,512               |
| YEAR         |                          | MWD_RTSC           |                            | CONST_COST                  |                            |              | PUMP_REPL    |                          | IEUA_RW              | IEUA_LOAN                  | IEUA_RPL_COS           |                            |                            | JCSD_RW          |              | JCSD_RPL_COS         |                        | _                      |                              | JCSD_MWD                   |
| 2018         | \$695/AF                 | \$83               | \$1,305,000                | \$0                         | \$0                        |              | \$0          | \$116/AF                 | -                    |                            |                        | \$0                        |                            | -                | 70           |                      | \$0                    | \$0                    |                              |                            |
| 2019         | \$738/AF                 | \$88               | \$1,350,000                | \$0                         | \$0                        |              | \$0          | \$122/AF                 | -                    | 7.                         | \$0                    | \$0                        | \$0                        | -                | \$0          | \$0                  | \$0                    | \$0                    | \$0                          | \$0                        |
| 2020<br>2021 | \$783/AF<br>\$835/AF     | \$95<br>\$104      | \$1,395,000<br>\$1,455,000 | \$5,409,664<br>\$11,035,714 | \$0<br>\$0                 | \$0<br>\$0   | \$0<br>\$0   | \$128/AF<br>\$135/AF     | -                    | \$0<br>\$0                 | \$0<br>\$0             | \$0<br>\$0                 | \$0<br>\$0                 |                  | \$0<br>\$0   | \$0<br>\$0           | \$0<br>\$0             | \$0<br>\$0             | \$0<br>\$0                   | \$0<br>\$0                 |
| 2022         | \$876/AF                 | \$114              | \$1,500,000                |                             | \$0                        |              | \$0          | \$133/AF                 | -                    | \$0                        | \$0                    | \$0                        | \$0                        |                  | \$0          | \$0                  | \$0                    | \$0                    | \$0                          | \$0                        |
| 2023         | \$917/AF                 | \$124              | \$1,575,000                |                             | \$2,041,516                | \$21         | \$11         | \$148/AF                 | 5,000 AF             | \$2,041,516                | \$157,300              | \$741,703                  | \$2,940,520                | 300 AF           | _            | \$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           |              | \$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           |              | \$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           |              | \$12,245             | \$64,835               | \$77,079               | \$6,332,039                  | \$455,368                  |
| 2028<br>2029 | \$1,120/AF<br>\$1,154/AF | \$194<br>\$211     | \$1,798,226<br>\$1,852,172 | \$0<br>\$0                  | \$2,041,516<br>\$2,041,516 | \$23<br>\$23 | \$12<br>\$12 | \$189/AF<br>\$199/AF     | 5,000 AF<br>5,000 AF | \$2,041,516<br>\$2,041,516 | \$173,672<br>\$177,146 | \$946,622<br>\$993,953     | \$3,161,811<br>\$3,212,615 | 374 AF<br>389 AF |              | \$13,007<br>\$13,795 | \$70,896<br>\$77,401   | \$83,903<br>\$91,196   | \$6,572,044<br>\$6,823,553   | \$492,204<br>\$531,366     |
| 2030         | \$1,189/AF               | \$229              | \$1,907,737                | \$0                         | \$2,041,516                |              | \$12         | \$209/AF                 | 5,000 AF             | \$2,041,516                | \$180,689              | \$1,043,651                | \$3,265,856                | 404 AF           |              | \$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           |              | \$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           | _            | \$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           |              | \$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           |              | \$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           |              | \$20,089             | \$138,074              | \$158,162              | \$8,973,598                  | \$885,904                  |
| 2037<br>2038 | \$1,462/AF<br>\$1,506/AF | \$408<br>\$443     | \$2,346,276<br>\$2,416,665 | \$0<br>\$0                  | \$2,041,516<br>\$2,041,516 | \$27<br>\$28 | \$14<br>\$14 | \$294/AF<br>\$308/AF     | 5,000 AF<br>5,000 AF | \$2,041,516<br>\$2,041,516 | \$207,555<br>\$211,706 | \$1,468,522<br>\$1,541,948 | \$3,717,593<br>\$3,795,170 | 509 AF<br>523 AF |              | \$21,109<br>\$22,162 | \$149,352<br>\$161,412 | \$170,461<br>\$183,574 | \$9,347,958<br>\$9,742,592   | \$950,707<br>\$1,019,863   |
| 2039         | \$1,550/AF               | \$481              | \$2,410,005                | \$0                         | \$2,041,516                | \$29         | \$15         | \$308/AF                 | 5,000 AF             | \$2,041,516                | \$215,940              | \$1,619,045                | \$3,876,501                | 538 AF           |              | \$23,248             | \$174,306              | \$183,574              | \$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           |              | \$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           | _            | \$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           | _            | \$29,219             | \$253,239              | \$282,457              | \$12,621,879                 | \$1,546,852                |
| 2045<br>2046 | \$1,852/AF<br>\$1,907/AF | \$789<br>\$857     | \$2,972,193<br>\$3,061,359 | \$0<br>\$0                  | \$2,041,516<br>\$2,041,516 | \$32<br>\$33 | \$17<br>\$17 | \$434/AF<br>\$456/AF     | 5,000 AF<br>5,000 AF | \$2,041,516<br>\$2,041,516 | \$243,183<br>\$248,047 | \$2,169,675<br>\$2,278,159 | \$4,454,375<br>\$4,567,722 | 628 AF<br>643 AF | _            | \$30,527<br>\$31,877 | \$272,363<br>\$292,768 | \$302,891<br>\$324,644 | \$13,203,985<br>\$13,821,051 | \$1,657,522<br>\$1,776,152 |
| 2040         | \$1,967/AF               | \$931              | \$3,001,339                | \$0                         | \$2,041,516                | \$33         | \$17         | \$478/AF                 | 5,000 AF             | \$2,041,516                | \$253,008              | \$2,392,067                | \$4,686,591                | 657 AF           |              | \$33,268             | \$314,531              | \$347,799              | \$13,821,031                 | \$1,903,391                |
| 2048         |                          | \$1,011            |                            | \$0                         |                            |              | \$18         | \$502/AF                 | 5,000 AF             |                            | . ,                    | \$2,511,670                |                            |                  |              | \$34,702             | \$337,739              | \$372,441              |                              |                            |
| 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           |              | \$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                |              | \$19         | \$582/AF                 | 5,000 AF             | \$2,041,516                | \$273,864              | \$2,907,572                | \$5,222,953                | 717 AF           | -            | \$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                |              | \$19         | \$611/AF                 | 5,000 AF             |                            | \$279,341              | \$3,052,951                | \$5,373,808                | 732 AF           | -            | \$40,891             | \$446,900              | \$487,791              | \$18,416,034                 | \$2,695,794                |
| 2053<br>2054 | \$2,346/AF<br>\$2,416/AF | \$1,527<br>\$1,658 | \$3,765,085<br>\$3,878,037 | \$0<br>\$0                  | \$2,041,516<br>\$2,041,516 |              | \$19<br>\$20 | \$641/AF<br>\$673/AF     | 5,000 AF<br>5,000 AF |                            | \$284,928<br>\$290,627 | \$3,205,598<br>\$3,365,878 | \$5,532,043<br>\$5,698,021 | 747 AF<br>762 AF | -            | \$42,557<br>\$44,274 | \$478,794<br>\$512,759 | \$521,351              | \$19,362,152<br>\$20,370,506 | \$2,891,964<br>\$3,103,252 |
| 2054         | \$2,416/AF<br>\$2,489/AF | \$1,658<br>\$1,801 | \$3,878,037                | \$0<br>\$0                  | \$2,041,516                |              | \$20         | \$673/AF<br>\$707/AF     | 5,000 AF             |                            | \$290,627              | \$3,535,878                | \$5,872,128                | 762 AF           | -            | \$44,274             | \$512,759              | \$557,034<br>\$594,967 | \$20,370,506                 | \$3,103,252                |
| 2056         | \$2,563/AF               | \$1,955            | \$4,114,210                |                             | \$2,041,516                |              | \$21         | \$742/AF                 | 5,000 AF             |                            | \$302,368              | \$3,710,881                | \$6,054,765                | 791 AF           |              | \$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                |              | \$21         | \$779/AF                 | 5,000 AF             |                            | \$308,415              | \$3,896,425                | \$6,246,357                | 806 AF           |              | \$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                |              | \$21         | \$818/AF                 | 5,000 AF             |                            | \$314,584              | \$4,091,246                | \$6,447,346                | 821 AF           |              | \$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                |              | \$22         | \$859/AF                 | 5,000 AF             | \$2,041,516                | \$320,875              | \$4,295,808                | \$6,658,200                | 836 AF           | _            | \$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                |              | \$22         | \$902/AF                 | 5,000 AF             |                            | \$327,293              | \$4,510,599                | \$6,879,408                | 851 AF           |              | \$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                |              | \$23         | \$947/AF                 | 5,000 AF             |                            | \$333,839              | \$4,736,129                | \$7,111,484                | 866 AF           |              | \$57,818             | \$820,257              | \$878,075              | \$29,627,051                 | \$5,131,153                |
| 2062<br>2063 | \$3,061/AF<br>\$3,152/AF | \$3,208<br>\$3,484 | \$4,912,582<br>\$5,059,959 | \$0<br>\$0                  | \$2,041,516<br>\$2,041,516 |              | \$23<br>\$24 | \$995/AF<br>\$1,044/AF   | 5,000 AF<br>5,000 AF |                            | \$340,515<br>\$347,326 | \$4,972,935<br>\$5,221,582 | \$7,354,967<br>\$7,610,424 | 881 AF<br>896 AF |              | \$59,989<br>\$62,223 | \$876,083<br>\$935,441 | \$936,072<br>\$997,664 | \$31,342,975<br>\$33,181,508 | \$5,521,699<br>\$5,944,432 |
| 2063         | \$3,132/AF<br>\$3,247/AF | \$3,784            | \$5,039,939                | \$0                         | \$2,041,516                |              | \$24         | \$1,044/AF<br>\$1,097/AF | 5,000 AF             |                            | \$354,272              | \$5,482,661                | \$7,878,450                | 911 AF           |              | \$64,523             | \$998,544              | \$1,063,067            | \$35,161,508                 | \$6,402,233                |
| 2065         | \$3,344/AF               | \$4,109            | \$5,368,111                | \$0                         | \$2,041,516                |              | \$25         | \$1,057/AF               | 5,000 AF             |                            | \$361,358              | \$5,756,794                | \$8,159,668                | 926 AF           |              | \$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                |              | \$25         | \$1,209/AF               | 5,000 AF             |                            | \$368,585              | \$6,044,634                | \$8,454,735                | 940 AF           |              | \$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                |              | \$26         | \$1,269/AF               | 5,000 AF             | \$2,041,516                | \$375,957              | \$6,346,866                | \$8,764,338                | 955 AF           |              | \$71,832             | \$1,212,656            | \$1,284,488            | \$41,970,369                 | \$8,019,019                |
| 2068         | \$3,654/AF               | \$5,263            | \$5,865,880                |                             | \$2,041,516                |              | \$26         | \$1,333/AF               | 5,000 AF             | \$2,041,516                | \$383,476              | \$6,664,209                | \$9,089,201                | 970 AF           |              | \$74,411             | \$1,293,140            | \$1,367,551            | \$44,586,366                 | \$8,651,652                |
| 2069         | \$3,764/AF               | \$5,715            | \$6,041,856                |                             | \$2,041,516                |              | \$27         | \$1,399/AF               | 5,000 AF             | \$2,041,516                | \$391,145              | \$6,997,419                | \$9,430,081                | 985 AF           |              | \$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               |

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# Engineering and Construction Management Quarterly Project Updates







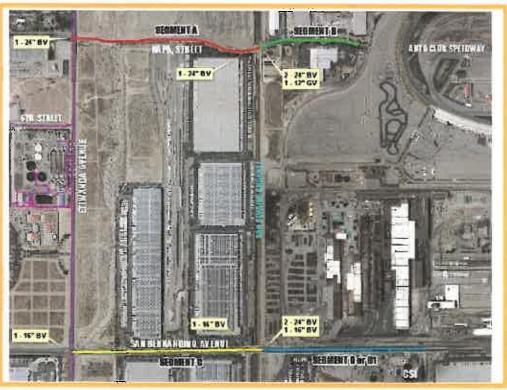


Shaun J. Stone, P.E. July 2019/August 2019

# 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/<br>Contractor | Current<br>Contract | Amendments/<br>Change<br>Orders |
|------------------------|---------------------------|---------------------|---------------------------------|
| Design-Build (Current) | KEC/Ferreira              | \$5.3 M             | 0.00%                           |



## **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/<br>Contractor | Current<br>Contract | Amendments/<br>Change Orders |
|------------------------|---------------------------|---------------------|------------------------------|
| Design                 | Carollo<br>Engineers      | \$556 K             | 2.52%                        |
| Construction (Current) | Trautwein Construction    | \$4.9M              | 1.53%                        |



**Proposed Alignment** 



# 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/<br>Contractor | Current<br>Contract | Amendments/<br>Change Orders |
|------------------------|---------------------------|---------------------|------------------------------|
| Design                 | In-House                  | \$0                 | 0%                           |
| Construction (Current) | Southern<br>Contracting   | \$233 K             | -1.48%                       |



# San Sevaine Basin Improvements

Project Goal: Storm Water and Recycled Water Recharge

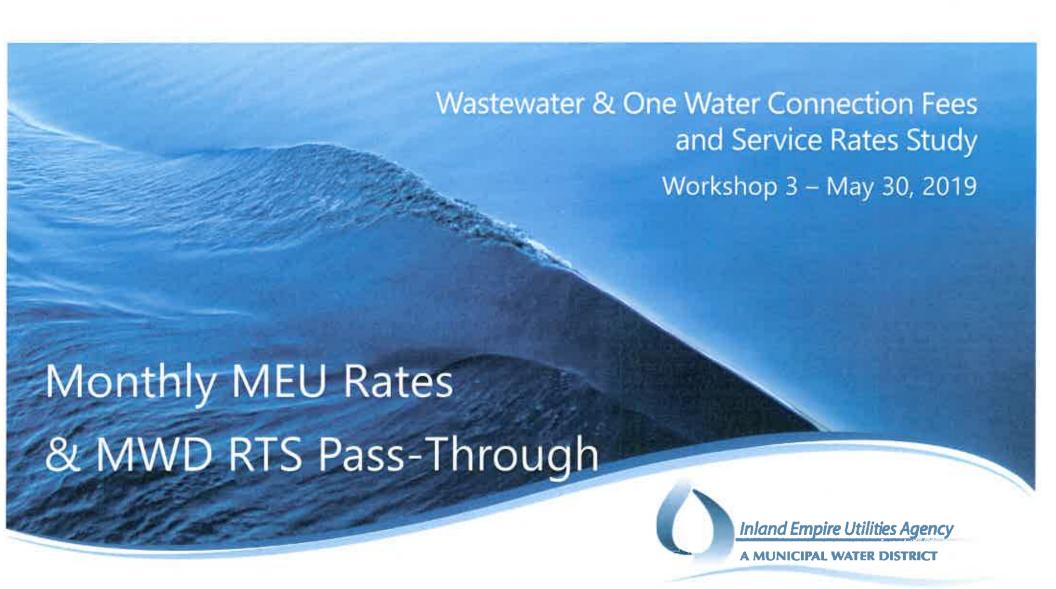
Total Project Budget: \$6.4 M
Project Completion: February 2019
Construction Percent Complete: 95%

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





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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









# 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    |
| <b>Amount Supported with Property Tax</b> | \$1.20M    |

<sup>\*</sup>Ten-Year-Rolling Average MWD structure

### 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

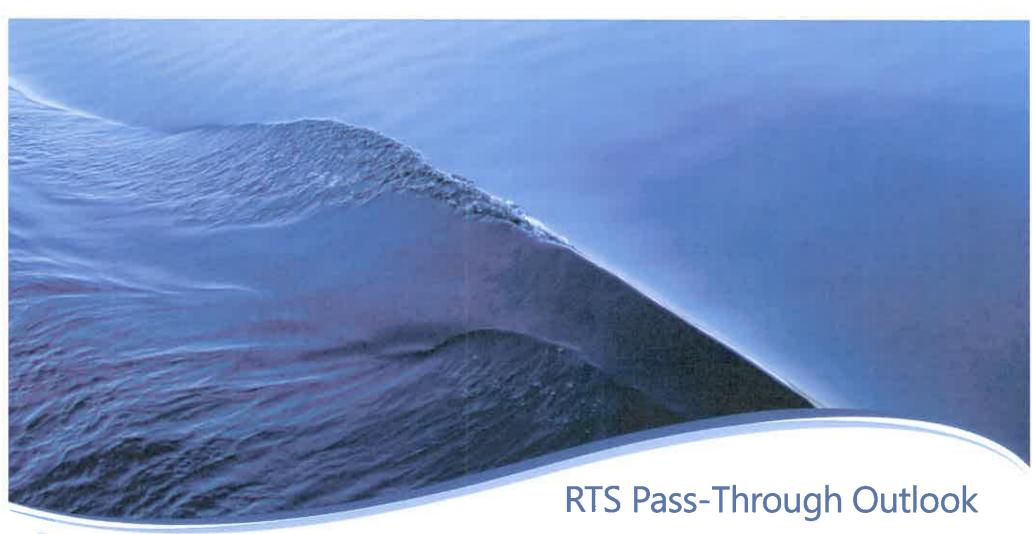
FY 2020/21: 75% of MWD RTS

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

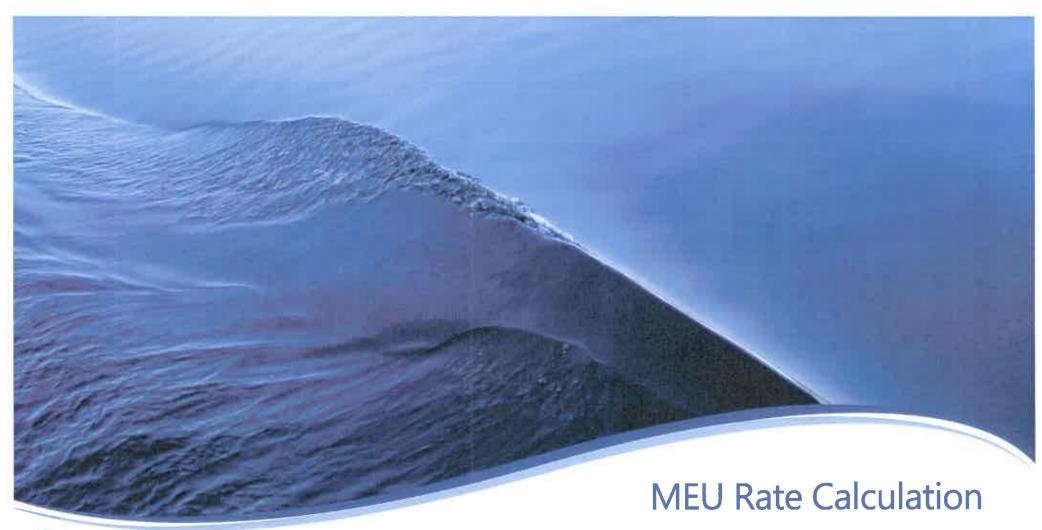




# RTS Outlook: MWD expects the RTS to increase by up to 30% over the next five years

Average annual increase of approximately 5.4%







### **MEU Rate 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

**O&M Expenses** 



Water Use Efficiency



Rate Funded Capita

Reserve Requirements

Offisettling Revenues

The monthly MEU rate does not currently support capital projects

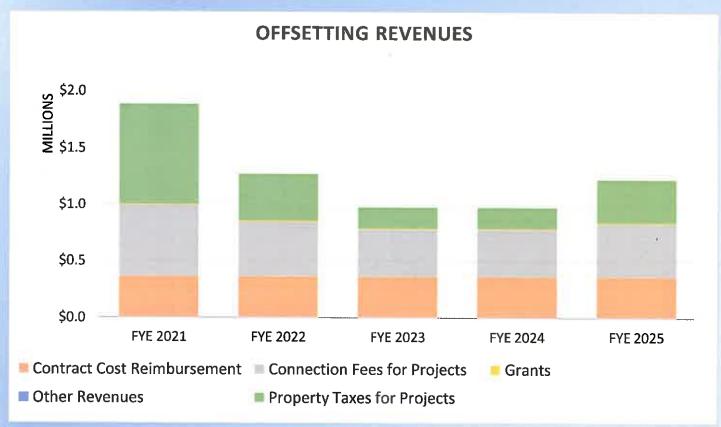
**User Rate Revenues** 

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

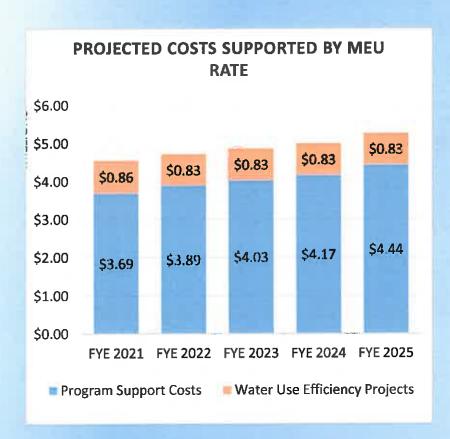


- Program Support Costs
  - Employment
  - Water resource planning
- Project Costs
  - Water Use Efficiency Projects
  - Other Non-capital Project Costs

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



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

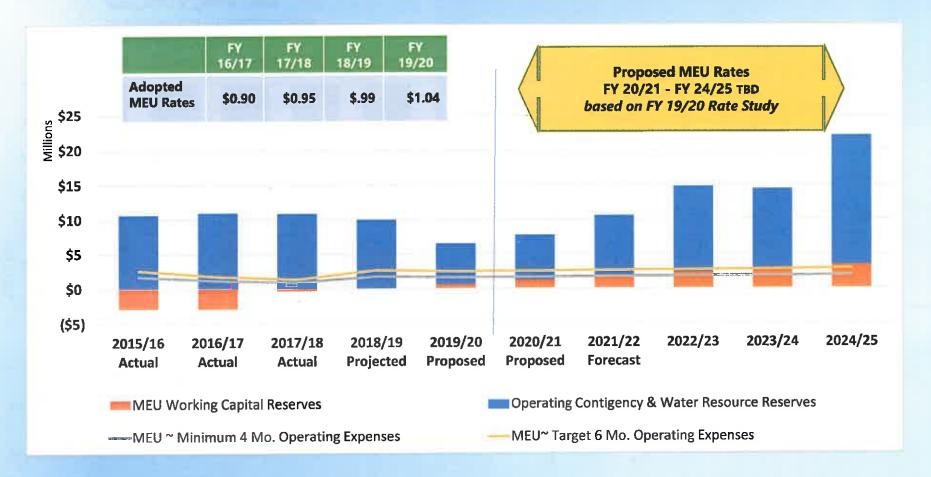


- Program Support Costs
  - Employment
  - Water resource planning
- Water Use Efficiency Projects, net of offsetting revenues
  - Align with 2015 Integrated Water Resources Plan (IRP) and 2016 Water Use Efficiency Business Plan
  - Fully vetted through the Water Use Efficiency Workgroup

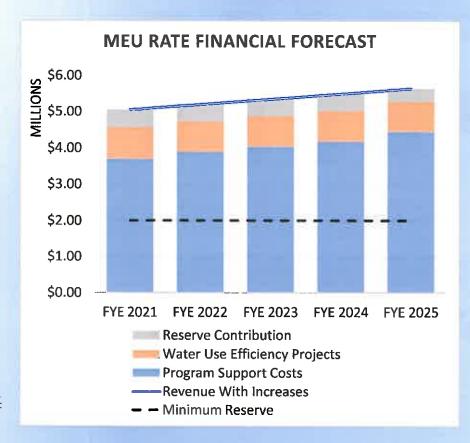
# Reserve Requirements: IEUA's Reserve Policy sets reserve targets and minimums for the Water Resources Fund

- 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

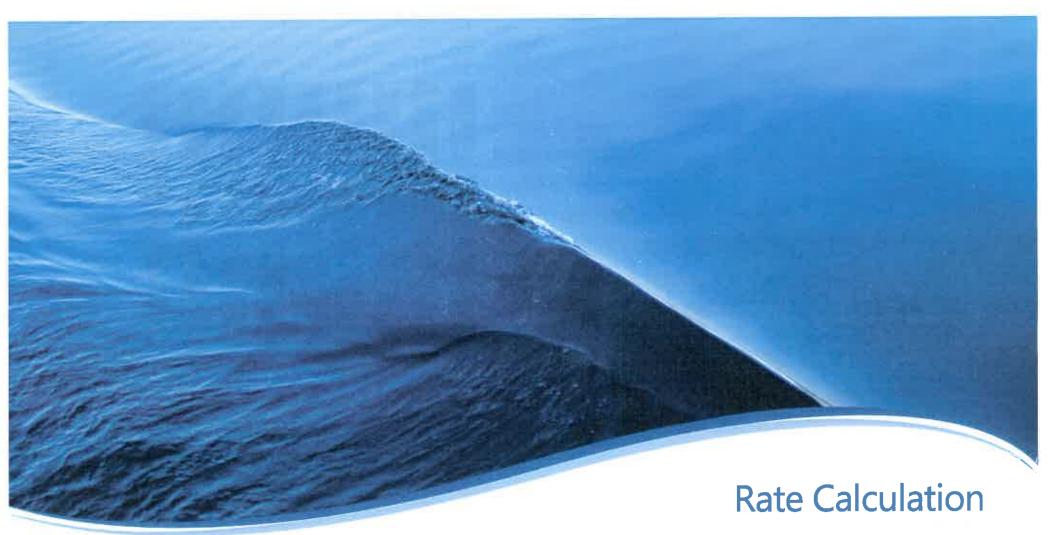
#### **Fund Reserves**



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

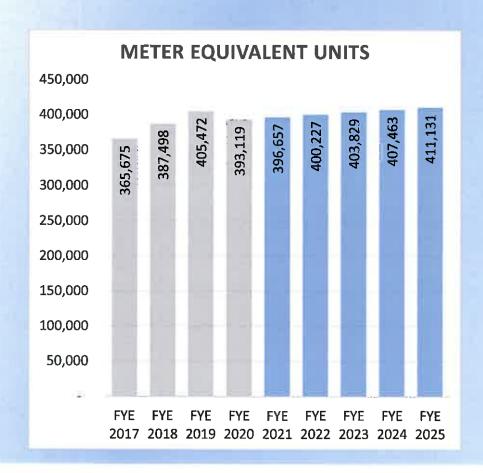


|                                   | FYE 2021 | FYE 2025 |
|-----------------------------------|----------|----------|
| Program Support Costs             | \$4.85   | \$4.95   |
| Water Use Efficiency Projects     | \$1.60   | \$1.56   |
| Reserve Contribution              | \$0.49   | \$0.37   |
|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



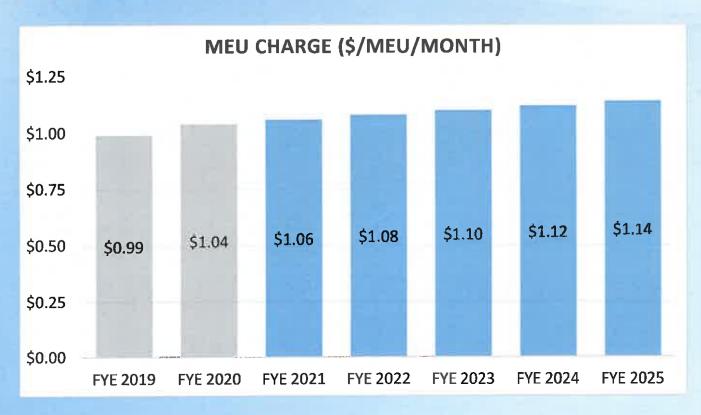


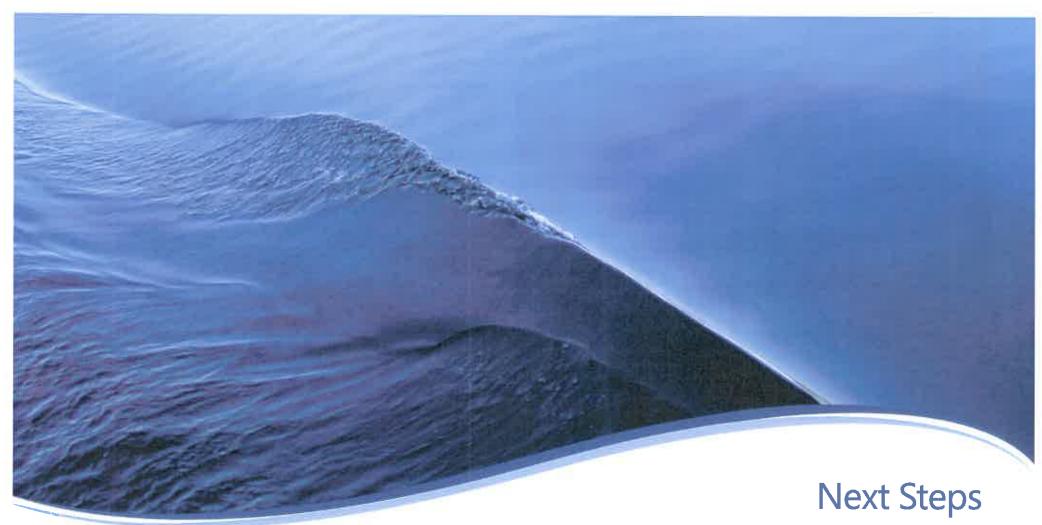
## MEU Projection: Future MEUs are projected based on current MEUs and a 0.9% growth factor.



- 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:

- 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