



NON-POTABLE/RECYCLED WATER MASTER PLAN UPDATE

Riverside Public Utilities

Board of Public Utilities
February 26, 2024

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BACKGROUND

1. July 2022 – Executed a Professional Services Agreement with Carollo
2. Study is approximately 85% complete
3. Focus on current Non-Potable / Recycled Water Study:
 - a. Projects most beneficial to the City
 - b. Projects suitable for phasing



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EXISTING RECYCLED WATER SYSTEM



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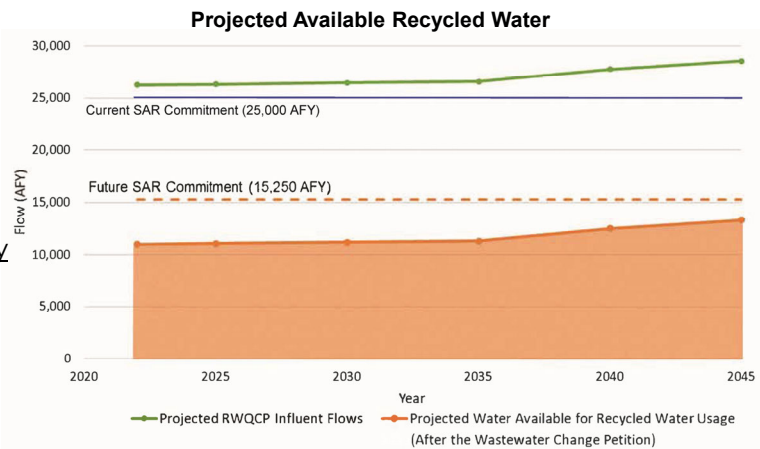
TITLE 22 RWQCP EFFLUENT

Current Recycled Water Availability

- 3,000 - 5,000 AFY of recycled water currently available
- Santa Ana River Commitment: 25,000 AFY

Projected Recycled Water Availability

- 13,320 AFY recycled water available in 2045
- Adjusted Santa Ana River Commitment: 15,250 AFY
- Potential for reduction due to impacts of conservation standards (not shown in graph)



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Water Sources Considered

1. Regional Water Quality Control Plant – Title 22 Tertiary Effluent
2. Non-potable Water Sources
 - a. Riverside Canal
 - Open canal; water quality; age of assets
 - b. Gage Canal
 - Water is fully allocated



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DEMANDS

1. Potential recycled water customers identified based on proximity to the proposed recycled water pipelines.
2. Demands estimated from past usage.
3. Grouped into 3 Phases:
 - a. Phase 1 – 0 to 5 years
 - b. Phase 2 – 5 to 15 years
 - c. Phase 3 – >15 years
4. Total estimated recycled water demands: 13,769 AFY
5. Total estimated non-potable water demands: 137 AFY



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NON-POTABLE WATER

2023 Non-Potable Water Production: 8,221 AFY

1. WMWD: 672 AFY
 - Riverside Canal
 - Wells: Rialto/Colton and Riverside Basins
2. Gage Canal: 7,549 AFY*
 - Gage Canal
 - Wells: Bunker Hill and Riverside Basins

2045 Non-Potable Water: Up to 8,500 AFY

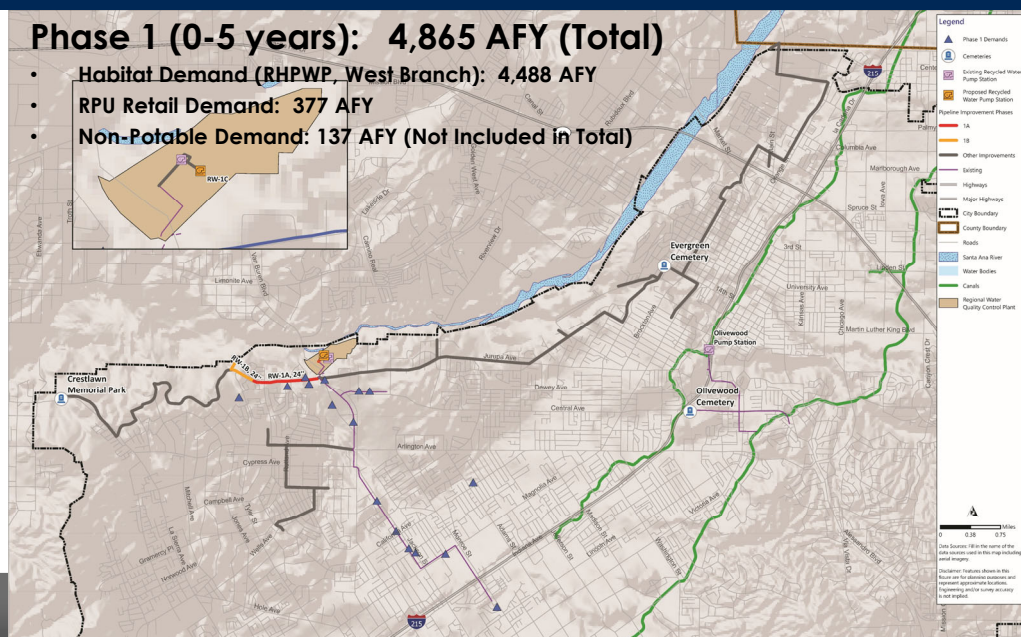
* Includes water from Bunker Hill and Riverside Basins



DEMANDS

Phase 1 (0-5 years): 4,865 AFY (Total)

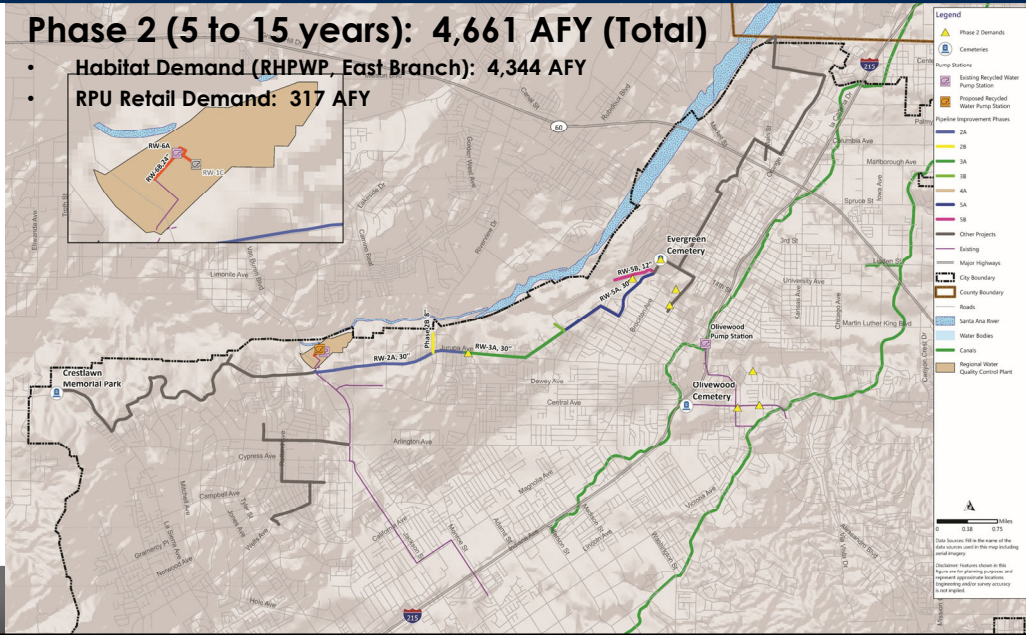
- **Habitat Demand (RHPWP, West Branch): 4,488 AFY**
- **RPU Retail Demand: 377 AFY**
- **Non-Potable Demand: 137 AFY (Not Included in Total)**



DEMANDS

Phase 2 (5 to 15 years): 4,661 AFY (Total)

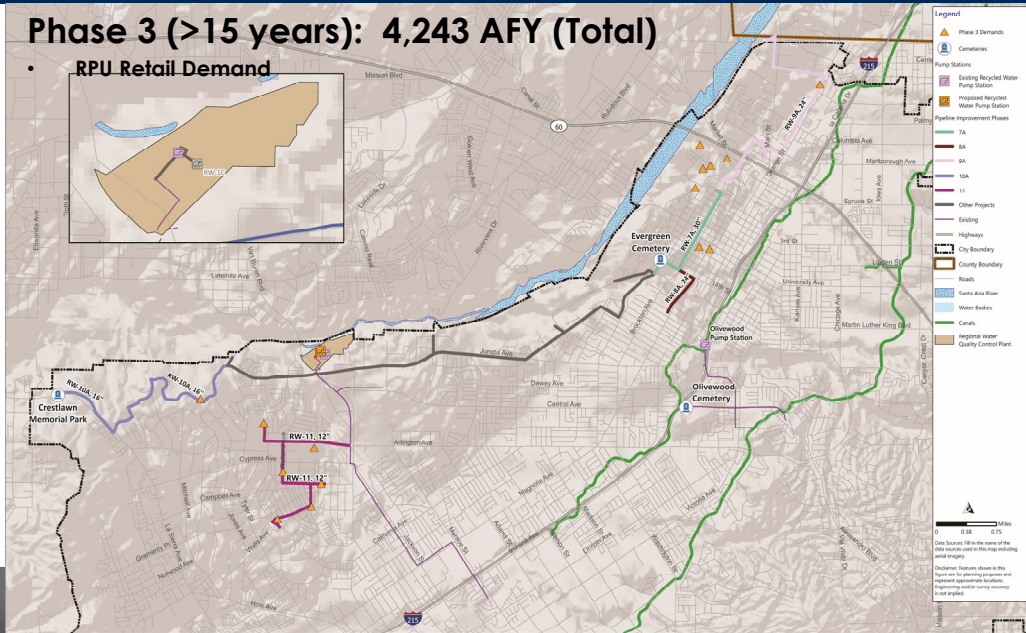
- **Habitat Demand (RHPWP, East Branch): 4,344 AFY**
- **RPU Retail Demand: 317 AFY**



DEMANDS

Phase 3 (>15 years): 4,243 AFY (Total)

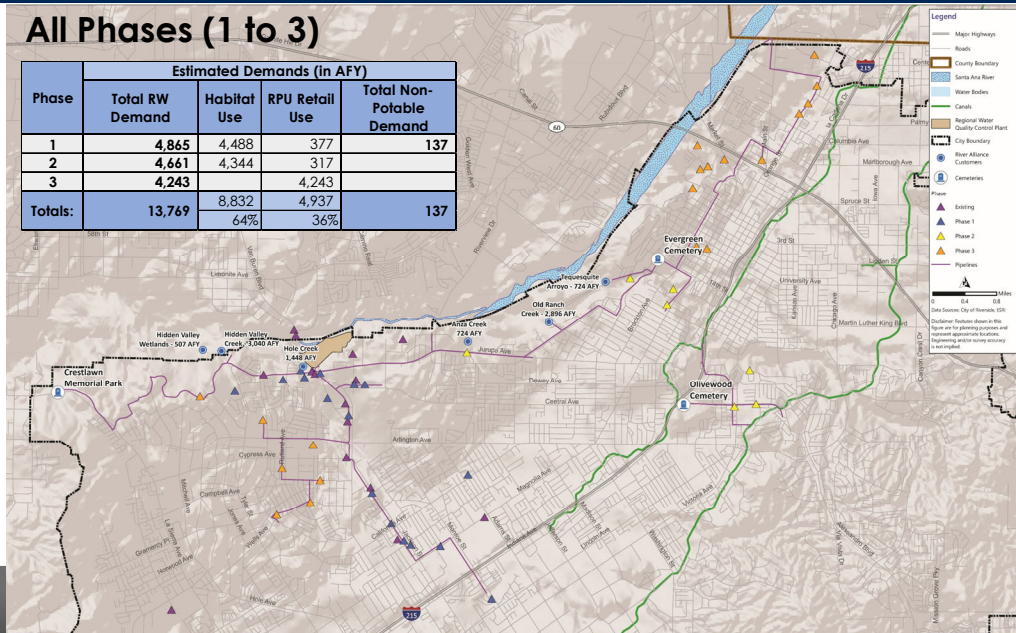
- **RPU Retail Demand**



DEMANDS

All Phases (1 to 3)

Phase	Estimated Demands (in AFY)			
	Total RW Demand	Habitat Use	RPU Retail Use	Total Non-Potable Demand
1	4,865	4,488	377	137
2	4,661	4,344	317	
3	4,243		4,243	
Totals:	13,769	8,832 64%	4,937 36%	137



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CAPITAL IMPROVEMENT PROGRAM

Total CIP of Approximately \$185M

1. In progress - continued work in evaluating project alternatives and refining of project cost estimates
2. Cost of Service Analysis (COSA) to evaluate RW Rate



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CHALLENGES

1. Diminishing availability of recycled water due to state water use efficiency standards – 55 gpcd → 42 gpcd (2030)
2. Obtain State Water Resources Control Board's approval of wastewater change petition
3. Lack of recycled water rate cost differential
4. Water quality – treatment may be required for non-potable uses
5. Non-potable water system reliability



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SUMMARY

1. Projected available recycled water in 2045 is 13,320 AFY (assumes state approval of wastewater change petition); total recycled water demand is 13,769 AFY
2. Non-potable water has limited opportunities due to lack of infrastructure and age of assets; total non-potable demand is 137 AFY
3. Cost to implement Phases 1-3 estimated at \$185M
4. Study anticipated to be completed in Spring 2024



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BENEFITS

1. Wastewater change petition will provide up to 10,000 AFY of recycled water; potential to exchange potable water resources with Valley District in kind for upstream recycled water discharges
2. Cost sharing of the expansion of RPU's recycled water system
3. Secure environmental credits for facility maintenance and future water supply projects along the Santa Ana River



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BENEFITS

4. Potable water offset utilizing recycled/non-potable water helps to preserve drinking water resources




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STRATEGIC PLAN ALIGNMENT

 Strategic Priority No. 4 Environmental Stewardship

Goal No. 4.2 – Sustainably manage local water resources to maximize reliability and advance water reuse to ensure safe, reliable, and affordable water to our community.

Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



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RECOMMENDATION

That the Board of Public Utilities receive and file an update on the City of Riverside's Non-Potable/Recycled Water Master Plan.



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