

J.W. NORTH WATER TREATMENT FACILITY

Public Utilities Water Committee
September 8, 2021

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RIVERSIDE PUBLIC UTILITIES

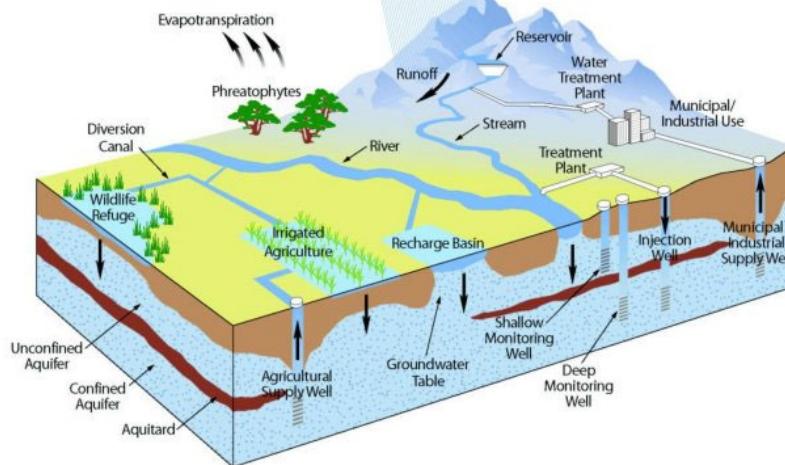
- Population - 324,000 residents
- Established in 1895
- 81 square mile service territory
- 65,000 water meters



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WATER SOURCES



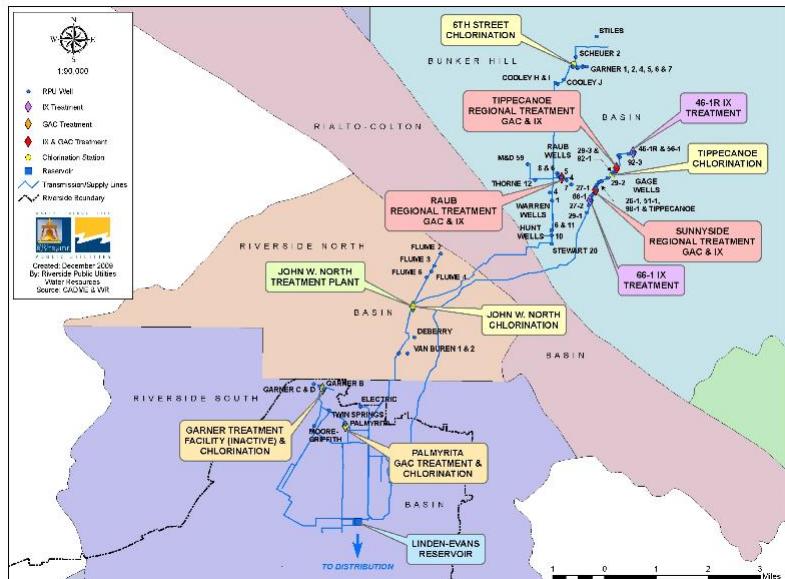
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The City of
Riverside's
source of water
is from
Groundwater
Aquifers,
pumped to the
surface via wells.



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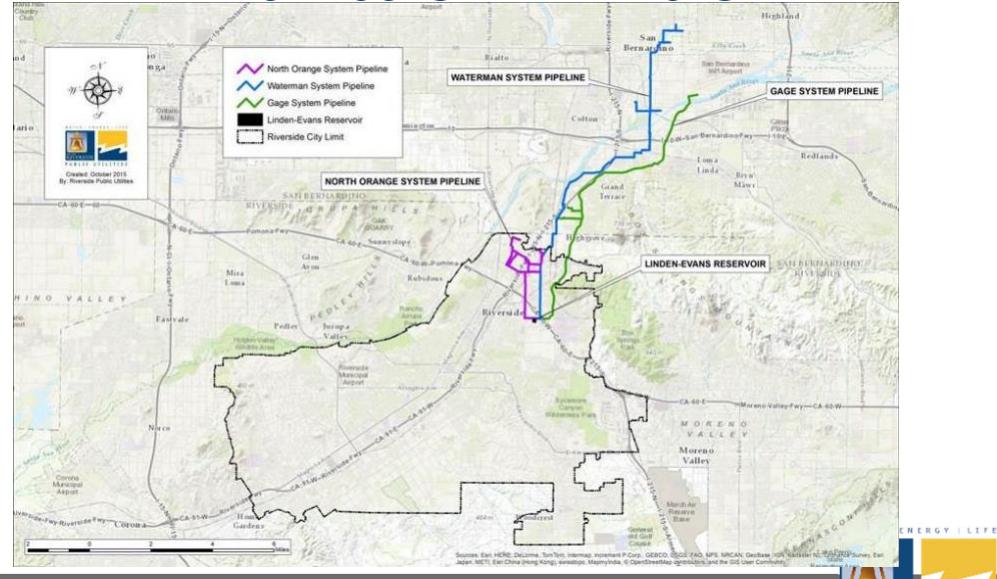
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WATER TRANSMISSION MAINS OVERVIEW



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J.W. NORTH SOURCE OF SUPPLY



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J.W. NORTH TREATMENT PLANT



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J.W. NORTH TREATMENT PLANT

1. Treatment for ground water under the influence of surface water using submerged membrane technology.
2. Plant Capacity 10 Million Gallons Per Day (MGD)
3. Planning for the water treatment plant began in 2005 and the plant was completed in 2009



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J.W. NORTH TREATMENT PLANT ULTRAFILTRATION MEMBRANE SYSTEM

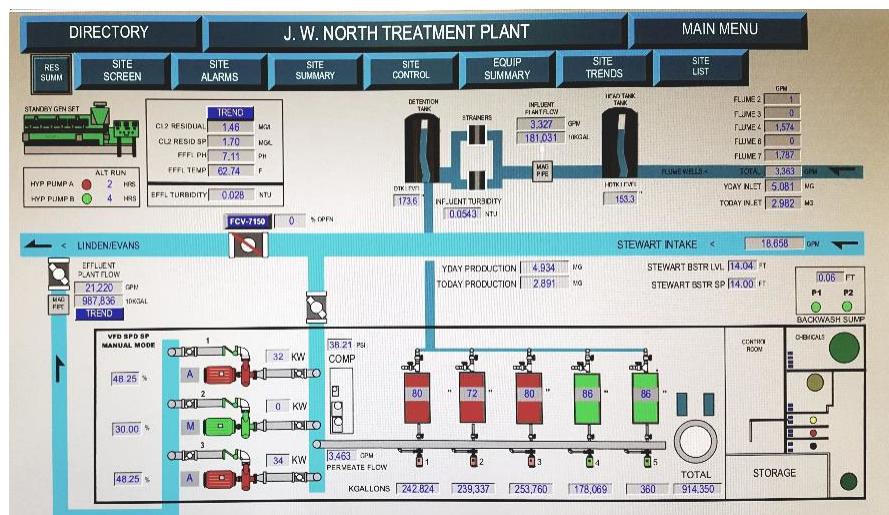
1. The treatment process is the ZeeWeed 1000 treatment system manufactured by General Electric (GE).
2. The Ultrafiltration process involves 0.02-micron wide pore openings that pass-through water, but block viruses and most bacteria
3. Vacuum is applied to the inside of the straws, drawing water through the pores while micro-contaminants are kept outside

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PROCESS OVERVIEW (SCADA VIEW)



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FIRST POINT OF ENTRY

Head Tank



Detention Tank



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J.W. NORTH TREATMENT PLANT



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J.W. NORTH TREATMENT PLANT



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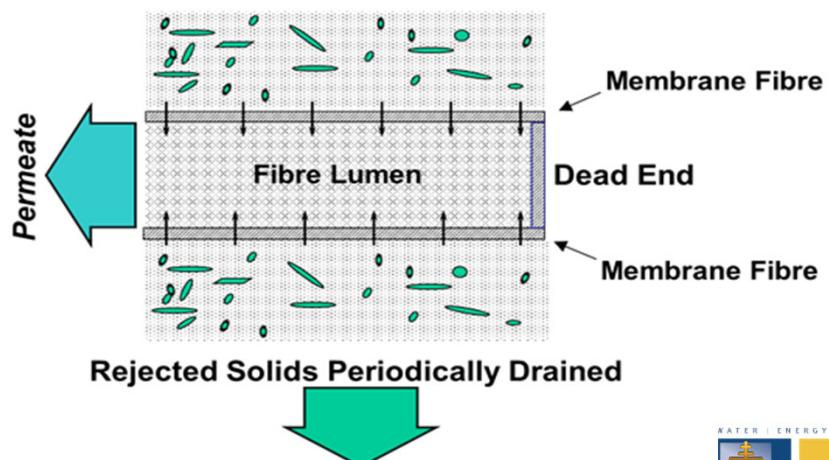


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J.W. NORTH PROCESS

Ultrafiltration



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SUBMERGED MEMBRANE FILTER

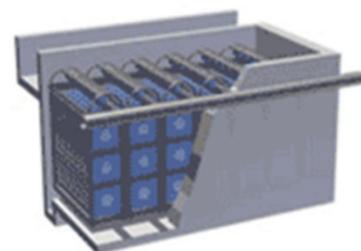
Module



Cassette



Process Train



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ULTRAFILTRATION BASIN



Ultrafiltration Basin



Two Cassettes within Basin

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FILTER MEMBRANE



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J.W. NORTH TREATMENT PLANT ULTRAFILTRATION MEMBRANE

1. Visually, the individual membranes look like thin hollow straws that are 0.8 mm in diameter.
2. A vacuum is applied to the inside of the straws, drawing water through the pores while micro-contaminants are kept outside

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STRATEGIC PLAN ALIGNMENT

Strategic Priority #2 – Community Well-being:

Goal 2.3 Strengthen neighborhood identities and improve community health and physical environment through amenities and programs that foster an increase sense of community and enhance feelings of pride and belonging citywide. **High water quality contributes to overall public health.**

Strategic Priority #4 – Environmental Stewardship:

Goal 4.2. Sustainably manage local water resources to maximize reliability and advance water reuse to ensure safe, reliable, and affordable water to our community.

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CROSS-CUTTING THREADS

Item aligns with EACH of the five :

1. **Community Trust**, by providing safe reliable drinking water
2. **Equity**, water availability to ensure every member of the community has equal access
3. **Fiscal Responsibility**, produce RPU source water versus import
4. **Innovation**, use best available technology non potable wells
5. **Sustainability & Resiliency**, meeting the needs of the present utilizing an existing local water resource.

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RECOMMENDATION

That the Board of Public Utilities Water Committee receive the overview of the John W. North Water Treatment Facility.

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