

Recycled Water (RW) Program Implementation Plan OUTLINE



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City of Beaumont (City)

RW Background Overview Current Status

1. City of Beaumont – 4,148 ac-ft of recycled water produced in 2021 and discharged to Cooper Creek ⁽¹⁾
2. Flow ranged from 3.44 mgd in February to 4.55 mgd in June (average for 2021 = 3.70 mgd.) ⁽¹⁾
3. 1.8 MGD to Cooper Creek - minimum required by existing Regional Water Quality Control Board (RWQCB) permit, permit includes multiple discharge points.
4. 1.9 MGD available after CUP and AMP based on 2021 average of 3.70 mgd.
5. Complete and Implement Change of Use Permit (CUP) which is required to take recycled water from Cooper Creek. (See Attachment 1 for CUP process).
6. CUP will cost \$1.5 to \$3 million and 2-3 years to prepare and obtain approvals.
7. Adaptive Management Plan (AMP) part of CUP effort - required if City wants to send less than 1.8 MGD to Cooper Creek.
8. City WRP is currently operating under RWQCB permit, updated 2022.
9. In order to lower Total Dissolved Solids (TDS) in the effluent the City was required to install an Advanced Treatment (i.e., reverse osmosis) to remove TDS from the effluent so discharge was compliant with the Basin Plan.
10. City currently has a salt mitigation deficit (salt mortgage), and the permit extended the due date to January 2027. There is some internal discussion about if this deadline is correct as engineering forecasts the deficit completion in Quarter 4 of 2028. This will be discussed with the Regional Board.
11. Due to past operating issues the Regional Board is now requiring all flows be treated to advanced level before discharge to decrease TDS into the basin.
12. Capital invested by the City of Beaumont to upgrade treatment plant was approximately \$100 million.

City Options for RW Use

Option 1 – Wholesale the recycled water to Beaumont Cherry Valley Water District (BCVWD). In order to do this, an agreement will be required that will require the following from BCVWD:

- a) Save and hold the City harmless and defend the City in the event of a claim.
- b) Require BCVWD complies with all RWQCB NPDES discharge permit conditions including mapping, cross connection control, overspray control, etc.
- c) Have an AWWA certified Cross Control Program Specialist on staff or retained.
- d) Prepare and obtain approval for Title 22 Engineering Report from DDW.
- e) Prepare and submit for approval the Notice of Intent to RWWQB.
- f) Provide site location for BCVWD pump station next to the City's WRP.

City to agree upon compensation for the recycled water. Multiple options for pricing include:

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- 1 = 100% O&M only
- 2 = 50% of O&M
- 3 = Indexed to San Geronio Pass Water Agency (SGPWA) cost of replenishment water at = 50% of replenishment. Discount would be applied because of special handling requirements (recycled water monitoring, recycled water testing, cross connection testing , reporting, training supervisors) needed for recycled water.
- 4 = rate established by rate consultant, similar to the Prop 218 rate setting process.

Advantages:

- BCVWD already has infrastructure in place to use the recycled water for beneficial use in the Beaumont Valley.
- All water produced will create a cash flow to the City after the salt mitigation obligation is complete.
- If BCVWD lowers the cost for recycled water for irrigation customers, it will create cost savings for City irrigation connections.
- This option creates a clear line of demarcation between RW wholesaler/producer and RW retailer.

Disadvantages: does not eliminate liability directly per City legal counsel.

Option 2 – The City would design, construct, and operate a recycled water system which would include pipelines, pump station(s), and a spreading basin in order to recharge the groundwater and create basin credits for sale to developers or others. This would allow the City to it's existing 30,000 AF storage agreement within the Basin.

Advantages:

- There would be no liability to shift.
- 100% of City's WRP output to spreading basin would create banked water for sale to developers.
- City has a 30,000 AF storage agreement with Watermaster so the project would allow the City to take advantage of the existing agreement.
- The City has licensed staff in water distribution and wastewater treatment which would support the operations and maintenance of a City controlled recycled water distribution and recharge system.

Disadvantages:

- City must design and build equalization storage on site, pump station and pipeline, purchase land and build spreading basin.
- City must operate recharge basins or contract with BCVWD or SGPWA.
- This may impact BCVWD potable water wells resulting litigation or relocation of wells at the City's cost.

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- Per Watermaster, a separate modeling effort would be required to establish credits above the Safe Yield for sale.
- Losses in spreading through evaporation and leakage out of basin may result if percolation rates are not managed. Net loss through recharge could be approximately 10-20%.
- City might have to file to obtain a public water system permit from DDW to operate the recycled water distribution system.
- City will have to obtain a groundwater recharge permit from DDW and secure and pay for modeling efforts required for the permit, and annual updates.
- To keep the water in the Beaumont Basin, recharge would have to occur in the San Gorgonio Creek Recharge Facility, or one adjacent to it.
- This would create stranded assets for BCVWD with potential political impacts.
- Could be challenged as duplication of service with BCVWD and could trigger potential litigation.

Option 3 – Design and build a pump station and pipeline to local golf courses (e.g., Morongo) in exchange for tribal pumping rights in the Beaumont Basin. Pumping rights can be sold to developers or others.

Advantages:

- Acquired pumping rights can be sold to developers.
- The City has licensed staff in water distribution and wastewater treatment which would support the operations and maintenance of a City controlled recycled water distribution and recharge system.

Disadvantages:

- Volume of water produced by WRP will be more than pumping rights from tribal lands.
- Liability issue not addressed unless tribe will accept liability and guarantee all operating permit conditions are met.
- Golf course demand is subject to seasonal variations resulting in potential discharges to Cooper Creek to balance production versus demand.
- There would be a capital cost to design and build a pump station and pipeline to tribal golf courses.
- Moving recycled water out of the City could be problematic politically (not using locally produced recycled water in City).
- Would create stranded assets for BCVWD with potential political/legal impacts.

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Beaumont Cherry Valley Water District

RW Background Overview Current Status

1. BCVWD already has extensive non-potable distribution system serving 300+ sites.
2. Water is obtained from groundwater wells in the Beaumont Basin.
3. BCVWD currently has 24 wells (1 standby), and Well 26 which can pump to the potable or non-potable system.
4. Replenishment water is purchased from SGPWA.
5. BCVWD has existing groundwater recharge facilities to spread State Water Project (SWP) water purchased from SGPWA as well as local stormwater, when available.
6. BCVWD has a storage account in the Beaumont Basin and standing to petition access and use of the Conjunctive Use set aside (200,000 AFT).
7. BCVWD is a member of the Beaumont Watermaster.
8. Current Recycled Water Master Plan shows that BCVWD can utilize all of the City's WRP discharge capacity at full build-out of the non-potable water system. In the interim, excess flows can be discharged to groundwater recharge.
9. Greatest potential for recycled water is landscape irrigation.
10. City accounts irrigation accounts represent 38% of the total non-potable demand.
11. Discharging recycled water into the groundwater basin during periods of low irrigation demands could cause groundwater levels to rise which could decrease groundwater pumping costs.
12. Stored water could be sold to developers to meet their requirement for a 20-year water supply.
13. Currently paying SGPWA for recharge water.

Beaumont Cherry Valley Water District Options for RW Use

Option 1 - Do not use the recycled water provided from the City (i.e., No project option)

Advantages:

- No agreement required, no capital expenditures for additional transmission main, pump station, reservoir.
- Title 22 Engineer Report not required.
- Notice of Intent submittal to RWQCB not required.
- No cross-connection testing, mapping, or training.

Disadvantages:

- Removes firm local water source from supply portfolio.
- Loss of long-term water supply to compensate for drought and groundwater over drafting.
- Continues dependence on imported replenishment water and stormwater capture.
- Stranded investment in prior facilities, studies, and staff time.

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- No reduction in non-potable which could be converted to potable use.

Option 2 – Purchase RW from City of Beaumont. In order to use the recycled water from the City the following actions are required:

1. Execute water purchase agreement with City which will include the wholesale price of the recycled water.
2. Need to lease site and build pump station, reservoir, and connecting pipelines (\$2 million) from City of Beaumont WTP to BCVWD non-potable distribution and recharge basins. This would be part of the water purchase agreement with City.
3. Need to indemnify City. This would be part of the water purchase agreement with City.
4. Approve agreement to include "Take or Pay" arrangement to ensure long term supply.
5. Work with the City to modify the NPDES permit to add groundwater recharge for RW recharging until all RW utilized at build-out of the non-potable water system.
6. If RW is recharged may require the relocation of existing production wells due to limited detention time in Basin (i.e., Recycled Water Contribution)
7. RW recycled water could also push existing Chromium 6 plumes and impact well field capacity.
8. Additional modeling is needed to determine true detention time between the basins and the first domestic water well.
9. To convert from non-potable to RW, BCVWD will have to, for each of the 300+ sites:
 - a. Map the sites showing onsite potable and irrigation systems,
 - b. Train an onsite supervisor,
 - c. Verify the systems marked properly and there are no cross connections,
 - d. Prepare a Master Engineering Report,
 - e. Prepare Supplemental Engineering Reports for each site after the Master, Engineering Report is prepared and approved,
 - f. Test initially for overspray and cross connections,
 - g. Perform, or assist in, any on-site construction needed to convert the site.
10. Need to identify staff support needed to meet conditions for recycled water in two years (i.e., develop Master Engineering Report (MER), prepare MER Supplemental Engineering Reports for each use site, identify and train onsite supervisors, conduct preliminary overspray and cross connection testing, ensure that all corrections are made, verify all signage and tags in place, conduct final cross connection test.)
11. Cooperate with City in their acquiring a CUP and potentially creating an AMP.
12. Need to set RW rate for BCVWD customers after conversion. Typically, 50-90% of domestic water, or 90% of non-potable water. Need to determine discount to allow customers to pay for O&M of onsite system to remain in compliance with permit requirements.

Advantages:

- Provides a reliable water supply for irrigation and other Title 22 approved uses.
- Disencumbers non-potable water for treatment and direct potable use.
- Improves water levels in basin (because of recharging during low irrigation demand periods)

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- Creates a conjunctive use account of pumping rights that can be sold to developers.
- Recycled water would be less expensive than imported water from SWP.

Disadvantages:

- Requires additional capital facilities.
- There will be increased regulatory requirements over non-potable groundwater.
- Additional staff or consultants will be needed to manage conversion process and on-going permit compliance.

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San Geronio Pass Water Agency

Current Status

1. Currently purchases imported water from State Water Project, single sale transfers, diverts stormwater to recharge basins.
2. State Water Project recharged ⁽¹⁾ at BCVWD's Noble Creek spreading basin, 2019 Pass built their own spreading basin 2019 recharged 257.80acf
3. SGPWA receives their current allocation of SWP at about 58% of its max contract amount. ⁽²⁾
4. Always looking for water transfers which could be put into the basin. ⁽²⁾

San Geronio Pass Water Agency Potential Role in Recycled Water Programs

1. Could expand current groundwater modeling efforts to include establishing dilution credits, mounding, and movement of recycled water recharge to first BCVWD production wells.
2. Invest in additional monitoring equipment to monitor and model the basin with higher resolution with RW being recharged.
3. Construct new recharge basins (two recharge sites recently acquired).
4. Improve recharge basin efficiencies through more frequent basin cleaning.
5. Provide water quality monitoring and modeling support.
6. Install water quality monitoring wells to check movement of recycled water ("mounding"), as well as validate detection time from recharge to first extraction wells (tracer testing).

References:

- (1) *Beaumont Basin Watermaster 2021 Annual Report - Draft - April 6, 2022*
- (2) *Beaumont Cherry Valley Water District, 2020 Water Shortage Contingency Plan*

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Governance Model Options

A. Current Method - 2X2 Coordination Meetings

The current method of coordination between the three agencies has been through 2X2 meetings with representatives from the Boards/City Councils of the respective agencies and key staff including their General Managers, City Managers, and other staff.

Advantages:

This coordination method is familiar, and the participants understand the process.

Disadvantages:

Information is not received by all three parties at the same time. Only a portion of each agency is represented. There is no set schedule for the meetings creating long information exchange gaps.

B. Joint Power Authority

A Joint Power Authority (JPA) could be made up of representatives from each of the three agencies, plus potentially, a representative from a group that is directly impacted by the actions of the JPA, specifically the business community (businesses and developers). The JPA could be comprised of two representatives from each agency (voting member) and one member from the development community (e.g., President of NAIOP, Commercial Real Estate Development Association, Inland Empire Chapter). This would be a seven-member board to avoid a tie vote, only elected representatives from each agency would be on the Board.

Advantages:

A JPA (Beaumont Valley Water Reclamation Authority) could provide a unified approach to the use of recycled water in the Beaumont Valley. Information would be disseminated to all parties at the same time. It would provide a cohesive multi-agency that represented the entire Beaumont Valley, when dealing with local, State, and Federal elected official. This would be very important when pursuing grants for capital improvements, upgrades, etc. It would help to minimize overlapping or duplicate activities.

Disadvantages:

May be perceived as bypassing fully elected boards. It would require all three agencies to agree to the formation, composition, powers, and obligations of the JPA.

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C. Independent Oversight Group

This option would consist of creating a new group that could be created from either representatives designated by the agencies or other public groups. It would have no agency staff or elected board/council members. The oversight group would provide oversight of the program and provide an annual plan of operations that would be reviewed by the three agencies.

Advantages: A separate political entity with no specific agency controlling voting would establish a customer centric governing body without the "legacy" of previous interactions between elected groups.

Disadvantages: Agencies would have to relinquish authority to a potentially un-elected body (appointment based). It would have to be determined if this option is legally possible.

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Recommended Plan - Framework

The focus of the recommended framework is to concentrate on the core strengths of each agency, build on previous work and discussions, and clearly define the suggested role of each agency.

Roles and Activities

City of Beaumont

1. Operate and maintain the sewer collection system, sewer treatment plant, and recycled water production which meets permits and regulatory requirements.
2. Be the RWQCB permit holder.
3. Enter into an agreement with BCVWD to take or pay for all the recycled water produced over the 1.8 MGD required for permit compliance.
4. Sell all recycled water produced in excess of the environmental requirements to BCVWD for a price equal to 50% of the cost of SWP replenishment water from SGPWA.
5. Lease property to BCVWD for a forebay and pump station for 99 years at \$1/yr.
6. Operate and maintain the sewer treatment plant in full compliance with both the RWQCB discharge permit and DDW operating permit.
7. Produce recycled water which will meet all water quality requirements for all Title 22 approved uses and indirect potable recharge through groundwater recharge.
8. Join in supporting political outreach to secure grants of operation, maintenance, and capital construction of the recycled water program.

Benefits to City of Beaumont

1. Provides a consistent revenue source through the sale of recycled water.
2. Would lower irrigation water rates for City landscape accounts if recycled water is priced lower than current non-potable water.
3. Creates storage credits that can be purchased by developers seeking a water supply for new developments from BCVWD's storage account.

Beaumont Cherry Valley Water District

1. Build, operate, and maintain all facilities needed to accept and distribute all of the recycled water produced by the City and use it for all approved uses, including groundwater recharge.

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2. Enter into a take-or-pay agreement and will pay City 50% of the cost of SWP replenishment water for all recycled water produced by the City.
3. Include in the agreement with the City a commitment to hold and save harmless the City against any and all claims arising from the District's distribution and use of the recycled water provided by the City.
4. Receive the recycled water at the boundary of the WRP .
5. Assist the City to modify the WRP discharge permit to include groundwater recharge discharge for groundwater recharge.
6. Assist the City in completing the 1211 Change of Use Permit (CUP) process and potentially an Advanced Management Plan (AMP).
7. Join in supporting political outreach to secure grants of operation, maintenance, and capital construction of the recycled water program.
8. Assist City BCVWD in obtaining a groundwater recharge permit for groundwater recharging.

Benefits to Beaumont Cherry Valley Water District

1. Beneficial use recycled water and drought proofing irrigation use.
2. Would be a local supply of water for BCVWD resident and commercial/industrial customers.
3. Disencumbers non-potable water supplies for potential treatment and use as potable water.
4. Reduce dependence on imported water.
5. Would utilize existing investment and facilities therefor eliminating stranded costs.

San Geronio Pass Water Agency

1. Will expand current hydrological modeling to include adding additional sensors as needed to verify basin mixing, mounding effects, tracer studies to establish transit time for recycled water under differing operating conditions.
2. Make their basin(s) available during local recycled water demand periods for recharge to ensure that all the excess recycled water is recharged in the Beaumont Basin.
3. Host the JPA meetings at their headquarters.
4. Join in supporting political outreach to secure grants of operation, maintenance, and capital construction of the recycled water program.

Benefits to San Geronio Pass Water Agency

1. Reduces pressure on State Water Project supplies and pursuing one-time transfers.

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Governance

1. City, BCVWD, and SGPWA to support the creation of the JPA consisting of two elected council/board members from each agency, and one representing the development community in the Beaumont Valley.
2. The JPA will meet at the SGPWA board room on a quarterly basis, or as determined by the Board.

Plan Benefit to all parties involved:

- Builds consensus for beneficial use of recycled water in the Beaumont Valley.
- Creates a united focus and approach to recycled water use.
- Improves communication between the agencies by gathering everyone to general meetings, rather than 2X2 format.
- Improves political impact in securing local support for grants and other funding.
- If a developer member is included, the political support of the private sector could be added to increase political effectiveness in securing grants and other funding.

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ATTACHMENT 1 CHANGE OF USE PERMIT (CUP) PROCESS