



City/County Water and Wastewater Study



Date: April 7, 2010

To: City/County Water and Wastewater
Study Oversight Committee

From: C.H. Huckelberry
County Administrator

Mike Letcher
Interim City Manager

Re: **Reclaimed Water Technical Paper**

Background

One of the goals included in the scope for Phase II of the City/County Water and Wastewater Study was for the City and County to work together to increase the use of reclaimed or recycled water on turf irrigation to substitute for groundwater use. A City and County interdisciplinary staff team was assembled to look at this issue and has been meeting since December to develop this report.

The Tucson Water reclaimed system that has been constructed over the past 25 years is extensive in nature and most of the customers for whom there is an economic incentive to convert to reclaimed water have been connected to the system. The system currently utilizes 42 percent of Tucson Water's effluent allocation and 27 percent of Pima County's allocation.

The use of reclaimed water must be considered within the broader context of sustainability, with the goal of maximizing our water resource portfolio as a community. There are other valued uses for effluent besides use in the reclaimed system (environmental and aquifer augmentation purposes) and there are other water resources that should be considered for outdoor irrigation such as stormwater and rainwater harvesting. Resource efficiency should be a primary value driving reclaimed expansion considerations.

That being said, there is capacity for expanding the reclaimed system, and the report makes recommendations for establishing expansion targets, prioritizing customers and for overcoming financial and regulatory issues that have been barriers to maximizing our use of reclaimed water in the past.

The recommendations in the paper include:

1. Prioritizing Reclaimed Customers

The City and County should seek to increase the amount of their effluent allocations used in the reclaimed system by approximately 10 percent (or 1,300 acre-feet) and 25 percent (or 270 acre-feet) respectively over the next 10 years. These targets are based on work done for the Tucson Water 2050 Plan and the Pima County Sustainability Action Plan and provide a framework for customer prioritization in the near-term. With these targets in

mind, the City and County should work together to identify, prioritize, and pursue additional reclaimed customers based on the following criteria:

- Proximity to existing reclaimed infrastructure
- Cost to join to the system
- Energy, operating, and maintenance costs
- Potable and groundwater savings
- Opportunity to mitigate environmental impacts of existing groundwater pumping
- Turf areas that provide greatest public benefit
- Availability of other water resource options

2. Overcoming Financial Barriers

The City and County should pursue the following approaches aimed at overcoming existing financial barriers to expanding the reclaimed system:

- Expand financing options to include the use of General Obligation bonds and other funding mechanisms that expand Tucson Water's ability to pay for extensions to the reclaimed system without relying solely on paying customers and revenue bonds.
- Maintain the current policy that private customers with a revenue source (e.g. golf courses, industrial) who can pay the full costs of reclaimed should pay, however explore options to encourage potential customers who currently have no financial incentive to join the system to join, such as phased-in rates and expanded potable water ratepayer subsidies.
- Work to lower the costs of operating the reclaimed system through efficiency improvements to the system.
- Incorporate the consideration and evaluation of the use of reclaimed water into the City and County development review processes (for both new growth areas and infill projects).

3. Overcoming Regulatory Barriers

The City and County should jointly advocate for policy and rule changes (through ADEQ and ADWR) to overcome regulatory barriers to maximizing the use of reclaimed water:

- Alternative operational and permitting strategies to achieve a Class A+ or equivalent rated reclaimed system
- Use of groundwater savings facility credits to attract new reclaimed customers
- Alternative permitting requirements for riparian restoration projects

4. Multiple Benefit Public Projects

The City and County should pursue cost-effective, multiple-benefit public projects that utilize reclaimed water to accomplish goals such as aquifer augmentation, riparian restoration, wetlands, habitat protection, environmental enhancement, turf irrigation, and recreational opportunities.

5. Consider Use of Reclaimed Water within the Broader Context of Sustainability

- The City and County should maintain a balance of effluent use over time continuing to dedicate effluent to the reclaimed system, to environmental purposes, and to aquifer augmentation. Other technical papers in Phase 2 will address environmental needs for water and aquifer augmentation.
- The City and County should evaluate the use of reclaimed water for particular sites with the goal of maximizing the community's overall water resource portfolio.

Reclaimed water may not always be the best option. The key is matching up the most effective and resource-efficient water source with a particular site and its needs.

Recommendation

It is respectfully recommended that the Committee consider this report and provide input to the City and County on its recommendations.

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