



MEMORANDUM

DATE: April 18, 2014

TO: Honorable Mayor and Council
Members

FROM: Richard Miranda
City Manager

SUBJECT: 2013 Annual Report - City/County Water and Wastewater Study Action Plan

I am pleased to report to you on progress that has been made this past year on the City/County Water and Wastewater Study Action Plan for Water Sustainability that the Mayor and Council adopted in November of 2010. This 5-Year Action Plan (<http://tucsonpimawaterstudy.com/AP/AP.html>) continues to guide the City's efforts toward water reliability and sustainability. Below is a summary of progress made in the past year:

- Plan Tucson – The November 2013 voter ratification of a new General Plan for the City of Tucson provides for the incorporation of goals and policies from the City/County Water Study into the City's primary long range planning guidance document. The Study and the Action Plan were foundational pieces in the preparation of Plan Tucson. In addition Plan Tucson furthers specific action items from the City/County Water such as the Future Growth Scenario Map which directs growth to suitable growth areas and areas with existing infrastructure. The City/County Water Study recognized that achieving a sustainable water future requires a rational plan for growth that addresses the form, location, and cost of growth, as well as the efficient and sustainable allocation of water to serve growth.
- 2050 Plan - The update to the Tucson Water Plan 2050 is complete. All aspects of the Plan deal with contingencies for drought both locally and on the Colorado River (since Tucson currently imports most of its potable supply from the Colorado River). The updated Plan includes consideration of CAP supply shortages after 2040; this is a conservative estimate based on information from Central Arizona Water Conservation District and the Bureau of Reclamation. The probabilities of shortage were presented to the water community at the end of 2012 with the "Colorado River Basin Water Supply and Demand Study."
- Water Conservation - The past year has seen Tucson win the top spot in the 2013 National Mayor's Challenge for Water Conservation. Tucson Water's new Water Smart Program serves as the foundation for all of Tucson Water's other conservation programs – gray water, high efficiency toilets and rainwater harvesting. Mayor and Council recently approved changes to the gray water ordinance in an effort to simplify and encourage more participation in the program, doing away with requirements for pumps and related labor intensive design. Tucson Water measured 88.1 *gallons per capita day* (GPCD) as average consumption in for the residential sector, which is below national averages.

- Recycled Water Master Plan has been completed by Tucson Water. This critical step in the creation of a sustainable water future identifies best practices and makes recommendations for maximizing the use of Tucson's locally renewable water supplies. Tucson Water's Effluent Master Plan, renamed the Recycled Water Master Plan, was completed in December 2013. The purpose of Tucson Water's Recycled Water Master Plan is to use the City's effluent resources to maximize wet-water supply benefits and overall water resource reliability for Tucson Water customers. A secondary emphasis is the assessment of system capabilities to wheel effluent entitlements of other parties and to use the conveyance network for other potential uses. With development of the Recycled Water Master Plan complete, implementation of the Plan will take place over the next 15-20 years.
- City Water Service Area Policy – The Mayor and Council took a significant step forward this past year by making adjustments to the City's Water Service Area Policy that strengthen the policy yet adapt it to changing conditions, and take into account lessons learned through implementation. Changes made to the Policy in July include nine refinements to the Policy and a new process for how denials of water service can be appealed. The continued implementation of the City's Water Service Area Policy is a critical element in creating a sustainable water future by defining where water resources and infrastructure will be directed based on social, economic, and environmental considerations. The Water Service Area Policy is aligned with the City's annexation goals which help bring additional state shared revenue to the region.
- Wheeling Agreements - Tucson Water continues to facilitate the delivery of renewable supplies to areas previously reliant on groundwater by entering into wheeling agreements with other water providers. Wheeling agreements also help to ensure property owners outside the Tucson Water Service Area have water service options. Wheeling agreements are now in place with Oro Valley, the Pasqua Yaqui Tribe and Vail Water Company. For the first time, these entities are able to utilize their CAP allocations to serve their customers, rather than relying solely on groundwater. Negotiations for similar agreements with Metro Water are underway, including discussions to better define water service boundaries in the southwest area of the region.
- Office of Integrated Planning – Following voter approval of Plan Tucson, the City Manager formed an Office of Integrated Planning that is responsible for establishing and administering an integrated planning process for coordination of policy, plan development and public improvement projects for the City. OIP will work closely with Tucson Water, and the Transportation and Planning and Development Services Departments to ensure the continued implementation of the action items from the City/County Water Study.
- Mixed Use Development and Infill - The Mayor and Council have taken several new actions this year toward the goal of a more sustainable urban form, which impacts future water use, water infrastructure and energy costs. Construction of the Modern Streetcar is the most significant effort the City has made toward encouraging infill and investment within the downtown and university areas. Other related initiatives include the Streetcar Land Use Planning process, the various economic incentives in place to encourage investment, the redevelopment of the Ronstadt Transit Center as a mixed use transit center, the Urban Land Institute Advisory Service Panel, and amendments to the Infill Incentive District have been some of the areas of focus in the past year.
- Water Quality - Tucson Water continues to be vigilant in the monitoring of and reporting on water quality. Construction of the new Advanced Oxidation Process Treatment Facility to treat 1,4 Dioxane is complete. The facility has been operating continuously since March 3, 2014, with water samples taken at the designated Point-of-Entry (POE) into the distribution system reflecting less than detection levels of both 1,4-dioxane and TCE.

- New Water Supplies - Tucson Water has worked with SAWUA to develop procedures for acquisition and finance. Central Arizona Project (CAP) has finalized their Project ADD Water proposal; however, this proposal was not acceptable in its entirety to the stakeholders. U.S. Bureau of Reclamation and the CAP Board are supportive of a continued process for developing an ADD Water Program as are the stakeholders. CAP Staff are hosting new stakeholder meetings to work out details for the wheeling agreements that will be necessary for any ADD Water program to move forward.
- Reclaimed System Modifications - Tucson Water is in the final stage of completing three new recharge basins at its Reclaimed Water Treatment Plant. The additional basins will allow more consistent capture of effluent from the new Agua Nueva Wastewater Reclamation Facility, ensuring that customers' reclaimed water demands can be accommodated. Additionally, Tucson Water has invested in expanded parking to provide enhanced public safety and meet demands of educational groups at the Sweetwater Wetlands. Expanded parking includes an off-street loading zone for buses and a signed crosswalk for pedestrians. Necessary modifications to the Reclaimed Treatment Plant's disinfection facilities were also recently completed, ensuring that the reclaimed system remains in compliance with its permit limitations while also utilizing effluent from Agua Nueva WRF. In the southeast area of town, the Southeast Houghton Area Recharge Project (SHARP), a joint project of Tucson Water and Pima County Regional Wastewater Reclamation Department, is progressing. Design and permit phases are scheduled this year with Construction scheduled for FY 2016
- Conserve to Enhance - The C2E program funded three Community Enhancement Projects in 2013: Anna Henry Elementary School, located in Ward 2 on Tucson's far east side, will receive \$8,250 to implement a wash improvement and neighborhood sustainability project on their campus; Mitchell Park, just off Mountain Avenue in central Tucson, will receive \$5,956 for an improvement project to create wildlife habitat using green infrastructure practices; and Northwest Neighborhood will receive \$4,175 to implement green infrastructure practices at 1st Avenue and Seneca to green and beautify the neighborhood. All of these projects will capture stormwater to create new areas native habitat to benefit people and urban wildlife, that will also improve nearby neighborhood washes. Funding for these grants comes from contributions to the Open Space/Riparian check box on the Tucson Water bill and donations from C2E program participants. C2E has opened a new round of Community Enhancement Project grants to improve local washes and neighborhood natural habitats. Applications, which were due by April 11, will be evaluated by the C2E advisory board. Since January 2011, C2E has had 60 participants, who have saved 3.2 million gallons of water conserved by participants. Twenty-nine rainwater harvesting projects have been implemented. To date, \$37,000 has been donated to the C2E fund and \$43,000 has been invested in local enhancement projects.
- Conservation Effluent Pool – The CEP Task Force developed a list of potential candidate projects that could be supported by the 10,000 acre-feet of effluent/reclaimed water available through the CEP. The Task Force developed evaluation criteria for assessing the environmental, social, and economic benefits associated with projects. A draft report describing these potential projects and their benefits is currently being developed.

Background on the City/County Water Study and Action Plan

In February 2008, the Mayor and Council and Pima County Board of Supervisors approved a scope of work for a joint *Water Infrastructure, Supply and Planning Study*. The purpose of the Study was to improve City/County collaboration on water and wastewater issues and to define and plan for a

sustainable water future for the region. The scope set forth a five-phase scope of work, with a City/County effort initiating the process. To provide independent review and oversight of staff work, the Council and Board appointed a Joint City/County Oversight Committee (Committee), consisting of four members each from the Citizens Water Advisory Committee and the Regional Wastewater Reclamation Oversight Committee and two members each from the jurisdictions' Planning and Zoning Commissions, for a total of 12 members. At the explicit direction of the Council and the Board, staff and the Committee implemented a broad-based public process for engaging the community in Phases I and II. Detailed documentation of the entire Study and public process is available on the study website www.tucsonpimawaterstudy.com.

Phase I was completed in April 2009 with both governing bodies endorsing the Phase I Report. The goal of Phase I was to assemble basic information on City and County water and wastewater systems and resources and to identify the elements that must be addressed as part of water sustainability. A key outcome from Phase I was improved cooperation and fact sharing between the two largest water utilities in the region, a necessary basic foundation in moving toward a sustainable water future.

Key findings from Phase I included:

- Our water and wastewater systems are generally reliable, well maintained and newer than those found in many other cities. However, these systems are aging, and both water and wastewater rates will need to increase in the future to fund the rehabilitation of our systems and to meet increasingly stringent water and wastewater quality standards.
- Due to past investments in acquiring and delivering Central Arizona Water Project (CAP) water, Tucson Water has a reliable and renewable water supply that can meet the needs of current residents and provide for a significant amount of growth (approximately 360,000 additional customers).
- Faced with a variety of uncertainties, we need to be prudent with our water resources. Global warming, climate change, and long-term drought could affect local water demand, rainfall amounts and future flows of the Colorado River.
- Any expansion of the Tucson Water service area must be done thoughtfully and with deliberation. The recent past shows that demand-based service expansion is not sustainable or prudent. Planning for and directing growth to areas where it is most appropriate should guide future water service decisions.
- Additional water resources will likely be needed in the future and the time to plan for this is now. Obtaining new water resources, which will be more expensive than what we are familiar with today, will require regional cooperation.
- Sustainability requires that we think more broadly about water resource management, beyond just clean, safe water for people, to considering environmental and economic needs for water and allocating water for these purposes.

Phase II began immediately following Phase I in the spring of 2009. The scope of work for Phase II called for the City and County to reach agreement on a set of water resource development and conservation goals, including:

- Agreement on population growth, water, urban form, land use planning and infrastructure.
- Integration of land use planning with water resources and infrastructure.
- Increasing the use of reclaimed or recycled water on turf irrigation to substitute for groundwater use.
- Develop renewable water sources for the City/County area.
- Develop a consolidated drought management plan.
- Implement consistent water conservation standards.
- Respect for the environment.

Fourteen technical papers were prepared by staff and outside parties during Phase II on these topics. The technical papers were presented at Committee meetings for review and comment by Committee members and the public. The Phase II Report included perspectives from both City and County staff and the Oversight Committee. The Phase II Report set forth 19 City/County shared goals and 56 recommendations organized around four critical aspects of water sustainability:

- Comprehensive, integrated planning
- Respect for the environment
- Water supply
- Demand management

On February 17, 2010, the Mayor and Council approved Resolution No. 21478 adopting the City/County Water and Wastewater Study Phase II Report. One of the follow up items called for in the Resolution was the development of an Action Plan to implement the Phase II goals and recommendations.

The Action Plan was developed by a joint City/County staff team working together over a 6 month period with the input of stakeholders and citizen oversight committee members. The Plan describes specific steps the City and County plan to take toward water sustainability over a 5 year period (2011-2015). It should be viewed as a living document subject to updates and refinements based on additional input by stakeholders, new information and opportunities, and changing circumstances.

The Plan includes a set of 87 specific actions grouped within 14 programs to be implemented over 5 years to achieve the following outcomes:

- Water, wastewater, and stormwater resources are planned in an integrated fashion.
- More renewable water resources including effluent, reclaimed, stormwater and rainwater and greywater are put to beneficial use in an efficient manner.
- Water resource policies are aligned with economic goals.
- Collaborative efforts are undertaken to acquire new water, to achieve greater flexibility in use of existing supplies, and to align and enhance standards for water use efficiency.
- Improved water quality resulting from regional wastewater treatment facility upgrades (i.e. the Regional Optimization Master Plan or ROMP) is matched to needs for recharge, environmental restoration and public amenities such as parks, golf courses and ball fields.
- Land use, infrastructure and water resources planning are linked and foster optimum use of renewable water resources in future growth areas and increased water and energy efficiency outcomes in new development.
- Water is dedicated and allocated to environmental needs, sensitive riparian ecosystems are preserved and maintained, and cost-effective and collaborative environmental restoration projects are advanced
- Public values are considered in water resources planning and public awareness of the environmental and human benefits of increased water use efficiency is increased.

In these challenging economic times, the financial constraints facing the City and County loomed large over the action planning process. Staff did not feel it was prudent to make this plan contingent on the securing of new resources. Rather, staff focused on how best move water sustainability efforts forward in light of the current economic times. The Action Plan does not rely on new resources to move forward, but rather is intended to be integrated into existing programs and organizational structures of the City and County. That is not to say that additional resources will not be sought through grants or partnerships. Additional resources would allow certain activities to move forward more quickly or to be implemented more extensively.

Water Policy Decision Making Framework – As part of the February 17, 2010 Resolution adopting the City/County Water and Wastewater Study Phase II Report, the Mayor and Council approved a Water Policy Decision Making Framework in response to concerns raised by SAHBA and the Tucson Regional Water Coalition related to the economic and cost impacts of the Study recommendations. The

framework below will serve as a filter, providing staff a set of factors that are analyzed prior to coming forward with any proposed IGAs, regulations, or policies related to water policy.

Water Policy Decision Making Framework

1. Financial costs (to the City, to Tucson Water ratepayers, to private parties, and on Tucson Water's bond coverage ratio)
2. Economic impacts (jobs, housing, tax base)
3. Environmental impacts
4. Impact on Tucson Water's resources, per capita water demand, and water quality
5. Effect on drought/climate change preparedness
6. Impact on public infrastructure, services, and fiscal sustainability
7. Impact on location of growth, urban form, and land use
8. Energy costs
9. Opportunity costs (does this foreclose other opportunities)
10. Social equity considerations/community's ability to pay

Please contact Nicole Ewing Gavin or Sandy Elder if you have any questions.

RM/NEG