



COUNTY ADMINISTRATOR'S OFFICE
130 West Congress, 10th Floor
Tucson, Arizona 85701



CITY MANAGER'S OFFICE
P.O. Box 27210
Tucson, Arizona 85726-7210

DATE: April 1, 2008

TO: Mike Hein
City Manager

C.H. Huckelberry
County Administrator

FROM: Nicole Ewing Gavin *NEG*
City Project Coordinator

Melaney Seacat *MS*
County Project Coordinator

SUBJECT: Updated Scope of Work: Water Infrastructure, Supply and Planning Study

For your review and concurrence, attached please find an update to the February 14, 2008 Water Infrastructure, Supply and Planning Study joint memorandum incorporating the direction received by the Mayor and Council on February 20, 2008 and the Board of Supervisors on March 18, 2008 and April 1, 2008.

Concurrence:

C.H. Huckelberry

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County Administrator

Mike Hein

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City Manager



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Scope of Work

Water Infrastructure, Supply and Planning Study

Study Oversight

Phases I and II of the study process require independent review and oversight to ensure that they meet the stated desired end products identified in this scope of work. A joint City/County Regional Water Study Oversight Committee (RWSOC) will be formed to serve this role. The Committee will be made up of 12 members appointed from the following existing City and County committees as follows:

- 4 members from the City's Citizens Water Advisory Committee (CWAC)
- 4 members from the County's Wastewater Management Advisory Committee (WMAC)
- 2 members from the City's Planning Commission
- 2 members from the County's Planning & Zoning Commission
- The Chair appointed jointly by the City Manager and County Administrator from the 12 members on the Committee

The committee will meet at least monthly and will meet more frequently as it deems necessary. The members of the committee will also report monthly to their respective advisory committee.

The committee will receive briefings and regular updates from Tucson Water and Wastewater Management staffs working on data collection and analysis during Phases I and II. The committee will report to the City Manager and County Administrator assessing the joint staff work and may make recommendations to the City Manager and County Administrator on necessary changes. The committee will prepare a final report to the City Manager and County Administrator to accompany transmission of the final work product of the joint staff efforts.

Public Outreach

Based on direction provided by the Mayor and Council on February 20, 2008 and by the Board of Supervisors on March 18, 2008, City and County staff, working with Oversight Committee shall report back within 60 days on a plan for a broad-based and transparent public process for engaging the community in this study. The outreach plan should address the following:

- Procedures for receiving input from all interested parties, including organizations that have expressed interest in the study to date, regarding the study process, public involvement options, and the documents that are produced in Phases I and II



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- An invitation, through Pima Association of Governments to other jurisdictions and other water/wastewater utilities to conduct their own Phase I and II inventories concurrent with the City/County Phase I and II

Expected Time Line – The deadline for the 60-day report back to the Mayor and Council and Board of Supervisors is May 20, 2008

Phase I – Inventory and Assessment of Water and Wastewater

- A. This initial study phase should consist of inventorying existing infrastructure conditions and developing an assessment of this infrastructure and its capacity. The work of Tucson Water, as well as the Pima County Regional Wastewater Reclamation Department, can be extensively used in this initial analysis. The goal would be to determine the current state of City and County water, wastewater and reclaimed water infrastructure systems. This would include a review of capacity expansions that may be necessary today to accommodate the existing population distribution throughout the service areas of Tucson Water and the Regional Wastewater Reclamation Department. Existing management staff of the City and County, working together, will draft this comprehensive report, building on the City Water Plan 2000-2050, as well as Pima County's Regional Optimization Master Plan..
- B. A Water Resource Assessment - What are our Water Resource Supplies for the City/County Service Area? The water resource assessment can also be completed through a cooperative effort between City and County staff to assess City and County water supplies available to the service area.
- C. What is the Sustainable Water Population of the City/County service area - A number of studies and analyses have estimated the sustainable future population based on present, known water supplies. These studies and population ranges should be summarized to determine, under the present forecast, the most likely sustainable population of the joint City/County service area, given known City and County water supplies. This initial inventory and assessment should determine the near-term critical factors associated with sharing a stable and sustainable water supply, as well as the investments that may be needed in water, wastewater, and reclaimed water infrastructure systems to meet the service demands and needs of our existing population, as well as the sustainable future water population. This work can again be completed by City and County staff in consultation with University and State technical resources.

This first phase of studies is essentially a review of a great deal of existing information and studies, synthesized jointly by Tucson Water and Pima County Regional Wastewater



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Reclamation management staff to provide a quick assessment of our water future and a common place to begin more substantive policy discussions in a regional forum.

During this phase, we expect Tucson Water and Pima County Regional Wastewater Reclamation staff to advance City and County cooperative efforts by taking four steps to significantly improve communication and coordination in implementing future regional water policy:

1. Improve communication and coordination between Tucson Water and Pima County Regional Wastewater Reclamation staff by establishing more direct communication, including a periodic, executive, on-loan exchange program for management staff of each organization.
2. Cooperatively pursue and develop a joint constructed recharge project for City and County effluent being discharged to the Santa Cruz River. Such a constructed recharge program would accrue significant additional recharge credits for both the City and County that are presently being lost due to the discharge of effluent to the Santa Cruz River being classified as “managed recharge.”
3. Finalize the Conservation Effluent Pool and Intergovernmental Agreement amendments to respect, foster and encourage the preservation as well as restoration of riparian-dependent ecosystems, and to establish the principle that water providers have access to effluent, subject to deduction for the Southern Arizona Water Rights Settlement Act and the Conservation Effluent Pool. The City and County should finalize the Conservation Effluent Pool and Intergovernmental Agreement amendments, which are near final approval by both the City and County.
4. Finalize the location of wastewater reclamation facilities in the Southeast Area. A new upgradient, subregional wastewater reclamation facility has not been constructed in nearly 30 years, even though such a facility was contemplated in the 1979 Sewer Merger Agreement. The final siting of this facility needs to occur as part of the City’s Southeast Area planning.

Each of these action items can, with some effort, be accomplished by the City and County. Their accomplishment would move forward, to a large extent, the goals of cooperative water and water reclamation planning, water supply enhancement, and the provision of reclaimed water to conserve groundwater and promote environmental enhancement. More than anything else, accomplishment of this first phase of water action items would demonstrate what the City and County can do in working together.



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Expected Outcomes

- (1) A completed inventory and analysis of the condition and capacity of water, wastewater and reclaimed water infrastructure, and the ability of the infrastructure to accommodate existing and future population.
- (2) An estimate of the current and future population that can be sustained with known municipal water supplies based on no significant change in conservation or additional supply.
- (3) Improved communication, coordination and cooperation between Tucson Water and the Regional Wastewater Reclamation Department.

Expected Time Line – December 2008 report to the Board and the Mayor and Council

Phase II – Policy & Values

The joint City and County water planning effort should establish a common set of water resource development and conservation goals. Among these goals should be:

- A. Agreement on Population Growth, Water, Urban Form, Land Use Planning and Infrastructure - The City and County need to come to common agreement on the location of our future population growth increment to 2050. Urban form, water and infrastructure planning will directly influence where this future population growth increment will occur. Locating this future population should be done in a manner so as not to disadvantage or adversely impact existing residents. New growth must be located where it is beneficial to the environment, economy, and conservation of our resources. Large-scale infrastructure systems will be necessary to support the growth centers and integrate with the existing urban infrastructure systems that are in place. Most importantly, long-term future water supply cannot occur at the expense of our existing residents or the environment.
- B. Land Use Planning must be Integrated with Water Resources and Infrastructure for each Jurisdiction - A 2007 report by the University of Montana notes that land use decisions are made by local jurisdictions, while water is allocated by state agencies. The failure to connect land use and water planning has contributed to the lack of infrastructure and other water problems we see today.
- C. Increase the Use of Reclaimed or Recycled Water on Turf Irrigation to Substitute for Groundwater Use - One of the constraints to increased use of reclaimed water is the lack of infrastructure to serve high-demand turf uses and replace reliance on groundwater. The



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financial and institutional constraints for building reclaimed water infrastructure must be explored and addressed to maximize the use of this renewable source of water.

- D. Develop Renewable Water Sources for the City/County Area – Use regional collaboration efforts to acquire new, renewable water supplies, such as long-term CAP leases.
- E. Develop a Consolidated Drought Management Plan.
- F. Implement Consistent Water Conservation Standards- Adopt consistent water conservation ordinances. Water conservation must be viewed as protecting a future water supply, not simply making more population growth possible.
- G. Respect for the Environment - While water is the key for continued economic expansion, it is also the key for a vibrant and healthy environment. There must be an appropriate and proper balance between the reservation of water for consumption and growth, and the acknowledgment that our environment is also a consumer of water resources, and certain water reservations for the environment must be made and sustained. Acknowledgment of this goal must be stated in words and translated into action through common environmental standards and goals for reclaimed water use, along with the prohibition of groundwater wells in areas near groundwater-dependent ecosystems.

Expected Outcome – City and County agreement on a number of policy issues related to water service for future urban growth, a uniform standard for assessing land use decisions on water supply and water infrastructure, consensus regarding improved and increased use of reclaimed or recycled water, determination of the role of conservation and its uniform application to help sustain long-term water supplies, and a recognition that water not only serves community, but is needed for a healthy environment.

Expected Time Line - July 2009 report to the Board and the Mayor and Council

Phase III – Assessing Infrastructure and Resources for the Metropolitan Area

We would propose that Phase III engage the entire greater Metropolitan area in an expanded infrastructure and resource review, based on Phase I, and using the resources and staff of the respective regional entities. This Memorandum does not include the same level of detail for Phases III through V, because the progress of these phases are less dependent on joint City/Cooperation and will necessarily require more input from a broader range of stakeholders, including development of the process, oversight, and respective time lines.



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Phase IV - Development of Regional Policies and Values

Just as Phase III mimics Phase I, so too will Phase IV mimic Phase II. It is this phase of the regional water analysis that will require extensive and diverse community support. Each jurisdiction, each water provider, and each interest group, whether it be neighborhood, environment, or business, must participate in setting and establishing regional water policy goals that will lead to a stable, sustainable water future for the Tucson region. A water future that places value not only on meeting the water needs of existing and future populations, but also of our unique and water-related Sonoran Desert environment.

Phase V – Defining and Developing a Sustainable Water Future and a Livable Region

Following the concurrence on a number of regional water policies by the community in Phase IV, and a common understanding of the region's resources, it would then be appropriate to develop a strategy for creating a sustainable water future for the region. Such a future would consider scenarios including long range thinking on drought, disaster, and effluent. There has been some drought and disaster planning performed by the various entities and/or jurisdictions who provide water services, or who have public health and welfare obligations. Traditional drought plans have dealt with only modest and temporary shortages and the consequences of such in their planning processes. No extreme or catastrophic conditions have been introduced into regional water supply planning. As a result, the region has not been forced to think outside the box regarding water resources and/or water supplies.

A number of scenarios require consideration, such as:

- A. If the Arizona Central Project canal aqueduct were out of service for one to three years, what would be the impact on the region's water supply capability?
- B. Experts from San Diego's Institute of Oceanography indicated that the largest storage reservoir in the west, Lake Mead, could run dry by 2021. If that were to happen, what would be the water supply options for this region, and what would be the impacts of same on the region?
- C. We Need to think differently about sewage. Wastewater treatment technology has evolved significantly in the last 30 years. Then we considered treated sewage a waste product to be disposed of by discharging into the Santa Cruz River. Today, a larger percentage of treated wastewater is becoming reclaimed water for turf irrigation as a groundwater substitute, but still only a small portion of the total available treated wastewater is used for this purpose.



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The community must begin to think much differently about treated wastewater and its value as a recycled water source, and as a key component of our future supply.

- D. Can the longstanding legally constructed silos of water allocations for municipal, agricultural and industrial/mines withstand a water supply catastrophe?