

**Pima County
Regional Wastewater Reclamation Department**

Quarterly Report

July 2008 – September 2008



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INTRODUCTION

This quarterly report provides a summary of significant departmental progress and activities for the months of July through September 2008. A separate quarterly report solely dealing with odor mitigation is being submitted with this document.

Because of recent questions posed by the Pima County Board of Supervisors regarding how the department saves money on its projects and activities, an emphasis on cost savings is being incorporated into this report and in future reports.

We hope you find this report to be useful and informative.

REGIONAL OPTIMIZATION MASTER PLAN

The Regional Optimization Master Plan (ROMP) is being implemented in response to regulatory mandates being imposed by the Arizona Department of Environmental Quality. The department is working under a strict regulatory timeline to reduce nitrogen and ammonia levels in the effluent discharges from the Roger Road and Ina Road wastewater treatment facilities. Under the ROMP, the 37.5 million gallon a day (mgd) Ina Road Regional Wastewater Reclamation Facility (IRWRF) is being upgraded and expanded to a capacity of 50 mgd. The Roger Road Wastewater Reclamation Facility (RRWRF) will be decommissioned upon the construction of 32 mgd water reclamation campus sited just north of the existing outdated and aging 41 mgd RRWRF. To allow some flows in the service area of the RRWRF to be diverted and treated at the expanded Ina Road WRF, a Plant Interconnect (a large interceptor) will be constructed to carry additional flows to the upgraded and expanded IRWRF.

Before any construction can begin, cultural resources work must be completed. To this end, archeologists under the direction of the County Cultural Resources office have been performing excavations and studies in the areas where the Plant Interconnect will be located and near and around the headworks of the Ina Road facility. This work must be completed before construction can begin. RWRD staff is working closely with Pima County Cultural Resources to assure this work is done properly and to assure that construction can begin when designs are completed. The ROMP timeline calls for an aggressive schedule. If RWRD does not comply with ADEQ's mandatory deadlines in completing the ROMP, regulatory actions and punitive fines will be a very real possibility. To save money by avoiding such potential fines, RWRD is taking all necessary steps to meet the aggressive schedule that ADEQ has imposed. The completion of

required cultural resources work is just one important step in this multifaceted and complex project.

Plant Interconnect

Design work on the plant interconnect was 95 percent complete at the end of the quarter. Delivery of the final design is scheduled for October.

During this quarter, the construction-manager-at-risk contract for the interconnect was awarded. The construction-manager-at-risk (CMAR) procurement method provides cost savings by significantly reducing contractor concerns and thus eliminating the need for contractor contingencies, change orders or changes to project scope. This is achieved through the close and early partnership between the design team CMAR.

Ina Road

The process to procure a Project Manager/Construction Inspection firm for the Ina Road expansion and upgrade proceeded during this quarter. Negotiations with the highest-ranked firm, Parsons Water & Infrastructure, Inc., were terminated due to a failure to reach concurrence on a number of issues – including cost issues. RWRD then entered into negotiations with the second ranked firm, Jacobs Field Services North America, Inc. Negotiations began in this quarter and are expected to be completed in the next quarter.

The design firm, CH2MHill discussed and reviewed the 30 percent design completion of the Interim Bio Solids Project with staff and other ROMP consultants/contractors.

Roger Road Water Campus

After much consideration, research, and discussion, the Design Build Operate (DBO) procurement method was selected for the Roger Road Water Campus. This procurement method selects a company or team of companies (acting as one entity) to design, build and operate the campus. Upon completion of construction, the same organization will operate and maintain the facility for a set period of time. (The length of that period has not yet been determined although typically one would expect it to last 20 to 30 years.) While RWRD will continue to fund and to own the facility, the successful DBO contractor will operate it and will be responsible for meeting all permits and regulations over the course of its contract. At the end of the contract period, the facility would be turned over to RWRD.

This method proved to be the most cost effective procurement process when life cycle costs were considered. Life cycle costs take into account both initial

Capital Costs and subsequent operating costs over a long period. Sometimes a less expensive capital project will result in higher operating costs that can cancel out any cost savings realized during construction. The selection of the DBO method included evaluation of initial capital costs, life-cycle costs, and numerous risk variables.

The DBO model has been employed successfully in other communities in the United States, and in other countries, including recent water sector projects in the City of Phoenix and the City of Seattle. The department has received a number of inquiries from organizations that are interested in pursuing a DBO contract for the Water Campus. Through the selection of the DBO Procurement method, Pima County will realize significant cost savings.

One issue that will be negotiated under a DBO procurement is whether the department will require the DBO contractor to hire existing staff. It is assumed that the contractor will want to hire some of our staff to operate the new facility. While we would welcome the opportunity for our employees to move into the private sector, we will need to assure that we will retain an adequate staffing level of experienced and skilled employees. We also will commit to retaining staff that does not want to move into the private sector. If an employee of the current Roger Road facility wants to remain with Pima County, that employee will be transferred to a different RWRD facility.

TREATMENT FACILITIES

National Association of Clean Water Agencies Awards

The Treatment Division has once again qualified for multiple Gold and Silver Awards given by the National Association of Clean Water Agencies (NACWA).

During the course of a calendar year, our discharge permits require thousands of samples for testing of over one hundred parameters. In order to qualify for a Silver Award, a wastewater treatment facility can have no more than five exceedances in a calendar year. A facility can only achieve a Gold Award if that facility has no exceedances in a calendar year. The achievement of a silver award can be likened to taking a 3,000-question test and missing five or fewer answers; the achievement of a gold award can be likened to attaining a perfect "score" on that same 3,000-question test.

Facilities that achieved Silver awards for Calendar year 2007 are the Ina Road Wastewater Reclamation Facility (WRF) and the Marana WRF.

Gold Award recipients include the Avra Valley WRF, the Green Valley WRF, and the Randolph WRF, and the Roger Road WRF.

RWRD realizes significant cost savings by consistently meeting high standards. Facilities that do not meet regulated standards frequently face punitive fines and are required to make expensive investments in their facilities to bring them into compliance.

Triennial Review/Ak Chin Indian Community

The Triennial Review by the Arizona Department of Environmental Quality (ADEQ) will impact the effluent discharges from the Roger Road and Ina Road facilities. ADEQ is proposing that no effluent discharged into the Santa Cruz River reach washes leading to the Ak Chin Indian Community which lies is more than 60 miles downstream from the Ina Road facility.

During much of the year, Pima County's effluent does not flow as far as the Ak Chin community. However, during storm events, effluent from the Roger Road and Ina Road facilities do mingle with storm water flows that reach that area.



Preliminary cost estimates to discontinue discharges to the Santa Cruz River have been projected to be over \$300 million. Pima County would be responsible for at least some of these costs. Once details of different options are examined, and it is determined which approach would best meet ADEQ's proposed requirements, a specific plan will be developed.

It must be noted that effluent plays a large role in satisfying claims of the San Xavier and Shuk Toak Districts of the of the Tohono O'odham Nation under the Southern Arizona Water Rights Settlement Act (SAWARSA). The City of Tucson owns and is dependent on much of the effluent that is discharged from our Roger Road Facility to meet the SAWRSA requirements. The Bureau of Reclamation and Pima County also have a stake in SAWARSA. The proposed Triennial Review requirements have the potential of significantly impacting the City of Tucson, RWRD, and the Bureau of Reclamation in the areas of finance, legal obligations, and water availability.

If RWRD eventually is required to discontinue its effluent discharges from the Santa Cruz River, the environmental community also would be concerned with the corresponding loss of riparian habitats on which area wildlife is dependent.

STRATEGIC PLANNING

Mt. Lemmon

During this quarter, the Mt. Lemmon basin study and conceptual plan was completed. Videotaping of the sewer lines in Summerhaven began and will continue into next quarter. The information derived from this activity will be used to identify reaches of the mountain's sewers that need to be repaired. Rehabilitation of the conveyance system on the mountain will reduce stormwater infiltration thereby improving capacity. Rehabilitation costs are usually less than new construction costs. In this case, rehabilitation of existing infrastructure will reduce significantly disruption to residents, businesses, and visitors on the mountain. When the department can avoid capacity augmentation construction, it avoids the costs associated with that construction.

Planning and design activities for the construction of an influent equalization tank at the existing plant site were undertaken in this quarter. The influent equalization tank will help to regulate peak flows anticipated from planned commercial projects. This project allows for improved use of capacity and will result in cost avoidance of new infrastructure capacity construction.

City/County Water and Wastewater Infrastructure, Supply and Planning Study

A technical working group consisting of management and engineering staff from Tucson Water and RWRD has been working to coordinate the inventory and assess the infrastructure of the City of Tucson Water Department and the Pima County RWRD. The group is also assessing supply of water sources for the areas served by these jurisdictions. The group met weekly (at a minimum) throughout the quarter to coordinate the collection of information and data and to prepare a series of educational presentations for the Water and Wastewater Infrastructure Oversight Committee and the public.

A status report on progress related to items in the Study Scope pertaining to cooperative City/County projects (e.g. joint constructed recharge, location of a wastewater reclamation facility on the SE side) was submitted on July 31, 2008. A follow up report providing a more detailed action plan for advancing these cooperative projects was submitted on September 23, 2008 and implementation teams were launched.

Oversight Committee Meetings & Outreach: The City/County Oversight Committee held eight meetings during the quarter. Meeting agendas were posted in accordance with Open Meeting Law requirements, emailed to more than 1,800 contacts, posted on the project website and at public libraries. News releases were also sent out prior to each meeting.

Educational presentations on the following topics were provided to the Oversight Committee during their meetings:

- July 9 Potable water, wastewater, and reclaimed systems
- July 23 Planned new water and wastewater infrastructure
- August 13 Financial planning
- August 27 Population Trends
- September 3 Land Use and Planning for Growth
- September 10 Climate Related Water Recourse Uncertainties
- September 17 Environmental Needs for Water
- September 24 ADWR Water Budget for the Tucson AMA

The presentations were made by staff from various city/county departments as well as by experts from outside of city/county governments.

A comprehensive, interactive project website was regularly updated with postings of meeting notices, summaries, transcripts, audio and video recordings; written comments and answers to questions. Background materials applicable to each presentation were also posted. These materials included articles, links and other relevant information.

Outreach to Other Providers: Other water and wastewater providers received a water supply inventory worksheet and were invited to participate in the Phase 1 Inventory and Assessment.

Phase I Final Report

Staff began drafting Phase 1 of the Final Report. Draft chapters were posted and continue to be posted as they are completed.

CONVEYANCE SYSTEM

Arcadia Sewer Project

The Arcadia Sewer Project was halted due to significant issues with the original contractor. The procurement process was re-initiated to find a contractor that can continue and complete the project. Residents impacted by the delay were notified.

Although it is difficult to stop a construction project that is underway, the long-term costs involved in operating substandard facilities or the risk of injuries related to unsafe work sites sometimes make such decisions necessary.

Santa Cruz Interceptor, Phase II

The final phases of the Santa Cruz Interceptor Project (Phase 2) were constructed in this quarter. Work will be finalized in October. This project is being completed on budget and on time. Direct community outreach to and contact with impacted residents and businesses was well-received.

