

TO: Lawrence J. Morrissey, Mayor  
Members of City Council

FROM: William Bittner, Director of Public Works

SUBJECT: Quarterly Report -  
Water System Rehabilitation Plan

DATE: April 16, 2007



This is to provide an update on the progress of our water system upgrade. It is intended to review activity since the last report. It is not a comprehensive review of the entire project. If you have any questions or would like more information, please let me know.

Attached to this report are the following:

- 1.) A summary of contract commitments and expenditures to date.
- 2.) A preliminary construction schedule for the treatment units and well rehabilitation.
- 3.) Photos of well pump rehabilitation – excerpts from inspection reports.

**\$** The City Council gave final approval of the project in January of 2006 when it authorized the bonds and implemented a phased in water rate increase to fund the project. The second step of the rate increase (12%) went into effect the beginning of the year. It is anticipated \$30 million of bonds will be issued late in 2007.

The City has submitted pre-application for an Illinois Environmental Protection Agency loan. The program loans money for drinking water improvements at reduced interest rates. The potential for funding or any interest savings is uncertain at this time.



The engineering team continues to meet monthly to coordinate every increasing project activity. City staff members work with individual members of the team on a regular basis to address specific project details. As previously indicated, primary focus in past months has been the completion of studies and determination of design requirements to move forward on the new treatment plants and pumping station rehabilitation. Design is now well underway. The January report indicated the most current project cost estimates. No significant revisions have been made since.

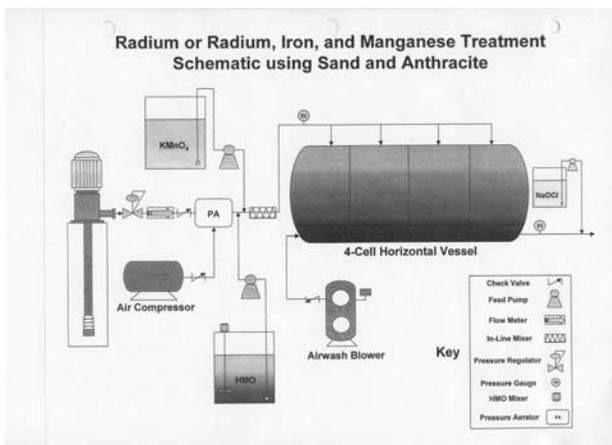


McMahon Associates has completed the final design for the Stanley Street Pumping Station. Plans have been submitted to the IEPA for approval and bids for construction will be opened May 8, 2007. The new station will house 5 vertical turbine pumps which will draw from the adjacent 5 million-gallon reservoirs. Since the station is a critical component of the central pressure zone water service, a diesel standby power generator will be incorporated into the facility.

The new station will be located on the existing Stanley Street. City Council authorized vacation of the roadway on April 9, 2007.



Drilling of Well #45, which will provide water for the Stanley Street Pumping Station and storage reservoir began the week of April 2, 2007. It is expected to take 6-8 weeks to complete. The construction of the new well allows the abandonment of wells that are suspect because of V.O.C. contamination.



Pilot studies for the water treatment plants have been completed. The studies were carried out by three suppliers of package treatment plants to

determine the design parameters. Results at the three locations will be used to complete the final design for all 10 treatment units. The results are generally what was anticipated regarding the effectiveness of the treatment processes.

The pilot study report has been completed by Strand, Associates and will be submitted to the IEPA the week of April 16. Once we have their concurrence, we will proceed to the final design. The treatment equipment will be purchased as pre-package units from one of the three pre-qualified vendors. Having all plants similar will simplify operation and maintenance.

A preliminary well rehab and treatment plan construction schedule is attached. Coordination of the work will be difficult as only a limited number of wells can be out of service at one time.



Well rehabilitations are scheduled at 11 pumping sites. Work at two additional sites was already underway in our normal maintenance operation. The City Council has awarded two contracts for the rehabilitations. It is anticipated the work on individual wells will continue through the summer.

The well rehabilitation is part of the critical path for the project. Anticipated flow rate from the well is a critical parameter in designing the treatment and pumping facility.

Wells are a consumable commodity and degenerate over time. From time to time, rehabilitations are completed to rejuvenate the pumping capability. The process generally includes a base line capacity test, inspection of the hole using televising equipment and then using a variety of methods to address any

deficiencies found. Problems can include plugging of the strata, filling the hole with sand and wear of mechanical equipment. The response to the treatment provides some indication of the future useful life of the well. Well rehabs are generally done as maintenance when the capacity begins to decline. With significant investment planned at a number of wells, we want to be comfortable that the expected performance of the well is worth the investment.

Attached to the report are photos that demonstrate some of the well pump rehabilitation that is being completed.

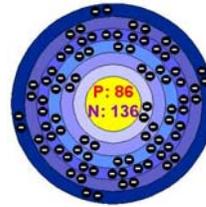


To address elevation differences in the community, the water system is operated using several pressure zones. These zones were created by closing valves along a defined boundary. This resulted in numerous dead-ends and opportunity for "old" water. The lack of water flow contributes to sedimentation.

To address the problem, the engineering team identified a number of locations where dead-end water pipe can be looped at reasonable costs. At other locations, a plan was devised to install small by-pass lines (bleeder lines) around closed valves. This allows a small amount of water to run from the high-pressure system to the low, keeping fresher water in the pipes.

The work is being completed in phases. Several contracts have been let to date at a cost of approximately \$1,750,000, including two approved by City Council in March. Modifications to the system are being completed at over 200 locations. The City's Engineering Division is

doing design work and construction management.



In April of 2005, the IEPA issued a compliance order to the City because of radium in the drinking water. Radium compliance was a catalyst in the development of the system rehabilitation plan. The compliance agreement calls for implementation of treatment by 2009. **The City is required to submit quarterly progress reports and to notify all customers of the radium issues every quarter until resolved.**



As a result of their regular bi-annual inspection in 2006, the IEPA issued a violation notice requiring the repair/replacement of some of our most deteriorated facilities. In the past, the inspection report only expressed concern that these items be addressed. The significant issues were already addressed in the rehab plan. We are working with IEPA to develop a compliance agreement that is consistent with our project schedule.