

Memorandum

City of Lawrence

Utilities Department

TO: David Corliss, City Manager
 Cynthia Wagner, Assistant City Manager
 Diane Stoddard, Assistant City Manager
 Casey Toomay, Budget Manager

FROM: Dave Wagner, Utilities Director

Date: June 4, 2010

RE: Utilities Department 2011 Budget Follow Up Items

The Utilities 2011 Operating and Maintenance Budget Request reflects required increases over 2010 Budget levels totaling \$280,989. However, the net budget request increase is only \$101,218 (0.5%) relative to the Utilities' 2010 Adopted Budget due to almost \$179,771 in reductions of other O&M expense requests. Following the budget study session of May 17, 2010 additional information was requested from Utilities relating to the 2011 Budget Request.

1. Water and Sewer Rate Comparison Information
 - a. [Scenario 1](#) - Proposed Water and Sewer Rates
 - b. [Scenario 2](#) - Proposed Water and Sewer Rates
 - c. [Scenario 3](#) - Proposed Water and Sewer Rates
 - d. [Comparison](#) with surrounding community rates
 - e. [Wholesale Water](#) Rate Comparison
2. Infrastructure Management – See attached [Memo](#)
3. Energy, Chemicals & Fuel Increases

| | 2009 Actual | 2010 Budget | 2010 YTD | 2010 Projected | 2011 Requested | Percent Change from 2009 Actual |
|-----------------------------------|----------------|----------------|-------------|-------------------|-------------------|--|
| Energy (Electric/Gas)* | 1,394,072 | 1,662,500 | 501,578 | 1,650,000 | 1,635,000 | 17.3% |
| Chemicals | 1,336,727 | 1,547,500 | 468,501 | 1,450,000 | 1,558,000 | 16.6% |
| Fuel (Unleaded/Diesel) | 94,968 | 153,850 | 39,133 | 103,000 | 115,450 | 21.6% |

* YTD 2010 is January - April

- a. Rate increases from Westar along with additional facilities placed into service during 2009 or 2010 including pump stations 49, 50, 07 and an upgraded 25 and completion of Clinton WTP expansion are contemplated in this request.
- b. Several items factor into the request for chemicals in 2011
 - i. Highly volatile chemical prices both up and down
 - ii. Process adjustments to reduce chemical use
 - iii. Automation to provide precise application of chemicals
- c. 2009 and 2010 Chemical Cost Comparison Summary

Chemical Cost per Million Gallons Treated

| | 2009 | Thru May - 2010 |
|-------------|--------------|--------------------|
| Kaw WTP | \$ 291.27 | \$ 254.99 |
| Clinton WTP | \$ 222.68 | \$ 198.26 |
| Wastewater | \$ 119.75 | \$ 95.94 |
| WW Actiflo | \$ 391.66 | \$ 265.93 |

- v. [2009](#) and [2010](#) Detail Chemical Cost Comparison

- d. Using 2011 fuel prices of \$3.00 and \$3.16 per gallon of unleaded and diesel respectively, the 2011 request represents a decrease of 1,685 gallons (9%) for unleaded and 3,765 gallons (16%) for diesel from 2009 actual quantities.

4. SE Water Transmission Main – Summary of Options Reviewed in the Alignment Study

The *2003 Water Master Plan* identified separate projects to address needs related to the transmission of finished drinking water from the Kaw Water Treatment Plant to the southeast Lawrence area and the need for a second watermain crossing of the Kansas River to provide redundant water supply to North Lawrence.

Based on the results of Professional Engineering Consultants' (PEC) 2006 – 2007 evaluation of the *2003 Water Master Plan* treated water transmission main project, staff recommended moving forward with the phased design and construction of the proposed improvements identified as Route A on the attached [route map](#). These improvements are a combination of both *2003 Water Master Plan* projects noted above. The recommended project provides increased ability and reliability for the pumping of treated water from the Kaw Water Treatment Plant to the southeast area of Lawrence, including the Farmland property, and increased service potential for RWD4 and Baldwin. The recommended improvements in Route A also provide two (2) additional water transmission connections to the North Lawrence area. The project is a total length of 31,000 feet of 30" and 36" diameter pipe.

The results of the PEC report and recommendation to proceed with the Route A project was presented to the Business Link group on March 6, 2007. This group was comprised of various City Department Director and City Manager staff. The information was then presented to the City Commission during the August 28, 2007 meeting and staff were authorized to advertise an RFP for the Route A project. On January 29, 2008 the City Commission authorized the execution of the Engineering Services Agreement with Burns & McDonnell for design and construction phased services.

The recommendation to proceed with Route A, including the two (2) directionally drilled crossings under the Kansas River to North Lawrence, was based on the evaluation of the total project costs, the proposed construction schedule at the time and the non-cost factors related to the disruption created by constructing this size of main through the developed areas of central Lawrence (Routes B & C on the [attached](#)). At the time of project approval the first phase, including the Kansas River crossing A4 (see segment table on the [attached](#)) and the establishment of a second connection to North Lawrence, was to be completed late 2008 to early 2009. This schedule was ahead of the completion of the current KTA 170 bridge project still under construction today. Balancing the costs associated with Routes B & C phasing resulted in the construction of a separate North Lawrence connection, still by directional drilling, in Phase 3 2010 – 2011.

The approved Route A provides for two (2) directionally drilled crossings under the Kansas River resulting in 2 additional connections to N. Lawrence (A4 and A10 on the [attached](#)). The total cost of this route was estimated at \$16.8 million (10/08). These crossings are each 30" in diameter pipe. Alternate Routes B & C, running southeast across central Lawrence, were estimated at; Route B \$17.3 million (10/08), and Route C \$16.9 million (10/08). The project costs for Routes B and C include the construction of a separate single 16" diameter connection to North Lawrence by directional drilling at \$2.3 million (10/08). This crossing is represented by Route A segments A1 to A6.

During the study phase the option of constructing a Kansas River crossing on, and in conjunction, with the current 170 project was evaluated. The option to place the Route A Phase I crossing on the new KTA 170 bridges added approximately \$700,000.00 to Phase I of the project. Phase I at the time was estimated at \$6.8 million (10/08). The additional costs included the attachment accessories for the bridge, up sizing of the steel bridge girders to accommodate the weight of the watermain and the cost for the additional pipe distance north to the bridge and then back south to the east-west alignment across North Lawrence.

Other factors that led to the recommendation for the bored crossings vs the on the bridge crossing were; the bored crossing could be completed at any time and was not tied to KTA's bridge schedule, the routing back south from the east side of the bridge to the east-west alignment through North Lawrence was limited to the confined area between the railroad tracks and the outlet mall, the bridge crossing is exposed to the elements and potential vandalism and results in ongoing exterior coating maintenance, access for maintenance is via the bridge deck and involves the closure of a lane of 170 traffic, future bridge modification and/or maintenance may result in required

modifications or relocation of a watermain affixed to the bridge structure, the existing bridge had a service life of approximately 50 years, the transmission will have a service life of 100 years or more.

The placement of a redundant watermain on the existing Vermont Street bridges was not considered in detail due to the difficulties associated with the required structural modifications to the existing bridge support and abutment systems and that a second watermain on the existing bridges continued to tie the North Lawrence supply to a single point of failure in the water distribution system on the north and south sides of the river.

5. Kaw Intake Project

At the time of the preparation of the 2009 Capital Improvement Program and funding resolution, several projects that impacted the Kaw Intake Project were in the beginning stages of planning and preconstruction. The Bowersock Dam Maintenance Project, identified in a February 14, 2007 report, was in the process of securing the construction permits, KDOT, FERC, etc., and determining the actual maintenance repairs with the construction contractor. The Bowersock Maintenance Project was originally funded as a short-term project for \$1,170,000. Through the first quarter of 2009 the scope of the Bowersock Maintenance Project began to evolve. As it did so, it became apparent the initial funding was not sufficient. Since the scope and more importantly the estimated cost of an expanded project were not known, it was determined the Kaw Intake Project funding might be needed to supplement the existing funding. In addition to the Bowersock Maintenance Project, consideration of the Water Master Plan was being discussed. It was decided to defer the Kaw Intake Project until the completion of the Water Master Plan and the Bowersock Maintenance Project.

Thank you for your consideration of the Utilities Department's 2011 Recommended Budget and Capital Request Package. Staff is available to answer questions or provide any additional information you may need.