

COUNCIL ACTION FORM

SUBJECT: AWARD OF CONTRACT FOR CONSTRUCTION OF RAW WELL WATER TRANSMISSION PIPELINE

BACKGROUND:

Currently, a single 24-inch water line delivers water from 10 wells in the Southeast Well Field and the Hunziker Youth Sports Complex Well Field. With the expansion of wells in those areas over the last two decades, that line is no longer able to adequately carry the full capacity of these wells. This is particularly important during summer months when water demand is at its highest. The City's water supply is also vulnerable to disruption with only one line to the Water Treatment Plant from these wells. Developing redundancy in delivering this water to the plant is very important since these 10 wells represent 65 percent of the city's current water supply capacity.

Development of a new well field proposed in 2010 will ultimately add an estimated six million gallons per day (mgd) of raw water that needs to be delivered through this line. This existing line was designed in the early 1980s before the full amount of future well capacity was known and is now undersized for current full production capabilities. A new line will actually increase the productivity of the Southeast and Hunziker Youth Sports Complex Well Fields by approximately one million gallons per day under peak demand simply by reducing pipeline restrictions.

The 2008-2013 Capital Improvement Plan includes \$4,000,000 for engineering, easements, permits, and construction of this project. The City entered into engineering services agreements with FOX Engineering, Inc. for both Phase I (preliminary study) and Phase II (final design, bidding, construction, and inspection services). Payment for easements, approval of plans and specifications and a Notice to Bidders for the project were approved by the City Council on September 9, 2008.

The construction bid proposal form has been specifically structured to allow the City flexibility in balancing the project cost versus the inconvenience to area residents. There were two options for the installation of the 30-inch raw water main on East 6th Street; namely, trenching (open-cut) or boring (directional drilling). Trenching would close the south half of East 6th Street from Crawford Avenue to the east end. Trenching will cause more disruption for local residents, such as limiting access to their driveways for short periods of time, yard repair, temporary shutoffs to utilities, and construction site safety for children. Boring the pipeline is also an option. Regardless of which option is selected, there will still be a need for a 100- to 150-ft. trench at East 6th and Crawford on the south side of the street to tie into an existing 30-inch raw water line. Boring is less disruptive to residents but will be significantly higher in cost. Boring a 30-inch pipeline is very specialized work and is not always problem-free. For example, obstacles, such as

other utilities and boulders, cannot be seen as is possible with the trenching option. This may result in ultimately needing to dig additional trenches to make repairs or clear the path for the pipeline. Staff requested that contractors submit two separate bid item prices for trenching versus boring.

During August a project newsletter was sent to property owners on East 6th Street to inform residents on the status of the project and to contact the Water Plant if they had questions regarding the two options. In addition, staff members have gone door to door answering any questions residents may have regarding the project in an extra effort to provide excellent customer service throughout the project. Staff members have not received any direct feedback from East 6th Street residents regarding a preference of open-cut versus boring the pipeline. As stated in the attached project newsletter, several provisions have been added to the contract for open-cut construction in order to address any potential concerns by residents. If open-cut is selected, there is an incentive/penalty clause that provides a financial incentive in the amount of \$3,000 a day for a maximum of \$15,000 to complete construction on E. 6th Street in less than 28 days and a penalty of \$3,000 a day for more than 28 days.

On October 9, 2008, bids were opened for this project. The base bid includes the cost to open-cut East 6th Street. Bid Alternate No. 1 includes the additional equipment, labor, and materials cost necessary to install the 30-inch main by trenchless methods. A summary of all the bids is as follows:

	Base Bid, \$	Bid Alternate No. 1, \$ (additional cost for boring East 6th Street)	Total, \$ (Base Bid + Bid Alternate No. 1)
Engineer's Estimate	2,730,500.00	202,000.00	2,932,500.00
McAninch Corporation	2,677,200.00	475,000.00	3,152,200.00
H&W Contracting	2,688,181.00	150,000.00	2,838,181.00
Minger Construction	2,943,333.25	52,000.00	2,995,333.25
Van Hauen & Assoc.	3,049,816.00	200,000.00	3,249,816.00
Duininck Brothers. Inc.	3,217,591.00	265,000.00	3,482,591.00
SJ Lewis Construction	3,360,000.00	200,000.00	3,560,000.00
Judds Brothers Constr.	3,770,551.00	No Bid	No Bid

Staff members have worked closely with the consultant to prepare a route that balances the important goals of minimizing the cost to all customers, while minimizing the impacts to individual property owners. Several provisions have been placed in the contract to address concerns residents might have over open-trench construction. Staff believes provisions within the contract will minimize disruption to the residents such as limiting interruptions to water, sewer, and driveway access. The contractor will be required to minimize any impacts to trees and will be required to sod any disrupted areas. The contractor will be required to limit the length of trench open and add additional signage and fencing to protect any children playing in the area. The additional expense of boring East 6th Street is \$160,981 and is not cost-effective. Without additional

subsurface exploration, several contractors have made staff aware of the difficulty of boring East 6th Street due to the size of the pipe and the distance of the bore. Allowing additional subsurface exploration would cause disruption for residents, which counters the original purpose of boring East 6th Street. Staff has made multiple attempts at contacting the residents and no objections to open-trench construction on East 6th Street have been brought to our attention to date.

Project costs to date are as follows:

Engineering	\$	249,500
Easements/Permits		70,673
Construction		2,677,200
Construction Administration		62,000
Contingency (~9%)		<u>290,627</u>
Total Project Cost	\$	3,350,000

Available Funding:

FY 07/08 Adopted	\$	500,000
FY 08/09 Adopted		1,500,000
FY 09/10 Proposed		<u>2,000,000</u>
TOTAL	\$	4,000,000

Upon approval by City Council, this work will begin late fall and is scheduled for completion October 2009.

ALTERNATIVES:

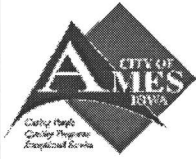
1. Award the contract for the base bid only in the amount of \$2,677,200 to McAninch of Des Moines, Iowa.
2. Award the contract and accept Bid Alternate No. 1 in the amount of \$2,838,181 to H&W Construction of Sioux Falls, South Dakota.
3. Reject all bids and do not award a contract at this time.

MANAGER'S RECOMMENDED ACTION:

The Raw Well Water Transmission Pipeline Project is an important component of the water utility's source water development plan. The pipeline will serve all customers of the water utility by providing increased reliability and redundancy for the raw water delivery system and will actually increase the available raw water capacity. Staff has worked closely with the consultant to prepare a route that balances the important goals of minimizing the cost to all customers, while minimizing the impacts to individual property owners. Staff has solicited input from East 6th Street residents, and there have not been any specific concerns brought to the attention of staff over the use of an open

trench for construction. In addition, several contractors have made staff aware of the difficulty of boring East 6th Street without complications due to the size of pipe and the length of the bore.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 above. As stated in the attached project newsletter, several provisions have been placed in the contract to address concerns residents might have over construction. Staff believes provisions within the contract will minimize disruption to the residents. The additional expense of boring East 6th Street is \$160,981 and is not cost-effective. Staff has made multiple attempts at contacting the residents, and no objections to trenching East 6th Street have been brought to our attention.



Raw Well Water Transmission Pipeline Project Newsletter

Water and Pollution Control Department

Volume I, Issue I
August 15, 2008

Purpose of the Project

One of the major components of a water utility is an adequate source water supply. In the last 10 years, five new wells have been constructed to supplement the 17 existing wells. A key element of the source water component is conveyance capacity, or the ability to move water through pipes from the supply wells to the treatment facility. This component is the driving force behind the raw well water pipeline project.

Without adequate water conveyance capability, the benefits of constructing new wells will not be fully realized. For example, the newest three wells operate at less than their design flow. The reason for this is due to restrictions in the well piping system. The existing 24-inch pipe was designed in the early 1980s before the ultimate well capacity was known. This pipeline is now undersized for current full production capability of the existing wells and will be further restricted as new wells are constructed. This raw well water pipeline will alleviate some of those restrictions. It will also provide well line capacity for future well construction.

A final objective is to increase reliability of our well line system. Currently, 65 percent of the total plant source water is conveyed through a single pipe. This project will provide the redundancy needed in the event of planned or emergency disruptions.

Trenching vs. Boring East 6th Street

Staff have been working diligently with FOX Engineering, Inc. to develop a detailed set of plans and specifications. As described at the project open house last fall, there are two ways to install the 30-inch pipeline on East 6th Street. One way is to use a trench (open cut), and the second is to directional drill or bore the pipeline. Trenching would close the south half of East 6th Street from Crawford Street to the east end. This would allow for construction equipment to dig a large trench and place the 30-inch pipeline in the ground. Some challenges residents may have with trenching are access to their driveways, yard repair, tree damage, mail delivery, garbage pick-up, noise, utility shutoffs, and construction site safety for children.

Boring the pipeline is also an option. There will still be a need for a 100-150 ft long trench at East 6th and Crawford on the south side of the street to receive the pipeline and tie in to an existing 30-inch raw water line on Crawford Street. Boring is less disruptive to the residents but will be significantly higher in cost. Boring a 30-inch pipeline is very specialized work

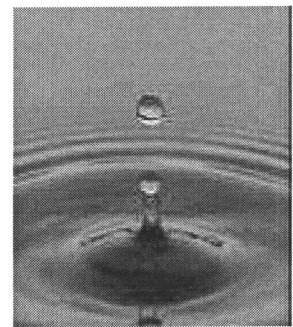
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Project Website:

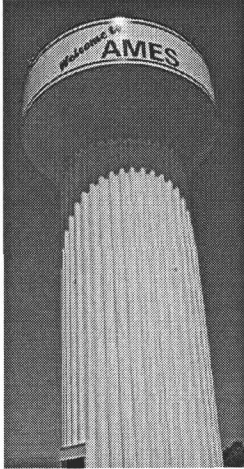
<http://www.cityofames.org/WaterWeb/>

Click on Project Updates on the right.



Questions about the project can be directed to:

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Reunions, graduations, and other parties planned from April 1, 2009 through July 1, 2009 where construction will cause problems? Please let us know by calling 515-239-5150.

Trenching vs. Boring (Cont.)

Boring is not always problem free. For example, obstacles, such as other utilities and boulders, cannot be seen as is possible with the trenching option. This may result in ultimately needing to dig additional trenches to make repairs or clear the path for the pipeline.

Currently, staff are requesting contractors to submit two separate bid item prices for trenching versus boring. When the City Council awards the whole contract, they will weigh the inconvenience to citizens versus the cost differential and make a final decision on trenching versus boring for East 6th Street. In the event that open trench installation is selected, city staff have implemented measures in the specifications to address the concerns raised by area residents such as the following:

- No work shall commence until after March 30, 2009 on East 6th Street to minimize construction and disruption to neighbors during winter-weather conditions.
- The contract shall minimize the length of trench open at any given time for safety and convenience of access to residents' driveways.
- Objectionable noises shall not take place from 7:00 p.m. to 7:00 a.m. Mon-Fri. Weekend work is still being considered in order to complete work as quickly as possible. [Please fill out the enclosed survey regarding this topic.]
- The use of incentives for completing the work early and penalties for work beyond a designated deadline to expedite progress of work will be in place.
- Specific instructions will be given to the contractor about construction site safety and precautions for children playing in the surrounding area.
- A maximum time for water and sewer shutoffs of no more than four hours at a time will be allowed.
- If driveway access will be interrupted for more than one night, the contractor is responsible for making provisions for mail and garbage service.
- Tree impacts will be minimized as much as practical, and all disturbed areas within the right of way will be replaced with sod.

Updated Timeline

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| September 9, 2008 - | Council approves plans and specifications, easements, and Notice to Bidders goes out. |
| October 14, 2008 - | Public hearing; Council makes decision on trenching versus boring and formally awards the contract. |
| November 3, 2008 - | Notice to proceed to contractor. Work will begin south of Lincoln Way, with work on East 6th Street beginning March 30, 2009. |
| October 30, 2009 - | Final completion of project. |

QUESTIONS or CONCERNS? We want to hear from you! Call 515-239-5150