

COUNCIL ACTION FORM

SUBJECT: AMES FIRE STATION #3 – HVAC MODIFICATIONS

BACKGROUND:

Fire Station No. 3, built in 2002, uses a hydronic heating system (boilers, piping, heat exchangers, etc.) to heat the entire facility. A roof mounted air-handler is used to cool the living quarters and administrative area of the fire station. The configuration of the system inhibits the flow of heating water to the living quarters and administrative area, resulting in inconsistent and insufficient heat during winter months. Due to the system's complexity, the nearest qualified service and repair provider is from Des Moines. Travel charges for a technician from Des Moines add to the maintenance and repair costs. Parts and service for this complex system are significantly more expensive than a more typical heating, ventilation and air conditioning (HVAC) system.

Over the past 11 years, repairs to the existing system have cost \$50,203 as of June 2014, with no significant improvement in the system's poor performance. Repair and routine maintenance costs for this system average \$6,593 annually. Retaining the existing system and reconfiguring it for improved comfort levels is estimated to cost \$40,000. However, maintenance costs would still be at least \$2,000 per year.

The existing system was evaluated by LMV Engineering, L.C., and a new HVAC system was designed for the living quarters and administrative area. The proposed system utilizes a more conventional gas furnace and air conditioning system, which could be serviced by several local vendors at an estimated annual cost of \$830, which is \$1,200 per year less than existing maintenance costs. A further \$4,563 in average annual unexpected repair costs would likely be avoided with the new system, and energy cost savings would total \$1,047 per year compared to the existing system.

The cost to design the proposed system was \$3,800 and the engineer's estimate for installation of a replacement system is \$66,300 for a total project cost of \$70,100. Since this project will result in substantial energy savings, funds from the Cool Cities account will be used to finance the installation. The Cool Cities account balance is currently \$70,957. This project is eligible for several utility rebates, which would be returned to the Cool Cities account to be used for future energy efficiency projects.

ALTERNATIVES:

1. Approve the Ames Fire Station #3 HVAC Modifications by establishing October 22, 2014, as the date of letting and October 28, 2014, as the date for report of bids.

2. Direct staff to revise the project.

MANAGER'S RECOMMENDED ACTION:

The high maintenance costs and poor performance of the Fire Station #3 HVAC system have necessitated exploring a simpler and more reliable HVAC system design. A new system will improve occupant comfort, and will also result in maintenance and energy savings over the current configuration. **The estimated payback from this investment is approximately ten years. In addition, if this purchase is not made, it will cost at least \$40,000 to repair the existing system.**

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby approving the Ames Fire Station #3 HVAC Modifications by establishing October 22, 2014, as the date of letting and October 28, 2014, as the date for report of bids.