



MEMORANDUM

To: Mayor and City Council

From: Ken Griffin, P.E., Director of Engineering and Public Works

Date: December 12, 2017

Reference: HVAC Renovations to Fire Station 3

2030: Sustainable City Government, Goal 3
Excellent and Well-maintained City Infrastructure and Facilities

General Information:

- Fire Station 3 Facility constructed in 1997.
- Existing systems were not optimally installed.
- Project total is \$174,250.00.

Introduction:

This agenda item is being presented to consider approval of National Intergovernmental Purchasing Alliance Proposal #NIPA R150151-TX-15486 for HVAC renovations to Fire Station 3, located at 133 Parkway Boulevard, in the amount of \$174,250.00; and authorizing the City Manager to sign any necessary documents. National IPA contracts are awarded through a Request for Proposal (RFP) competitive solicitation by a public agency or a governmental entity. Additional information about National IPA and the contracting process is attached. Further information can be found at www.nationalipa.org.

Analysis:

Fire Station 3 was constructed in 1997, and has had a long history with the HVAC system not operating to the fullest capacity. Prior attempts to remedy the inefficiencies with the City's previous HVAC vendor have been unsuccessful. Numerous "band-aides" have contributed to air quality issues and rendered the existing HVAC system antiquated and unable to successfully climate control the interior space.

In 2010, the City replaced two 5-ton split systems at the Fire Station and the existing duct work. The result was an overabundance of air for the space. The primary issues with the current system are:

- Haphazard installation of the air handlers, ductwork, and lines due to the space constraints in the attic. All units are difficult to access for maintenance and some ductwork and lines cannot

be properly sloped or insulated. Poorly insulated ductwork and drainage issues have led to increased moisture levels.

- Inadequate ventilation compromises air quality and the limited air space around the air handlers results in an additional load for the units as they operate in a hot environment.
- The existing system is residential style units that are not capable of maintaining the low temps in the sleeping quarters and the proper humidity control for the station.
- There is no energy management system or controls to help regulate, controls or assess the systems.

TD Industries, the City's current HVAC vendor, conducted a thorough investigation of the Fire Station. The recommendation is to install a variable volume refrigerant system that changes with the loads in the facility with a variable speed technology. The new "VRF" system will be set up as a heat pump arrangement, enabling the units to heat in the winter months and cool in the summer months. This eliminates the need for the existing gas fired units. The system will also incorporate a "dedicated" outside air unit that will "condition" 100% outside air and introduce it into the space as a "neutral" air temperature, helping with continuous air changes in the building, resulting in better air quality.

The work will be performed during normal business hours, in three phases, and will not displace the facility tenants. First, 15 new cassettes (ceiling mounted) and wall mount air handlers will be installed. Each will have its own hard-mounted thermostat allowing for more precise control and reduced energy usage. When the new VRF system is online, phase two will be the demolition of old duct work and air handlers in the attic space. Once demolition is complete, phase three will be the installation of a new dedicated outside air handler, which will introduce outside air into the facility, condition it, and circulate it throughout resulting in better air quality.

The condensing units that are removed will be placed in storage for possible use at another city facility. The project will be completed in approximately three to four weeks.

Legal Review:

N/A.

Fiscal Impact:

The fiscal impact of the agenda item is a total of \$174,250.00.

Recommendation:

The Engineering Department recommends approval of the National IPA proposal with TD Industries for the HVAC Renovations to Fire Station 3.