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Department of Utilities
Wastewater Treatment Plant
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TO: Chairperson Greg Danneker and Members of the Utilities Committee

CC: Chris Shaw, Utilities Director

FROM: Utility Director Chris Shaw

DATE: July 16, 2015

RE: *Approve the Purchase of Gas Sensing Equipment to LAI, Inc. in the amount of \$ 97,836 for the Methane detection System Replacement Project.*

BACKGROUND:

The anaerobic digester process at the Appleton Wastewater Treatment Plant (AWWTP) reduces organic compounds to digester gas and water. The digester gas is stored and is ultimately used in gas fired boilers to heat water for processes and building heat needs. Digester gas is composed of approximately 65% methane and 35% carbon dioxide. The AWWTP currently generates 400,000 cubic feet of digester gas per day. Digester gasses have the potential to be explosive and or to asphyxiate. Consequently, there is a need to monitor atmospheric conditions of these gases in the work environment.

The gas monitoring system that is in use at the AWWTP was constructed in 1992 and the gas sensing instruments and stations are no longer being supported. Maintenance staff completed a project that reviewed alternative methods to move forward with repair or replacement recommendation. They recommend that the instruments be changed out with newer models. Their review and recommendation allows for existing conduits and conductors to be re-used. The maintenance staff also has a preference to install the instruments later on this year. This level of planning has resulted in lower project cost estimates along with lower overall project costs.

QUOTE RESULTS:

The table on the following page lists the manufacturers that represent MSA equipment. There are a total of 25 sensors and six stations that are in need of replacement. It should be noted that the monitors are industrial grade and classified for explosive environments. The sensors that are recommended for purchase can detect accurate concentrations of hydrogen sulfide, carbon monoxide, and methane gases.

COMPANY	QUOTE
Fastenal	\$ 193,738.50
Grainger	\$ 99,999.64
LAI, Ltd.	\$ 97,836
Motion Industries	No Quote Provided
Airgas, Inc.	No Quote Provided

The quote received from LAI, Ltd. was the least cost quote. Utility staff have completed their review and recommend the purchase award of equipment to LAI, Ltd. In addition to the staff's recommendation, LAI, Ltd. happened to be the original vendor for the 1992 equipment.

RECOMMENDATION:

I recommend approval of the Methane Detection System Equipment Purchase to LAI in the amount of \$ 97,836. The 2015 budget identified \$105,000 as a total for this project. If you have any questions or require further information regarding this project please contact Chris Shaw at ph: 832-5945.