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WATER POLLUTION CONTROL**MEMORANDUM**

To: Gregg Mandsager, City Administrator

CC: Nancy Lueck, Finance Director
Fran Donelson, Secretary

From: Jon Koch, WPCP Director

Date: November 14th, 2013

Re: Laboratory Ion Chromatography Instrument Purchase

INTRODUCTION: New regulations required by the EPA and IDNR include reporting of nitrogen levels in the WPCP effluent. The Ion Chromatography unit utilizes the approved method for testing and reporting. This unit will test for multiple parameters including nitrate, nitrite, chloride, fluoride, sulfates and ortho-phosphorus.

BACKGROUND: Thermo Electron is the only Ion Chromatography manufacturer that utilizes electrolytic suppression for anion testing. The alternative chemical suppression units require the continuous purchase of expensive and hazardous chemicals. This unit will be less expensive to operate than lower level equivalents over its lifetime of use. A demonstration unit is available for purchase from the manufacturer at significant cost reductions. New unit cost would exceed \$40,000. The demonstration unit will cost \$32,849.95 and includes a four day intensive training course in Chicago.

RECOMMENDATION/RATIONALE: Staff recommends the purchase of a demonstration model ICS-110 Ion Chromatography Unit from the manufacturer Thermo Electron for \$32,849.95. \$35,000 has been budgeted for this purchase.

BACKUP INFORMATION:

1. PFB memo

INTEROFFICE MEMORANDUM

TO: JON KOCH
FROM: PATTI FULLER-BLOECHL
SUBJECT: PURCHASE OF ION CHROMATOGRAPHY INSTRUMENTATION
DATE: 11/7/13

ION CHROMATOGRAPHY

The Muscatine WPCP Laboratory budgeted \$35,000 for an Ion Chromatography (IC) Instrument for the 2013-2014 budget year. The IC Instrument will be used for nitrogen testing which is part of the EPA 300 anions method which include; nitrate, nitrite, chloride, fluoride, sulfates and ortho-phosphorus.

Thermo Electron/Dionex is the only ion chromatography manufacturer that manufactures electrolytic suppression for anion testing which is used for test method EPA 300.0. In working with sales representative, they were able to locate a demonstration unit that was used by representatives in the field. The unit is a ICS-1100 system is the basic system that is used in the water and wastewater industry. The cost of the ICS-1100 is \$32,849.95. This unit consists of the ICS-1100 complete system with installation, a four day training course (travel not included), Parts Only Warranty for year 2 and 3, a column heater and a one year preventative maintenance contract. There will be an estimated \$1000 needed for travel to Chicago to cover the training course. The money needed for travel, which will be used in May, should not extend the laboratory budget over the bottom line in the budget.

The availability of demonstration units is limited to two available units. The cost for a new out of the box unit would be more than \$40,000.