



City of Norman, OK

Municipal Building
Council Chambers
201 West Gray
Norman, OK 73069

Master

File Number: K-1617-43

File ID: K-1617-43

Type: Contract

Status: Consent Item

Version: 1

Reference:

In Control: City Council

Department: Utilities Department

Cost: \$334,254.00

File Created: 07/28/2016

File Name: Carollo Chromium Pilot Project Contract

Final Action:

Title: CONTRACT K-1617-43: A CONTRACT BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND CAROLLO ENGINEERS, INC., IN THE AMOUNT OF \$334,254 FOR THE WATER TREATMENT PILOT PROJECT TO EFFICIENTLY REMOVE CHROMIUM FROM GROUND WATER.

Notes: ACTION NEEDED: Acting as the Norman Utilities Authority, motion to approve or reject Contract K-1617-43 with Carollo Engineers, Inc., in the amount of \$334,254; and, if approved, authorize the execution thereof.

ACTION TAKEN: _____

Agenda Date: 08/09/2016

Agenda Number:

Attachments: BiotttaBOR Agr-TO1_Carloilo signed.pdf, Table from Cr(VI) Pilot Project.pdf

Project Manager: Chris Mattingly, Capital Projects Engineer

Entered by: chris.mattingly@normanok.gov

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
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Text of Legislative File K-1617-43

Body

BACKGROUND: Approximately 35% of the City of Norman's water comes from wells drilled into the Garber-Wellington aquifer. The water in the aquifer contains varying amounts of metals, including chromium. As provided by U.S. Environmental Protection Agency (EPA) website, chromium (total) levels have been regulated for safe drinking water since 1992 at a maximum contaminant level (MCL) of 100 parts per billion (ppb). The EPA has reviewed relevant data at 6 year intervals and continues to support the 100 ppb MCL as protective of human health. Recently, various entities have challenged the existing MCL and the EPA is reviewing the new information and will make a final determination of the proposed MCL in the next 3 to 4 years. If the allowable MCL for total chromium (or Chromium VI) is significantly lowered, the City of Norman may have to treat all of its groundwater supplies for chromium and/or find a new source of water.

For several years, the Norman Utilities Authority (NUA) has been researching treatment options for chromium and other metals. The Fiscal Year Ending 2017 (FYE17) budget includes funding to perform a one-year pilot study on biological treatment of the well water. This treatment would remove chromium at a potentially more

affordable cost compared to other treatment options such as ion exchange, reductive coagulation /filtration, or reverse osmosis.

The NUA, with assistance from Carollo Engineers, applied for a grant from the Bureau of Reclamation (BOR), Desalination and Water Purification Research and Development (DWPR) on February 18, 2015. On July 28, 2015, the NUA was informed that although the application was highly ranked, it was not funded due to budget constraints. On December 10, 2015, BOR advised the NUA that additional funding had become available and asked if the NUA was still interested in the pilot project. Staff and Carollo Engineers submitted additional information to the BOR and the NUA approved Contract K-1516-141 on June 28, 2016 accepting a grant from the BOR in the amount of \$191,647. This grant provides partial funding for the proposed pilot project.

DESCRIPTION: The pilot project will treat well water from Well #5 using Carollo's biottta™ biological treatment unit. In the presence of an electron donor (acetate) and nutrients (phosphorous), microorganisms within the engineered system can reduce soluble Chromium VI into insoluble Chromium III which will precipitate out and be removed by filtering. Chromium III is the "safe form" of chromium and is included in dietary supplements such as vitamins. The pilot unit will be set up at the water treatment plant (WTP); an existing water line will convey groundwater from the well to the WTP. Approximately 25 gallons per minute (gpm) will be treated by the pilot unit. Staff will assist the consultant in operating and maintaining the unit during the 1-year project.

The total project cost is \$436,863 and is funded by a conglomerate of partners who are interested in the outcome of this pilot project. Oklahoma Department of Environmental Quality, Oklahoma Water Resources Board, Dr. Sabatini with the University of Oklahoma, and Carollo Engineers have committed various amounts of in-kind services. The attached table shows the funding amounts per participant.

The proposed \$334,254 contract will allow Carollo Engineers, Inc. to install the biottta™ pilot trailer at the WTP and perform all testing and analyses of removing the Chromium VI from the well water over a 1 year period. Funds totalling \$341,647 are available under FYE17 Pilot Study for Chromium Treatment; \$150,000 is available in Design (account 031-9942-462.62-01; project WA0236) while the BOR grant funding of \$191,847 is available in Design (account 031-9942-462.62-01; project WA0225) for reimbursement of expended funds.

RECOMMENDATION: Staff recommends approval of Contract K-1617-43 with Carollo Engineers, Inc. of Oklahoma City, Oklahoma, in the amount of \$334,254. Staff also recommends funding of \$142,607 from Design (account 031-9942-462.62-01; project WA0236) and \$191,647 from Design (account 031-9942-462.62-01; project WA0225).