



City of Norman, OK

Municipal Building
Council Chambers
201 West Gray
Norman, OK 73069

Master

File Number: K-1819-44 CO#1

File ID: K-1819-44 CO#1 **Type:** Contract **Status:** Consent Item

Version: 1 **Reference:** Item 23 **In Control:** City Council

Department: Utilities Department **Cost:** \$1,607,970.36 **File Created:** 11/25/2019

File Name: FYE15 Water Wells aka 2018 Wells **Final Action:**

Title: CHANGE ORDER NO. ONE TO CONTRACT K-1819-44: BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND LAYNE CHRISTENSEN COMPANY INCREASING THE CONTRACT AMOUNT BY \$1,607,970.36 FOR A REVISED CONTRACT AMOUNT OF \$6,322,392.08 AND INCREASING THE CONTRACT TIME BY 160 CALENDAR DAYS FOR THE 2018 GROUNDWATER WELLFIELD DEVELOPMENT PROJECT.

Notes: ACTION NEEDED: Acting as the Norman Utilities Authority, motion to approve or reject Change Order No. One to Contract K-1819-44 with Layne Christensen Company increasing the contract amount by \$1,607,970.36 for a revised contract amount of \$6,322,392.09; and if approved, authorize the execution thereof.

ACTION TAKEN: _____

Agenda Date: 12/10/2019

Agenda Number: 23

Attachments: 2019-11-26 Norman GW Change Order No_1.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-1819-44 CO#1

Body

BACKGROUND:

In March 2012, the Norman Utilities Authority (NUA) approved Contract K-1112-114 with Carollo Engineers, Inc. for preparation of the 2060 Strategic Water Supply Plan (the 2060 SWSP). The plan update was needed because the NUA was unable to supply sufficient potable water to meet peak demands during summer months and was concerned about probable regulatory changes affecting both our surface water and groundwater supplies.

The goal of the 2060 SWSP was to strengthen our knowledge of potential short and long-term water supply source(s) for our community and begin implementation of a robust, water supply solution acceptable to the citizens of Norman. The 2060 SWSP Ad-Hoc Committee was appointed to ensure open and two-way dialogue

with the community, to ensure the suggestions of the public are addressed, and to be able to communicate the objectives and conclusions of the 2060 SWSP to the public.

Eight meetings were held with the 2060 SWSP Ad-hoc Committee and six public meetings were held for public participation and input. Fourteen different potential water supply portfolios were developed, investigated and evaluated at these meetings. Each portfolio was developed to provide an annual average supply of 29 million gallons per day (MGD) in 2060 and a peak daily supply of 55.4 MGD in 2060. Ultimately, Resolution R-1314-146 was approved by the NUA on June 24, 2014 recommending Portfolio 14 for implementation; this portfolio included the following recommendations:

1. Continued use of Lake Thunderbird as a raw water supply source with treatment at an improved water treatment facility at the existing site (but with the current allocation reduced from 8.4 to 6.1 MGD of annual average supply based on a pending Bureau of Reclamation yield study);
2. Expanded water conservation practices ultimately resulting in additional annual average water supply savings of 1 MGD in 2060 through reduced water consumption;
3. Additional non-potable reuse ultimately resulting in additional annual average potable water supply savings of 0.8 MGD in 2060 (and reduced peak summertime demand of about 4.6 MGD by 2060);
4. Continued use of our current groundwater supply system of 36 wells and expanding the groundwater supply system by 2 MGD in the short term for a total of 8 MGD annual average supply capability;
5. The addition of treatment for arsenic and chromium 6 at a centralized facility increasing the groundwater annual average supply capacity from 8.0 to 10.1 MGD by bringing 12 inactive wells back on-line; and
6. Implementation of indirect potable reuse (IPR) over time by adding additional treatment at the Water Reclamation Facility (WRF) and discharging the highly treated effluent into Lake Thunderbird; raw water conveyance and water treatment expansions would be required.

A rate structure sufficient to pay for the fiscal year 2014-2015 (FYE15) Water Wells and Supply Lines (Project WA0212) was approved by Norman voters in 2015 as the first phase of capacity improvements to increase the City of Norman water supply. Request for Proposal (RFP) 1516-6 was distributed on August 8, 2015 and fourteen (14) proposals were received on September 14, 2015. The scope of RFP 1516-6 was generally to:

1. Study geologic conditions within the Garber Wellington aquifer, evaluate and propose the most cost effective well field development plan for Norman to achieve the 2 MGD of additional supply in the short term as recommended by the 2060 Strategic Water Supply Plan (see item 4 above),
2. Recommend, permit, and acquire sites and water rights for test wells and potential future production wells,
3. Recommend test well drilling and testing procedures to maximize water quantity and enhance water quality, adequately ascertain the potential well yield and water quality to enable selection of permanent production well sites that best satisfy long term production and water quality goals,
4. Consider the implications of pending (and potentially new) EPA rules concerning drinking water quality and evaluate and recommend the optimum location(s) of a future ground water treatment facility or facilities, including blending;
5. Provide design documents and construction assistance for the installation of test wells, production wells, well houses and transmission system improvements to convey potable water to customers.

On June 14, 2016, the NUA approved Contract K-1516-139 with Carollo Engineers to identify existing wells to reactivate through various blending opportunities; work with Association of Central Oklahoma Governments (ACOG) to review and utilize the existing groundwater model recently created by Oklahoma Water Resources Board to determine suitable new well sites that will produce from the most prolific thick saturated sand zones; prepare bid package for drilling test wells and recommend to the City of Norman where the well field expansion should take place; and determine most feasible location to construct future groundwater treatment and/or blending facility or facilities.

Carollo and NUA staff worked closely with ACOG to map water bearing sand zones and identified 45 potential test well sites to pursue. The test well sites were prioritized and landowners were contacted to determine if they were willing to initially allow drilling of test wells and if found suitable for potable water use, allow construction of a

production well.

Additionally, Carollo prepared documents necessary to pre-qualify well drillers meeting minimum requirements required by the OWRB and the NUA. The pre-qualification notice was advertised November 23 and November 30, 2017 and proposals were received on December 14, 2017. In January 2017, Carollo and the NUA determined that four (4) well drilling firms met the minimum qualifications defined in the prequalification process and these firms were so notified.

On October 18, 2018, bids were received from two pre-qualified well drilling firms and the low bid of \$4,714,421.72 was received from Layne Christensen Company (Layne) of Guthrie, Oklahoma. The engineering estimate was \$5,218,990. The NUA approved contract K-1819-44 with Layne Christensen Company to drill six wells or 1.2 MGD of the intended 2 MGD.

Staff was pursuing a separate horizontal well concept that had potential to provide 0.8 MGD with one water well. After thoroughly researching the concept, staff determined that the unknown risks with new technology were not palatable at this time. Staff decided to obtain the 0.8 MGD by drilling 3-4 additional vertical wells with proven technology.

Discussion:

As detailed in proposed Change Order No. 1 (CO#1), three (3) additional production wells are being added to the Layne contract for a total of nine wells. The original bid form was prepared with unit price bid items in anticipation of adding production wells. CO#1 will increase the original contract K-1819-44 with Layne by \$1,607,970.36 from \$4,714,421.72 to \$6,322,392.08. This is an increase of 34% to add three more production wells or \$535,990.12 per production well.

The State Competitive Bidding Act allows processing of change orders up to 10% of the original contract amount or about \$470,000; however, unit price bid items are exempted from this maximum amount. NUA staff and Carollo Engineers, Inc. recommend the new work be completed by change order with Layne.

The Water Wells and Supply Lines project contains funds totaling \$5,998,338 in Construction (Account Org 31993345, Object 46101, Project WB0212) which is adequate to fund the contract. \$1,607,970.36 in new funding has been encumbered in Requisition No. 20201497.

RECOMMENDATION:

Staff recommends the NUA approve Change Order No. 1 to Contract K-1819-44 in the amount of \$1,607,970.36 with Layne Christensen Company increasing the contract amount from \$4,714,421.72 to \$6,322,392.08 and extending the final completion date by 160 calendar days to December 31, 2020.