



City of Norman, OK

Municipal Building
Council Chambers
201 West Gray
Norman, OK 73069

Master

File Number: K-1314-136 CO#3

File ID: K-1314-136 CO#3 **Type:** Contract **Status:** Consent Item

Version: 1 **Reference:** Item 24 **In Control:** City Council

Department: Utilities Department **Cost:** \$152,808.92 **File Created:** 12/01/2016

File Name: CO#3 to Phase 2 WRF Improvements **Final Action:**

Title: CHANGE ORDER NO. THREE TO CONTRACT K-1314-136: BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND ARCHER WESTERN CONSTRUCTION, L.L.C. INCREASING THE CONTRACT AMOUNT BY \$152,808.92 FOR A REVISED CONTRACT AMOUNT OF \$49,073,905.70 AND EXTENDING THE CONTRACT 53 CALENDAR DAYS FOR THE WATER RECLAMATION FACILITY PHASE 2 IMPROVEMENTS.

Notes: ACTION NEEDED: Acting as the Norman Utilities Authority, motion to approve or reject Change Order No. Three to Contract K-1314-136 with Archer Western Construction, L.L.C., increasing the contract amount by \$152,808.92 for a revised contract price of \$49,073.70 and extending the contract 53 calendar days and authorize the execution thereof.

ACTION TAKEN: _____

Agenda Date: 12/13/2016

Agenda Number: 24

Attachments: Change Order No. 3 signed by AW, Change Order No. 3 Backup, PO Archer

Project Manager: Mark Daniels, Utilities Engineer

Entered by: mark.daniels@normanok.gov

Effective Date:

History of Legislative File

Version:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:

Text of Legislative File K-1314-136 CO#3

Body

BACKGROUND: The Wastewater Master Plan (WWMP), adopted by the Norman Utilities Authority (NUA) in 2001, recommended that additional facilities treating an average daily design flow (ADF) of 21.5 million gallons per day (MGD) would ultimately be needed to serve the area approved for urban development under the 2025 Land Use and Transportation Plan. The WWMP recommended expansion of the South Water Reclamation Facility (WRF) from 12 to 17 MGD and construction of a new North WRF with an ultimate ADF of 4.5 MGD.

More recently, staff recommended and the NUA agreed that the South WRF would be rehabilitated and expanded first and the North WRF would be designed and constructed in the future when the capacity of the recently expanded Lift Station D was consumed. Based on this premise, Norman voters approved a rate increase in October 2013, in part for expanded treatment capacity at the South WRF.

Regulatory Requirements: Our Oklahoma Pollutant Discharge Elimination System (OPDES) permit for the South WRF issued by Oklahoma Department of Environmental Quality (DEQ), required construction of new disinfection facilities and compliance with final discharge limits by July 1, 2013. On September 12, 2014, the NUA and DEQ agreed to Consent Order 13-077 which includes the following schedule:

1. Complete construction of disinfection facilities by January 1, 2016
2. Attain compliance with final limits for Fecal Coliform by July 1, 2016
3. Complete construction of all facilities by January 1, 2017
4. Attain compliance with final limits for Total Suspended Solids by July 1, 2017.

The NUA completed items 1 and 2 prior to the deadlines imposed by the DEQ and will easily attain compliance with discharge parameters specified in item 4 by the deadline. Compliance with item 3 will be dependent upon the DEQ interpretation of "complete construction". It is likely that all treatment units will be operational and placed into service; however, items such as paving, yard lighting, fencing, landscaping and final cleanup will not be complete by January 1, 2017. We are hopeful the DEQ interpretation will be tied to WRF operations.

Engineering Services: On March 8, 2011, the NUA approved Contract K-1011-148 authorizing Garver Engineering, Inc. (Garver), to proceed with the Engineering Report (ER) and Surveying Phases. The ER was finalized and submitted to the DEQ on November 18, 2011; the DEQ approved the ER on June 27, 2013. On June 12, 2012, the NUA approved Amendment No. 1 authorizing Garver to proceed with the Final Design and Bidding phases. The plans and specifications for the improvements were submitted to the DEQ on August 1, 2013 and the DEQ approved them on November 26, 2013. On April 22, 2014, the NUA approved Amendment No. 2 authorizing Garver to proceed with the construction phase services including construction administration, full-time construction observation, preparation of operation and maintenance manuals, equipment start-up and staff training, and implementation of the supervisory control and data acquisition (SCADA) system.

Construction: Bids for the WRF Phase 2 Improvements were received from three pre-qualified contractors on March 27, 2014. Archer Western Construction, LLC (Archer Western), with regional offices in Irving, Texas, was the low bidder. On April 22, 2014, the NUA awarded the bid and approved Contract K-1314-136 with Archer Western in the amount of \$48,822,550.

Approved funding for the WRF Phase 2 Improvements is 40.7% from the Sewer Excise Tax (SET) Fund (322) and 59.3% from the Water Reclamation Fund (032). The project funding is augmented by a State Revolving Fund (SRF) loan from the Oklahoma Water Resources Board (OWRB) for up to \$50,300,000. Future revenues from the Water Reclamation Fund and the Sewer Excise Tax Fund are dedicated to pay back the SRF loan.

The WRF Phase 2 Improvements will add Disinfection Facilities, expand the average daily design flow from 12 to 17 MGD and rehabilitate many existing processes. Archer Western began construction of the improvements on June 2, 2014. The work was broken into two phases with the Disinfection Facilities to be completed by November 24, 2015 (Early Completion) and all work to be complete by November 18, 2016 (Final Completion). The Disinfection Facilities were substantially complete and placed into operation on October 29, 2015 prior to the DEQ deadline of January 1, 2016 and these facilities currently meet proposed discharge disinfection requirements. The most recent construction payment through October 31, 2016 was for a total amount of \$43,183,224 or 88% of the contract amount; 90% of the contract time has consumed. At this time, the FYE17 construction budget for the Water Reclamation Facility Phase 2 Improvements (WW0065) includes contingency funds totaling \$2,291,627.

DISCUSSION: The approved construction contract amount of \$48,822,550 included a Change Order Allowance of \$500,000 or about 1% of the contract amount. The NUA approved Change Order No. 1 (CO#1) on September 8, 2015 which included several Contract Modification Requests (CMR's) and a time extension of forty-seven (47) calendar days to January 4, 2017. The NUA approved CO#2 on May 10, 2016 increasing the contract amount by \$206,095.60 with no time extension. The CMR's to date total \$598,546.78 consuming the \$500,000 Change Order Allowance and increasing the original contract amount by \$98,546.78 from \$48,822,550 to \$48,921,096.78 or an increase of about 0.2%.

Proposed CO#3 will increase the contract amount by \$152,808.92 from \$48,921,096.78 to \$49,073,905.70 and grant a time extension for of fifty-three (53) calendar days to March 30, 2017. The CMR's to date now total

\$751,355.70 increasing the original contract amount by \$277,855.70; this is an overall increase of about 0.57%. The CMR's in CO#3 are briefly described below and can be divided into groups as follows:

Owner-Directed CMR's: Modifications requested by the NUA are generally to remedy maintenance situations or add operational improvements not originally included in the project scope; these 16 CMR's total \$41,881.28.

- CMR 3: Remove and land apply an additional 3,800 cubic yards (CY) of sludge from old final clarifiers prior to demolition at contract bid unit price of \$19 per CY at a cost of \$72,200.00.
- CMR 37: Approve credit for use of existing conduit between the existing electrical room and the new electrical control room in the Main Control Building for a savings of \$2,503.15.
- CMR 38: Modify size of electrical conductors and breakers for the new headworks equipment at a cost of \$4,488.91.
- CMR 41: Furnish and install two additional plug valves for flame arrestor assemblies on top of Digester #1 at a cost of \$1,392.36.
- CMR 43: Add 6-inch ductile iron pipe spool pieces at each of two thickened waste activated sludge (TWAS) flow meters in ensure proper operation at a cost of \$2,819.61.
- CMR 46: Furnish and install fall protection anchors adjacent to three new odor control air supply fans on roof of Solids Loading Bay and repair adjacent roof at a cost of \$4,095.46.
- CMR 48: Approve credit to accept two multistage post-aeration blowers at Ultraviolet (UV) Facility as furnished for a savings of \$30,565.00.
- CMR 49: Approve credit to re-route 12-inch drain lines from Aeration Basins #5 and #6 for a savings of \$9,118.25.
- CMR 50: Remove existing concrete box culverts beneath parking area (no longer needed) and haul to storage area south of Bratcher-Minor Road at a cost of \$12,166.53.
- CMR 51: Approve credit to reduce coating thickness on the interior of Digester #1 from 80 mils to 50 mils for a savings of \$37,367.00.
- CMR 53: Increase size of grounding wire from the Motor Control Center (MCC-55) at RAS/WAS Pump Station to the Main Control Building at a cost of \$6,515.48.
- CMR 57: Furnish and install 8-foot wide by 6-foot tall stainless steel channel guides on effluent side of each UV channel and furnish twelve aluminum stop logs at a cost of \$23,100.71.
- CMR 60: Approve credit to delete above grade, exterior coatings on concrete for the new Aeration Basins, Secondary Clarifier Splitter Box B, and Secondary Clarifiers 1 and 2 for a savings of \$17,997.84.
- CMR 62: Furnish and install one 6-inch and two 2-inch butterfly valves on air lines between new Aeration Basins and the Headworks for operational better control at a cost of \$2,812.38.
- CMR 63: Furnish and install two stainless steel supports under the new walkway slab between existing Aeration Basin #3 and new Aeration Basin #4 at a cost of \$1,802.07.
- CMR 66: Furnish and install protective coating on the interior of the Influent Splitter Box to Primary Clarifiers 3 and 4 at a cost of \$8,039.01.

Contractor Requested CMR's: Modifications requested by Archer Western generally to remedy unforeseen conditions encountered and were not originally included in the project; these 10 CMR's total \$137,427.64.

- CMR 9 will relocate approximately 250 feet of communications cable in 2-inch conduit serving the Westside Lift Station which was in conflict with new construction at a cost of \$13,619.79.
- CMR 35 will remove and dispose of sludge discovered inside the existing floating cover on Digester #1 which was being demolished and modify connection between PVC and FRP odor control piping at a cost of \$12,820.67.
- CMR 39 will modify effluent weir wall for three existing aeration basins to match height of new aeration basins by extending concrete wall upward by 1-foot 10-inches and installing new weir plate at a cost of \$46,485.25 and increasing the contract time by fifteen (15) calendar days.
- CMR-42: Approve credit to delete sheet piling required at the Retaining Wall east of Environmental Services Building and move wall to the west for a savings of \$13,327.35. CMR 45 will furnish and install an additional condensate manhole in odor control piping near Blower #2 for System C at a cost \$1,718.96. Due to unknown underground obstructions, a new manhole is required at low point in pipeline to allow condensate removal; \$3,437.92 cost to be shared equally by NUA and Contractor.

- CMR 47 will compensate Archer Western for removing and disposing of existing buried and abandoned Headworks Structure in conflict with new Influent Flow Measurement Structure at a cost of \$39,633.64 and increase the contract time by 28 calendar days. Contract documents did not identify the extent of structure to be removed and could not be anticipated by Contractor.
- CMR 52 will install air relief valve on 24-inch recycled activated sludge (RAS) piping at new high point caused by unforeseen buried electrical duct bank at a cost of \$5,696.58.
- CMR 54: Remove existing abandoned electrical manhole and duct bank in conflict with new 48-inch effluent piping from new aeration basins at a cost of \$4,720.85.
- CMR 58 will form, reinforce and pour missing concrete support wall at Headworks at a cost of \$10,672.69; wall was shown on as-built drawings for Headworks but was not constructed.
- CMR 59 will remove and dispose of existing buried and abandoned manhole and piping to south of existing Headworks Structure which is in conflict with Headworks Washer/Compactor Conveying Slab at a cost of \$15,386.56 and increasing the contract time by ten (10) calendar days.

Contract Time Extensions: As noted in three CMR's above, CO#3 also approves a contract time extension totaling fifty-three (53) calendar days for Substantial and Final Completion. Substantial Completion will be extended to January 29, 2017; Final Completion will be extended from February 5, 2017 to March 30, 2017. As noted previously, DEQ Consent Order 13-077 currently requires all construction to be complete by January 1, 2017. However, for said 53-day period, Contractor agrees to be responsible for fines of up to \$575 per day for failure to meet construction completion deadline of January 1, 2017, if fines are levied by the DEQ relative to Task H of Consent Order 13-077. Additionally, Contractor agrees to reduce contract amount by \$500 per day, for a total of \$26,500, to partially compensate NUA for additional construction inspection services to be incurred as a result of said 53-day time extension. Thus, due to this agreement, the net cost of CMR's 39, 47, and 59 are reduced by \$7,500, \$14,000 and \$5,000, respectively.

At this time, the FYE17 construction budget for the Water Reclamation Facility Phase 2 Improvements (WW0065) includes contingency funds totaling \$2,291,627 including \$1,425,125 in the Water Reclamation Fund (WRF) and \$866,502 in the Sewer Excise Tax (SET). As per the funding split for the project, 40.7% or \$62,193 of CO#3 will be funded by SET construction account 322-9048-432.61-01 and 59.3% or \$90,615.92 will be funded by WRF construction account 032-9048-432.61-01. With approval of CO#3, the remaining contingency amount for the WRF Phase 2 Improvements would be approximately \$2,138,818.

RECOMMENDATION: Recommend the NUA approve Change Order No. 3 with Archer Western Construction, LLC increasing the contract amount for the Water Reclamation Facility Phase 2 Improvements by \$152,808.92 to a total of \$49,073,905.70 and extending the Final Completion date by 53 calendar days to March 30, 2017.