



Date: November 4, 2022
To: Darrel Pyle, City Manager
From: Chris Mattingly, P.E., Director of Utilities *CM*
Subject: 2018 Groundwater Wellfield Project – Change Order No. 4 to Contract K-1819-44 w/Layne, A Granite Company, Project WB0212

City Council Resolution R-1112-55 grants administrative authority to the City Manager to approve change order requests up to \$40,000 or 10% of contract amount, whichever is less, and subsequently report those approvals to the City Council. As part of the 2018 Groundwater Wellfield Development Project, a change order is being requested by contractor and staff to reconcile as-bid to as-built quantities to date and allow preparation for final payment to the vendors. Once all vendors are paid, the contractor, consultant, and staff will work with our funding agency to complete all loan paperwork and bring a final closeout change order and acceptance of project to the NUA in January 2023.

Change Order No. 4 is an increase in the amount of \$35,866.79 and all supporting documentation is shown in attached letter provided by our consultant. The change order also adds an additional 200 calendar days to the contract due to unforeseen circumstances. Some of the disruption of workflow was from staff and other contracts having trouble with bacteriological testing of the water lines that would eventually be used by the new water wells. In addition, the contractor and its subcontractors were interrupted by COVID-19 affecting labor shortages and manufacturing/delivery delays.

Staff has reviewed the change order along with our consultant to confirm that this item is acceptable. At this time, staff recommends approval of the change order from Layne that increases the contract amount by \$35,866.79 and extends the contract completion date 200 calendar days. There is \$2,277,251.54 available in the project account (WB0212-CONST) 31993345-46101, which is sufficient for funding this change order.

Reviewed by: Anthony Francisco, Director of Finance *A. Francisco*
Kathryn Walker, City Attorney *KW*

Approved by:

[Signature]

Darrel Pyle, City Manager

Date

11-4-22

office memorandum

NORMAN UTILITIES AUTHORITY
CITY OF NORMAN
CLEVELAND COUNTY, OKLAHOMA

DATE: October 20, 2022
CHANGE ORDER NO.: Four (4)
CONTRACT NO.: Contract # K-1819-44
PROJECT: 2018 Groundwater Wellfield Development
CONTRACTOR: Layne, A Granite Company
4691 NE Highway 33
Guthrie, OK 73044

	<u>Contract Time</u>	<u>Contract Amount</u>
ORIGINAL:	547 calendar days	\$4,714,421.72
PREVIOUS CHANGE ORDERS *:	265 calendar days	\$1,605,196.51
PROJECT HOLD:	318 calendar days	\$0.00
THIS CHANGE ORDER:	200 calendar days	\$35,866.79
REVISED AMOUNT:	1330 calendar days	\$6,355,485.02

*Amount shown for "Previous Change Orders" on CO 2 and CO 3 was a typographical error.
Correct Amount is \$1,605,196.51, as shown.

ORIGINAL START DATE: January 24, 2019
ORIGINAL COMPLETION DATE: July 24, 2020
PREVIOUS COMPLETION DATE: April 15, 2021
NEW COMPLETION DATE: September 15, 2022

DESCRIPTION:	\$ Increase	\$ Decrease
CO 4-1: Instrumentation and Controls Cost Escalation	\$41,759.78	
CO 4-2: Instrumentation and Controls Work Modifications		\$5,892.55
CO 4-3: Provide and Install GE Orbit Radio at WTP	\$2,177.44	
CO 4-4: Driveway at Jaime	\$16,923.38	
CO 4-5: Additional gate and fencing at Simpson and Jaime	\$4,387.95	
CO 4-6: Drainage ditch at Argo	\$1,102.50	
CO 4-7: Red Dirt Select for Hansmeyer and Hays	\$6,317.33	
CO 4-8: Special low Profile CGMP at Meyer	\$1,653.75	
CO 4-9: Additional Materials for Downey-Alt Disinfection	\$275.63	

Reconciliation of Quantities		
DESCRIPTION:	\$ Increase	\$ Decrease
Bid Item 13: Decrease Production Well Column Pipe Length		\$41,705.00
Bid Item 14: Decrease Production Well Submersible Cble		\$5,114.67
Bid Item 22: Increase 1-1/2" PVC Level Transducer Pipe	\$66.00	
Bid Item 23: ODOT Type A Aggregate Base W/Excavation	\$8,942.17	
Bid Item 24: 3" C150 DIP Waterline	\$2,025.77	
Bid Item 25: 4" C150 DIP Waterline		\$3,822.40
Bid Item 28: 4" 90 degree bend (DIP) Compact (FLxMJ)	\$963.36	
Bid Item 29: 4" Mega-Lug (Series 1104)	\$518.48	
Bid Item 31: 6" X 4" Reducer (DIP) Compact (MJ)	\$104.44	
Bid Item 32: 6" C900 PVC WL (Push-on joint DR-14)	\$4,056.57	
Bid Item 33: 6" 90 degree bend (DIP) Compact (MJ)	\$455.52	
Bid Item 34: 6" Mega-Lug (Series 2006PV)	\$1,176.98	
Bid Item 35: 6" X 6" Tee (MJ)	\$276.86	
Bid Item 36: 6" Gate Valve and Box	\$935.00	
Bid Item 38: 6" Blind Flange		\$364.44
Bid Item 41: 3" Duck Bill Valve		\$890.73
Bid Item 53: 6" Portland Cement Concrete Driveway	\$32,447.16	
Bid Item 54: 6" Traffic Bound Surface Course		\$32,715.00
Bid Item 55: 18" C.G.M.P.		\$2,709.60
Bid Item 56: 18" Concrete Slope Wall		\$1,166.64
Bid Item 58: 6" PVC SCH 40 Drain Line	\$187.20	
Bid Item 59: 6" Precast Concrete End Section		\$1,222.22
Bid Item 60: Sidewalk (5' Wide)		\$4,917.01
Bid Item 61: Type 1 Plain Rip Rap		\$1,603.26
Bid Item 62: Type 1 Fence (Black Vinyl Coated)		\$9,778.56
Bid Item 66: Additional Site Improvements		\$8,749.39
CO 3-1: Increased Well Column Pipe (6" at Argo & Meyer)	\$469.02	
CO 3-3: Increased Electrical Wire Size	\$266.69	
CO 3-7: Modify Fencing		\$461.12
CO 3-8: Increase Concrete Driveway Thickness	\$29,490.40	
Totals	\$156,979.38	\$121,112.59

SUBMITTED BY
 CONTRACTOR:



Layne, A Granite Company

Date: 10/31/2022

RECOMMENDED BY
 CONSULTING ENGINEER



Rebecca Poole, PE. Project Manager
 Carollo Engineers, Inc.

Date: 10/20/2022

RECOMMENDED BY
CITY PROJECT MANAGER:


Chris Mattingly, PE, Utilities Director

Date: 11/4/22

APPROVED AS TO
FORM AND LEGALITY:


Kathryn Walker, City Attorney

Date: 11/4/22

ACCEPTED BY
NORMAN UTILITIES AUTHORITY:


Darrel Pyle, City Manager

Date: 11-8-22

October 20, 2022

Chris Mattingly, PE, Utilities Director
City of Norman
201 West Gray, Building C
Norman, OK, 73069

Subject: 2018 Norman Groundwater Wellfield Development
Bid No. K-1819-11 / Contract No. K-1819-44
Review of Potential Change Order #4 Items

Dear Mr. Mattingly:

The purpose of this letter is to review modifications to the contract based upon a change in scope or reconciliation of quantities. Back-up documentation from the contractor is attached to this letter, with brief descriptions provided below. The recommended changes are summarized in Tables 1 and 2 at the end of the letter.

Following a review of the contractor's proposal, Carollo Engineers has determined that the prices proposed by Layne is fair and equitable for the modifications. Carollo recommends that the City accept the proposal listed above and provide a total \$35,866.79 as an addition to the contract price.

CO 4-1: Instrumentation and Controls Cost Escalation

The Work generally covers the cost escalation which occurred between the date of initial bidding of the project and the time of material purchasing and installation of the instrumentation and controls. The project was bid in October 2018 and Notice to Proceed was given on January 24, 2019. The project was initially delayed due to the time needed for the city to finalize purchases of the nine (9) well sites. The project progress was further hindered due to complications caused by COVID-19 such as staff isolations and quarantines, staff shortages, material manufacturing delays, and postponed material deliveries. The instrumentation and controls (I&C) portion of the project could not proceed until the wells and wellhouses were substantially complete. The I&C subcontractor started work in July 2021.

The Engineering News Record (ENR) Construction Cost Index was utilized to determine the cost escalation. The ratio of ENR 10/2018 to ENR 07/2021 is 1.094339623 for a total change of approximately 9.43% over 34 months. This cost escalation was applied to the base I&C bid items and the additional wells added by Change Order No. 1.

Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$41,759.78 as an addition to the Contract Price.

CO 4-2: Instrumentation and Controls Work Modifications

The Work generally covers the I&C modifications implemented at various well sites in the project. This item includes modifications at the Park Well (Well 063) to convert from a site-mounted radio antenna with applicable equipment to a fiber optic communication system including necessary cable, conduit, and equipment installed at the Norman 108 tower. This item also includes addition of isolation relays, wiring and installation, and credits for pressure switches and flow meters that were provided through a different subcontractor. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$5,892.55 as a decrease to the Contract Price.

CO 4-3: Provide and install GE orbit radio at WTP

The Work generally covers the materials and labor to install a GE Orbit Radio at the WTP communications tower. This work was requested by the City SCADA coordinator to improve communications with the new well sites. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$2,177.44. as an addition to the Contract Price.

CO 4-4: Driveway at Jaime (Well 069)

The Work generally covers modifications to the wellfield entrance including additional paving, stormwater piping and endcaps and area grading to ensure proper drainage for the wellsite and properties located downstream. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$16,923.38 as an addition to the Contract Price.

CO 4-5: Additional gate and fencing at Simpson (Well 064) and Jaime (Well 069)

The Work generally covers an additional vehicle gate at the Simpson (Well 064) to improve access for City Operations/Maintenance staff. In addition, modifications completed under Change Order Item 4-4 required additional fencing at the Jaime (Well 069) site. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$4,387.95 as an addition to the Contract Price.

CO 4-6: Drainage ditch at Argo (Well 072)

The Work generally covers additional grading work to improve the drainage at the Argo (Well 072) site. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$1,102.50 as an addition to the Contract Price.

CO 4-7: Red Dirt Select for Hansmeyer (Well 067) and Hays (Well 066)

The Work generally covers additional red dirt select that was necessary for the wellhouse base and access drives at the Hansmeyer (Well 067) and Hays (Well 066) sites to improve protection of the structures from storm water. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$6,317.33 as an addition to the Contract Price.

CO 4-8: Special Low Profile CGMP at Meyer (Well 068)

The Work generally covers the materials and labor necessary to install a special low profile corrugated metal pipe (CGMP) as storm water piping under the access drive at the Meyer (Well 068) site. The low profile pipe was necessary due to the shallow bar ditch at the driveway access. Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$1,653.75 as an addition to the Contract Price.

CO 4-9: Additional Materials for Downey-Alt (Well 070) Disinfection

The Work generally covers additional piping and fittings to perform additional disinfection of the exterior well piping and distribution piping connections at the Downey-Alternate well site (Well 070). Carollo Engineers has determined that the price proposed by Layne is fair and equitable for the modification. Carollo recommends that the City accept the proposal and provide \$275.63 as an addition to the Contract Price.



In addition to the change order items listed above, the following reconciliation of bid items quantities is included in the final change order.

Bid Item 13: Decrease Amount of Production Well Column Pipe

The amount of production well column pipe was decreased by 2195 linear feet (LF). Carollo Engineers recommends decreasing the contract quantity from 6750 to 4555 LF and reduce the contract price by \$41,705.00.

Bid Item 14: Decrease Amount of Production Well Submersible Cable

The amount of production well submersible cable was decreased by 1409 linear feet (LF). Carollo Engineers recommends decreasing the contract quantity from 6100 to 4691 LF and reduce the contract price by \$5,114.67.

Bid Item 22: Increase Number of 1-1/2" PVC Level Transducer Pipe

The amount of 1 1/2" PVC level transducer pipe was increased by 55 linear feet (LF). Carollo Engineers recommends increasing the contract quantity from 4500 to 4555 LF and increase the contract price by \$66.00.

Bid Item 23: Increase Amount of ODOT Type A Aggregate Base with Excavation

The amount of ODOT type A Aggregate Base with Excavation was increased by 101.03 cubic yards (CY). Carollo Engineers recommends increasing the contract quantity from 270 to 371.03 CY and increase the contract price by \$8,942.17.

Bid Item 24: Increase Amount of 3" C150 DIP Waterline

The amount of 3" C150 DIP Waterline was increased by 32 linear feet (LF). Carollo Engineers recommends increasing the contract quantity from 90 to 121.50 LF and increase the contract price by \$2,025.77.

Bid Item 25: Decrease Amount of 4" C150 DIP Waterline

The amount of 4" C150 DIP Waterline was decreased by 80 linear feet (LF). Carollo Engineers recommends decreasing the contract quantity from 270 to 190 LF and reduce the contract price by \$3,822.40.

Bid Item 28: Increase Number of 4" 90-degree bend (DIP) Compact (FL x MJ)

The amount of 4" 90-degree bend (DIP) compact (FL x MJ) was increased by 6 each (EA). Carollo Engineers recommends increasing the contract quantity from 9 to 15 EA and increasing the contract price by \$963.36.

Bid Item 29: Increase Number of 4" Mega-Lug (Series 1104)

The amount of 4" Mega-Lug (Series 1104) was increased by 8 each (EA). Carollo Engineers recommends increasing the contract quantity from 9 to 17 EA and increasing the contract price by \$518.48.

Bid Item 31: Increase Number of 6" X 4" Reducer (DIP) Compact (MJ)

The amount of 6" X 4" Reducer (DIP) Compact (MJ) was increased by 1 each (EA). Carollo Engineers recommends increasing the contract quantity from 9 to 10 EA and increasing the contract price by \$104.44.

Bid Item 32: Increase amount of 6" C900 PVC Waterline (Push-on joint)(DR-14)

The amount of 6" C900 PVC Waterline (Push on joint)(DR-14) was increased by 212 linear feet (LF). Carollo Engineers recommends increasing the contract quantity from 585 to 796.50 and increasing the contract price by \$4,056.57.

Bid Item 33: Increase Number of 6" 90-degree bend (DIP) Compact (MJ)

The amount of 6" 90-degree bend (DIP) compact (MJ) has been increased by 3 each (EA). Carollo Engineers recommends increasing the contract quantity from 9 to 12 EA and increasing the contract price by \$455.52.

Bid Item 34: Increase Number of 6" Mega-Lug (Series 2006PV)

The amount of 6" Mega-Lug (Series 2006PV) was increased by 14 each (EA). Carollo Engineers recommends increasing the contract quantity from 81 to 95 EA and increasing the contract price by \$1,176.98.

Bid Item 35: Increase Number of 6" X 6" Tee (MJ)

The amount of the 6" X 6" Tee (MJ) was increased by 1 each (EA). Carollo Engineers recommends increasing the contract quantity from 9 to 10 EA and increasing the contract price by \$276.86.

Bid Item 36: Increase Number of 6" Gate Valve and Box

The amount of the 6" Gate Valve and Box was increased by 1 each (EA). Carollo Engineers recommends increasing the contract quantity from 9 to 10 EA and increasing the contract price by \$935.00.

Bid Item 38: Decrease Number of 6" Blind Flange

The amount of the 6" Blind Flange was decreased by 3 each (EA). Carollo Engineers recommends decreasing the contract quantity from 9 to 6 EA and reducing the contract price by \$364.44.

Bid Item 41: Decrease Number of 3" Duck Bill Valve

The amount of the 3" Duck Bill Valve was decreased by 1 each (EA). Carollo Engineers recommends decreasing the contract quantity from 9 to 8 EA and reducing the contract price by \$890.73.

Bid Item 53: Increase Amount of 6" Portland Cement Concrete Driveway

The amount of 6" Portland Cement Concrete Driveway has been increased by 772 square yards (SY). Carollo Engineers recommends increasing the contract quantity from 1,170 to 1,942 SY and increasing the contract price by \$32,447.16.

Bid Item 54: Decrease Amount of 6" Traffic Bound Surface Course

The amount of 6" Traffic Bound Surface Course has decreased by 2250 square yards (SY). Carollo Engineers recommends decreasing the contract quantity from 2250 to 0 SY and reducing the contract price by \$32,715.00.

Bid Item 55: Decrease Number of 18" C.G.M.P.

The amount of 18" C.G.M.P. has decreased by 120 each (EA). Carollo Engineers recommends decreasing the contract quantity from 360 to 240 EA and reducing the contract price by \$2,709.60.

Bid Item 56: Decrease Number of 18" Concrete Slope Wall

The amount of 18" Concrete Slope Wall has decreased by 6 each (EA). Carollo Engineers recommends decreasing the contract quantity from 18 to 12 EA and reducing the contract price by \$1,166.64.

Bid Item 58: Increase Amount of 6" PVC SCH 40 Drain Line

The amount of 6" PVC SCH 40 Drain Line has increased by 15 linear feet (LF). Carollo Engineers recommends increasing the contract quantity from 900 to 915 LF and increasing the contract price by \$187.20.

Bid Item 59: Decrease Number of 6" Precast Concrete End Section

The amount of 6" Precast Concrete End Section has decreased by 2 each (EA). Carollo Engineers recommends decreasing the contract quantity from 9 to 7 EA and reducing the contract price by \$1,222.22.

Bid Item 60: Decrease Amount of Sidewalk (5' Wide)

The amount of Sidewalk (5' Wide) has decreased by 136 square yards (SY). Carollo Engineers recommends decreasing the contract quantity from 207 to 70.53 LF and reducing the contract price by \$4,917.01.

Bid Item 61: Decrease Amount of Type 1 Plain Rip Rap

The amount of Type 1 Plain Rip Rap has decreased by 18 cubic yards (CY). Carollo Engineers recommends decreasing the contract quantity from 18 to 0 CY and reducing the contract price by \$1,603.26.

Bid Item 62: Decrease Amount of Type 1 Fence (Black Vinyl Coated)

The amount of Type 1 Fence (Black Vinyl Coated) has decreased by 176 linear feet (LF). Carollo Engineers recommends decreasing the contract quantity from 3420 to 3244 LF and reducing the contract price by \$9778.56.

Bid Item 66: Decrease Amount of Additional Site Improvements

The amount of Additional Site Improvements has decreased by 0.05832927 lump sum (LS). Carollo Engineers recommends decreasing the contract quantity from 1 to 0.941670730 LS and reducing the contract price by \$8,749.39.

Change Order 3-1: Increased Well Column Pipe (6" at Argo & Meyer)

The Argo Well (072) and Meyer Well (068) have higher groundwater capacities, so a larger pump and well column pipe was installed to increase the overall well production. The amount of well column pipe was estimated for Change Order No. 3. The final amount of 6-inch well column pipe required for the Argo and Meyer well sites was an additional 95.9 linear feet. Carollo Engineers recommends increasing the contract quantity from 1020 LF to 1,115.1 LF and increasing the contract price by \$4769.02.

Change Order 3-3: Increased Electrical Wire Size

The Argo Well (072) and Meyer Well (068) have higher groundwater capacities, so a larger pump was installed to increase the overall well production. The amount of larger electrical wiring to provide power to the pump was estimated for Change Order No. 3. The final amount of larger electrical wiring required for the Argo and Meyer well sites was an additional 40 linear feet. Carollo Engineers recommends increasing the contract quantity from 1040 LF to 1,080 LF and increasing the contract price by \$266.69.

Change Order 3-7: Modified Fencing

The overall height of fencing around each of the well sites was reduced from 8 feet to 6 feet to match the other well sites. The amount of fencing was estimated for Change Order No. 3. The final amount of fencing installed was reduced by 176 LF (as noted in Bid Item 62 above). Carollo Engineers recommends decreasing the contract quantity from 3420 to 3244 LF and reducing the contract price by \$461.12.

Change Order 3-8: Increased Concrete Driveway Thickness

The thickness of the concrete access drives at each wellsite was increased from 6 inches to 8 inches thick and the amount of driveway was estimated for Change Order No. 3. The final amount of driveway installed was increased by 772 SY (as noted in Bid Item 53 above). Carollo Engineers recommends increasing the contract quantity from 1170 to 1942 SY and increasing the contract price by \$29,490.40.

Contract Time Summary

The contractor requests an additional 200 days to complete additional work and account for unforeseen circumstances encountered by COVID-19 for both the contractor and its subcontractors, including labor shortages and manufacturing/delivery delays. All substantial work was completed by the contractor by September 15, 2021.

In addition, the project was placed on hold due to delays caused by the completion of construction and commissioning of new distribution waterlines that allowed for new wells to be connected into system. Some of the waterlines constructed required multiple disinfection and bacteriological testing to meet DEQ construction and safe drinking water standards. The well project was on hold from September 16, 2021, until July 31, 2022 for this disinfection and testing to be completed.

Following review of the contractor's request, Carollo Engineers recommends adding an additional 200 days to the contract time, in addition to the 318 days where the project was on hold.

A summary of the contract time is as follows:

Project Phase	Contract Time (Calendar Days)	Contract Start Date	Contract Completion Date
Original Contract	547	January 24, 2019	July 24, 2020
Change Order No. 1	160	----	December 30, 2020
Change Order No. 2	60	----	March 1, 2021
Change Order No. 3	45	----	April 15, 2021
Project Hold	318		
Change Order No. 4	200		September 16, 2022
Total	1330 Days		

Chris Mattingly, PE, Utilities Director, Norman
2018 Groundwater Wellfield Development
Change Order No. 4
October 20, 2022
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Change Order 4 Summary

Tables 1 and 2 in Attachment A present a summary of the change order and bid quantity reconciliation proposals. Carollo recommends that the City process this change order which increases the total contract price by \$35,866.79, provides an allowance for the 318 calendar days that the project was on hold, and increases the contract time by 200 calendar days.

Attachment B provides the back-up documentation from Layne for these contract modifications.

Please contact me if you have any questions or require additional information.

Sincerely,

CAROLLO ENGINEERS, INC.



Rebecca Poole, PE
Project Manager/ Associate Vice President

Enclosures: Attachment 1: Change Order Cost Summary Tables
Attachment 2: Contractor Back-Up Information

ATTACHMENT A

City of Norman / Norman Groundwater Wellfield Development
2018 Groundwater Wellfield Development
Change Order No. 4

Cost Summary Tables



Norman Utility Authority
2018 Groundwater Wellfield Development
Bid No. 1819-11 / Contract No. 1819-44
Change Order No. 4 - Summary

Table 1: Change Order 4 Cost Changes

Item No.	Description	Unit	Quantity	Material Cost	Labor Cost	Subcontractor OH	Layne OH	Layne Profit	Unit Price
CO 4.1	Instrumentation and Controls Cost Escalation	LS	1		37877.35		\$ 1,893.87	\$ 1,988.56	\$ 41,759.78
CO 4.2	Instrumentation and Controls Work Modifications	LS	1		-5344.71		\$ (267.24)	\$ (280.60)	\$ (5,892.55)
CO 4.3	Provide and install GE orbit radio at WTP	LS	1		1975.00		\$ 98.75	\$ 103.69	\$ 2,177.44
CO 4.4	Driveway at Jaime (RCS cost)	LS	1		15350.00		\$ 767.50	\$ 805.88	\$ 16,923.38
CO 4.5	Additional gate and fencing at Simpson and Jaime	LS	2	\$ 2,180.00	1800.00		\$ 199.00	\$ 208.95	\$ 4,387.95
CO 4.6	Drainage ditch at Argo	LS	1		1000.00		\$ 50.00	\$ 52.50	\$ 1,102.50
CO 4.7	Red Dirt Select for Hansmeyer and Hays	LS	1	\$ 3,730.00	2000.00		\$ 286.50	\$ 300.83	\$ 6,317.33
CO 4.8	Special low Profile CGMP at Meyer	EA	1	\$ 1,250.00	250.00		\$ 75.00	\$ 78.75	\$ 1,653.75
CO 4.9	Additional Materials for Downey-Alt Disinfection	LS	1	\$ 250.00	0.00		\$ 12.50	\$ 13.13	\$ 275.63
					57087.64		\$ 3,115.88	\$ 3,271.69	\$ 68,705.21

CO 4 Cost Changes Subtotal	\$ 68,705.21
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Norman Utility Authority
2018 Groundwater Wellfield Development
Bid No. 1819-11 / Contract No. 1819-44
Change Order No. 4 - Summary

Table 2: Change Order 4 Bid Item Quantity Reconciliation

Bid Item No.	Description	Bid Quantity (with CO 1&3)	Unit	Bid Unit Price	Revised Quantity	Difference	Total Cost Change (C*G)
13	Production Well Column Pipe	6750	LF	\$ 19.00	4555.00	-2195	\$ (41,705.00)
14	Production Well Submersible Cable	6100	LF	\$ 3.63	4691.00	-1409	\$ (5,114.67)
22	1-1/2" PVC Level Transducer Pipe	4500	LF	\$ 1.20	4555.00	55	\$ 66.00
23	ODOT Type A Aggregate Base W/Excavation	270	CY	\$ 88.51	371.03	101.03	\$ 8,942.17
24	3" C150 DIP Waterline	90	LF	\$ 64.31	121.50	32	\$ 2,025.77
25	4" C150 DIP Waterline	270	LF	\$ 47.78	190.00	-80	\$ (3,822.40)
28	4" 90 degree bend (DIP) Compact (FL x MJ)	9	EA	\$ 160.56	15.00	6	\$ 963.36
29	4" Mega-Lug (Series 1104)	9	EA	\$ 64.81	17.00	8	\$ 518.48
31	6" X 4" Reducer (DIP) Compact (MJ)	9	EA	\$ 104.44	10.00	1	\$ 104.44
32	6" C900 PVC Waterline (Push on joint)(DR-14)	585	LF	\$ 19.18	796.50	212	\$ 4,056.57
33	6" 90 degree bend (DIP) Compact (MJ)	9	EA	\$ 151.84	12.00	3	\$ 455.52
34	6" Mega-Lug (Series 2006PV)	81	EA	\$ 84.07	95.00	14	\$ 1,176.98
35	6" X 6" Tee (MJ)	9	EA	\$ 276.86	10.00	1	\$ 276.86
36	6" Gate Valve and Box	9	EA	\$ 935.00	10.00	1	\$ 935.00
38	6" Blind Flange	9	EA	\$ 121.48	6.00	-3	\$ (364.44)
41	3" Duck Bill Valve	9	EA	\$ 890.73	8.00	-1	\$ (890.73)
53	6" Portland Cement Concrete Driveway	1,170	SY	\$ 42.03	1942.00	772	\$ 32,447.16
54	6" Traffic Bound Surface Course	2,250	SY	\$ 14.54	0.00	-2250	\$ (32,715.00)
55	18" C.G.M.P.	360	EA	\$ 22.58	240.00	-120	\$ (2,709.60)
56	18" Concrete Slope Wall	18	EA	\$ 194.44	12.00	-6	\$ (1,166.64)
58	6" PVC SCH 40 Drain Line	900	LF	\$ 12.48	915.00	15	\$ 187.20
59	6" Precast Concrete End Section	9	EA	\$ 611.11	7.00	-2	\$ (1,222.22)
60	Sidewalk (5' Wide)	207	SY	\$ 36.03	70.53	-136	\$ (4,917.01)
61	Type 1 Plain Rip Rap	18	CY	\$ 89.07	0.00	-18	\$ (1,603.26)
62	Type 1 Fence (Black Vinyl Coated)	3,420	LF	\$ 55.56	3244.00	-176	\$ (9,778.56)
64	Solid Slab Sod	9,000	SY	\$ 3.00	5484.44	-3516	\$ (10,546.68)

65	Erosion Control and SWPPP (Per Site)	9	EA	\$ 2,833.33	10.00	1	\$ 2,833.33
66	Additional Site Improvements	1	LS	\$ 150,000.00	0.941670730	0	\$ (8,749.39)
CO 3-1	Increased Well Column Pipe (6" at Argo & Meyer)	924	LF	\$ 4.88566250	1020.00	96	\$ 469.02
CO 3-3	Increased Electrical Wire Size	1000	LF	\$ 6.667350	1040.00	40	\$ 266.69
CO 3-7	Modify Fencing	3420	LF	\$ 2.62	3244.00	-176	\$ (461.12)
CO 3-8	Increase Concrete Driveway Thickness	1170	SY	\$ 38.20	1942.00	772	\$ 29,490.40
CO4 Reconciliation Subtotal							\$ (40,551.77)

CO4 Grand Total	
(CO4 Cost Changes + CO 4 Reconciliation)	\$ 28,153.44

ATTACHMENT B

City of Norman / Norman Groundwater Wellfield Development
2018 Groundwater Wellfield Development
Change Order No. 4

Contractor Back-Up Information



Layne
A Granite Company
4691 NE Hwy 33
Guthrie, OK. 73044

1 (405) 600-6447]
graniteconstruction.com

October 31, 2022

Carollo Engineers – Rebecca Poole, P.E.
211 N. Robinson, Suite 1300 North Tower
Oklahoma City, OK. 73102

And

City of Norman
201 West Gray
Norman, OK. 73070
Attention: Norman Utilities Authority – Chris Mattingly

RE: 2018 Groundwater Wellfield Development, Contract No. K-1819-44. Change Order Request

The contract completion date for the above-mentioned project, as established in the original contract and subsequent Change Orders No. 1 through No. 3, is April 15, 2021. Layne experienced delays due to complications from COVID-19, including labor shortages and manufacturing/delivery delays. All substantial work was completed by September 15, 2021, an increase of 153 days.

The contract was placed on hold from September 16, 2021, until July 31, 2022, while the water lines to connect the wells to the distribution system were constructed, disinfected and tested. The City of Norman began using wells during this time, as the water lines were commissioned. The groundwater well project was on hold for 318 days.

Layne remobilized to the project on July 31, 2022, to redevelop the Park Well and complete other ancillary tasks to complete the contract requirements. All activities were complete, and all nine (9) production wells and six (6) monitoring wells were operable by September 15, 2022. This final work took 47 days.

Layne respectfully requests an additional 200 contract days, in addition to the project hold duration of 318 days, for a total of 518 days added to the contract. The requested contract end date is September 15, 2022.

Please let Travis Evans or me know if you have questions.

Respectfully Submitted,

John Gornick

Account Manager
Water Resources

4691 NE HWY 33
Guthrie, OK 73044

Direct: 405-600-6447

Cell: 405-820-2658

Email: john.gornick@gcinc.com

<http://www.graniteconstruction.com/>



Norman Utilities Authority
 2018 Groundwater Wellfield Development
 Contract #K-1819-44
 Change Order Item 4.1

CO 4.1 Bauman Contract Modifications (Contract Delay Cost Increase - Base Bid)

NORMAN WELLS, Original Bid 10/18/18.					
BID ITEM	DESCRIPTION	QTY	Unit Price	Total Cost	
7	MONITORING WELL LEVEL	3	\$ 3,000.00	\$	9,000.00
8	PRODUCTION WELL LEVEL	6	\$ 3,000.00	\$	18,000.00
16	ELECTRICAL EQUIP & CONTROLS	6	\$ 28,000.00	\$	168,000.00
46	4" MAGMETER	6	\$ 3,300.00	\$	19,800.00
49	PRESSURE SWITCH & GAUGE & FITTINGS	12	\$ 1,050.00	\$	12,600.00
50	PRESSURE TRANSMITTER & CALIBRATION FITTINGS	6	\$ 4,350.00	\$	26,100.00
51	ANTENNA, SURGE, CABLE, CONNECTORS	6	\$ 2,100.00	\$	12,600.00
TOTALS, ORIGINAL BID				\$	266,100.00
Inflation Adjustment Requested by Bauman (due to delay in start)					
ADJUSTED BID AMOUNT				291,203.77	291,203.77

Inflation Adjustment: **20 City Avg**
 ENR - 10/2018 (Project Bid Date) 11183
 ENR - 7/2021 (Bauman submittals for materials) 12238
 Calculated Cost Increase (ENR - 7/2021 divided by ENR - 10/2018) 1.094339623 **9.04% increase**

CO 4.2 Bauman Contract Modifications (Contract Delay Cost Increase - Base Bid)
CHANGE ORDER NO. 1

	QTY	Unit bid price	CO 1 Cost @	
			Original Bid	Unit Prices
ADD 3 PRODUCTION & 3 MONITORING WELLS				
7 PRODUCTION WELL LEVEL TRANSMITTER	3	3,000.00	\$	9,000.00
8 OBSERVATION WELL LEVEL TRANSMITTER	3	3,000.00	\$	9,000.00
16 ELECTRICAL EQUIP & CONTROLS	3	28,000.00	\$	84,000.00
46 6" FLOW METER	2	3,800.00	\$	7,600.00
46 4" FLOWMETER	1	3,300.00	\$	3,300.00
49 PRESSURE SWITCH, GAUGE, & CALIBRATION FITTINGS	3	1,050.00	\$	3,150.00
50 PRESSURE TRANSMITTER & CALIBRATION FITTINGS	3	4,350.00	\$	13,050.00
51 ANTENNA,CABLE, SURGE, CONNECT	3	2,100.00	\$	6,300.00
TOTAL, CHANGE ORDER NO. 1			\$	135,400.00
Inflation Adjustment Requested by Bauman (due to delay in start)				12,773.58
ADJUSTED BID AMOUNT			\$	148,173.58

Inflation Adjustment:	20 City Avg	
ENR - 10/2018 (Project Bid Date)	11183	
ENR - 7/2021 (Bauman submittals for materials)	12238	
Calculated Cost Increase (ENR - 7/2021 divided by ENR - 10/2018)	1.094339623	9.04% increase

Change Order Item 4.1

Total Cost Escalation from original bid and change order No. 1 for 3 additional production wells:

Norman Wells, Original Bid 10/18/18	\$ 25,103.77
Change Order No. 1	\$ 12,773.58
Subtotal Bauman Cost Increase	\$ 37,877.35
Layne Overhead	\$ 1,893.87
Layne Profit	\$ 1,988.56
Total Change Order Item 4.1 Costs	\$ 41,759.79

Norman Utilities Authority
 2018 Groundwater Wellfield Development
 Contract #K-1819-44
 Change Order Item 4.2

CO 4.2A Bauman Contract Modifications (Change Order No. 4)

CHANGE ORDER NO. 4

QTY ADD 108th Repeater & Fiber Optic Line from Park Well

1 Omni Antenna & Bracket, Whip Cables & Fittings	\$ 3,900.00	\$ 3,900.00	
350 Feet LMR600 Cable	\$ 4.50	\$ 1,575.00	
1 DC to DC Converter, 48 to 24 VDC	\$ 400.00	\$ 400.00	
1 UPS, 600 VA	\$ 450.00	\$ 450.00	
1 UPS Battery	\$ 750.00	\$ 750.00	
1 GE Orbit Radio, moved from Well#63	\$ -	\$ -	
1 Fiber Optic Switch, 6 Cu & 2 FO	\$ 500.00	\$ 500.00	
1 FO Patch Panel, Rack Mounted	\$ 350.00	\$ 350.00	
1 FO Patch Cable	\$ 25.00	\$ 25.00	
10 Hours, Panel Fab and mounting	\$ 85.00	\$ 850.00	
8 Hours, Submittals	\$ 75.00	\$ 600.00	
32 PLC & Radio Programmin & Testing	\$ 125.00	\$ 4,000.00	
8 F.O. Patch Panel and F.O. terminations a Well 63	\$ 85.00	\$ 680.00	
8 O&M Manuals	\$ 85.00	\$ 680.00	
8 Training	\$ 85.00	\$ 680.00	
Subtotal		\$ 15,440.00	\$ 15,440.00

CHANGE ORDER NO. 4, CONTINUED

QTY Modify Park Well 63 Panel to accommodate Fiber Optic Line in Lieu of Antenna

720 FT., 6 Strand Fiber Optic Cable	\$ 1.13	\$ 813.60	
1 Fiber Optic Patch Panel	\$ 175.00	\$ 175.00	
1 Fiber Optic Patch Cable	\$ 25.00	\$ 25.00	
1 Fiber Optic Switch, 6 Cu & 2 FO	\$ 490.00	\$ 490.00	
6 F.O. Terminations, Testing & Certification	\$ 105.00	\$ 630.00	
1 Delete Antenna and Installation	\$ (2,000.00)	\$ (2,000.00)	
1 Delete Antenna Surge Arrestor, Cable, and Fittings	\$ (200.00)	\$ (200.00)	
1 Delete Radio setup and testing	\$ (500.00)	\$ (500.00)	
Subtotal, Credit		\$ (566.40)	\$ (566.40)

TOTAL, CHANGE ORDER NO. 4

\$ 14,873.60

CO 4.2B Bauman Contract Additions

QTY Item

9 9-DPDT Isolation Relays for each level transmitter	\$ 25.00	\$ 225.00	
9 9-SPDT Isolation Relays for each level transmitter	\$ 19.00	\$ 171.00	
18 Install and wire Isolation Relays in each control panel	\$ 85.00	\$ 1,530.00	
4 Hours, Update control panel drawings	\$ 75.00	\$ 300.00	
20 Revise PLC Programmimg for Level Transmitter Isolation	\$ 135.00	\$ 2,700.00	
2 Hours, Revise PLC Programming for Solenoid Valve Changes	\$ 135.00	\$ 270.00	
2 Hours, Revise Drawings for Solenoid Valve Changes	\$ 85.00	\$ 170.00	
1 Magmeter Restocking Fee	\$ 1,140.69	\$ 1,140.69	
2 Pressure Switch Cancellation Fee	\$ 605.00	\$ 1,210.00	
Subtotal, Additional Costs		\$ 7,716.69	\$ 7,716.69

CO 4.2C Bauman Contract Deletions

QTY Item

7 Delete Pressure Switches	\$ (605.00)	\$ (4,235.00)	
5 Delete 4" Rosemont Magnetic Flow Meters	\$ (3,300.00)	\$ (16,500.00)	
2 Delete 6" Rosemont Magnetic Flow Meters	\$ (3,600.00)	\$ (7,200.00)	
Subtotal, Reduced Costs		\$ (27,935.00)	\$ (27,935.00)

Subtotal CO 4.2 Instrumentation and Controls Work Modifications

\$ (5,344.71)

Layne OH

-267.24

Layne Profit

-280.6

Subtotal CO 4.2 Instrumentation and Controls Work Modifications

\$ (5,892.55)

Norman Utilities Authority
 2018 Groundwater Wellfield Development
 Contract #K-1819-44
 Change Order Item 4.3

Bauman Instrument Corporation
P. O. Box 470583
Tulsa, OK 74147-0583
(918) 254-2424 FAX (918) 254-1966

INVOICE
No 28287

Date 10/1/2021	Customer Order # Verbal
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Ordered By:
City of Norman
Attn: Neal Engleman
Norman WTP
Norman, OK 73070
Fax No.

Ship To:
City of Norman Water Treatment Plant
Attn: Neal Engleman
Norman WTP
Norman, OK 73070

Ship Date		Ship Via		F. O. B		Terms	
Our Delivery		8/25/21		Our Delivery		Net 30	
Item	Qty	Model No	Description			Unit	Extended
A	1		Provide, install, and configure GE Orbit Radio at WTP, Radio Model Number: MXNCL2XN4GYNNS1F1DUNN			1,725.00	1,725.00
B	2		Hours, Installation and configuration labor			125.00	250.00
						Sub Total	\$1,975.00
						Sales Tax	\$0.00
						Freight	\$0.00
						Total	\$1,975.00

Norman Utilities Authority
2018 Groundwater Wellfield Development
Contract #K-1819-44
Change Order Item 4.4



August 24, 2021

Travis,
RCS proposes to put in a driveway for the neighbor of the Jaime site. Our cost is: **\$15,350.**

This includes 1 tin horn (like the one at Meyer) with one end section, concrete, sod, rebar, and labor. This price includes using the inlet we have in our yard which has been approved. If the City of Norman decides they want a new inlet, the price will increase.

Respectfully,

A handwritten signature in black ink that reads "Pam Ryburn". The signature is fluid and cursive, with a long horizontal stroke at the end.

Pam Ryburn
Vice President, Ryburn Construction Solutions, INC

Norman Utilities Authority
 2018 Groundwater Wellfield Development
 Contract #K-1819-44
 Change Order Item 4.5

Invoice

Date	Invoice #
9/27/2021	747



RYBURN CONSTRUCTION SOLUTIONS, INC.

37005 CS 2650
 Anadarko, OK 73005

Phone # 405-227-1978

Bill To
Layne Christensen Company W229 N1433 Westwood Drive Suite 100 Waukesha, WI 53186

Project
#130 Norman-2018 Groundwater Development

Item	Description	Curr %	Total %	Amount Due
Retention	Additional gate and fencing at Simpson Amount of Retainage			3,980.00 -199.00

NORMAN PO#342109	Total	\$3,781.00
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Norman Utilities Authority
2018 Groundwater Wellfield Development
Contract #K-1819-44
Change Order Item 4.6

Rebecca Poole

From: Evans, Travis <Travis.Evans@gcinc.com>
Sent: Wednesday, October 13, 2021 3:22 PM
To: Rebecca Poole
Subject: CO #4
Attachments: Bauman CO Norman Well Project Spreadsheet.xlsx

Rebecca, Pam just sent me a new item for the CO #4 she said Ken and the city told Shannon to fix it and Ken approved the labor amount.

Travis Evans

Project Manager
Layne Christensen Company

4691 NE HWY 33
Guthrie, Ok.
73044

Phone: 405-600-6447
Cell: 405-635-6939
Email:
travis.evans@gcinc.com

www.graniteconstruction.com
www.layne.com



Labor & Equipment Costs for grading at the
Argo Wellsite drainage along the bar ditch :

8 hours @ \$125/ hour = \$1,000.00

Add to CO #4



Norman Utilities Authority
2018 Groundwater Wellfield Development
Contract #K-1819-44
Change Order Item 4.7

August 16, 2021

As discussed on site at Hansmeyer, I'd like to request payment for the extra red select dirt and labor that was required to build up the pad in addition to the amount included in our original bid. We also had to have additional dirt hauled in at the Hays site before sod could be put down.

We're requesting as follows:

Ryburn Cost	\$5,730.00
Layne OH	286.50
Layne Profit	<u>300.83</u>
Total	\$6,317.33

Hays: \$1280 (no labor)

Hansmeyer: \$2450 for dirt and \$2000 for labor

Respectfully,

A handwritten signature in black ink that reads "Pam Ryburn". The signature is fluid and cursive.

Pam Ryburn

Vice President, Ryburn Construction Solutions, INC



Norman Utilities Authority
2018 Groundwater Wellfield Development
Contract #K-1819-44
Change Order Item 4.8

Office
4691 NE HWY 33
Guthrie, OK 73044

T [405-600-6447]
graniteconstruction.com

July 15, 2021

2018 Groundwater Wellfield Development
Contract No. K-1819-44

Re: Cost Estimate for Special Low Profile CGMP at Meyer wellsite:

Materials	\$ 1,250.00
Labor	\$ 250.00
OH&P	\$ 153.73
Total Cost	\$1,653.75

Respectfully Submitted,

Travis Evans

Project Manager
Layne Christensen Company

4691 NE HWY 33
Guthrie, Ok.
73044

Phone: 405-600-6447
Cell: 405-635-6939
Email:
travis.evans@gcinc.com

www.graniteconstruction.com
www.layne.com



Norman Utilities Authority
2018 Groundwater Wellfield Development
Contract #K-1819-44
Change Order Item 4.9



June 14, 2021

While attempting to chlorinate the waterline at Downey 2, it was determined that an additional can and fittings were needed in order to blow out the line and chlorinate. We used materials from our stock totaling \$250 and Core & Main materials, INV#P008427, \$284 to correct the issue. We are not charging any labor on this but would like reimbursed for our \$250 in materials.

Thank you,
Pam Ryburn
Ryburn Construction Solutions, Inc