

AMENDMENT NO. 3
AGREEMENT
FOR
ENGINEERING SERVICES

This is an amendment, AMENDMENT NO. 3, attached to and made a part of the AGREEMENT, dated March 8, 2011, between the NORMAN UTILITIES AUTHORITY (Owner) and GARVER, LLC. (Engineer) for professional engineering services as necessary to complete the additional design and construction phase services for the Norman Water Reclamation Facility Phase 2 Improvements – Maintenance Additions.

WHEREAS, the Owner has determined the additional need for construction observation, construction administration, start-up and operation & maintenance training, and application engineering services for the project;

WHEREAS, Engineer is prepared to provide additional services in support of the project;

NOW THEREFORE, in consideration of the promises contained in said AGREEMENT and this AMENDMENT NO. 3, Owner and Engineer agree as follows:

SCOPE OF SERVICES

Engineer shall provide design and construction phase services associated with the Water Reclamation Facility Phase 2 Improvements and Maintenance Additions as described in APPENDIX A.3.

COMPENSATION

For the work described under APPENDIX A.3 SCOPE OF SERVICES SECTIONS 1 and 2, the Owner will pay the Engineer on a lump sum basis. The lump sum amount to be paid for services associated with Appendix A.3 SECTIONS 1 and 2 is \$814,100.

For the work described under APPENDIX A.3 SCOPE OF SERVICES SECTION 3, the Owner will pay the Engineer on an hourly basis. The Owner will pay the Engineer, for time spent on the project at each classification of Engineer's personnel (may include contract staff classified at Engineer's discretion) plus reimbursable expenses including but not limited to printing, courier service, reproduction, and travel. The not to exceed amount to be paid for services associated with Appendix A.3 SECTION 3 is estimated to be \$25,000.

SCOPE OF WORK	ESTIMATED FEES
Section 1 – Phase 2 Extension through March, 2017	\$259,200
Section 2 – Lump Sum Services for Phase 2 Maintenance Additions	\$554,900
Section 3 – Hourly Services for Phase 2 Maintenance Additions	\$25,000
TOTAL	\$839,100

For informational purposes, a breakdown of the Engineer's estimated costs is included in APPENDIX B.3. The Owner intends to pay the Engineer and represents that funds are available, or funds will be borrowed as necessary to pay the Engineer.

If any payment due the Engineer under this agreement is not received within 60 days from date of invoice, the Engineer may elect to suspend services under this agreement without penalty or liquidated damages assessed by the Owner.

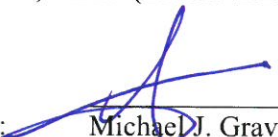
The Owner will pay the Engineer on a monthly basis, based upon statements submitted by the Engineer to the Owner indicating the estimated proportion of the work accomplished for Phase 2 Extension and Maintenance Additions as identified in Appendix B.3. Payments not received within 60 days of date invoice will be subject to a one percent monthly simple interest charge unless Owner documents reasons for non-payment.

Some billable work may have been performed by Engineer prior to execution of this agreement. Payment for this work will be made in accordance with the fee arrangement established herein, as approved by the Owner.

IN WITNESS WHEREOF, Owner and Engineer have executed this Amendment No. 3.

DATED this 6 day of February, 2017.

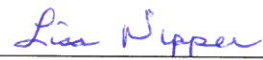
Garver, LLC. (ENGINEER)

By: 
Title: Michael J. Graves – Vice President

ATTEST: 

STATE OF OKLAHOMA)
) SS
COUNTY OF CLEVELAND)

This instrument was acknowledged before me on this 6 day of February 2017, by Michael J. Graves as Vice President of Garver, LLC.



Notary Public

My Commission Expires/Commission Number:

3-22-19 / 11002699



Norman Utilities Authority (OWNER)

APPROVED as to form and legality this _____ day of _____, 2017.

City Attorney

APPROVED by the Trustees of the Norman Utilities Authority this _____ day of _____, 2017.

ATTEST

By: _____
Title: Chairperson – N.U.A.

Secretary – N.U.A.

APPENDIX A.3 – SCOPE OF SERVICES – PHASE 2 EXTENSION AND MAINTENANCE ADDITIONS

General

Generally, the scope of services includes extra work associated with contract amendment #2 as well as design, construction administration/observation, and application engineering services for ***Norman Water Reclamation Facility (WRF) Phase 2 Improvements and Phase 2 Maintenance Additions for the WRF in Norman, Oklahoma.***

Additional construction administration and observation services are required for successful completion of the current construction project for the Phase 2 Improvements as well as implementation of the additional design items associated with the planned improvements for the Phase 2 Maintenance Additions. Capital improvements as detailed in Section 2.1 include modification, rehabilitation and upgrade of existing facilities to address aged infrastructure and improve operations and process reliability for the WRF.

SECTION 1 – Additional Services for Phase 2 Improvements (Extension of Amendment 2)

Amendment 2 to the contract between the Owner and Garver included services for up to thirty (30) months of construction. Change orders recommended by Garver and approved by the Owner for the construction contract have extended the contract time by 132 calendar days. The time extension and delay of construction completion require additional effort from Garver for continued support throughout the Phase 2 Improvements Project. The services identified below cover additional support from Garver through March 31st, 2017.

1.1 Additional Construction Administration and Management

The extension of the Phase 2 construction contract requires additional construction administration and management. Additional construction administration and management for the Phase 2 Improvements will be provided in accordance with the terms established in Amendment No. 2. Additional services include:

- Participation in four (4) monthly progress meeting with the Owner and Contractor
- Review/Processing of four (4) additional pay requests
- On-site coordination/planning meetings
- Field coordination with on-site observers and the contractor
- Review/processing of contractor submitted payrolls
- Review/processing of contract modification requests (CMRs)
- Design and coordination of additional site lighting

1.2 Additional Construction Observation

Additional construction observation for the Phase 2 Improvements will be provided in accordance with the terms established in Amendment No. 2. Garver will extend full-time resident construction observation services through March 31st, 2017. The proposed fee is based on two (2) full-time observers working approximately eight (8) hours per day, five (5) days per week, through January 31st, 2017, and one (1) full time observer through March 31st, 2017. If the construction time extends beyond the time established in this agreement, or the Owner wishes to increase the time or frequency of the observation, the Owner will pay Garver an additional fee agreed to by the Owner and Garver

1.3 Out of Scope Services – Application Engineering

Amendment No.2 included services for application engineering under an agreement for payment at specified rates/expenses with a not to exceed total. At the Owners request, Garver has addressed several out of scope items related to application engineering. Out of scope support includes:

- Repair/updates to existing software
- Reinstallation and reconfiguration of failed hardware
- Troubleshooting equipment calibrations and wiring
- Review and coordination of wire sizes/voltage drops and solution for 4-phase wiring

SECTION 2 – Engineering Services for Phase 2 Maintenance Additions

Capital improvements for this work include modification, rehabilitation and upgrade of existing facilities to address aged infrastructure and improve operations and process reliability for the WRF.

2.1 Design

During the design phase of the project, Garver will conduct designs to prepare construction plans and specifications, for amendment of the current contract with the current contractor for the Phase 2 Improvements, including construction details and quantities, special provisions, and opinion of probable construction cost for the following improvements:

- Replacement of mechanisms/associated appurtenances for four (4) gravity thickeners
- Replacement of two (2) boilers in the facility designated for anaerobic digesters 3 and 4
- Demolition of one (1) existing grit classifier and installation of two (2) new grit classifiers
- Addition of platforms to access four (4) generators

Prior to the Owner issuing a notice to proceed for the new work, Garver will chair a workshop and lead an on-site walkthrough with the Owner and the WRF staff to coordinate the construction documents and identify any required plan changes as a result of the workshop and associated plant walkthrough.

2.2 Construction Administration and Management

Construction services include administration and management services required for construction and implementation of the Phase 2 Maintenance Additions. Construction administration and management services shall be in accordance with the scope of services identified in Amendment No. 2 (Appendix A.1) with the following modifications:

Project Administration, Coordination, and Documentation – No Changes

Construction Administration

- 1) Attend eight (7) additional monthly progress/coordination meetings with the Owner and Contractor. An agenda will be provided at each meeting and minutes will be issued to all attendees for documentation of the meeting.
- 2) Review of eight (7) additional Contractor's progress payment requests based on the actual quantities of contract items completed and accepted, and will make a recommendation to the Owner regarding payment. Garver's recommendation for payment shall not be a representation that Garver has made exhaustive or continuous inspections to (1) check the quality or exact quantities of the Work; (2) to review billings from Subcontractors and material suppliers to substantiate the Contractor's right to

payment; or (3) to ascertain how the Contractor has used money previously paid to the Contractor.

- 3) Participate in substantial completion and final project inspection, and prepare punch lists for the Phase 2 Maintenance Additions.
- 4) Review of weekly payrolls from the contractor and its subcontractors for compliance with Davis Bacon Wages

2.3 Construction Observation

Construction observation services will be provided for the Phase 2 Maintenance Additions in accordance with the scope of services identified in Amendment No. 2 (Appendix A.1) with the following modifications:

- 1) Full-time resident construction observation services for construction contract performance time associated with Change Order #4. The proposed fee is based on one (1) full-time observer working approximately eight (8) hours per day, five (5) days per week, from April 1st, 2017 through November 12th, 2017. If the construction time extends beyond the time established in this agreement or if the Owner wishes to increase the time or frequency of the observation, the Owner will pay Garver an additional fee agreed to by the Owner and Garver.

2.4 Operations and Maintenance

In addition to the services outlined in Amendment No. 2, Garver will provided the following as part of the Phase 2 Maintenance Additions:

2.4.1 *Equipment Start-Up Training – Classroom Instruction:* Garver will provide a half (0.5) man-day of classroom training to Owner's operating staff. Training will describe the principles of operation of each treatment process associated with the Phase 2 Maintenance additions. Topics will include treatment purpose, design criteria, operational control, typical operation, electrical concepts, and example operator calculations. The training is not intended to convey biological treatment concepts. Classroom training will be provided for the following processes:

- Grit Classification
- Sludge Management and Solids Management
 - Gravity Thickening
 - Sludge Heating
- SCADA Operation and Monitoring

2.4.2 *Classroom Training Manual:* Garver will provide materials for equipment/processes associated with the Phase 2 Maintenance Additions and integrate them into the Phase 2 Improvements Training Manual. The manual consists of bound copies of classroom training material, including presentation slides, example process calculations, and reference materials.

2.4.3 *Onsite Start-Up Training*

Garver will provide a half (0.5) man-day of on-site operational demonstrations for the additional unit processes, including the grit classification, gravity thickening, and anaerobic digestion. The on-site demonstrations will provide step-by-step instruction, including how to navigate control panels and human machine interface screens. Operators will be provided with a training manual and for the training sessions. On-site demonstrations will include the following facilities:

No. Facility

- 5) Headworks / Grit Removal
 - Control of grit classifiers
 - Equipment sequencing
 - Daily maintenance tasks
 - Weekly maintenance tasks

- 56) Gravity Thickening
 - Placing gravity thickeners into service
 - Feed sequencing
 - Daily maintenance tasks
 - Weekly maintenance tasks

- 70) Sludge Heating
 - Control parameters for primary and secondary digesters
 - Daily maintenance tasks
 - Weekly maintenance tasks

2.4.4 *Operations and Maintenance Manual*

Garver will update the O&M Manual for the Norman Water Reclamation Facility to incorporate the appropriate information associated with the improvements included with the Phase 2 Maintenance Additions. Updates will provide a detailed description of the new equipment; standard operating procedures; necessary maintenance and schedule; a trouble-shooting guide for typical problems; and operator safety procedures. Portions of the operations and maintenance manuals for the new process equipment will be embedded into SCADA as searchable PDFs.

2.5 Deliverables

The deliverables identified in Amendment No. 2 will be updated to incorporate work associated with the Phase 2 Maintenance Additions. In addition to updated deliverables, Garver will provide:

1. One (1) SCADA documentation set, including programing backup files on a compact disc

2.6 Extra Work

The following items are not included under this agreement but will be considered as Extra Work:

1. Redesign for the Owner's convenience or due to changed conditions after previous alternate direction and/or approval.
2. Submittals or deliverables in addition to those listed herein.
3. Preparation/submission of design documents for regulatory review.
4. Preparation of a Storm Water Pollution Prevention Plan (SWPPP).
5. Construction materials testing.
6. Environmental Handling and Documentation, including wetlands identification or mitigation plans or other work related to environmentally or historically (culturally) significant items.
7. Coordination with FEMA and preparation/submittal of a CLOMR and/or LOMR.
8. Consolidation/Integration of PLC tied to the OU golf course.
9. Formal SCADA system training/SCADA O&M Manuals.
10. Calibration of existing equipment
11. Replacement of existing SCADA hardware.
12. Programming of any devices other than the main PLC and SCADA computers.
13. Programming services outside the scope of services for this Amendment.
14. Security improvements.

15. Post-startup modifications, enhancements, or troubleshooting beyond the estimated 10 man-days as established in Amendment No. 2.
16. Remote Access or remote notifications.
17. Any items requested by the Owner after final acceptance of Contractor's Work.
18. Additional programming required as a result of IT upgrades made by the Owner.
19. Note that the estimated fee for Application Engineering may be adjusted, if required, to reflect any changes in scope that result from workshops.

Extra Work will be as directed by the Owner in writing for an additional fee as agreed upon by the Owner and Garver.

2.7 Schedule

Garver shall begin work under this Agreement within ten (10) days of a Notice to Proceed and shall complete the work in conjunction with the Contractor's schedule.

SECTION 3 – ON-CALL/HOURLY SERVICES

Application Engineering

Additional Application Engineering services will be provided for the Phase 2 Maintenance Additions, utilizing the parameters defined in Amendment 2. Garver will develop new PLC programming and SCADA graphic screens as required to implement plant wide integration of new process systems associated with the Phase 2 Maintenance Additions with the existing SCADA. Services consist primarily of various SCADA system upgrades, programming of the main plant programmable logic controller (PLC), and visualization graphics to support integration of the Phase 2 Maintenance Additions with the existing SCADA system.

The level of effort for the Application Engineering services will vary depending on required and/or Owner desired system set-up, display configurations, control function testing, Owner network settings and security requirements, startup, and post-acceptance support as well as hardware, panel assembly, field installation, etc. provided by others. As such, the Application Engineering services provided in this agreement, including the level of effort and associated cost, is only an estimate. If required, Owner and Garver agree to provide additional efforts, with reimbursement from the Owner as agreed to in writing by Owner and Garver, for modifications or enhancements beyond programming specified below or due to circumstances beyond the control of Garver.

Work done by the Garver under this agreement, other than post-startup modifications mentioned in the Amendment No.2, enhancements, or troubleshooting (10 man-days), shall be considered complete upon the successful conclusion of the Final Acceptance Test defined in the Phase 2 construction contract specification section 26-90-00 GENERAL INSTRUMENTATION AND CONTROL.

APPENDIX B.3

NORMAN UTILITIES AUTHORITY PHASE 2 IMPROVEMENTS EXTENSION NORMAN WRF PHASE 2 MAINTENANCE ADDITIONS FEE SUMMARY

Section	Lump Sum Services	Estimated Fees
1.0	Extended Services for Phase 2	
1.1	Construction Administration/Management	\$ 98,500
1.2	Construction Observation	\$ 141,500
1.3	Additional Application Engineering	\$ 19,200
	Subtotal Section 1	\$ 259,200
2.0	Phase 2 Maintenance Additions	
2.1	Design Services	\$ 198,000
2.2	Construction Administration/Management	\$ 140,400
2.3	Construction Observation	\$ 203,700
2.4	Operations and Maintenance	\$ 12,800
	Subtotal Section 2	\$ 554,900
	Subtotal for Lump Sum Services	\$ 814,100
	Hourly Services	Estimated Fees
3.0	Application Engineering	\$ 25,000
	Subtotal for Hourly Services	\$ 25,000
	Total for Services	\$ 839,100