

**AMENDMENT NO. 1
AGREEMENT
FOR
ENGINEERING SERVICES**

This is an amendment, AMENDMENT NO. 1, attached to and made a part of the AGREEMENT, dated February 11, 2020, between the NORMAN UTILITIES AUTHORITY ("OWNER") and GARVER, LLC. ("ENGINEER") for professional services as necessary to complete the temporary installation of the Norman Lake Thunderbird Indirect Potable Reuse Project (the "PROJECT").

WHEREAS, the OWNER has determined the need for additional services to install the temporary equipment and pilot skids 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. 1, OWNER and ENGINEER agree as follows:

ARTICLE 2 - COMPLETION DATE. Attachment A is deleted in its entirety and replaced with the PROJECT SCHEDULE attached hereto as Attachment A.1.

ARTICLE 4 - SERVICES TO BE PERFORMED BY ENGINEER. Attachment B of the AGREEMENT is hereby amended to include ENGINEER coordinating and providing for the temporary installation of pilot equipment for the Lake Thunderbird IPR PROJECT located at the Norman WRF as more fully described in Attachment B.1. ENGINEER shall have the authority and discretion to subcontract the SERVICES under this Amendment at ENGINEER's reasonable discretion.

ARTICLE 5 - COMPENSATION. Attachment C is deleted in its entirety and replaced with Attachment C.1 to include compensation for the additional SERVICES included under this Amendment. Any and all compensation due hereunder is exclusive of sales and use taxes.

ARTICLE 6 - OWNER'S RESPONSIBILITIES. Include new Section 6.7, Additional Responsibilities, which includes the following provisions:

- a. Maintain existing facilities including the headworks (screening and grit removal processes), blowers and air piping to aeration basin No. 1, Clarifier No. 6 mechanisms and structure, and plant drains used for the pilot duration.
- b. Provide and pay for electrical, water, and other on-site utilities needed to construct and run all pilot equipment such as new blowers, pumps, instrumentation, HVAC for electrical equipment, etc. for the pilot project's 15-month duration.
- c. Onsite laydown area during construction at the WRF, in an area of the WRF agreed to by OWNER.
- d. Isolating aeration basin Nos. 1 and 2 from the rest of the aeration basins and from each other.
- e. Draining/emptying aeration basins Nos. 1 and 2.
- f. Gather and perform water quality sampling and testing per the pilot sampling schedule for constituents designated to be the OWNER'S responsibility or make payment to a third-party lab for those samples not performed in-house.
- g. Operation of the pilots; assistance will be provided through the ENGINEER as defined in Attachment B.1. as well as by the pilot equipment manufacturers.
- h. Coordinate with ENGINEER and/or its subcontractor(s) for the payment of equipment and material invoices directly to suppliers to realize sales tax exempt purchases for the PROJECT.
- i. Contract, coordinate, and providing reporting to the Bureau of Reclamation regarding the 2019 SMARTWater: Title XVI Water Reclamation and Reuse Grants. ENGINEER will provide supporting documentation to OWNER.
- j. Site security of the WRF.

ARTICLE 7 - STANDARD OF CARE. Insert "7.1 Professional Services" prior to the current paragraph and adding the following new Section:

- a. 7.2 Construction Services and Materials. ENGINEER or its subcontractors shall perform all construction services in a workmanlike manner and the same shall be free from defects. This warranty is for the shorter of twelve (12) months from substantial completion of the SERVICES associated with the PROJECT or removal of the same in accordance with the Scope of SERVICES set forth in Attachment A.1, 5.1.3 part 8 (the "Warranty Period"). If the materials supplied are modified, corrected, repaired or replaced during the Warranty Period, the warranty applicable to such portion of the materials supplied shall be extended for the lesser of twelve (12) months from the date of completion of such

modification, correction, repair or replacement or removal of the same in accordance with the Scope of Work set forth in Attachment A.1, but in no event shall any warranty extend for more than twenty-four (24) months from substantial completion of the SERVICES provided by ENGINEER for the PROJECT.

ARTICLE 8 - LIABILITY AND INDEMNIFICATION. Include the following new Section:

- a. 8.7 ENGINEER'S risk is specifically limited for all items provided by ENGINEER'S subcontractors to that scope and extent of risk that each subcontractor has accepted in its scope of supply. This back-to-back limitation applies specifically to, but it not limited to, termination, indemnification, warranties, and other guarantees of any kind, and liability caps. ENGINEER shall provide OWNER with a copy of any and all subcontracts entered into between ENGINEER and its subcontractors for purposes of performing the SERVICES.

ARTICLE 10 - LIMITATIONS OF RESPONSIBILITY.:

- a. Delete the following, "ENGINEER shall not be responsible for (1) construction means, methods, techniques, sequences, procedures or safety precautions and programs in connection with the PROJECT" and replace it with, "ENGINEER or its subcontractors shall be responsible for (1) construction means, methods, techniques, sequences, procedures or safety precautions and programs in connection with the PROJECT"; provided however, ENGINEER shall not be responsible for" before subpart (2). Add ", as amended." at end of paragraph following "Attachment B, Scope of Services"
- b. Add the following as a new Section 10.2, "ENGINEER or its subcontractors shall be responsible for the risk of loss to the PROJECT until substantial completion of the SERVICES, at which time, the risk of loss will transfer to OWNER."
- c. Add the following as a new Section 10.3, "Subject only to valid mechanics liens filed by ENGINEER and its subcontractors due to non-payment, OWNER will receive good and legal title to and ownership of the SERVICES free and clear of any and all liens, claims, security interests or other encumbrances when title thereto passes. Title to all or any portion of the SERVICES shall pass upon final completion of the PROJECT .

ARTICLE 14 - DELAY IN PERFORMANCE. Insert the following: "ENGINEER shall be entitled to an equitable adjustment in the PROJECT Schedule included in Article 2 and/or compensation set forth in Article 5 for impacts to the SERVICES which are outside of ENGINEER's reasonable control, including but not limited to changes in law, pre-existing conditions at site, suspension of the SERVICES, or OWNER caused delays."

All other terms and conditions of the AGREEMENT shall remain in full force and effect, without modification.

[Signature Page to Follow]

IN WITNESS WHEREOF, OWNER and ENGINEER have executed this Amendment No. 1.

DATED this ____ day of _____, 2020.

Garver, LLC. (ENGINEER)

By: *Randy McIntyre*
 Title: Randy McIntyre – Vice President

ATTEST: *Mary E. Mall*

STATE OF OKLAHOMA)
) SS
 COUNTY OF CLEVELAND)

This instrument was acknowledged before me on this 27th day of May, 2020, by Randy McIntyre as Vice President of Garver, LLC.

Veronica Owings
 Notary Public

My Commission Expires/Commission Number:
April 21, 2024



Norman Utilities Authority (OWNER)
 APPROVED as to form and legality this ____ day of _____, 2018.

 City Attorney

APPROVED by the Trustees of the Norman Utilities Authority this ____ day of _____, 2020.

ATTEST

By: _____
 Title: Chairperson – N.U.A.

 Secretary – N.U.A.

**ATTACHMENT A.1
 (PROJECT SCHEDULE)**

ENGINEER shall commence work under this AGREEMENT within ten (10) days of a written notice to proceed and shall complete the work in accordance with the schedule below (the "PROJECT SCHEDULE").

PROJECT Task	Duration in Calendar Days
Pilot Design Kick-Off	Completed
Draft Feasibility Study Workshop	Completed
Final Feasibility Study to OWNER and ODEQ	Completed
Pilot Study Protocol to ODEQ	Completed – ODEQ Approval received 1/15/20
Preliminary (30%) Contract Documents to OWNER	Completed – April 23, 2020
Final (90%) Contract Pilot Documents to OWNER	45 days following the receipt of OWNER comments on the 30% Drawing Set
Updated Sampling Plan to OWNER and ODEQ	45 days following receipt of any ODEQ comments
Laboratory Testing Coordination Memo	15 days following completion of Updated Sampling Plan
Updated Pilot Operations and Communications Plan	15 days following the Award to Subcontractor
Manage, administer, and install temporary and pilot equipment *	220 days following Notice to Proceed
Startup and Optimization of BNR demonstration-scale pilots	90 days following completion of BNR equipment installation
Pilot Testing and Engineering Support	365 days following Startup
Demobilization of Temporary and Pilot Equipment	35 days following completion of all pilot testing
Draft Final Pilot Report	90 days following the completion of all pilot testing activities
Revised Final Pilot Report to OWNER and ODEQ	15 days following the receipt of OWNER comments on Draft
Final Pilot Report	15 days following the receipt of ODEQ comments
*See detailed installation schedule	

**ATTACHMENT B.1
(SCOPE OF SERVICES)**

GENERAL

The OWNER has hired ENGINEER to design, implement, and test the demonstration- and pilot-scale technologies at the Norman WRF. Two (2) BNR demonstration-scale trains are proposed: a custom designed mUCT BNR process in Aeration Basin No. 1 and the AquaNereda system by Aqua-Aerobics Systems, Inc. (AASI) in Aeration Basin No. 2 (Refer to Section 1.2.2 above). Additionally, up to five (5) different tertiary pilot skids will be tested, to be located in the old RBC area on the concrete pad. All work will be performed at the WRF and pilots will have varying schedules and durations. ENGINEER is subcontracting with a subcontractor to assist in the installation of temporary BNR and tertiary pilot equipment.

The AGREEMENT is hereby amended as follows:

4.3 FINAL DESIGN

Remove four paragraphs originally included in this section and replace with the following:

Using the OWNER approved Preliminary Design documents, ENGINEER will begin negotiations with a subcontractor to perform installation services for the temporary demonstration-scale and pilot-scale processes that meet the performance indicated in the Preliminary Design documents, as well as OWNER preferences. ENGINEER will meet with prospective subcontractors, recommend their proposed subcontractor to OWNER, and get OWNER approval of subcontractor prior to beginning the WORK.

Upon OWNER approval of the subcontractor, ENGINEER will engage its subcontractor for assistance and development of cost effective means of accomplishing key installation components. These efforts will include on-site visits to WRF with ENGINEER, subcontractor and subcontractor's electrician, and OWNER'S staff; negotiation discussions with pilot technology manufacturers regarding their scope of supply; and the development of schedule and budget. Additional efforts include the development of appropriate contracting mechanisms to accomplish the WORK, detailed scope of work documents, design workshops between OWNER, ENGINEER and subcontractor, and drawings with general specifications.

The Final Design documents will consist of drawings with general specifications, scope of work, a minimum of five (5) but up to six (6) manufacturers scope of supply, and a Technical Memorandum explaining the process integration of the pilots with the existing WRF.

5.0 BIDDING

Remove this Section in its entirety and replace with the Section 5.0 PILOT INSTALLATION below.

6.2. 6) Update the construction time from 120-days to 220-days.

15.0 Extra Work

Remove Item 15.

The AGREEMENT is further amended to add the following SERVICES under this AMENDMENT NO. 1:

5.0 PILOT INSTALLATION

ENGINEER or its subcontractor(s), where noted, will provide the following SERVICES for the temporary installation of the demonstration-scale and pilot-scale equipment for functioning pilots. These pilots are for the purpose of gathering data to evaluate the performance of these technologies for a potential IPR installation at OWNER'S WRF. ENGINEER'S subcontractors to be used on the project will be reviewed with the OWNER prior to engagement.

5.1 Procurement and Installation of Temporary Equipment

Procurement of equipment for (1) the AquaNereda (Nereda) system and temporary installation of the same in Aeration Basin No. 2; and (2) a mUCT biological nutrient removal process is to be installed in Aeration Basin No. 1. This work will occur at the WRF for two (2) functional demonstration scale pilots.

5.1.1 Construction Management

ENGINEER will provide construction management and part-time inspection throughout the duration of construction and the pilot period including (1) coordinating OWNER work activities with construction project activities, (2) tracking scheduled work progress and critical path items, (3) coordinating deliveries of equipment, materials, and pilot consumables with the OWNER, and (4) coordinating activities between OWNER, ENGINEER'S subcontractor, and ENGINEER to resolve concerns. ENGINEER will maintain project budget and pay invoices and claims to ENGINEER'S subcontractors and vendors.

5.1.2 Permits, fees, sales tax, employee facilities

1. ENGINEER'S subcontractor will apply for and acquire City of Norman permits and pay the associated permit fees.
2. Payment of sales tax is not included in the compensation for this project. ENGINEER will submit invoices to OWNER which have been approved by ENGINEER for payment directly to the manufacturer or vendor to realize sales and/or use tax exempt purchases that are incorporated into the WORK. OWNER agrees to pay these invoices which will be deducted from ENGINEER's compensation.
3. ENGINEER'S subcontractor will provide on-site temporary restroom, potable water for drinking, handwashing station or hand sanitizer, and masks for all construction workers for the duration of the WORK.

5.1.3 Procurement and Installation of Temporary Equipment

1. The AquaNereda System includes all materials and equipment supplied by AASI, influent pumping from just downstream of the existing grit removal facility, and effluent pumping to the tertiary treatment pilot skids located in the old RBC concrete pad of the WRF. Additionally, this work includes the installation of:
 - Removal of existing diffusers and installation of new membrane diffusers and piping grid in Ox 4, dedicated blowers to facilitate the process, and temporary air piping. New diffusers will remain in the basin following the pilot completion but will be reconnected to the WRF's existing air piping.
 - Two concrete stiffening columns to the existing baffle wall between Ox 3 and Ox 4; these will be left in the basin following the pilot completion but will not adversely affect basins performance.
 - A metal weir plate to the same baffle wall to raise the allowable water level by 2.5 feet ENGINEER will cause removal of plate and repair of baffle wall following pilot completion.
 - Wall piping penetrations in baffle wall as required for Nereda influent, Nereda effluent (directed to tertiary pilot skids and the balance of effluent flow), Nereda sludge, and effluent tank overflow. Following pilot completion, ENGINEER will cause the wall penetrations to be repaired to OWNER'S satisfaction.
2. Provide, install, and maintain temporary pumping, piping, mixing, instrumentation (included in the AASI scope), and ancillary equipment to facilitate the mUCT biological nutrient removal process in Aeration Basin No. 1 throughout the duration of the pilot. This includes three (3) chemical feed peristaltic pumps and piping to feed glycerin (two) and alum (one). All piping will be accomplished as over-the-wall installations for quick demobilization. As defined hereafter, piping will not obstruct WRF operations and will be protected from freezing.
3. BNR pumping performance criteria of the identified pumps and piping are as follows:

Pump	Intake Location	Discharge Location	Required Flow Range (gpm)
UCT Influent	Primary Clarifier Effluent Junction Box	Aeration Basin No. 1 - Influent Trough	900-1,400
Nereda Influent	Influent Flow Measurement Junction Box	Aeration Basin No. 2 - Nereda Reactor	900-1,400
RAS	"old" RAS/WAS Pump Station	OX-1	1,000-1,500
Nitrate Recycle	OX-4	OX-2A	2,000-4,000
Anaerobic Recycle	OX-1	SX-1	1,000-3,000
UCT Effluent Pilot Feed	Clarifier No. 6 Effluent	Tertiary Filter Pilot Skid	50
Nereda Effluent Pilot Feed	Nereda Effluent Tank	Tertiary Filter Pilot Skid	50
Clarifier No. 6 Effluent	Clarifier No. 6 Effluent	Headworks or Primary Clarifier Splitter Box	900-1,400

WAS	"old" RAS/WAS Pump Station	WAS Storage Basin or Old Centrate Pump Station	50-200
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- Additional pumping or mixing is not in the SERVICES unless deemed necessary for successful completion of the pilot project
 - Pumping and piping will be located such as not to impede traffic flow throughout the WRF; ENGINEER and ENGINEER'S subcontractor will confirm with OWNER that pump and piping routing and installations are acceptable for the fifteen (15) -month pilot duration.
 - Temporary piping that may cross access roads within the WRF are to be constructed with appropriate provisions to maintain the current truck access through the plant. In some areas, this may require ENGINEER to provide on-grade piping with temporary ramps. Prior to installation of any temporary piping road crossings, ENGINEER, and ENGINEER'S subcontractor will coordinate installation with the OWNER, .
 - Heat blankets or mounded dirt over above-ground piping during freezing weather conditions will be provided; heat tracing and insulation is not anticipated for this temporary installation of this PROJECT and is therefore not included in the SERVICES. OWNER is not responsible for additional freeze protection if required for successful completion of the SERVICES.
4. Use of existing equipment belonging to the OWNER (e.g. VFDs, pumps, conduit) shall be permitted where advance permission from the OWNER is granted. OWNER agrees that any use of this owner-provided equipment is not warranted by ENGINEER or ENGINEER'S subcontractor. However, in the case of a failure of any owner-provided equipment, ENGINEER or its subcontractor may be required to procure sufficient equipment to maintain pilot functions without additional cost to OWNER or significant down time of BNR trains or pilot skids. If any equipment is purchased, this remains the property of ENGINEER and/or its subcontractor. Exceptions to this provision include the maintenance and operation of existing processes including: Headworks (screenings and grit removal), blowers and air piping to aeration basin No. 1 (for the mUCT process), and any equipment or maintenance (including structural) related to Clarifier 6, and the existing "old" RAS/WAS pump station.
5. The "old" RAS/WAS Pump Station will be used for this PROJECT. OWNER estimates the sludge in the "old" RAS/WAS Pump station is approximately 5-ft in depth with approximately 7-ft of clearwater on top. The sludge will be cleaned out to install temporary pumps and pumping; removal of sludge is included in the SERVICES, but OWNER allows disposal of the sludge at the WRF for no cost to ENGINEER or ENGINEER'S subcontractor.
6. A minimum of four (4) and up to five (5) tertiary pilot skids will be procured, rented, offloaded, and installed. The potential tertiary pilot skids and the pilot durations of each skid are summarized below:

System	Potential Supplier	Estimated Duration*
Denitrification Filter	Westech	8 months
Ozone-Enhanced Biologically Active Filter	Xylem	5 months
Advanced Oxidation Process (AOP) Pilot	Xylem	5 months
Disk Filters	Aqua Aerobics	10 months
Ceramic Membrane**	Aqua Aerobics	8 months
<i>Note: *Durations may be shortened by approval of ODEQ after receipt of acceptable data</i>		
<i>**Based on availability, this membrane may not be piloted</i>		

The above pilot durations are to run simultaneously, in parallel and sometimes in series with each other. The total pilot duration, including the BNR demonstration-scales, will not exceed 15 months once construction and operation of the BNR systems have completed.

7. ENGINEER'S subcontractor will provide the following Electrical and Instrumentation work as part of these SERVICES:
- Provide and install all electrical and instrumentation equipment required to achieve proper operation of all pilot systems as required. This includes but is not limited to circuit breakers, power panels, conduit, wire, variable frequency drives, motor starters, disconnect switches, instrumentation, and other ancillary equipment.
 - Install and connect all electrical/instrumentation equipment provided as part of the Aqua-Nereda scope of supply.

- Install power feeds for tertiary pilot skids and provide connection and disconnection of power to the skids as they are staged onsite.
 - Installation shall comply with the requirements of the most recently adopted City of Norman version of the National Electric Code (NEC), as well as all City of Norman code amendments.
 - All exposed conductors shall be routed in conduit. Conduit routed along the ground shall be suitability protected and marked to prevent damage from vehicles or lawncare equipment.
 - Coordinate any required electrical inspections with the City of Norman.
 - All motors shall be provided with code-compliant local disconnecting means.
 - Provide five (5) total flowmeters at the following locations and meter ranges:
 - UCT Pilot Feed (local readout, no connection to PLC, 900-1,400 gpm)
 - Nereda Pilot Feed (local readout, connected to Nereda PLC, 900-1,400 gpm)
 - UCT RAS (local readout, no connection to PLC, 1,000-1,500 gpm)
 - UCT Nitrate Recycle (local readout, no connection to PLC, 2,000-4,000 gpm)
 - UCT Anaerobic Recycle (local readout, no connection to PLC, 1,000-3,000 gpm)
 - Provide and install flow meters such that meter accuracy is minimum +/- 5%
 - Provide and install a weather resistant, air conditioned electrical shelter for installation of control panels, computers, and electrical equipment associated with the Aqua-Nereda process as depicted on the drawings.
8. Following completion of the demonstration/pilot period, ENGINEER'S subcontractor will remove and uninstall all equipment and materials and bring Aeration Basin Nos. 1 and 2 back to previous condition, noting the following:
- Equipment and materials provided by the AASI package (refer to AASI Scope of Supply) remains the property of the OWNER.
 - The membrane diffusers installed as part of this pilot PROJECT will remain installed in Aeration Basin No. 2.
 - Following completion of the pilot, ENGINEER'S subcontractor will blind off specific diffusers to provide oxygen flow similar to previous conditions predating the pilot. ENGINEER'S subcontractor will provide a 12-month warranty on the diffusers following the completion of the blinding and acceptance of the diffusers.
 - All other equipment provided in the AASI package (blowers, instruments, etc.) will be removed and relocated to a location on the WRF at the direction of the OWNER.
 - Ancillary electrical and other support equipment required to support the AASI Nereda process, but not provided in the AASI scope of supply package (such as the air piping, electrical shelter, HVAC equipment, etc.) are temporarily installed. Upon completion of the pilot, this equipment will remain the property of ENGINEER'S subcontractor and will be removed from the site by ENGINEER'S subcontractor.
 - All other equipment and materials provided for the pilot (except the materials and equipment provided in the AASI package) is temporary and remains the property of the ENGINEER'S subcontractor; this equipment was not installed or intended for permanent installation and use at the Norman WRF.
 - Equipment not removed within 35 days after completion of all pilot testing may be removed and disposed by OWNER.

5.2 Pilot Water Quality Sampling and Testing

ENGINEER will undertake the coordination, sampling, shipping, and payment for third party testing laboratories. The number and type of samples covered under these SERVICES by ENGINEER are summarized below:

Parameter	Sample Location	Total No. of Samples	Responsible Party
CECs	Raw/Primary Effluent	336	ENGINEER
CECs	Pilot Effluent Locations	62	
TDS/Sulfates/Chlorides	Raw, Tertiary Effluent, Final Effluent	804	
Crypto./ Giardia	Influent, Secondary Effluent, Tertiary Effluent	113	
F+ coliphage	Influent, Secondary Effluent, Tertiary Effluent	440	

Parameter	Sample Location	Total No. of Samples	Responsible Party
Total Culturable Virus	Tertiary and Disinfected Effluent	20	Online Analyzers (included with equipment; responsibility of ENGINEER to maintain during Pilot)
OK IPR Benchmark Contaminants (Not CECs)	Tertiary and Disinfected Effluent	48	
Sludge Analysis	Return Activated Sludge	136	
NH3-N/NO3-N	Raw, Primary Effluent, BNR ML	Continuous	
PO4-P	Raw, Primary Effluent, BNR ML	Continuous	
BOD5	Raw, Primary Effluent, BNR MLs, tertiary effluent, final effluent	1,204	OWNER
TSS	Raw, Primary Effluent, BNR MLs, tertiary effluent, final effluent	1,204	
E.coli	Influent, Secondary Effluent, Tertiary Effluent	440	
Total Organic Carbon (TOC)	Primary Effluent, BNR mixed liquors, Tertiary Effluent	244	OWNER
COD	Influent, Mixed Liquors, Disinfected Effluent	1,092	
TN	Secondary Effluent, Tertiary Effluent	640	
TP	Secondary Effluent, Tertiary Effluent	640	

Note there are several OWNER-supplied samples to be gathered and tested; samples indicated to be performed by the OWNER are not included in this SERVICES to be performed by ENGINEER. Additionally, while the sampling schedule above was prepared by the ENGINEER, ENGINEER does not guarantee that ODEQ will not require samples in addition to those noted. Additional samples if requested by OWNER or ODEQ can be included for additional fee by written amendment

5.3 Process Pilot Chemicals

ENGINEER will order, coordinate deliveries, and pay for chemicals such as glycerin, alum, and hydrogen peroxide critical to maintain proper operations for the BNR demonstration-scale pilots as well as the tertiary pilot skids, which are not chemicals included by the manufacturers.

5.4 Administer third-party professional contracts

ENGINEER will procure and administer the following third-party professional contracts, as described in the Bureau of Reclamation Grant proposal. These contracts will provide third-party data and independent professional review of the project, the results of which will be included in the final Pilot Report.

5.4.1 National Water Research Institute (NWRI)

ENGINEER will procure and coordinate the services of the National Water Research Institute (NWRI), at designated points in the Project schedule. The NWRI will assist the ENGINEER in recruiting expert panels to review project data, and synthesize products for external communications and data dissemination.

5.4.2 University of Colorado

ENGINEER will procure and coordinate the services of the University of Colorado-Boulder, Department of Civil & Environmental Engineering (CU). Given CU's unique qualifications and specialization in disinfection processes, CU will assist the ENGINEER in the laboratory and pilot testing of disinfection (i.e., UV and Ozone) treatment processes. Laboratory testing at CU, with samples of pilot process flows from the Norman WRF, will be utilized by the ENGINEER at ENGINEER'S expense (in conjunction with other pilot testing data) in the development and update of pilot treatment operations plans.

15 Extra Work

The following items are not included under this AGREEMENT but will be considered as extra services payable hereunder, if needed:

1. Chemical allowance in addition to those listed herein.
2. Bidding services.

3. Pilot assistance or construction activities for a duration exceeding the duration noted herein.
4. Warranty or Maintenance items in addition to and for a duration exceeding that noted herein.
5. Design and construction for the permanent installation of any item other than the diffusers and grid.
6. Preparation of an ODEQ Engineering Report.
7. SCADA services in addition to those listed herein.
8. Sampling plans and data analysis for any wastewater treatment facilities in addition to those listed herein.
9. Geotechnical investigations.
10. Environmental services.
11. Site survey services.
12. Updating the Lake Thunderbird TMDL for receiving an IPR discharge.
13. Lake Thunderbird Water Quality Monitoring

Extra services will be as directed by the OWNER in writing for an additional fee as agreed upon by the OWNER and ENGINEER.

**ATTACHMENT C.1
 (COMPENSATION)**

COMPENSATION

Remove Attachment C from original contract and replace with the below in its entirety.

The OWNER will compensate ENGINEER on a lump sum basis for the following SERVICES rendered. The lump sum fee is broken down below by task as defined in the Scope of Services in Attachment A from the original contract and Attachment A.1 from Amendment No. 1.

Task Description	Total	Less In-Kind
Activity 1 – Federal Grant Assistance	\$ 6,200.00	
Activity 2 – Feasibility Study Report	\$37,150.00	\$10,000.00
Activity 3 – Pilot Protocol	\$65,000.00	\$65,000.00
Activity 4 – IPR Pilot Design	\$153,500.00	
Activity 5 – Bidding Services	\$36,700.00	
Activity 6 – Operations Support	\$178,800.00	
Activity 7 – Pilot Reporting	\$96,700.00	
Activity 8 – Outreach and Stakeholder Coordination	\$34,200.00	
CONTRACT AMOUNT signed on February 11, 2020	\$608,250.00	\$75,000.00
PREVIOUS CONTRACT TOTAL	\$533,250.00	
AMENDMENT NO. 1 - PILOT INSTALLATION		
Remove Activity 5 – Bidding Services	-\$36,700.00	
Activity 5.1 – Procurement and Installation	\$2,423,700.00	\$134,000.00
Activity 5.2 – Water Quality Sampling and Testing	\$420,940.00	
Activity 5.3 – Process Pilot Chemicals	\$100,000.00	
Activity 5.4 – Professional Third Party Contracting	\$113,970.00	
Allowance: Biologically Active Filtration (BAF) Media ⁽¹⁾	\$3,000.00	
SUBTOTAL AMENDMENT NO. 1	\$3,024,910.00	\$134,000.00
AMENDMENT NO. 1 TOTAL	\$2,890,910.00	
Subtotals	\$3,633,160.00	\$209,000.00
CONTRACT TOTAL WITH AMENDMENT NO. 1	\$3,424,160.00	

The ENGINEER may submit interim statements, not to exceed one per month, for partial payment for SERVICES rendered. The statements to OWNER will be by task for the percentage of work actually completed. Allowance item (BAF Media) will only be billed if the actual expense is incurred by ENGINEER. The OWNER shall make interim payments within 30 calendar days in response to ENGINEER's interim statements.

If any payment due the ENGINEER under this AGREEMENT is not received within sixty (60) days from date of invoice receipt, the ENGINEER may elect to suspend services under this AGREEMENT without penalty or liquidated damages assessed by the OWNER. Payments not received within sixty (60) days of date invoice receipt will be subject to a one percent (1%) monthly simple interest charge unless OWNER documents reasons for non-payment.

Additional Services

No budgetary allowance has been established for additional services. Additional services must be authorized by amendment of the AGREEMENT. Time and materials billing for ENGINEER'S labor will be at the standard hourly rates. ENGINEER's direct expenses, including subcontractor expenses, will include a multiplier of 1.10.