

## **PROFESSIONAL SERVICES AGREEMENT**

This **PROFESSIONAL SERVICES AGREEMENT** (the “Agreement”) is made and entered by and between **NEW BRAUNFELS UTILITIES**, a Texas municipally owned utility (“NBU”), and **SIGNATURE AUTOMATION, LLC**, a Texas limited liability company (the “Professional”). For good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties agree as follows:

Section 1. Term of Agreement. This Agreement shall become effective the date on which the last party to this Agreement executes this Agreement and this Agreement shall not be binding until executed by all parties (the “Effective Date”). Once this Agreement is executed by both parties, this Agreement shall remain in effect until the completion date specified in Exhibit A, unless terminated as provided for in this Agreement. Subject to Section 271.904 of the Texas Local Government Code, as amended, Exhibit A shall provide, in either calendar days or by providing a final date, a time of completion prior to which the Professional shall have completed all tasks related to the Services (hereinafter defined).

Section 2. Scope of Services.

(A) The Professional shall perform the services described in Exhibit A (the “Services”) within the timeframe specified therein. The time limits for the Services stated in Exhibit A are of the essence of the Agreement. By executing this Agreement, the Professional confirms that the timeframe in Exhibit A is a reasonable period for performing the Services. The scope of work described in the Services constitutes the “Project.”

(B) The quality of Services provided hereunder shall be of the level of professional quality performed by professionals regularly rendering this type of service.

(C) The Professional shall perform the Services in compliance with all statutory, regulatory, and contractual requirements now or hereafter in effect as may be applicable to the rights and obligations set forth in the Agreement.

(D) The Professional may rely upon the accuracy of reports and surveys provided to it by NBU except when defects should have been apparent to a reasonably competent professional or when it has actual notice of any defects in the reports and surveys.

Section 3. Compensation.

(A) Amount. The Professional shall be paid the amount set forth in Exhibit B as described herein.

(B) Billing Period. NBU shall pay the Professional within thirty (30) days after receipt and approval of invoices and based upon work satisfactorily performed and completed to date. All invoices shall document and itemize all work completed to date. Each invoice statement shall include a record of time expended and work performed in sufficient detail to justify payment. In

the event any uncontested portions of any invoice are not paid within thirty (30) days of receipt and approval of the Professional's invoice, the Professional shall have the right to suspend work.

(C) Reimbursable Expenses. Any and all reimbursable expenses related to the Project shall be described in the Services defined in Exhibit A and accounted for in the total compensation amount in Exhibit B. If these items are not specifically accounted for in both Exhibit A and Exhibit B, NBU shall not be required to pay such amounts unless otherwise agreed to in writing by both parties or unless agreed to pursuant to Section 4 of this Agreement.

#### Section 4. Changes to the Project Work; Additional Work.

(A) Changes to Work. The Professional shall make such revisions to any work that has been completed as are necessary to correct any errors or omissions as may appear in such work. If NBU finds it necessary to make changes to previously satisfactorily completed work or parts thereof, the Professional shall make such revisions if requested and as directed by NBU and such services shall be considered as additional work and paid for as specified under the following paragraph.

(B) Additional Work. NBU retains the right to make changes to the Services at any time by a written contract amendment. Work that is clearly not within the general description of the Services under this Agreement must be approved in writing by NBU by contract amendment before the additional work is undertaken by the Professional. If the Professional is of the opinion that any work is beyond that contemplated in this Agreement and the Services described in Exhibit A and therefore constitutes additional work, the Professional shall promptly notify NBU of that opinion in writing. If NBU agrees that such work does constitute additional work, then NBU and the Professional shall execute a contract amendment for the additional work and NBU shall compensate the Professional for the additional work on the same basis of the rates for the Services contained in Exhibit B. If the changes deduct from the extent of the scope of work for the Services, the contract sum shall be adjusted accordingly. All such changes shall be executed under the conditions of the original Agreement. Any work undertaken by the Professional not previously approved as additional work shall be at risk of the Professional.

Section 5. Ownership of Documents. Upon completion or termination of this Agreement, all documents prepared by the Professional or furnished to the Professional by NBU shall be delivered to and become the property of NBU. All drawings, charts, calculations, plans, specifications and other data, including electronic files and raw data, prepared under or pursuant to this Agreement shall be made available, upon request, to NBU without restriction or limitation on the further use of such materials; however, such materials are not intended or represented to be suitable for reuse by NBU or others. Any reuse of the materials related to the Services without prior verification or adaptation by the Professional for the specific purpose intended will be at NBU's sole risk and without liability to the Professional. Where applicable, the Professional shall retain all pre-existing proprietary rights in the materials provided to NBU but shall grant to NBU a non-exclusive, perpetual, royalty-free license to use such proprietary information solely for the purposes for which the information was provided. The Professional may, at the Professional's expense, have copies made of the documents or any other data furnished to NBU under or pursuant to this Agreement.

Section 6. Personnel. The Professional shall provide adequate, experienced personnel, capable of and devoted to the successful completion of the Services to be performed under this Agreement. The Professional agrees that, upon commencement of the Services to be performed under this Agreement, key personnel will not be removed or replaced without prior written notice to NBU. If key personnel are not available to perform the Services for a continuous period exceeding thirty (30) calendar days, or are expected to devote substantially less effort to the Services than initially anticipated, the Professional shall immediately notify NBU of same and shall replace such personnel with personnel possessing substantially equal ability and qualifications.

Section 7. Licenses; Materials. The Professional shall maintain in current status all federal, state, and local licenses and permits required for the Professional to perform the Services and operate its business. NBU has no obligation to provide the Professional, its employees or subcontractors any business registrations or licenses required to perform the Services described in this Agreement. NBU has no obligation to provide tools, equipment, or materials to the Professional.

Section 8. Professional's Seal; Standard of Care. To the extent the Professional has a professional seal, the Professional shall place such seal on all final documents and data furnished by the Professional to NBU. Preliminary documents released from a license holder's control shall identify the purpose of the document, the engineer(s) of record and the engineer license number(s), and the release date on the title sheet of bound engineering reports, specifications, details, calculations or estimates, and each sheet of plans or drawings regardless of size or binding. As required by Section 271.904 of the Texas Local Government Code, as amended, all work and services provided under this Agreement will be performed with the professional skill and care ordinarily provided by competent engineers or architects, as applicable, practicing under the same or similar locality under the same or similar circumstances and professional license. The Professional shall perform its services as expeditiously as is prudent considering the ordinary professional skill of a competent engineer or architect, as applicable. The plans, specifications, and data provided by the Professional shall be adequate and sufficient to enable those performing the actual work to perform the work as and within the time contemplated by NBU and the Professional. NBU acknowledges that the Professional does not have control over the methods or means of work or the costs of labor, materials, or equipment. Unless otherwise agreed in writing, any estimates of costs by the Professional are for informational purposes only and are not guarantees.

Section 9. Indemnification.

**(A) GENERAL. TO THE EXTENT PERMITTED BY LAW, INCLUDING SECTION 271.904 OF THE TEXAS LOCAL GOVERNMENT CODE, THE PROFESSIONAL SHALL INDEMNIFY AND HOLD HARMLESS NBU AND EACH BOARD MEMBER, OFFICER, EMPLOYEE, AGENT, AND REPRESENTATIVE THEREOF (NBU AND ANY SUCH PERSON BEING HEREIN CALLED AN "INDEMNIFIED PARTY") FOR, FROM AND AGAINST ANY AND ALL LOSSES, CLAIMS, DAMAGES, LIABILITIES, COSTS AND EXPENSES (INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND COURT COSTS) INCURRED BY ANY INDEMNIFIED PARTY WHICH ARE:**

- i. DUE TO THE VIOLATION OF ANY ORDINANCE, REGULATION, STATUTE, OR OTHER LEGAL REQUIREMENT IN THE PERFORMANCE OF THIS AGREEMENT, BY THE PROFESSIONAL, ITS AGENT, EMPLOYEE, ANY CONSULTANT UNDER CONTRACT, OR ANY OTHER ENTITY OVER WHICH THE PROFESSIONAL EXERCISES CONTROL;
- ii. CAUSED BY OR RESULTING FROM ANY NEGLIGENT OR INTENTIONAL ACT OR OMISSION IN VIOLATION OF PROFESSIONAL'S STANDARD OF CARE, BY THE PROFESSIONAL, ITS AGENT, ANY CONSULTANT UNDER CONTRACT, OR ANY OTHER ENTITY OVER WHICH THE PROFESSIONAL EXERCISES CONTROL;
- iii. CAUSED BY OR RESULTING FROM ANY CLAIM ASSERTING INFRINGEMENT OR ALLEGED INFRINGEMENT OF A PATENT, TRADEMARK, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT IN CONNECTION WITH THE INFORMATION FURNISHED BY OR THROUGH THE PROFESSIONAL, ITS AGENT, ANY CONSULTANT UNDER CONTRACT, OR ANY OTHER ENTITY OVER WHICH THE PROFESSIONAL EXERCISES CONTROL;
- iv. DUE TO THE FAILURE OF THE PROFESSIONAL, ITS AGENT, ANY CONSULTANT UNDER CONTRACT, OR ANY OTHER ENTITY OVER WHICH THE PROFESSIONAL EXERCISES CONTROL TO PAY THEIR CONSULTANTS OR SUBCONSULTANTS AMOUNTS DUE FOR SERVICES PROVIDED IN CONNECTION WITH THE PROJECT; OR
- v. OTHERWISE ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE SERVICES UNDER THIS AGREEMENT, INCLUDING SUCH CLAIMS, DAMAGES, LOSSES OR EXPENSES ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY, INCLUDING LOSS OF USE RESULTING THEREFROM, BUT ONLY TO THE EXTENT SUCH CLAIMS, DAMAGES, LOSSES, COSTS AND EXPENSES ARE CAUSED BY OR RESULT FROM ANY NEGLIGENT OR INTENTIONAL ACTS OR OMISSIONS OF THE PROFESSIONAL, ITS AGENT, ANY CONSULTANT UNDER CONTRACT, OR ANY OTHER ENTITY OVER WHICH THE PROFESSIONAL EXERCISES CONTROL.

**(B) REIMBURSEMENT OF NBU'S FEES IN DEFENSE OF CLAIMS. TO THE EXTENT NBU INCURS ATTORNEY'S FEES IN DEFENSE OF ANY CLAIM ASSERTED AGAINST NBU THAT ARISES OR RESULTS FROM THE ALLEGED ACTS OR OMISSIONS OF THE PROFESSIONAL DESCRIBED IN THIS SECTION, THE PROFESSIONAL SHALL REIMBURSE NBU ITS REASONABLE ATTORNEY'S FEES IN PROPORTION TO THE PROFESSIONAL'S LIABILITY FOUND AFTER A FINAL ADJUDICATION OF LIABILITY.**

The obligations of the Professional under this Section shall survive the termination of this Agreement.

Section 10. Insurance.

(A) General.

- i. Insurer Qualifications. Without limiting any obligations or liabilities of the Professional, the Professional shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies authorized to do business in the State of Texas with an A.M. Best, Inc. rating of A- VII or above with policies and forms satisfactory to NBU. Failure to maintain insurance as specified herein may result in termination of this Agreement at NBU's option.
- ii. No Representation of Coverage Adequacy. By requiring insurance, NBU does not represent that coverage and limits will be adequate to protect the Professional. NBU reserves the right to review any and all of the insurance policies and/or endorsements cited in this Agreement, but has no obligation to do so. Failure to demand such evidence of full compliance with the insurance requirements set forth in this Agreement or failure to identify any insurance deficiency will not relieve the Professional from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Agreement.
- iii. Additional Insured. All insurance coverage and self-insured retention or deductible portions, except Workers' Compensation insurance and Professional Liability insurance, if applicable, shall name, to the fullest extent permitted by law for claims arising out of the performance of this Agreement, NBU, its agents, representatives, officers, directors, officials and employees as an Additional Insured (CG 2010 1001 and CG 2037 1001 or an equivalent on the general liability policy) as specified under the respective coverage sections of this Agreement.
- iv. Coverage Term. All insurance required herein shall be maintained in full force and effect until all the Services required to be performed under the terms of this Agreement are satisfactorily performed, completed and formally accepted by NBU, unless specified otherwise in this Agreement.
- v. Primary Insurance. The Professional's insurance shall be primary insurance with respect to performance of this Agreement and in the protection of NBU as an Additional Insured.
- vi. Claims Made. In the event any insurance policies required by this Agreement are written on a "claims made" basis, coverage will extend, either by keeping coverage in force or purchasing an extended reporting option, for three years after the conclusion of the term of this Agreement. Such continuing coverage will be evidenced by submission of annual certificates of insurance stating applicable coverage is in force and containing provisions as required herein for the three-year period.
- vii. Waiver. All policies (except for Professional Liability, if applicable), including Workers' Compensation insurance, will contain a waiver of rights of recovery (subrogation) against NBU, its agents, representatives, officials, officers and employees for any claims arising out of the Services performed by the Professional.

The Professional shall arrange to have such subrogation waivers incorporated into each policy via formal written endorsement thereto.

- viii. Policy Deductibles and/or Self-Insured Retentions. The policies set forth in these requirements may provide coverage that contains deductibles or self-insured retention amounts. Such deductibles or self-insured retention shall not be applicable with respect to the policy limits provided to NBU. The Professional shall be solely responsible for any such deductible or self-insured retention amount.
- ix. Use of Subcontractors. The Professional shall not use subcontractors for all or any work under this Agreement without the prior written consent of NBU in its sole discretion. If any work under this Agreement is subcontracted in any way, the Professional shall execute written agreements with its subcontractors containing the indemnification provisions set forth in this Agreement and insurance requirements set forth herein protecting NBU and the Professional. The Professional shall be responsible for executing any agreements with its subcontractors and obtaining certificates of insurance verifying the insurance requirements.
- x. Evidence of Insurance. Prior to the Effective Date of this Agreement, the Professional shall provide suitable evidence of insurance to NBU, which confirms that all required insurance policies are in full force and effect. Evidence of insurance shall be in a form acceptable to NBU. Evidence of such insurance shall be attached as Exhibit C. Confidential information such as the policy premium may be redacted from the documents evidencing each insurance policy, provided that such redactions do not alter any of the information required by this Agreement. NBU will rely upon the requested information, including, but not limited to, certificates of insurance, endorsements, schedule of forms and endorsements, or other policy language as evidence of coverage but such acceptance and reliance will not waive or alter in any way the insurance requirements or obligations of this Agreement. If any of the policies required by this Agreement expire during the life of this Agreement, it will be the Professional's responsibility to forward renewal certificates and evidence of insurance to NBU five (5) days prior to the expiration date.

(B) Required Insurance Coverage. Any of the coverage set forth below may be waived by NBU in its sole discretion, but any such waiver must be signed by an authorized representative of NBU on or before the Effective Date of this Agreement.

- i. Commercial General Liability. The Professional shall maintain "occurrence" form Commercial General Liability insurance with an unimpaired limit of not less than \$1,000,000 for each occurrence and a \$2,000,000 General Aggregate Limit. The policy shall cover liability arising from premises, operations, independent contractors, products, completed operations, personal injury, and property damage. The definition of insured contract cannot have any modifications as outlined in the ISO policy form CG 0001 0413. Third party action over coverage must not be specifically excluded. To the fullest extent allowed by law, for claims arising out

of the performance of this Agreement, NBU, its agents, representatives, officers, officials and employees shall be cited as an Additional Insured. If any Excess insurance is utilized to fulfill the requirements of this subsection, such Excess insurance shall be “follow form” equal or broader in coverage scope than underlying insurance.

- ii. Auto Liability. The Professional shall maintain Automobile Liability insurance with a limit of \$1,000,000 combined single limit on the Professional’s owned or hired and non-owned vehicles, as applicable, assigned to or used in the performance of the Services by the Professional under this Agreement. To the fullest extent allowed by law, for claims arising out of the performance of this Agreement, NBU, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured. If any Excess insurance is utilized to fulfill the requirements of this subsection, such Excess insurance shall be “follow form” equal or broader in coverage scope than underlying insurance.
- iii. Professional Liability. The Professional shall maintain Professional Liability insurance covering negligent errors and omissions arising out of the Services performed by the Professional, or anyone employed by the Professional, or anyone for whose negligent acts, mistakes, errors and omissions the Professional is legally liable, with an unimpaired liability insurance limit of \$1,000,000 each claim and \$2,000,000 annual aggregate. In the event the Professional Liability insurance policy is written on a “claims made” basis, coverage shall extend for three years after the conclusion of the term of this Agreement, and the Professional shall be required to submit certificates of insurance and other requested information evidencing proper coverage is in effect as required above. Confidential information such as the policy premium or proprietary information may be redacted from the insurance information requested, provided that such redactions do not alter any of the information required by this Agreement.
- iv. Workers’ Compensation and Employer’s Liability Insurance. The Professional shall maintain Workers’ Compensation insurance to cover the Professional’s employees engaged in the performance of the Services under this Agreement and shall also maintain Employers Liability Insurance of not less than \$1,000,000 for each accident, \$1,000,000 disease for each employee and \$1,000,000 disease policy limit.

(C) Cancellation and Expiration Notice. Insurance required herein shall not expire, be canceled, or be materially changed without thirty (30) days’ prior written notice to NBU.

#### Section 11. Termination.

(A) For NBU’s Convenience. This Agreement is for the convenience of NBU and, as such, may be terminated by NBU for any reason upon thirty (30) days’ written notice by NBU to the Professional. Upon termination for convenience, the Professional will be paid for the Services

performed to the termination date less any offsets to which NBU may be entitled under the terms of this Agreement. By written notice to NBU, the Professional may suspend work if the Professional reasonably determines that working conditions at the site (outside the Professional's control) are unsafe, or in violation of applicable laws, or in the event NBU has not made timely payment in accordance with this Agreement, or for other circumstances not caused by the Professional that are materially interfering with the normal progress of the work. The Professional's suspension of work hereunder shall be without prejudice to any other remedy of the Professional at law or equity.

(B) For Cause. If either party violates any provision or fails to perform any obligation of this Agreement and such party fails to cure its nonperformance within thirty (30) days after written notice of nonperformance is given by the non-defaulting party, such party will be in default. In the event of such default, the non-defaulting party may terminate this Agreement immediately for cause and will have all remedies that are available to it at law or in equity including, without limitation, the remedy of specific performance. If the nature of the defaulting party's nonperformance is such that it cannot reasonably be cured within thirty (30) days, then the defaulting party will have such additional period of time as may be reasonably necessary under the circumstances, provided the defaulting party immediately (i) provides written notice to the non-defaulting party and (ii) commences to cure its nonperformance and thereafter diligently continues to completion the cure of its nonperformance. In no event will any such cure period exceed ninety (90) days. Only one notice of nonperformance will be required during the term of this Agreement and in the event of a second breach or violation, the nondefaulting party may immediately terminate this Agreement without notice to the defaulting party. In the event of any termination for cause by NBU, payment will be made by NBU to the Professional for the undisputed portion of its fee due as of the termination date less any offsets to which NBU may be entitled under the terms of this Agreement.

(C) Non-Collusion. The Professional represents and warrants that the Professional has not given, made, promised or paid, nor offered to give, make, promise or pay any gift, bonus, commission, money or other consideration to any person as an inducement to or in order to obtain the work to be provided to NBU under this Agreement. If NBU determines that the Professional gave, made, promised, paid or offered any gift, bonus, commission, money, or other consideration to NBU or any of its officers, agents, or employees to secure this Agreement, NBU may elect to cancel this Agreement by written notice to the Professional. The Professional further agrees that the Professional shall not accept any gift, bonus, commission, money, or other consideration from any person (other than from NBU pursuant to this Agreement) for any of the Services performed by the Professional under or related to this Agreement. If any such gift, bonus, commission, money, or other consideration is received by or offered to the Professional, the Professional shall immediately report that fact to NBU and, NBU, at its sole option, may elect to cancel this Agreement by written notice to the Professional.

(D) Agreement Subject to Appropriation. This Agreement is subject to appropriation of funds. The provisions of this Agreement for payment of funds by NBU shall be effective when funds are appropriated for purposes of this Agreement and are actually available for payment. NBU shall be the sole judge and authority in determining the availability of funds under this Agreement and NBU shall keep the Professional fully informed as to the availability of funds for the Agreement.



The obligation of NBU to make any payment pursuant to this Agreement is a current expense of NBU, payable exclusively from such annual appropriations, and is not a general obligation or indebtedness of NBU. If sufficient funds are not appropriated to pay the amounts as set forth in this Agreement during any immediately succeeding fiscal year, this Agreement shall terminate at the end of the then-current fiscal year and NBU and the Professional shall be relieved of any subsequent obligation under this Agreement.

Section 12. Miscellaneous.

(A) Independent Contractor. The Professional acknowledges that the Professional is an independent contractor of NBU and is not an employee, agent, official or representative of NBU. The Professional shall not represent, either expressly or through implication, that the Professional is an employee, agent, official or representative of NBU. Income taxes, self-employment taxes, social security taxes and the like shall be the sole responsibility of the Professional.

(B) Governing Law; Venue. This Agreement and all of the transactions contemplated herein shall be governed by and construed in accordance with the laws of the State of Texas. The provisions and obligations of this Agreement are performable in Comal County, Texas such that exclusive venue for any action arising out of this Agreement shall be in Comal County, Texas.

(C) Compliance with Laws. The Professional shall comply with all federal, state and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts, administrative, or regulatory bodies in any matter affecting the performance of this Agreement, including, without limitation, worker's compensation laws, minimum and maximum salary and wage statutes and regulations, and licensing laws and regulations. When required, the Professional shall furnish satisfactory proof of compliance to NBU.

(D) Amendments. This Agreement may only be amended, modified, or supplemented by a written amendment signed by persons duly authorized to enter into contracts on behalf of NBU and the Professional.

(E) Provisions Required by Law. Each and every provision of law and any clause required by law to be in the Agreement shall be read and enforced as though it were included herein and, if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Agreement shall promptly be physically amended to make such insertion or correction.

(F) Severability. If any term or provision of this Agreement is held to be invalid, illegal, or unenforceable in any respect under applicable law, the legality, validity or enforceability of the remaining terms or provisions of this Agreement shall not be affected thereby, and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

(G) Entire Agreement; Interpretation; Parol Evidence. This Agreement and the related Exhibits constitute the entire agreement of the parties with respect to the subject matter, and all previous agreements, whether oral or written, entered into prior to this Agreement are hereby revoked and

superseded thereby. No representations, inducements or oral agreements have been made by any of the parties except as expressly set forth in this Agreement. This Agreement shall be construed and interpreted according to its plain meaning, and no presumption shall be deemed to apply in favor of, or against the party drafting the Agreement.

(H) No Assignment. Neither party shall have the right to assign that party's interest in this Agreement without the prior written consent of the other party. Any purported assignment in violation of this Section shall be null and void.

(I) Subcontractors. The Professional shall not transfer any portion of the work related to the Services under this Agreement to any subcontractor without the prior written consent of NBU, which consent shall not be unreasonably withheld. The approval or acquiescence of NBU in the subletting of any work shall not relieve the Professional of any responsibility for work done by such subcontractor. Failure to pay subcontractors in a timely manner pursuant to any subcontract shall be a material breach of this Agreement by the Professional.

(J) Waiver. No waiver by any party of any of the provisions of this Agreement shall be effective unless explicitly set forth in writing and signed by the party so waiving. No waiver of any breach or violation of any term of this Agreement shall be deemed or construed to constitute a waiver of any other breach or violation, whether concurrent or subsequent, and whether of the same or of a different type of breach or violation. No failure to exercise, or delay in exercising, any right, remedy, power, or privilege arising from this Agreement shall operate or be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power, or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power, or privilege.

(K) Attorneys' Fees. In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Agreement or on account of any breach or default hereof, the prevailing party will be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, which will be deemed to have accrued on the commencement of such action.

(L) Liens. All materials or services provided under this Agreement shall be free of all liens and, if NBU requests, a formal release of all liens shall be delivered to NBU.

(M) Offset.

- i. Offset for Damages. In addition to all other remedies at law or equity, NBU may offset from any money due to the Professional any amount the Professional owes to NBU for damages resulting from breach or deficiencies in performance or breach of any obligation under this Agreement, including but not limited to all costs, expenses, fines, fees, and charges associated with obtaining performance from alternative sources, shipping, handling, materials, equipment rental, travel expenses and associated costs.

- ii. Offset for Delinquent Fees or Taxes. NBU may offset from any money due to the Professional any amount the Professional owes to NBU for delinquent fees, including any interest or penalties.

(N) Notices. Any notice or other communication required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if (i) delivered to the party at the address set forth below, (ii) deposited in the U.S. Mail, registered or certified, return receipt requested, to the address set forth below, or (iii) given to a recognized and reputable overnight delivery service, to the address set forth below:

If to NBU:

New Braunfels Utilities  
Attn: Chief Technology Officer  
263 Main Plaza  
New Braunfels, TX 78130

With copy to:

Purchasing Manager  
New Braunfels Utilities  
355 FM 306  
New Braunfels, TX 78130

If to the Professional:

Signature Automation, LLC  
14677 Midway Road, Suite 212  
Addison, TX 75001

or at such other address, and to the attention of such other person or officer, as any party may designate by providing thirty (30) days' prior written notice of such change to the other party in the manner set forth in this Section. Notices shall be deemed received (i) when delivered to the party, (ii) three business days after being placed in the U.S. Mail, properly addressed, with sufficient postage or (iii) the following business day after being given to a recognized overnight delivery service, with the person giving the notice paying all required charges and instructing the delivery service to deliver on the following business day. If a copy of a notice is also given to a party's counsel or other recipient, the provisions above governing the date on which a notice is deemed to have been received by a party shall mean and refer to the date on which the party, and not its counsel or other recipient to which a copy of the notice may be sent, is deemed to have received the notice.

(O) Confidentiality of Records. The Professional shall establish and maintain procedures and controls that are acceptable to NBU for the purpose of ensuring that information contained in its records or obtained from NBU or from others in carrying out the Professional's obligations under this Agreement shall not be used or disclosed by it, its agents, officers, or employees, except as

required to perform the Professional's duties under this Agreement. Persons requesting such information should be referred to NBU. The Professional also agrees that any information pertaining to individual persons shall not be divulged other than to employees or officers of the Professional as needed for the performance of duties under this Agreement.

(P) Right to Audit. NBU shall have the right to examine and audit the books and records of the Professional with regard to the Services, or any subsequent changes, at any reasonable time. Such books and records shall be maintained in accordance with generally accepted principles of accounting and shall be adequate to enable determination of: (1) the substantiation and accuracy of any payments required to be made under this Agreement; and (2) compliance with the provisions of this Agreement.

(Q) Paragraph Headings; Construction. The paragraph headings contained in this Agreement are for convenience only and shall in no way enlarge or limit the scope or meaning of the various and several paragraphs hereof. Both parties have participated in the negotiation and preparation of this Agreement and this Agreement shall not be construed either more or less strongly against or for either party.

(R) Binding Effect. Except as limited herein, the terms and provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, devisees, personal and legal representatives, successors and assigns.

(S) Gender. Within this Agreement, words of any gender shall be held and construed to include any other gender, and words in the singular number shall be held and construed to include the plural, unless the context otherwise requires.

(T) Multiple Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, and all of which shall constitute but one and the same instrument.

(U) Exhibits. Except as specified in Subsection (V) of this Section, all exhibits to this Agreement are incorporated herein by reference for all purposes wherever reference is made to the same.

(V) Conflicting Terms. In the case of any conflicts between the terms of this Agreement and the Exhibits, the statements in the body of this Agreement shall govern. The Exhibits are intended to detail the technical scope of services, fee schedule, and the term of the contract only and shall not dictate Agreement terms.

(W) Relationship of Parties. Nothing contained in this Agreement shall be deemed or construed by the parties hereto or by any third party to create the relationship of principal and agent or of partnership or of joint venture or of any association whatsoever between the parties, it being expressly understood and agreed that no provision contained in this Agreement nor any act or acts of the parties hereto shall be deemed to create any relationship between the parties other than the relationship of independent parties contracting with each other solely for the purpose of effecting the provisions of this Agreement.

(X) No Third-Party Beneficiaries. This Agreement is for the sole benefit of the parties hereto and their respective assigns and nothing herein, express or implied, is intended to or shall confer upon any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Agreement.

(Y) Non-Exclusive Contract. This Agreement is entered into with the understanding and agreement that it is for the sole convenience of NBU. NBU reserves the right to obtain like goods and services from another source when necessary.

Section 13. Force Majeure. If the performance of any covenant or obligation to be performed hereunder by any party is delayed as a result of circumstances that are beyond the reasonable control of such party (which circumstances may include, without limitation, acts of God, war, acts of civil disobedience, epidemic, pandemic, fire or other casualty, shortage of materials, adverse weather conditions (such as, by way of illustration and not of limitation, severe rain storms or below freezing temperatures, or tornados), labor action, strikes or similar acts, moratoriums or regulations or actions by governmental authorities), the time for such performance shall be extended by the amount of time of such delay, but no longer than the amount of time reasonably occasioned by the delay. In no event will any delay or failure of performance caused by any force majeure condition extend this Agreement beyond its stated Term unless both parties agree in writing to such extension in an amendment to this Agreement. The party claiming delay of performance as a result of any of the foregoing force majeure events shall deliver written notice of the commencement of any such delay resulting from such force majeure event not later than seven (7) days after the claiming party becomes aware of the same, and if the claiming party fails to so notify the other party of the occurrence of a force majeure event causing such delay and the other party shall not otherwise be aware of such force majeure event, the claiming party shall not be entitled to avail itself of the provisions for the extension of performance contained in this subsection.

Section 14. Dispute Resolution. In accordance with the provisions of Subchapter I, Chapter 271 of the Texas Local Government Code, as amended, the parties agree that, prior to instituting any lawsuit or other proceeding arising from a dispute under this agreement, the parties shall first attempt to resolve the dispute by taking the steps described in this Section. First, the dissatisfied party shall deliver to the other party a written notice substantially describing the nature of the dispute, which notice shall request a written response to be delivered to the dissatisfied party not less than five (5) days after receipt of the notice of dispute. Second, if the response does not reasonably resolve the dispute, in the opinion of the dissatisfied party, the dissatisfied party shall give five (5) days' written notice to that effect to the other party whereupon each party shall appoint a person having authority over the activities of the respective parties who shall promptly meet, in person, in an effort to resolve the dispute. Third, if those persons cannot or do not resolve the dispute, then the parties shall each appoint a person from the highest tier of managerial responsibility within each respective party, who shall then promptly meet, in person, in an effort to resolve the dispute.

Section 15. Disclosure of Business Relationships/Affiliations; Conflict of Interest Questionnaire. The Professional represents that it is in compliance with the applicable filing and disclosure requirements of Chapter 176 of the Texas Local Government Code, as amended.

Section 16. Information Technology

(A) Limited Access. If necessary for the fulfillment of the Agreement, NBU may provide the Professional with non-exclusive, limited access to NBU's information technology infrastructure. The Professional understands and agrees to abide by NBU policies, standards, regulations and restrictions regarding access and usage of NBU's information technology infrastructure. The Professional shall reasonably enforce such policies, standards, regulations and restrictions with all the Professional's employees, agents or any tier of subcontractor granted access in the performance of this Agreement, and shall be granted and authorize only such access as may be necessary for the purpose of fulfilling the requirements of the Agreement. The Professional's employees, agents and subcontractors must receive prior, written approval from NBU before being granted access to NBU's information technology infrastructure and data and NBU, in its sole determination, shall determine accessibility and limitations thereto. The Professional agrees that the requirements of this Section shall be incorporated into all subcontractor agreements entered into by the Professional. It is further agreed that a violation of this Section shall be deemed to cause irreparable harm that justifies injunctive relief in court. A violation of this Section may result in immediate termination of this Agreement without notice.

(B) Data Confidentiality. All data, regardless of form, including originals, images and reproductions, prepared by, obtained by or transmitted to the Professional in connection with this Agreement is confidential, proprietary information owned by NBU. Except as specifically provided in this Agreement, the Professional shall not intentionally disclose data generated in the performance of the Services to any third party without the prior, written consent of NBU.

(C) Data Security. Personal identifying information, financial account information, or restricted NBU information, whether electronic format or hard copy, is confidential and must be secured and protected at all times to avoid unauthorized access. At a minimum, the Professional must encrypt or password-protect electronic files. This includes data saved to laptop computers, computerized devices or removable storage devices.

(D) Compromised Security. In the event that data collected or obtained by the Professional in connection with this Agreement is believed to have been compromised or in the event of a cybersecurity event or breach, the Professional shall notify NBU immediately. **TO THE EXTENT PERMITTED BY SECTION 271.904 OF THE TEXAS LOCAL GOVERNMENT CODE, AS AMENDED, THE PROFESSIONAL SHALL INDEMNIFY AND HOLD NBU HARMLESS FROM ANY CLAIMS RESULTING FROM AN ACT OF NEGLIGENCE, INTENTIONAL TORT, INTELLECTUAL PROPERTY INFRINGEMENT, OR FAILURE TO PAY A SUBCONTRACTOR OR SUPPLIER COMMITTED IN CONNECTION WITH THE PERFORMANCE OF THIS AGREEMENT BY THE PROFESSIONAL, ITS OFFICERS, EMPLOYEES, CONSULTANTS, AGENTS, ANY TIER OF SUBCONTRACTOR, OR ANY ENTITY OVER WHICH THE PROFESSIONAL EXERCISES CONTROL.**

(E) Survival. The obligations of the Professional under this Section shall survive the termination of this Agreement.

Section 17. Prohibition on Contracts with Companies Boycotting Israel. The Professional hereby verifies that it and its parent company, wholly-or majority owned subsidiaries, and other affiliates, if any, does not boycott Israel and, to the extent this Agreement is a contract for goods or services, will not boycott Israel during the term of this Agreement as described in Chapter 2271 of the Texas Government Code, as amended. The foregoing verification is made solely to comply with Section 2271.002 of the Texas Government Code, as amended, and to the extent such Section does not contravene applicable federal and State law. As used in the foregoing verification, “boycott Israel” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. The Professional understands “affiliate” to mean an entity that controls, is controlled by, or is under common control with the Professional and exists to make a profit.

Section 18. Contracts with Companies Engaged in Business with Iran, Sudan or Foreign Terrorist Organizations Prohibited. The Professional represents that neither it nor any of its parent company, wholly-or majority-owned subsidiaries, and other affiliates is a company identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 2252.153 or Section 2270.0201, Texas Government Code, as amended, and posted on any of the following pages of such officer’s internet website:

<https://comptroller.texas.gov/purchasing/docs/sudan-list.pdf>,  
<https://comptroller.texas.gov/purchasing/docs/iran-list.pdf>, or  
<https://comptroller.texas.gov/purchasing/docs/fto-list.pdf>.

The foregoing representation is made solely to comply with Section 2252.152, Texas Government Code, as amended, and to the extent such Section does not contravene applicable federal or State law and excludes the Professional and each of its parent company, wholly-or majority-owned subsidiaries, and other affiliates, if any, that the United States government has affirmatively declared to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization. The Professional understands “affiliate” to mean an entity that controls, is controlled by, or is under common control with the Professional and exists to make a profit.

Section 19. Prohibition on Contracts with Companies in China, Iran, North Korea, or Russia. To the extent this Agreement relates to critical infrastructure in the State of Texas, the Professional represents the following:

(A) it is not owned by or the majority of stock or other ownership interest in the Professional is not held or controlled by:

- i. individuals who are citizens of China, Iran, North Korea, Russia, or a country designated by the Governor of Texas as a threat to critical infrastructure under Section 2274.0103 of the Texas Government Code, as amended (“designated country”); or
- ii. a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, or a designated country; or

(B) it is not headquartered in China, Iran, North Korea, Russia, or a designated country.

The foregoing representation is made solely to comply with Chapter 2274 of the Texas Government Code, as amended, and to the extent such Section does not contravene applicable federal or State law. As used in the foregoing verification, “critical infrastructure” means a communication infrastructure system, cybersecurity system, electric grid, hazardous waste treatment system, or water treatment facility.

Section 20. Prohibition on Contracts with Companies Boycotting Energy Companies. The Professional hereby verifies that it and its parent company, wholly-or majority owned subsidiaries, and other affiliates, if any, do not boycott energy companies and, to the extent this Agreement is a contract for goods or services, will not boycott energy companies during the term of this Agreement as described in Chapter 2274 of the Texas Government Code, as amended.

The foregoing verification is made solely to comply with Section 2274.002 of the Texas Government Code, as amended, and to the extent such Section does not contravene applicable federal and State law. As used in the foregoing verification, “boycott energy companies” has the meaning used in Section 809.001 of the Texas Government Code, as amended. The Professional understands “affiliate” to mean an entity that controls, is controlled by, or is under common control with the Professional and exists to make a profit.

Section 21. Prohibition on Contracts with Companies that Discriminate Against Firearm and Ammunition Industries. The Professional hereby verifies that it and its parent company, wholly-or majority owned subsidiaries, and other affiliates, if any, do not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and, to the extent this Agreement is a contract for goods or services, will not discriminate against a firearm entity or firearm trade association during the term of this Agreement as described in Chapter 2274 of the Texas Government Code, as amended.

The foregoing verification is made solely to comply with Section 2274.002 of the Texas Government Code, as amended, and to the extent such Section does not contravene applicable federal and State law. As used in the foregoing verification, “discriminate against a firearm entity or firearm trade association” has the meaning used in Section 2274.001(3) of the Texas Government Code, as amended. The Professional understands “affiliate” to mean an entity that controls, is controlled by, or is under common control with the Professional and exists to make a profit.

Section 22. Texas Public Information Act. The Professional recognizes that NBU is subject to the disclosure requirements of the Texas Public Information Act (the “PIA”). As part of its



obligations within this Agreement, the Professional agrees, at no additional cost to NBU, to cooperate with NBU for any particular needs or obligations arising out of the NBU's obligations under the PIA. This acknowledgement and obligation are in addition to and complimentary to the NBU's audit rights in Section 12(P).

This provision applies if the Agreement has a stated expenditure of at least \$1 million in public funds for the purchase of goods or services by NBU or results in the expenditure of at least \$1 million in public funds for the purchase of goods or services by NBU in a fiscal year of NBU.

The Professional must (1) preserve all contracting information related to the Agreement as provided by the records retention requirements applicable to NBU for the duration of the Agreement; (2) promptly provide to NBU any contracting information related to the Agreement that is in the custody or possession of the Professional on request of NBU; and (3) on completion of the Agreement, either:

- (i) provide at no cost to NBU all contracting information related to the Agreement that is in the custody or possession of the Professional; or
- (ii) preserve the contracting information related to the Agreement as provided by the records retention requirements applicable to NBU.

The requirements of Subchapter J, Chapter 552, Texas Government Code, may apply to this Agreement and the Professional agrees that the Agreement can be terminated if the Professional knowingly or intentionally fails to comply with a requirement of that subchapter.

Section 23. Electronic Signatures. Pursuant to Chapter 322 of the Texas Business and Commerce Code, as amended, the parties agree to the use of electronic signatures herein and that the use of an electronic signature, whether digital or encrypted, is intended to have the same force and effect as a manual signature. Electronic signature means any electronic sound, symbol or process attached to or logically associated with a record and executed and adopted by a party with the intent to sign such record, including facsimile or e-mail electronic signatures. Each party further agrees that if it agrees to conduct a transaction by electronic means in this Agreement, it may refuse to conduct other transactions by electronic means and that such right may not be waived by this Agreement.

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**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement on this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**NBU:**

**NEW BRAUNFELS UTILITIES,**  
a Texas municipally owned utility

By: \_\_\_\_\_

Name: Ian Taylor

Title: CEO

**PROFESSIONAL:**

**SIGNATURE AUTOMATION, LLC,**  
a Texas limited liability company

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## Exhibit A

### Services

The Professional shall provide all labor, material, and equipment necessary to (i) evaluate the conditions of the existing water and wastewater supervisory control and data acquisition (“SCADA”) system to identify gaps in NBU’s current processes and workflows, (ii) develop a SCADA Master Plan to upgrade NBU’s SCADA system, guide NBU for future growth, and establish best practices for the SCADA systems, (iii) generate a comprehensive SCADA governance document that includes Human Machine Interface (“HMI”) programming standards, (iv) provide electrical and instrumentation related engineering design standards for lift stations, pump stations, elevated storage, treatment plants, and flowmeters, (v) provide recommendations for cyber and physical security following an assessment, and (vi) manage the overall project schedule (“Project”).

The Professional shall perform the Services in accordance with the phases described herein.

#### **PHASE 1 - PROJECT MANAGEMENT**

The Professional shall develop a structured project management process optimized for use in the public sector. The key components of the Professional’s project management approach are outlined below. For all meetings and workshops, the Professional shall provide the following, as applicable:

1. An agenda one week prior to scheduled meeting
2. An agenda one week prior to scheduled workshop or site visit
3. Meeting minutes one week following scheduled meeting
4. Meeting minutes one week following scheduled workshop

#### **Task 1.1 - Project Execution Plan**

Upon execution of this Agreement, the Professional shall immediately mobilize to begin planning the Project. The first step the Professional shall take is to develop a “Project Execution Plan” that shall define the following:

1. the work related to the Project,
2. communication protocols, and
3. other pertinent data related to how the Professional shall execute the Project.

The Project Execution Plan shall be distributed to NBU to assure all understand the Project and fully understand their assigned tasks. The Project Execution Plan shall include a baseline schedule to guide all Project team members so that the Professional fully understands the work related to the Project.

#### **DELIVERABLE:**

1. Project Execution Plan (to be delivered by the date noted in the Milestone chart in this Exhibit)

### **Task 1.2 - Project Kickoff Meeting**

Upon finalizing the Project Execution Plan, the Professional's project manager shall conduct an internal planning meeting with its team and shall then make a formal request to NBU to schedule a two-hour kickoff meeting with all stakeholders for the Project. The Professional shall provide NBU with a meeting agenda one week prior to the Project kickoff meeting via email.

During the two-hour kickoff meeting, the Professional shall do the following:

1. review the Project Execution Plan with NBU and ensure a common understanding of the detailed Project scope and schedule between NBU staff and the Professional;
2. review the baseline schedule and planned tasks with a special emphasis on the site visits, workshops, and review meetings that shall involve the NBU staff;
3. establish communication protocols that foster open communication;
4. establish and document Project goals, parameters, and protocols; and
5. work with NBU's Project manager to identify the project Core Team during the Project Kickoff Meeting so the Professional may review and confirm the broad goals and objectives of the Project.

The Professional shall provide NBU with minutes from the Project kickoff meeting one week after the meeting via email.

#### **DELIVERABLES:**

1. Kickoff meeting agenda (one week prior to the Project kickoff meeting via email); and
2. Kickoff meeting minutes (one week after the Project kickoff meeting via email).

### **Task 1.3 Progress Reporting**

Throughout the execution of the work related to the Project, the Professional shall conduct monthly Project meetings to review the progress of the Project and to discuss any outstanding issues and potential problems. The Professional shall develop a standard agenda for these meetings and provide them one week prior to the meeting, and minutes shall be provided to NBU no later than one week following each meeting. The Professional shall make use of online collaboration tools or conduct monthly Project meetings in conjunction with other onsite workshops to help defray travel costs where feasible. In addition to the monthly progress meetings, the Professional shall conduct additional meetings, conference calls, and workshops as needed to support each of the Project tasks.

The Professional's Project manager shall utilize the Professional's management and quality standards to guide the execution of the work. Each month, the Professional shall prepare a monthly report to support the invoicing that shall document the overall progress of the work, the work since the last report, and the anticipated work during the next reporting period. The report shall also identify any potential areas of concern or any items that are pending to aid in keeping everything moving to meet the schedule. Schedule updates, action item lists, and decision logs shall also be provided monthly to ensure all personnel are completely informed of the progress and the work remaining.

## DELIVERABLES:

1. Monthly progress reports & invoices (no later than one week following the previous month)
2. Monthly progress meeting agendas (one week prior to the meeting)
3. Monthly progress meeting minutes (no later than one week following each meeting)

## **PHASE 2 – EVALUATION OF EXISTING WATER/WASTEWATER SYSTEM**

### **Task 2.1 - Initial Data Gathering, Field Assessments and Stakeholder Workshops**

The Professional shall focus on gaining a thorough understanding of NBU’s current systems to aid in guiding the decisions made throughout the Project. Initial data gathering shall consist of the Professional reviewing existing documentation provided by NBU, providing onsite field assessments to review current state of equipment, and conducting interviews with key personnel and numerous stakeholder workshops.

The Professional shall conduct interviews during group workshops and individually with key personnel as needed. The Professional shall focus on openly discussing with NBU staff its pain points as well as discussing priorities. Throughout, the Professional shall leverage knowledge of industry best practices and the Professional’s experiences with other utilities to help guide NBU on areas that warrant consideration for the future.

For each workshop, the Professional shall prepare presentation materials and provide samples from other projects on items that warrant consideration to help NBU decide on how it wishes to proceed. At the conclusion of each workshop, the Professional shall provide minutes no later than one week following the workshop so that all attendees can confirm our team’s understanding of the discussions. Additionally, the Professional shall track decisions in the form of decision logs to help expedite the decision-making process. The Professional shall share decision logs and deliver them to NBU’s Project Manager no later than a week following the workshop via email.

### **Task 2.2 – Documentation Review**

At the onset of the Project, the Professional shall request from NBU a copy of all pertinent documents related to the existing systems. NBU shall provide electronic formats of requested documents, unless an electronic format does not exist. The Professional may be required to sign a non-disclosure agreement provided by NBU prior to review of the requested documents. Prior to the kickoff meeting and field assessments, the Professional shall review these documents and submit a request for information to NBU to gather additional system documentation for review as needed. The Professional will review all existing SCADA system documents, including prior SCADA related studies, system block diagrams, network block diagrams, communication system block diagrams, process control narratives, SCADA Operations and Maintenance (“O&M”) Manuals, etc. This review shall also include any documentation of in-house projects.

The Professional shall also request from NBU a comprehensive list of remote sites that are communicating via radio. This list of sites should include location (GPS coordinates or street address), facility type (duplex lift station, stormwater station, regional lift station, etc.), installed Programmable Logic Controller (“PLC”)/ Remote Terminal Unit (“RTU”), Input/Output (“I/O”) lists, communications method, and current communications path.

The Professional shall perform a high-level review of these documents in order to gain a more complete understanding of the existing systems currently in use by NBU. As part of this review and during the site visits, the Professional shall make note of missing or out-of-date documentation and share with NBU via email or hard copy depending on the level of sensitivity.

### **Task 2.3 – Field Assessments**

Immediately following the Project kickoff meeting, the Professional shall perform site visits on selected sites chosen during the kickoff meeting to gather initial data regarding the current state of the SCADA systems. Site visits shall be focused on the key areas listed below. As part of this initial data gathering process, the Professional shall work with the NBU Core Team to review the current flowmeter instrumentation, the existing SCADA network infrastructure as well as the overall system functionality and performance to identify areas that require upgrades and enhancements at the various in-plant and remote facilities. The Professional shall conduct interviews as-needed to gather input from representatives of different functional groups such as operations, maintenance, SCADA support, engineering, information technology (IT) and management. The Professional shall work with the Core Team to determine the specific participants from each group.

#### Focus Areas During Field Assessments:

The Professional's approach to the system evaluation and field assessments shall focus on the following key areas:

1. instrumentation as appropriate (i.e. flowmeters);
2. primary and backup power for critical SCADA equipment;
3. SCADA standards;
4. communications;
5. high level cyber and physical security review;
6. future expansion; and
7. SCADA staffing analysis.

The Professional shall provide a holistic view of the cyber and physical security measures at these facilities. As such, the review of these areas shall be cursory in nature to gain an understanding from NBU staff of the current state and any plans for improvement by other projects.

The Professional's site visit team shall take copies of the applicable system documentation along to each site and perform spot checks of the accuracy, currency, and completeness of the documents. The Professional's site visit team shall compile field notes and take digital photos at each location. These notes and photos shall be included as appendices in the SCADA System Current State Technical Memorandum ("TM").

The Professional anticipates visiting all of NBU's treatment facilities, but only a select number of remote sites that shall be determined during the kickoff meeting. Ideally, the selected remote sites provide a typical representation of the remainder of the sites. The Professional assumes a total of four (4) days shall be required for site visits to gather the current state information.

### **Task 2.4 Review of Current and Planned Projects**

The Professional shall also work closely with NBU’s management, engineering, operations, maintenance, and construction staff to coordinate efforts with all projects that may be in design or construction. Design and implementation of the SCADA Master Plan Project cannot be done in a vacuum and must allow for coordination with these other ongoing projects which may impact the direction and/or design requirements over the next several years. The Professional understands that like with any utility, there may be numerous other construction projects that are ongoing throughout the course of the SCADA master planning efforts. The Professional shall conduct a high-level review of these projects to better understand the SCADA system components that may be impacted by these systems and how these projects may factor into the overall SCADA program defined as part of this master plan.

### **Task 2.5 Stakeholder Vision Workshop**

The Professional shall conduct stakeholder workshops to refine the vision for the future SCADA needs. The Professional shall distribute a SCADA system requirements checklist to the participants one week in advance of the workshop to help them prepare for the discussions. This checklist summarizes the major issues that should be considered when defining requirements for SCADA system upgrades and enhancement and, by reviewing it, the workshop participants should be better prepared to contribute to the workshop.

The Professional shall prepare a structured workshop agenda provided one week in advance that shall help the NBU staff focus on the operational requirements for any new or upgraded SCADA System. The Professional shall review the current conditions and existing functionality (sometimes referred to as the “As-Is” state). Although the Professional understands the desire is to replace the existing proprietary top-end HMI system, there are many other components of the existing system that work well, and which should be retained in any new system. The Professional shall also discuss features and functionality that are missing or not ideal in the current installation, including system expansion capability (“To-Be” state). The Professional shall also identify system components that are in need of near-term replacement by virtue of their age, obsolescence or their functional limitations. The Professional shall also bring forth additional enhancement recommendations.

The Professional shall conduct two (2) four-hour workshops on consecutive days.

The Professional shall also meet with NBU SCADA stakeholders as determined by NBU to discuss the current system, establish benchmarks for moving forward, and long-term goals for the replacement system. The information received during the upfront planning, needs analysis, and establishment of goals shall be captured and summarized as the Project requirements move forward into the next phase of master plan and governance document development.

### **DELIVERABLE:**

1. SCADA system requirements checklist (one week in advance of the workshop); and
2. Stakeholder vision workshop agenda (one week in advance) and meeting minutes no later than a week following the Stakeholder vision workshop

### **Task 2.6 Pre-Functional Testing**

To aid the assessment efforts, the Professional shall perform pre-functional analysis of all HMI, communications, and PLC systems. The Professional shall use the results of the pre-functional assessments to provide a more thorough understanding and documentation of the current state of the systems to NBU.

The Professional shall use results of the pre-functional testing to provide a recap of equipment that may warrant maintenance or ultimate replacement by NBU. These results shall be provided in the form of a technical memo to NBU to support discussions for replacement via future projects during the SCADA master planning efforts. The Professional shall incorporate a cursory review of this document into the Current State TM Review Workshop.

#### DELIVERABLE:

1. Pre-Functional Testing Technical Memorandum (no later than two-weeks following the onsite visit)

### **Task 2.7 Baseline Cybersecurity Assessment**

The Professional shall perform high level assessment of the current cybersecurity state to establish a baseline understanding of NBU's system. This effort shall include the following:

1. review of policies / procedures;
2. review of existing and proposed network architecture (full ICS and individual plants);
3. review of existing contracts (IT and Cybersecurity Related);
4. review of asset list;
5. review of software list; and
6. review of remote access procedures.

Additionally, the Professional shall utilize industry standard guidance such as the AWWA Cybersecurity Assessment tool to further assess the current system. The results of this assessment shall be documented in a Baseline Cybersecurity Assessment Technical Memo. Upon submission of this technical memo, the Professional shall schedule a workshop with NBU to gain additional insight and to collect review comments.

#### DELIVERABLES:

1. Baseline cybersecurity assessment Technical Memo (delivered no later than November 9, 2022)
2. Baseline cybersecurity assessment workshop agenda and meeting minutes (no later than a week following the Technical Memo and a week following the Baseline cybersecurity workshop)

### **Task 2.8 Current State Technical Memorandum**

The Professional shall perform system assessments to gather details of the existing NBU systems including communication, network, security, controller, and SCADA HMI systems. The Professional shall use this current state as the baseline and shall identify the gaps that warrant consideration for future projects.



As part of identifying this current state baseline, the Professional team shall work with NBU's operations and maintenance personnel and IT personnel to develop an inventory list of related equipment, establish related standards, and perform a high-level assessment of the state of the existing components at the facilities. The Professional shall provide a high-level system architecture diagram of the current system with input from NBU personnel to aide in all discussions. This information shall be documented in a technical memorandum and used to determine the improvements needed for replacement of aging or problematic equipment, equipment needed to gather additional system data and provide accessibility, development of system standards, and other items pertinent to the planning and phased implementation of a SCADA master plan.

**DELIVERABLES:**

1. Data gathering workshop agenda and meeting minutes (3 workshops)
2. Current state assessment technical memorandum (no later than January 3, 2023)
3. Current state assessment review workshop agenda and meeting minutes (scheduled no later than a week following the Current state assessment technical memorandum delivery)

**Task 2.9 – SCADA Requirements Technical Memorandum**

The Professional shall document the requirements gathered during the field assessments, interviews, and stakeholder workshops and shall combine these with the broad requirements defined during the initial SCADA System vision development. The Professional shall organize the requirements into broad categories and decompose into more detailed requirements, as appropriate or as requested by NBU. An initial list of potential requirement categories shall include:

1. vision and strategy for future operational controls;
2. overall SCADA system architecture;
3. control philosophy;
4. HMI hardware and software functionality;
5. alarm-event management;
6. data management (Historian) and reporting;
7. communication systems design and functionality;
8. PLC/RTU design and functionality;
9. Flow meter instrumentation;
10. cyber and physical security;
11. disaster recovery/business continuity;
12. backup power;
13. integration with other NBU business systems (CMMS, LIMS, GIS, etc.);
14. organization, practices and procedures;
15. documentation;  
    optimization;
16. standards;
17. system maintenance and service-level expectations; and
18. SCADA staffing analysis.

Once the Professional organizes the requirements, the Professional shall prepare a document entitled SCADA Requirements Technical Memorandum where the requirements shall be subjected to a prioritization exercise. The Professional shall work with the Core Team to finalize the prioritization methods. An initial list of prioritization categories is:

1. **Pass/Fail:** The requirement is critical enough so that if a system does not meet the requirement it cannot be considered further.
2. **Critical:** The requirement is essential to the operational mission of NBU.
3. **Moderate:** Important requirement that does not directly impact the operational mission but may have operational or management benefits.
4. **Low:** This category describes “nice to have” features which may not be operationally critical.

The Professional shall develop an initial prioritization and provide this to the Core Team for review. After the Core Team has had the opportunity to review, a two-hour Requirements Validation Review Workshop shall be conducted via web conference. This workshop shall be used to discuss and refine the information gathered during the requirements study and further refine the prioritization of requirements within the SCADA Requirements Technical Memorandum.

**DELIVERABLES:**

1. SCADA Requirements Technical Memorandum (No later than January 17, 2023)
2. SCADA Requirements Validation Review Workshop Agenda & Meeting Minutes (scheduled no later than a week following the SCADA Requirements technical memorandum delivery)

**Task 2.10 – Gap Analysis Technical Memorandum**

The Professional shall prepare for the SCADA Requirements workshops by identifying shortcomings based on the Professional’s field assessments, comparison to industry standards, and to what other utilities the Professional has worked with and implemented to enhance their functionality on each specific topic. The Professional shall use the workshops to identify the long-term criteria NBU desires for the SCADA systems and compare this information to the Professional’s current state findings. Using this, the Professional shall develop a gap analysis. The gaps identified during this process shall be used as the basis for developing the Professional’s final evaluation and recommendations.

The Professional shall use experiences with other similar utilities and the Professional’s knowledge of industry best practices as the basis for guiding the discussions related to the gaps. The Professional shall document these items within a Gap Analysis Technical Memorandum. The Gap Analysis Technical Memorandum shall be reviewed in a workshop via online web conference to solicit additional commentary regarding the final Project objectives and to discuss preliminary ideas on how to overcome these gaps.

At the conclusion of the workshop and upon receipt of NBU’s formal comments to the Gap Analysis Technical Memo, the Professional shall finalize the Gap Analysis Technical Memo to reflect any appropriate comments that result from the review.

DELIVERABLES:

1. Gap Analysis Technical Memorandum (no later than January 16, 2023)
2. Gap Analysis Review Workshop Agenda and Meeting Minutes (scheduled no later than a week following the Gap Analysis technical memorandum delivery)

**PHASE 3 – SCADA MASTER PLAN**

After establishing the gaps between the Project objectives and the current state via the processes noted, the Professional shall further evaluate potential solutions and projects to achieve the short and long-term improvements for NBU’s SCADA systems. The Professional shall assess system needs and priorities established for first addressing NBU’s critical needs, then building towards NBU’s long-term goals by planning phased implementations that are aligned with NBU’s budget and funding capabilities.

As the existing systems are compared to the Project requirements, the Professional shall make determinations as to how best to address the gaps as part of the improvements being considered. The Professional shall categorize improvements according to those that require designing changes to infrastructure or other larger projects, or if the needed improvements are not feasible due to the extensive level of changes and/or costs required. For components not associated with the HMI system replacement, the Professional shall make every effort to leverage the investments made and the life cycle remaining by investigating options to make “tweaks” in the NBU system that can address the gaps identified. The Professional shall summarize and provide a list of improvement projects from the information generated during the evaluation. The Professional shall coordinate reviews of the Professional evaluation findings, proposed improvement projects, and possible alternatives for the purpose of finalizing the improvements project list and assigning priorities. The Professional’s overall approach towards developing the overall SCADA Master Plan is defined in the subtasks below:

**Task 3.1 SCADA System Architecture Development**

Following the definition and validation of the system requirements and the selection of the HMI system, the Professional shall work closely with NBU to refine the Preliminary SCADA system architecture in accordance with the HMI system selected. The SCADA system architecture can then be leveraged as a tool for the SCADA components of any ongoing or planned projects.

The SCADA system architecture shall include the location and quantity of SCADA servers, SCADA workstations, inter-plant communications needs, and capabilities for remote access to the SCADA systems. The Professional shall recommend the architecture necessary to address NBU’s requirements.

DELIVERABLE:

1. Final SCADA System Architecture Diagram (no later than January 24, 2023)

**Task 3.2 Development of Preliminary Project List and Draft Prioritization**

The Professional shall create a list of potential improvement projects and initiatives that address SCADA system upgrades needed to meet the system requirements and NBU’s SCADA vision. The Professional’s recommended improvements shall include general recommendations to meet defined requirements as well as specific recommendations to mitigate any risks uncovered during

the data gathering portion of this project. The Professional shall provide these recommendations to NBU in the form of a Preliminary Project List and Prioritization Technical Memo.

The Professional shall conduct a two-hour workshop via web conference with the Core Team to review the list of potential improvements. Based on the results of the workshop, the Professional shall document the priority for identified projects and shall finalize the Preliminary Project List and Prioritization Technical Memo.

**DELIVERABLES:**

1. Preliminary Project List and Prioritization Technical Memo (no later than February 10, 2023)
2. Preliminary Project List and Prioritization Workshop Agenda and Meeting Minutes (scheduled no later than a week following the Project List and Prioritization Technical Memorandum delivery)

**Task 3.3 SCADA System Support Staffing Analysis**

The Professional shall conduct a two-hour workshop to address the SCADA support related staffing considerations. Topics to be reviewed in the workshops shall include:

1. review current SCADA maintenance staffing – including SCADA support staffing;
2. analysis of a consolidated SCADA system support group – pro and con of different approaches;
3. interface with NBU IT groups for potential support roles; and
4. new or additional training needed to maintain the new SCADA system.

This workshop shall be held in conjunction with other workshops to help minimize the travel costs.

The Professional shall document the results of the workshop in a technical memorandum with recommendations for changes in operational alignments, maintenance activities, and training. A draft version of the SCADA Support Staffing Technical Memo shall be provided for review. Upon receipt of NBU's comments, the SCADA Support Staffing Technical Memo shall be finalized.

**DELIVERABLES:**

1. SCADA support staffing Technical Memo (January 2, 2023)
2. SCADA support staffing Technical Memo review workshop agenda and meeting minutes (scheduled no later than a week following the SCADA support staffing technical memorandum delivery)

**Task 3.4 Cybersecurity Strategic Plan**

Based on the information gathered in developing the Baseline State of Cybersecurity Technical Memo, the Professional shall develop a Cybersecurity Strategic Plan Technical Memo that shall include a list of prioritized projects aligned with future planning efforts. The Cybersecurity Strategic Plan Technical Memo shall:

1. Develop Governance Structure
  - a. Policy / Procedure Development for Gaps

- b. Organizational Issues
  - i. IT / OT Convergence
  - ii. In house resources vs contract
  - iii. Training;
2. Develop ICS-specific Incident Response Plan;
3. Implement ICS Visibility / Monitoring Solution (May be a Procurement / Selection);
4. Develop and Implement Secure Data Transfer from SCADA – DMZ – Enterprise;
5. Provide access procedures to include secure remote access; and
6. Provide an additional tabletop exercise.

The Professional shall provide the Cybersecurity Strategic Plan Technical Memo to NBU for review and comment. The Professional shall hold a two-hour workshop to further discuss the findings and to finalize the potential list of projects that should be considered in the overall SCADA master planning efforts. At the conclusion of the workshop and upon receipt of comments from NBU, the Professional shall update the Cybersecurity Strategic Plan Technical Memo.

**DELIVERABLES:**

1. Cybersecurity Strategic Plan Technical Memo (no later than December 5, 2022)
2. Cybersecurity strategic plan Technical Memo review workshop agenda and meeting minutes (scheduled no later than a week following the Cybersecurity strategic plan technical memorandum delivery)

**Task 3.5 - Conceptual Project Scope Development**

The Professional shall define the recommended improvements and develop a business case for each improvement. The Professional shall review the improvements against the following performance requirements:

1. overall life-cycle costs;
2. decreased maintenance costs;
3. improved system reliability and customer service;
4. enhanced regulatory compliance;
5. return on investment; and
6. failure risk avoidance.

After the recommended improvement projects are defined, the Professional shall develop the Project summaries and conceptual level scope definitions. Each Project summary shall include:

1. business case;
2. conceptual scope of work, listing major steps and activities;
3. estimated design budget;
4. opinion of probable construction cost; and
5. Project schedule.

The Professional shall provide the Project summaries to the Core Team for review in advance of the prioritization workshop.

The Professional shall hold a two-hour workshop with the Core Team via online web conference to review the proposed projects and to establish the prioritization of each project. This workshop shall include consideration of the relative impact of each project as well as the anticipated construction and implementation costs. The Professional shall assign an initial priority for each project, using general priority categories of critical, high, medium, and low. The Professional shall review and validate these project priorities with the Core Team. Once the projects are prioritized, the Professional shall develop an overall schedule for the SCADA program.

Based on the outcome of the prioritization workshop, the Professional shall develop an overall implementation plan and have documented as part of the SCADA Master Plan.

**DELIVERABLES:**

1. Conceptual Scope Document TM (no later than May 1, 2023)
2. Project prioritization review workshop agenda and meeting minutes (scheduled no later than a week following the Conceptual scope document technical memorandum delivery)

**Task 3.6 – Develop SCADA Master Plan**

The Professional shall consolidate data gathered during the SCADA system assessment tasks for incorporation into a SCADA Master Plan Report and categorize the findings according to criticality, degree of exposure, and gaps identified between NBU’s current situation and recommended best practices. SCADA related capital improvement projects (“CIPs”) shall be identified, prioritized, and probable costs shall be estimated. The SCADA Master Plan Report shall include recommendations for CIP phasing and sequencing to address critical and long-term needs. The Professional shall review recommendations with NBU to determine if they should either be incorporated into the master plan and CIPs, or they can be completed by NBU staff separately using its own resources or through other planned or ongoing construction contracts.

**Task 3.6.1 Draft SCADA Master Plan**

The draft SCADA Master Plan shall summarize the results of the previous tasks and provide an overview of the planned NBU SCADA program. The document shall incorporate all previously developed technical memorandums as chapters or appendices and shall culminate with a summary of each planned project, along with the anticipated costs to provide a consolidated program schedule and capital expenditure plan. Detailed project summaries shall be provided as an appendix to the SCADA Master Plan.

The SCADA Master Plan shall also include discussions of issues that should be addressed as part of the SCADA program, such as SCADA governance, organizational issues, standards, and other topics.

The Professional shall provide a draft version of the SCADA Master Plan to NBU to review for up to ten (10) days. After a ten-day review period the Professional shall conduct a two-hour workshop via web conference to discuss the SCADA Master Plan with the Core Team. After the workshop, NBU shall have ten (10) additional days to accumulate review comments and provide a consolidated set of comments.

DELIVERABLES:

1. Draft version of SCADA Master (no later than August 10, 2023)
2. SCADA Master Plan review workshop agenda and minutes (scheduled no later than a week following the Draft version of SCADA Master Plan delivery)

**Task 3.6.2 - Final Master Plan**

The Professional shall incorporate NBU's review comments into a final version of the SCADA Master Plan. The final SCADA Master Plan shall be delivered with five (5) printed copies, plus one electronic copy.

The Professional shall provide a two-hour presentation to the Core Team, as well as to interested NBU stakeholders. This presentation may be recorded by NBU.

DELIVERABLE:

1. Final version of SCADA Master Plan (5 hard copies, 1 electronic copy) (no later than October 10, 2023)

**PHASE 4 – GOVERNANCE DOCUMENT**

The Professional shall develop high level governance documents for NBU based on the industry best practices. These documents shall serve as guidance for developing more in-depth standards for the overall system.

During the Professional's data gathering during site visits, the Professional shall assess the physical conditions of communication equipment as well as the network architecture to seek opportunities to further enhance the hardening of networking equipment and to mitigate the effect of advanced persistent threats. The Professional effort shall work with the NBU IT department to provide recommendations to leverage the enhanced security tools that are available on systems within NBU and provide recommendations for how to apply them to NBU's SCADA system. The Professional shall leverage in-depth industry and institutional knowledge of applying the International Society of Automation ("ISA"), National Institute of Standards and Technology ("NIST"), Global Security Architecture ("GSA") and other industry related standards documents, in concert with input from NBU personnel to determine the information that should be included within NBU's SCADA Governance Document. The Professional shall align the proposed solutions with industry best practices such as:

1. AWWA Process Control System Guidance for the Water Sector;
2. AWWA G430 – Security Practices for Operations and Management;
3. AWWA J100 – Risk and Resilience Management of Water and Wastewater Systems;
4. ISA 62443 – Industrial Automation and Control Systems Security;
5. NIST Cybersecurity Framework;
6. NIST SP 800-82 Rev. 2 – Guide to Industrial Control Systems Security; and
7. NIST SP 800-53 Rev. 4 – Security and Privacy Controls for Federal Information Systems and Organizations.

The Professional's focus while seeking alternatives for the final recommended networking solutions shall be to address the items noted by NBU regarding the rationale for this Project. It shall include items that shall help to address the following:

1. cybersecurity;
2. physical security;
3. change management; and
4. communications protocol.

The Professional shall review industry accepted features inclusive of wired and wireless network configurations to further refine standards to recommend to NBU.

#### **Task 4.1 – High Level Governance Document Technical Memo**

NBU shall provide the Professional with policies and procedures related to cybersecurity, physical security, change management, and communications protocol. The Professional shall review those documents in an effort to apply them to NBU’s SCADA vision. The Professional shall identify gaps between the existing policies and procedures or based on the vision planned, and the Professional shall provide recommendations for measures to fill those gaps.

The Professional shall provide the high-level Governance Document to NBU in the form of a technical memorandum for review and comment. Upon receipt of NBU’s comments, the Professional shall finalize the high-level Governance Document Technical Memo and use it as the basis for the development of the more detailed HMI programming standards.

#### **DELIVERABLE:**

1. high-level Governance Document Technical Memo (no later than March 14, 2023)

#### **PHASE 5 - SCADA STANDARDS DEVELOPMENT**

The Professional shall leverage industry knowledge in this realm to help drive the standards development. The Core Team shall be considered the governance team for the standards development process and shall have veto power over other Project stakeholders should it be required. This process shall expedite the decision-making process should there be any conflicting opinions between stakeholders. The Professional shall provide recommendations to develop a standards document to assist NBU with future projects. The Professional shall recommend best practices for standards such as: alarm management, situational awareness style graphics, cybersecurity initiatives, tag naming, and other relevant hardware and software features such as:

1. automation hardware standards;
2. HMI programming standards for lift stations, pump stations, storage facilities and treatment plants;
3. design standards for lift stations, pump stations, storage facilities and treatment plants; and
4. reference and training materials.

Upon review of the information gathered during the previous tasks, the Professional shall seek to identify the optimal solutions with respect to aligning the specific components to the governance and standards document. Initially, the Professional shall work to establish the specific details that need to be covered within the standards document, thus assuring the completed SCADA standards document shall meet NBU’s needs. The Professional anticipates topics shall consist of alarm



management, situational awareness style graphics, cybersecurity initiatives, tag naming, and other relevant hardware and software features such as:

1. automation hardware standards;
2. HMI programming standards for lift stations, pump stations, storage facilities and treatment plants;
3. design standards for lift stations, pump stations, storage facilities and treatment plants; and
4. reference and training materials.

The Professional understands not all features called out in the relevant industry guidance documents are beneficial or applicable to some users. Therefore, the Professional shall tailor the solutions to ensure they meet NBU's vision. The Professional shall use extensive experience in developing similar documents for utilities such as Dallas Water Utilities, San Antonio Water System, Arlington Water Utilities and Fort Worth Water as the basis for developing NBU's documents.

These documents shall cover a wide variety of chapters for each of the topics listed above. Prior to proceeding with the development, the Professional shall provide a draft table of contents to NBU for review and concurrence to assure NBU's needs are met. In general, the Professional anticipates each major chapter developed by the Professional shall be submitted as a Technical Memorandum first in a draft format to gain input and comment from NBU staff. This shall be followed by a review workshop to discuss comments as needed. Upon receipt of the review comments, the documents shall be finalized and formally submitted in their final form.

At the conclusion of this phase of the Project, the Professional shall combine these technical memoranda into a single deliverable electronic and hard copy format for NBU's use. The Professional's approach towards providing these detailed standards is as follows:

#### **Task 5.1 Basis of SCADA Design Report ("DRAFT") Development**

The Professional shall develop a document entitled Basis of SCADA Design Technical Memo that can be used by NBU to share with other design firms as reference for future design contracts. The objective of this document is to provide a single document that can guide the direction of future work such that solutions are driven towards NBU's long-term SCADA vision. This document shall be provided early in the Project and shall commence once sufficient information is gained through the field site visits and completion of the SCADA Requirements TM. A preliminary Table of Contents for the Basis of SCADA Design Report is shown below.

#### **BASIS OF SCADA DESIGN REPORT TM PRELIMINARY TABLE OF CONTENTS**

1. Introduction
2. Plant SCADA Network Design Guidance (aligned with NIST 800)
3. Design standards
  - a. Controls standards
    - i. (i.e. HOA at MCC or at field equipment)
    - ii. Controls preferences, general controls criteria (alarm at PLC/HMI, etc.)

- b. Typical Instrumentation and Control (“I&C”) Design Deliverables (report, plans, specifications) at:
      - i. 30%
      - ii. 60%
      - iii. 90%
      - iv. 100%
- 4. Equipment and software
  - a. HMI and historian system
  - b. PLC system
  - c. Operator interface terminals
  - d. Network equipment
    - i. ethernet switches
    - ii. firewalls
    - iii. threat detection devices
  - e. Communications systems
    - i. in plant
    - ii. offsite
  - f. Uninterruptible power supplies
  - g. Control panels and components
  - h. Intrinsic safety components
  - i. Security
    - i. cyber
    - ii. physical
  - j. Instrumentation
  - k. Spare parts
  - l. Warranty and support
- 5. System delivery
  - a. Process Control Systems Integrator (PCSI) and Applications Services Provider (ASP) pre-qualification
  - b. Programming requirements
  - c. Network configuration
  - d. Workshops
  - e. Submittals
  - f. Testing
  - g. Training
  - h. Warranty and support
  - i. O&M manuals and Project deliverables

The Professional shall facilitate interviews with key NBU Stakeholders via video conference to gather additional information regarding the current standards that should be followed for inclusion within the Basis of SCADA Design Report Technical Memo. Where no standards are existing or where NBU desires to consider alternative options, the Professional shall guide the discussions by making recommendations as needed.

Once the interviews are completed, the Professional shall develop the Basis of SCADA Design Report Technical Memo based on the information gathered. The Professional shall provide the Basis of SCADA Design Report Technical Memo to NBU in a draft format for review and comment. To facilitate NBU's review, the Professional shall conduct an online meeting via videoconference to answer questions and provide further explanation of the contents of the Basis of Design Report Technical Memo. Thereafter, upon receipt of NBU's formal written comments, the Professional shall finalize the Basis of SCADA Design Report Technical Memo and provide to NBU for future use.

**DELIVERABLES:**

1. Draft version of Basis of SCADA Design Report Technical Memo (1 electronic copy) (no later than April 5, 2023)
2. Final version of Basis of SCADA Design Report Technical Memo (5 hard copies and electronic copies in both portable document format ("PDF") and the native Microsoft Word format) (no later than April 12, 2023)

**Task 5.2 Human Machine Interface ("HMI") Standards**

The Professional recognizes that no one knows how to manage these facilities and systems better than NBU staff as NBU operates and maintains the systems daily. To leverage NBU's knowledge, the Professional shall proactively engage personnel identified by the NBU's Project manager in the development of the HMI programming standards. This process shall ensure that NBU's personnel, as the end users, take an active role in defining the foundation of the SCADA database and graphical infrastructure that provides the basis for ensuring a user-friendly system of navigation and graphics. Furthermore, it helps the personnel to gain an understanding of the inner workings of the new SCADA system from the ground up, thus improving their overall knowledge once the new system is brought online.

The Professional understands NBU is in the process of selecting an HMI offering for future use on its projects. The Professional shall work closely with NBU to develop HMI and historian standards that provide the foundation for the graphical interface and historical data collection based on the new HMI system selected. The objective of these standards is to provide guidance within future bidding documents to allow the bidders to assess the level of development required to support the features desired by NBU as defined within these standards.

The topics covered for the HMI standards shall be based on the following outline:

1. Purpose – summary of intent
2. Definitions – terms specific to the procedure
3. Roles and responsibilities
4. Detailed procedure
  - a. requirements for deviations from standard
  - b. process philosophy
  - c. modifications to legacy HMI graphics
5. Evaluation criteria and performance measures
  - a. programmer requirements
6. Key words or phrases
7. Related policies, procedures and standards

8. Version control and change management
9. SCADA system overview
10. HMI software naming conventions
  - a. introduction
  - b. database tag names
  - c. graphic display file names
11. Graphic display standards
  - a. introduction
  - b. general graphics standards
    - i. display types (overview, process, pop-ups, tabular, dashboards)
  - c. display navigation
  - d. display attributes
12. Alarming
  - a. introduction
  - b. alarm indication
  - c. alarm groups
  - d. alarm summary display
  - e. alarm acknowledgement
  - f. alarm shelving
  - g. alarm logging
13. Trending
  - a. introduction
  - b. system trending
  - c. trend faceplates
  - d. tag selection
14. Operator Control Standards
  - a. introduction
  - b. Variable Frequency Drive (“VFD”) motor control pop-up
  - c. modulating (analog) valve control pop-up
  - d. constant speed motor control pop-up
  - e. discrete (open/close) valve control pop-up
  - f. lockout/tagout/information displays
  - g. PID controller pop-up
  - h. analog alarm setpoint adjustment
15. Security Configuration Standards
  - a. introduction
  - b. account types
  - c. user accounts
  - d. user login
  - e. auto logout
16. Communications driver configuration
  - a. Modbus TCP/IP protocol communications driver configuration
  - b. DNP3 protocol communications driver configuration
  - c. Allen Bradley TCP/IP communications driver configuration
17. Historical collection
  - a. historian keywords or phrases

- b. startup procedure overview
- c. monitoring the historian
- d. tagging/naming
- e. data reporting methodologies
- f. configuration settings
  - i. compression settings
- g. maintenance
  - i. daily maintenance
  - ii. routine maintenance

The HMI programming standards Table of Contents shown herein shall be reviewed with NBU during the HMI/PLC Data Gathering Workshop defined in Task 2. The discussions held during that workshop shall be used as the basis for initiating the development of the HMI programming standards. Subsequently, the Professional shall facilitate two separate Preliminary HMI standards workshops. During these full-day workshops, the Professional shall provide samples from previously completed projects that depict recommended practices the owner may wish to consider for both the HMI and historical collection needs. The discussions held during this workshop shall be used to begin the development of the HMI standards. The Professional shall develop minutes and provide them to all attendees for each workshop to gain concurrence that the Professional's understanding of the discussions accurately captures NBU's intent.

Upon receipt of NBU's concurrence of the meeting minutes for the preliminary Human Machine Interaction (HMI) standards workshops, the Professional shall initiate the development of the HMI standards. The HMI standards shall be developed first in a draft format and submitted to NBU for review and comment. In conjunction with submission of the draft HMI standards, the Professional shall request the scheduling of an online draft Human Machine Interaction (HMI) standards review workshop. During this half-day workshop, the Professional shall review the draft document developed with NBU to aid in answering any questions and/or clarify any items. The Professional shall develop minutes and provide them to all attendees to gain concurrence that the Professional's understanding of the discussions accurately captures the direction given.

The discussions held during the draft review workshop along with the formal review comments received from NBU shall be used as the basis for finalizing HMI Standards. The Professional shall provide the final version of the HMI Programming Standards to NBU in both PDF and the native Microsoft Word format for inclusion within the bidding documents.

DELIVERABLES (all due no later than February 28, 2023)

1. Preliminary HMI Programming Standards Workshop 1 agenda and minutes
2. Preliminary HMI Programming Standards Workshop 2 agenda and minutes
3. Draft version of HMI Programming Standards
4. HMI Programming Standards Workshop agenda & minutes
5. Final version of HMI Programming Standards

## TIME OF COMPLETION

The Professional is authorized to commence work on the Services of the Project upon execution of this Agreement and agrees to complete these Services in accordance with the schedule below.

| <b>Milestone</b>   | <b>Date</b>            |
|--|------------------------|
| NTP  | NLT September 1, 2022  |
| <b>PHASE 1 – PROJECT MANAGEMENT</b>  |                        |
| Task 1.1 Project Execution Plan  | NLT September 5, 2023  |
| <b>PHASE 2 – EVALUATION OF EXISTING W/WW SYSTEMS</b>                           |                        |
| Task 2.2 – Documentation Review  | NLT September 12, 2022 |
| Task 2.3 – Initial data gathering/Field Assessments (Onsite)                   | NLT September 22, 2022 |
| Task 2.4 – Review of Current and Planned Projects                              | NLT September 23, 2022 |
| Task 2.5 – Stakeholder Vision Workshop   | NLT October 13, 2022   |
| Task 2.6 – Pre-Functional Testing (Onsite)                                     | NLT October 14, 2022   |
| Task 2.7 – Baseline Security Assessment  | NLT November 9, 2022   |
| Task 2.8 – Current State Technical Memorandum                                  | NLT January 3, 2023    |
| Task 2.9 – SCADA Requirements Technical Memorandum                             | NLT January 17, 2023   |
| Task 2.10 – Gap Analysis Technical Memorandum                                  | NLT January 16, 2023   |
| <b>PHASE 3 – SCADA MASTER PLAN</b>   |                        |
| Task 3.1 – SCADA System Architecture Development                               | NLT January 24, 2023   |
| Task 3.2 – Development of Preliminary Project List and Draft Prioritization TM | NLT February 10, 2023  |
| Task 3.3 – SCADA System Support Staffing Analysis                              | NLT January 2, 2023    |
| Task 3.4 – Cybersecurity Strategic Plan  | NLT December 5, 2022   |
| Task 3.5 – Conceptual Project Scope Development                                | NLT May 1, 2023        |
| Task 3.6 – SCADA Master Plan   | NLT October 10, 2023   |
| <b>PHASE 4 – GOVERNANCE DOCUMENT</b>   |                        |
| Task 4.1 – Governance Document Doc.  | NLT March 14, 2023     |
| <b>PHASE 5 – SCADA STANDARDS DEVELOPMENT</b>                                   |                        |
| Task 5.1 – Basis of Design Report  | NLT April 12, 2023     |
| Task 5.2 – HMI Standards   | NLT February 28, 2023  |

Exhibit B

Compensation

NBU shall pay the Professional for Services during the term of this Agreement in an amount not to exceed \$773,615.00 as specified below:

| <b>Description</b>                                       | <b>Fee</b>           |
|--|----------------------|
| Phase 1 – Project Management                             | \$ 48,905.00         |
| Phase 2 – Evaluation of Existing Water/Wastewater System | \$ 295,345.00        |
| Phase 3 – SCADA Master Plan                              | \$ 206,375.00        |
| Phase 4 - Governance Documents                           | \$ 9,040.00          |
| Phase 5 - SCADA Standards Development                    | \$ 213,950.00        |
| <b>Agreement Total</b>                                   | <b>\$ 773,615.00</b> |

Exhibit C  
Evidence of Insurance