

**FIRST AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT  
(TRINITY WATER TREATMENT PLANT AND PUMP STATION EXPANSION)**

This **FIRST AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT** (the “First Amendment”) is made and entered into by and between **NEW BRAUNFELS UTILITIES**, a Texas municipal owned utility (“NBU”), and **FREESE AND NICHOLS, INC.**, a Texas corporation (the “Professional”) (collectively, the “Parties”).

**RECITALS**

WHEREAS, NBU and the Professional entered into a Professional Services Agreement dated July 12, 2021 (the “Original Agreement”), for project management, design, bid, and construction phase services, field services, and permitting and coordination with certain stakeholders (the “Existing Services”) for the Trinity Water Treatment Plant and Pump Station Expansion Project (the “Project”) to be completed by June 8, 2024;

WHEREAS, NBU previously secured Texas Water Development Board (“TWDB”) Drinking Water State Revolving Fund Program funding for the Surface Water Treatment Expansion Project (“SWTPE Project”) to increase water supply and production capacity to serve projected growth in NBU’s water service area;

WHEREAS, the SWTPE has been delayed to further other NBU project priorities;

WHEREAS, NBU will work with TWDB to reallocate the secured funding from the SWTPE Project to three other NBU projects including this Project;

WHEREAS, NBU and the Professional have identified services that must be completed for the Project before seeking reallocation of previously secured funding from TWDB;

WHEREAS, these services include adding additional preliminary engineering, final design, permitting and coordination with stakeholders, bid, and construction services to prepare supporting engineering documents to submit to the TWDB (the “New Services and, together with the Existing Services, the “Services”);

WHEREAS, the New Services require an increase in the compensation to the Professional;

WHEREAS, the Original Agreement requires NBU and the Professional to agree in writing to amend or modify the Agreement; and

WHEREAS, NBU and the Professional desire to amend the Original Agreement to (i) add the New Services and (ii) increase the compensation for the Services.

NOW THEREFORE, in consideration of the foregoing promises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree, as follows:

## AGREEMENT

Section 1. Amendment to Exhibit A. Exhibit A to the Agreement is hereby deleted in its entirety and replaced by Exhibit A to this First Amendment as of the effective date of this First Amendment.

Section 2. Amendment to Exhibit B. Exhibit B to the Agreement is hereby deleted in its entirety and replaced by Exhibit B to this First Amendment as of the effective date of this First Amendment.

Section 3. Remaining Terms. Except as stated herein, all other terms and conditions of the Agreement remain in full force and effect.

Section 4. Entire Agreement. This First Amendment, together with the Agreement, sets forth the entire understanding of NBU and the Professional and supersedes all prior agreements and understandings, whether written or oral, with respect to the subject matter hereof.

Section 5. Binding Effect. This First Amendment will extend to and be binding upon NBU and the Professional and their respective successors and permitted assigns.

Section 6. Severability. If any term or provision of this First Amendment 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 First Amendment shall not be affected thereby, and this First Amendment shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Section 7. Governing Law. This First Amendment shall be governed by and construed in accordance with the laws of the State of Texas.

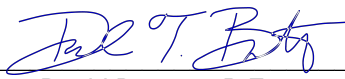
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**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement on this the \_\_\_\_ day of \_\_\_\_\_, 2022.

**NBU:**  
**NEW BRAUNFELS UTILITIES,**  
a Texas municipal owned utility

By: \_\_\_\_\_  
Name: Ian Taylor  
Title: CEO

**PROFESSIONAL:**  
**FREESE AND NICHOLS INC.,**  
a Texas corporation

By:   
Name: David Bennett, P.E.  
Title: Principal / Vice-President

## Exhibit A

### Services

The Professional shall provide all labor, material, and equipment necessary to provide project management, design, bid, and construction phase services, field services, and permitting and coordination with certain stakeholders (collectively the “Services”) for the Trinity Water Treatment Plant and Pump Station Expansion (the “Project”) located at 3295 Westpointe Drive, New Braunfels, Texas 78132 (the “Project Site”). The Project, funded by Texas Water Development Board Drinking Water State Revolving Fund Loan Program, shall include the facilities and/or improvements generally described below.

#### **Water Treatment Plant**

The Professional shall perform services for the Water Treatment Plant (“WTP”) scope described below.

- 1) WTP capacity expansion of 3.75 million gallons per day (“MGD”) to a total treatment capacity of 7.5 MGD, with the addition of up to three more membrane racks, a second feed water tank, a second backwash clarifier, two (2) feed pumps and motors, one (1) feed strainer, one (1) backwash recycling pump and motor, one (1) backwash equalization tank with pump and motor, one (1) coagulant bulk storage tank, piping, valves, associated control panels, and associated instrumentation. An evaluation of running the Wonderware software on a desktop versus a server will be performed. The WTP expansion shall include structural as required
- 2) Site improvements including site piping, valves, driveway, site paving, sidewalk and field instrumentation.
- 3) Expansion of the chlorine storage and feed system to be used for pre-oxidation and disinfection. Existing chlorinators may be replaced with larger units and one-ton container scale and components to attach spare chlorine storage shall be included and additional storage may be added. An additional chlorine feed point shall be designed as a bid-alternate in the event that the new wells have high hydrogen sulfide (“H<sub>2</sub>S”) concentrations. If final water quality is such that this feed point is not needed, the bid alternate items will be removed from the project prior to construction.

- 4) Fluoride and liquid ammonium sulfate (“LAS”) feed systems shall be evaluated to determine which components need to be expanded or upgraded for project. Fluoride and LAS storage is adequate for full plant buildout and shall not be upsized as part of this project.
- 5) Existing heating, ventilation, and air conditioning (“HVAC”) system in WTP Membrane Building is sufficient to handle loads from planned plant expansion, therefore no upgrade or expansion to the HVAC system shall be performed as part of this project.
- 6) Designing power redundancy for the wells, plant, and booster pump station at full plant capacity with either a second incoming power feed from the Plant’s electrical service provider, NBU Electric, or constructing emergency diesel-powered generators. Development of this amendment assumes that generators will be provided and will be located at each of the utility service drops at the plant, well sites, and booster pump station.
- 7) Stormwater improvements for well blow off lines, ground storage tank overflows and the wells.

### **Water Pump Station**

The Professional shall perform services for the water pump station scope described below.

- 1) High service pump station capacity expansion of 3.75 MGD to a firm pump station capacity of 7.5 MGD with the addition of three (3) horizontal centrifugal pumps and motors which may have variable frequency drives (“VFD”), increasing the impeller and motor size of existing pumps, piping, valves, associated control panels, and associated instrumentation. The pump station improvements will include structural, as required.
- 2) Site improvements including site piping, valves, plant paving, sidewalk, site power distribution, and field instrumentation.
- 3) Additional electric service entrance utility transformer. The Professional shall coordinate added electric loads with electric utility company and make improvements to the power distribution system to accommodate added loads.
- 4) A new building to house VFD for the booster pump station. Building size will be approximately 30’L x 12’W x 12’H and will consist of one room. Design and construction materials of the VFD building will be similar to the existing concrete masonry unit (“CMU”) chemical building on site. Heating, Ventilation and Air Conditioning (“HVAC”) will be provided via a packaged rooftop units and a redundant unit will be included.

## **Raw Water Pipeline**

The Professional shall perform services for the raw water pipeline scope described below.

- 1) Approximately 300-1,000 linear feet (“LF”) of new 12” diameter raw water main shall be installed by open-cut methods including all appurtenances, to connect raw water line from the new well field to the 18” WTP feed piping. Routing and length of water main to be determined during preliminary design by coordinating with NBU and consultant designing well field collection piping.
- 2) Routing of well flush drainage piping to direct water from wells when they are flushed and GST overflow to either stormwater detention ponds or a drainage area in the adjacent NBU property.
- 3) The following crossings are assumed for both pipelines:
  - Zero (0) railroad crossings using trenchless construction;
  - Zero (0) TxDOT highway or county road crossing using trenchless construction;  
and
  - Zero (0) river crossings using trenchless construction.

## **Water Storage Tank**

The Professional shall perform services for the water storage tank scope described below.

- 1) New 1.5 million gallon (“MG”) concrete pre-stressed ground storage tank.
- 2) Site improvements including site piping, valves, site paving, and sidewalk.
- 3) Overflow connection to well blow off lines.

## **Wastewater Lift Station**

The Professional shall perform services for the wastewater lift station scope described below.

- 1) A new wet well hydraulically connected to the existing lift station wet well to provide additional storage at the on-site lift station.

- 2) A Programmable Logic Controller (“PLC”) at the Enclave lift station located on Mission Hill Run in the Enclave at Westpointe Village subdivision to monitor the existing pump run statuses, pump overloads, and several existing lift station input/output points.
- 3) Make electrical improvements as necessary and upgrade back-up generator.

### **Finished Water Line**

The Professional shall perform services for the finished water pipeline scope described below.

- 1) Approximately 1,500 linear feet (“LF”) of new 24” diameter water main installed by open-cut methods including all appurtenances, to connect finished water line from the Booster pump station discharge to the connection of the new Westpointe-Mission line on Westpointe Drive.
- 2) The following crossings are assumed for the pipeline:
  - Zero (0) railroad crossings using trenchless construction;
  - Zero (0) TxDOT highway or county road crossing using trenchless construction;  
and
  - Zero (0) river crossings using trenchless construction.

### **Programmable Logic Controller**

The Professional shall perform services for the PLC scope described below.

- 1) New Allen Bradley Compact Logix PLCs to replace the existing Siemens WT PLCs at the Chemical Building and Well Sites. New PLC cabinets will be located in the same location as the existing PLC cabinets.

### **SERVICES**

The Professional shall provide the following Services in accordance with the tasks described herein.

#### **Task 1. Project Management**

1. The Professional shall provide the following project management services described herein.

- 1.1. SCHEDULE. The Professional shall develop a baseline design schedule for the Project and prepare updated design schedules for the Project on a monthly basis on or before the 25<sup>th</sup> day of each month for NBU to monitor progress and identify design submittal dates. Schedules shall be provided to the NBU Project Manager via email.
- 1.2. QUALITY CONTROL. The Professional shall develop a quality assurance/quality control program for the Project, which shall be explained in detail via a written document and provided to NBU's Project Manager via email within 30 days of notice to proceed ("NTP").
- 1.3. PROGRESS REPORTS. The Professional shall provide NBU with electronic monthly project progress reports and submit written invoices on or before the 25th day of each month for the previous month's effort. Progress reports shall be provided to the NBU Project Manager via email.
- 1.4. MEETING AGENDA/MINUTES. The Professional shall provide meeting agenda one (1) day prior to meetings and provide a copy of the documented meeting minutes and action item logs to NBU's Project Manager within one (1) week after meetings.
- 1.5. PROJECT CONTROLS. The Professional shall manage Project integration, scope, schedule, cost, quality, staff resources, sub-consultants, communications, risk analysis and management, and procurements as NBU directs, including, but not limited to, the following:
  - 1.5.1. assigning a senior advisor to oversee quality assurance;
  - 1.5.2. developing cost estimates using recent bid tabs from similar projects or vendor prices;
  - 1.5.3. using Microsoft Project or similar to manage the schedule; and
  - 1.5.4. coordinating communication with sub consultants through emails and meetings.

## **Task 2. Preliminary Engineering Phase**

2. Upon NBU providing NTP to the Professional, the Professional shall perform the preliminary engineering phase services described herein.
  - 2.1. MEETINGS. The Professional shall provide meeting agenda via email one (1) day prior to meeting and meeting minutes via email within one (1) week of the meeting to NBU for the following meetings:



- 2.1.1. project kick-off meeting with NBU (1 meeting);
- 2.1.2. monthly progress status meetings (3 meetings);
- 2.1.3. Preliminary Engineering Report (“PER”) Review meeting;
- 2.1.4. Franchise utilities meeting (1 meeting);
- 2.1.5. City of New Braunfels meeting (1 meeting); and
- 2.1.6. review meeting to discuss additional preliminary engineering items that will be added to the PER (1 meeting).

2.2. WATER TREATMENT PLANT ANALYSIS. The Professional shall analyze the water treatment plant requirements as described herein.

- 2.2.1. The professional shall determine requirements for the membrane treatment system, feed to the membranes, backwash recycle, and chemical systems for the WTP expansion.
- 2.2.2. The Professional shall perform preliminary hydraulic and chemical feed and storage calculations.
- 2.2.3. The Professional shall coordinate with material and equipment vendors; The Professional shall coordinate with the low-pressure membrane vendor to verify all necessary components to support the addition of the low-pressure membrane units; and
- 2.2.4. The Professional shall determine the required equipment necessary for the well sites, water treatment plant (“WTP”), and booster pump station to operate each at each of their rated capacities. This evaluation will include coordination with NBU Electric to evaluate providing a separate power feed to the plant, and will include generators, transfer switches and associated equipment needed for providing emergency diesel-powered generators for back-up power at each of the utility service drops at the plant, well sites and booster pump station. One meeting is included to review the results of the evaluation and to determine which options NBU would like to be included for final design.

2.3. PUMP STATION ANALYSIS. The Professional shall analyze the pump station design requirements as herein.

- 2.3.1. The Professional shall determine the pump station system capacity and head requirements over the study period, determine the system operations protocols in

conjunction with NBU, and prepare a hydraulic model of the pumping station, pipeline, and related facilities.

2.3.1.1. Hydraulic Model Preparation: The Professional shall utilize the InfoWater model developed as part of the ongoing Water Master Plan to create new model scenarios. Steady-state simulation scenarios shall be developed for existing and 10-year conditions. All proposed 2030 water system improvements shall be included in the 10-year model scenarios. Model scenarios shall include average day and maximum day demand conditions as calculated in NBU's Water Master Plan. The Professional shall confirm that the flow control valves at Oak Run and Westpointe are still sufficient to accept the additional flow, per their original design.

2.3.1.2. System Curve Development: The Professional shall develop system head curves for the Trinity Booster Pump Station. System curves shall be developed for existing and 10-year conditions. The Professional shall review SCADA records for the Trinity Ground Storage Tank, Westpointe Elevated Storage Tank, and Mission Elevated Storage Tank to determine appropriate static head ranges to be used for the analysis.

2.3.2. The Professional shall determine the power requirements, electrical equipment need and layout and provide a one-line diagram and overall process diagram for the pump station.

2.3.3. The Professional shall determine size and capacity of pump stations, pipelines and related facilities.

2.3.4. The Professional shall coordinate with material and equipment vendors; and

2.3.5. The Professional shall determine electrical, structural, architectural, and HVAC requirements for the VFD Building.

2.4. LIFT STATION ANALYSIS. The Professional shall analyze the lift station design requirements as described herein.

2.4.1. The Professional shall review design documents and as-builts for the existing lift station;

2.4.2. The Professional shall determine the required pump sizes for the lift station;

- 2.4.3. The Professional shall coordinate with material and equipment vendors; and
  - 2.4.4. The Professional shall determine electrical requirements.
  - 2.4.5. The professional shall determine the recommended size, location, and shape for the additional wet well storage to be added to the Lift Station.
  - 2.4.6. The Professional shall determine requirements for PLC at Enclave Lift Station. The lift station PLC will be connected via private radio communications to a nearby NBU facility. The pump control panel and pump controls will not be modified.
- 2.5. GROUND STORAGE TANK ANALYSIS. The Professional shall provide the analysis for the storage tanks as described herein.
- 2.5.1. The Professional shall determine the tank overflow elevation and head range to be routed to detention pond built as part of NBU future projects;
  - 2.5.2. The Professional shall determine the length and size of interior piping and valves to include the type of materials;
  - 2.5.3. The Professional shall determine whether or not interior baffles for improved chlorine contact time are needed;
  - 2.5.4. The Professional shall identify basic site improvements;
  - 2.5.5. The Professional shall identify basic yard piping improvements; and
  - 2.5.6. The Professional shall provide electrical, instrumentation, and exterior lighting.
- 2.6. STORM WATER ANALYSIS. The Professional shall perform a storm water and overflow analysis in accordance with the City of New Braunfels' Engineering Design Manual as described herein.
- 2.6.1. The Professional shall evaluate site drainage for pre-project and project condition runoff hydrographs;
  - 2.6.2. The Professional shall prepare preliminary design/sizing of necessary onsite drainage improvements to accommodate increase in discharge due to additional impervious cover. This assumes that the proposed detention pond number 15 from the New Braunfels Utilities Headquarters 80% schematic design documents cannot be utilized and on-site detention and water quality design is required;
  - 2.6.3. The Professional shall verify that offsite drainage infrastructure is adequately sized to convey site runoff without adversely impacting adjacent parcels or infrastructure. If offsite improvements are required, the Professional will include a

recommendation for improvements in the PER;

2.6.4. The Professional shall analyze the maximum expected flows if either the tank overflows or the well blow-offs are being utilized and will compare that flowrate to the storm water runoff and size the infrastructure as necessary; and

2.6.5. The Professional shall run an evaluation recommended as described above as part of the PER for stormwater runoff and water quality improvements. The evaluation will be completed in accordance with both the City of New Braunfels' Engineering Design Manual and Texas Commission on Environmental Quality ("TCEQ") requirements since the site is in the Edwards Aquifer Recharge Zone. Analysis will include sizing and layout of water quality pond, vegetative filter strips, or similar water quality controls to accommodate stormwater runoff as well as well blow-off and ground storage tank overflow flows based on TCEQ calculation spreadsheet.

## 2.7. 30% DESIGN DOCUMENTS

2.7.1. The Professional shall perform up to one (1) preliminary site visit to gather project information.

2.7.2. The Professional shall perform collection and review of existing data, reports, mapping, and records from NBU. The Professional shall review documents associated with the Project. The Professional shall provide analyses of NBU's requirements for the Project, including planning, surveys, site evaluations and comparative studies of prospective sites and solutions to the NBU Project Manager.

2.7.3. The Professional shall prepare 30% design drawings including plan views of all proposed infrastructure within the Project Site and submit to NBU via email by the end date of the 30% Preliminary Design task in the Project Milestones table.

2.7.4. The Professional shall prepare a Class 4 opinion of probable construction cost ("OPCC") based on 30% design drawings and submit to NBU via email by the end date of the 30% Preliminary Design task in the Project Milestones table.

## 2.8. PRELIMINARY ENGINEERING REPORT ("PER").

2.8.1. The Professional shall prepare a PER that includes 30% design plans and describes the scope of the Project for final design, permitting, constructability, OPCC and schedule. The PER shall include project implementation, phasing and packaging for all portions of the project. The Professional shall submit an initial draft PER by

email in Portable Document Format (“PDF”) to the NBU Project Manager for review and comment;

2.8.2. The Professional shall update the PER submitted to NBU on 11/11/2021 to describe the additional scope items described in this first Amendment for final design, permitting, constructability, opinion of probable construction cost (“OPCC”) and schedule. The Professional shall submit a second draft PER by email in Portable Document Format (“PDF”) to the NBU Project Manager for review and comment; and

2.8.3. The Professional shall submit a final PER incorporating all NBU comments. The final PER will be submitted by the Professional to the NBU Project Manager by email in PDF and send a mailed paper copy within 30 days of receiving comments.

2.9. FINISHED WATER LINE ANALYSIS. The Professional shall perform the finished water line design requirements as described herein.

2.9.1. The Professional shall determine route, valves and connections for the finished water line.

2.10. The Professional shall design the power redundancy option selected by NBU from the PER.

2.11. The Professional shall determine the existing input/outputs connected to the PLCs and shall catalog all components within the existing PLC cabinets to be replaced. The Professional shall design the replacement of the existing Siemens WT PLCs at the chemical building and well sites with Allen Bradley Compact Logix PLCs. New PLC cabinets will be located in the same location as the existing PLC cabinets. No new control narratives are anticipated. One virtual meeting and one meeting in person with the NBU SCADA staff is included.

2.12. The Professional shall determine requirements for the wells and Chemical Building PLC replacements. No new control narratives are anticipated.

2.12.1. ENGINEERING FEASIBILITY REPORT: The Professional shall prepare an EFR in accordance with Texas Water Development Board (“TWDB”) Form TWDB-0556 by updating the PER to meet TWDB submittal requirements. The Professional shall submit a draft EFR to NBU’s Project Manager for review and comment as well as a final EFR incorporating all NBU comments. The final EFR will be submitted within

30 days of receiving comments. The final EFR shall be submitted to TWDB for review. The Professional shall work with TWDB to address all comments and finalize for NBU's approval.

2.13. DELIVERABLES. The Professional shall provide the following Preliminary Engineering Phase deliverables to NBU:

2.13.1. Initial draft PER and Class 4 OPCC – one (1) PDF electronic file;

2.13.2. 30% design drawings – one (1) PDF electronic file, one SHP file and three (3) hard copies of 11x17 size plans.

2.13.3. Second draft PER and Class 4 OPCC – one (1) PDF electronic file;

2.13.4. Final PER and Class 4 OPCC – one (1) PDF electronic file; and

2.13.5. Engineering Feasibility Report (“EFR”) – one (1) PDF electronic file.

### **Task 3. Final Design Phase**

3. Upon NBU's approval of the PER and 30% design documents, the Professional shall perform the final design phase services described below.

3.1. MEETINGS. The Professional shall provide meeting agenda via email one (1) day prior to meeting and meeting minutes via email within one (1) week of the meeting to NBU for the following meetings:

3.1.1. 60% design review meeting;

3.1.2. 90% design review meeting;

3.1.3. monthly design meetings (8 meetings);

3.1.4. meetings with franchise utilities (2 meetings); and

3.1.5. permitting meeting with City of New Braunfels (2 meetings).

3.2. 60% DESIGN DOCUMENTS. The Professional shall prepare 60% plans, specifications and OPCC based on decisions made in the preliminary design phase. Design documents shall include:

3.2.1. plan view and/or site layout of the proposed facilities;

3.2.2. a lighting layout;

3.2.3. an electrical one-line diagram;

3.2.4. mechanical drawings to include major design components of the water treatment plant, tank, lift station, pump station;

- 3.2.5. call outs for major design items;
  - 3.2.6. table of contents for all required specifications and specifications that are provided by the Professional with the exception of NBU's standard specifications; and
  - 3.2.7. Class 3 OPCC based on 60% design documents.
- 3.3. 90% DESIGN DOCUMENTS. Upon approval of 60% design documents, the Professional shall prepare 90% plans, specifications and OPCC. 90% design documents shall include:
- 3.3.1. call outs for all design items on the plan sheets;
  - 3.3.2. complete specifications; and
  - 3.3.3. Class 2 OPCC based on 90% design documents.
- 3.4. 100% (FINAL) DESIGN DOCUMENTS. Upon approval of 90% design documents, the Professional shall prepare 100% plans, specifications and OPCC. 100% design documents shall include:
- 3.4.1. final signed and sealed set of construction drawings and specifications based on decisions made in the 90% design phase. NBU shall provide the Professional easement requirements for each parcel via email to incorporate into the plans;
  - 3.4.2. project files to include; .dwg;
  - 3.4.3. preparation of the bid form.
  - 3.4.4. Class 1 OPCC based on 100% design documents.
- 3.5. DELIVERABLES. The Professional shall provide the following deliverables to the NBU Project Manager via email by the end date of the appropriate phase in the Project Milestones table:
- 3.5.1. 60% design – the Professional shall provide one (1) PDF electronic file in PDF, one (1) PDF electronic file of a Class 3 OPCC and three (3) hard copies of 11x17 size plans and specifications;
  - 3.5.2. 90% design – the Professional shall provide one (1) PDF electronic file in PDF, one (1) PDF electronic file of a Class 2 OPCC and three (3) hard copies of 11x17 size plans and specifications; and
  - 3.5.3. 100% design - the Professional shall provide one (1) PDF electronic file in PDF, one (1) PDF electronic file of a Class 1 OPCC and three (3) hard copies of 11x17 size plans and specifications.

#### **Task 4. Field Services**

4. The Professional shall perform the field services described herein.

4.1. TOPOGRAPHIC SURVEY. The Professional shall obtain a topographic and utility survey as described below.

4.1.1. The Professional shall tie in all existing surface topographic features and structures within the survey limits shown in Figure 1. This survey shall include: tops of curbs, edges of pavement, pavement materials, driveways, sidewalks, retaining walls, drainage structures (top, edges and flow line), channels and drainage ways (tops, toes and flow line), manholes (rim, flow lines and diameters of pipes, type of material and photographs of the inside of manholes and drainage structures), including the same survey data for upstream and downstream manholes and structures that are outside of the survey limits for all gravity wastewater and drainage lines within the survey limits. Visible valves, meters, clean-outs, slabs, utility signs, utility poles and structures, fences, landscaping features, shrubbery, trees (including the approximate drip-line), tree canopies, buildings (edges within the survey limits) mailboxes, etc. Trees shall be tagged and tabulated by size and species specific in compliance with the City of New Braunfels Tree Preservation ordinance as defined in the City of New Braunfels Zoning Ordinance Chapter 5.3-5i. The survey limits shall extend approximately 100 feet on intersecting streets. The Professional shall provide sufficient ground shots to create one (1) foot contours for the Project.

4.1.2. The Professional shall conduct a utility survey and locate existing utilities within the Project boundary in Figure 1. The Professional shall contact all utility service providers by calling Texas 811 and the NBU Project Manager to coordinate flagging of existing franchise utilities. The Professional shall request drawings of existing agency and municipal owned utilities and shall include locations of these utilities in the survey. The Professional shall tie in the locations of the discovered utilities on the survey. The Professional shall bear all costs for the Services associated with utility locates.

4.1.3. The Professional shall locate up to ten (10) geotechnical borings and tie them in to



the Project survey.

4.1.4. The Professional shall set and install control points and/or benchmarks as required for the survey work (minimum 1-foot intervals). The Professional shall provide horizontal and vertical coordinates of the benchmarks in the required coordinate system and datum and show the benchmarks on the survey drawing.

4.1.5. The Professional shall research and review adjoining plats and deeds along the survey corridor. The Professional shall locate property corners and identify existing right of way (“ROW”), along the survey corridor, based on found monuments and record documents.

4.2. GEOTECHNICAL REPORT. The Professional shall conduct a geotechnical investigation to complete a Geotechnical Report (“GR”) for the Project as described herein.

4.2.1. Field Exploration:

4.2.1.1. The Professional shall determine the required boring locations on the Project Site. The Professional shall provide a Project Site boring location map to NBU via email prior to start of the field work that shows the exploratory borings within the vicinity of the proposed improvements and along the proposed water main alignments.

4.2.1.2. The Professional shall coordinate with NBU, City of New Braunfels, and Texas 811 regarding underground utilities within the vicinity of the planned boring locations prior to commencement of the field exploration activities.

4.2.1.3. The Professional shall drill exploratory borings for the proposed improvements according to the schedule provided below:

4.2.1.3.1. one (1) boring to a maximum depth of 60 feet below existing grade;

4.2.1.3.2. six (6) borings to a maximum depth of 30 feet below existing grade;

4.2.1.3.3. two (2) borings to a maximum depth of 25 feet below existing grade;  
and

4.2.1.3.4. four (4) pilot hole borings for the purpose of locating below-grade voids.

4.2.1.4. The borings conducted on the Project Site shall be advanced using standard rotary drilling equipment with continuous-flight augers or rotary wash methods.

Subsurface samples shall be collected using 2-inch diameter split-spoon sampler in conjunction with the standard penetration test (“SPT”). Intermittent 3-inch diameter Shelby tube samples shall be collected in between the SPTs.

- 4.2.1.5. The Professional shall record groundwater observations within the borings at the time of drilling and at the completion of drilling and sampling.
  - 4.2.1.6. The Professional shall backfill borings with auger cuttings upon completion of drilling and sampling.
  - 4.2.1.7. The Professional shall patch borings drilled through pavement with like material (asphalt, concrete) upon completion of backfilling.
  - 4.2.1.8. The Professional shall have personnel experienced in logging borings, directing the drilling, and handling and transporting the samples. The Professional shall provide visual classification of the subsurface stratigraphy in general accordance to the American Society for Testing and Materials (“ASTM”), standard number D2488 and the Unified Soil Classification System (“USCS”) during drilling and sampling.
- 4.2.2. The Professional shall provide laboratory testing to include the following:
- 4.2.2.1. testing by a geotechnical subconsultant on samples obtained from the borings to determine soil classification and pertinent engineering properties of the subsurface materials;
  - 4.2.2.2. laboratory tests assigned for the specific subsurface materials encountered during exploration on the Project Site, but which are expected to include the following number and type of tests:
    - 4.2.2.2.1. Atterberg limits tests (up to a 9 tests);
    - 4.2.2.2.2. Percent Passing the #200 Sieve (up to 9 tests);
    - 4.2.2.2.3. Sieve Analysis (Gradation) tests (up to 9 tests);
    - 4.2.2.2.4. Moisture content tests (up to 9 tests); and
    - 4.2.2.2.5. Unconfined compressive strength tests (with unit weights; up to 9 tests).
    - 4.2.2.2.6. tests).
- 4.2.3. The Professional shall prepare a GR that includes the following information and recommendations, as applicable:
- 4.2.3.1. a summary of the field and laboratory sampling and testing program;

- 4.2.3.2. boring logs and laboratory testing results;
  - 4.2.3.3. a review of general site conditions including descriptions of the site, the subsurface stratigraphy, groundwater conditions, and the presence and condition of fill materials, if encountered;
  - 4.2.3.4. trenchless water main construction feasibility and recommendations of auger boring and/or horizontal directional drilling;
  - 4.2.3.5. general discussion of expected construction related issues; and
  - 4.2.3.6. earthwork related recommendations for use during development of plans and specifications.
- 4.2.4. The Professional shall provide the final Geotech Report to the NBU Project Manager electronically as a 100% design deliverable with the specifications.
- 4.3. ENVIRONMENTAL INFORMATION DOCUMENT (“EID”) PREPARATION. The Professional shall prepare the EID for TWDB funding as described herein.
- 4.3.1. The Professional shall prepare an EID as required by the TWDB Drinking Water State Revolving Fund (“DWSRF”) (31 TAC §371, Subchapter E). The EID shall be a stand-alone, self-contained document describing the Project in sufficient detail to allow for resource agency review without reference to an engineering study or other documents. The EID will address the proposed improvements including expanded facilities at the existing approximately 19-acre Trinity WTP, development of well fields on an approximately 48-acre tract adjacent to the Trinity WTP, and installation of approximately 2.2 miles of new waterlines to connect to the Trinity WTP facility. The EID format shall follow the guidelines provided by the TWDB. The following services shall be completed for the EID:
- 4.3.1.1. Gather and review existing information – Prior to conducting a pedestrian survey within the proposed project area, the Professional will assemble and review data such as aerial photographs, United States Geological Survey (“USGS”) topographic maps, National Wetlands Inventory (“NWI”) maps, the USGS National Hydrography Dataset (“NHD”), and soils data within the area of the proposed project areas.
  - 4.3.1.2. Conduct Pedestrian Survey – The Professional will conduct a site visit to make observations within the proposed project area to document existing

environmental conditions and assess potential project impacts. The presence and locations of waters of the U.S., including wetlands, potential threatened/endangered species habitat, and vegetation cover types will be identified within the area of the proposed project areas.

4.3.1.3. Environmental Risk Database Review - The Professional shall review environmental risk database reports to assess the potential for hazardous materials contamination on property being acquired as part of the project. The Professional shall summarize the results of the database review in a technical memorandum and the results will be incorporated into the final EID.

4.3.1.4. Cultural Resources Evaluation - Projects sponsored by a political subdivision of the State that affect a cumulative area greater than five acres or that disturb more than 5,000 cubic yards require consultation with the Texas Historical Commission (“THC”) according to Section 191.0525 (d) of the Antiquities Code of Texas. Furthermore, review under Section 106 of the National Historic Preservation Act is required for federal undertakings, like funding from the DWSRF. The professional will render the following professional services, with the development of the Project, as follows:

4.3.1.4.1. Review desktop-level datasets to assess the project’s potential for affecting significant archaeological resources. The results of the background review and interpretation will be summarized into a brief narrative letter report with supporting maps and other imagery for THC review. This letter report will inform the THC, the state’s archaeological resource regulatory agency, about the project and seek their comment about NBU’s ACT and Section 106 regulatory compliance obligations.

4.3.1.4.2. Assuming that an archeological survey is needed to assess project-related impacts to significant resources, a Texas Antiquities Permit will be acquired from the THC to conduct a 100 percent pedestrian survey of the project area per the published minimum survey standards for area (WTP and well field components) and linear (proposed waterline) projects. These standards call for approximately 60 shovel tests within the WTP site and proposed well field (2 tests/acre for first 25 acres then

1 test/5 acres thereafter, excluding areas of disturbance) while archeologists may dig up to 35 shovel tests along the proposed pipeline corridor (1 test per 100 linear meters per 100-foot-wide impact corridor width; approx. 95 tests total overall). Identifying and recording up to three archeological sites through field investigations are included in this scope of service.

- 4.3.1.4.3. Prepare a professional report after field survey summarizing the results of the investigations, describing, and evaluating any archaeological sites investigated, mapping their locations, and making management recommendations.
- 4.3.1.4.4. Upon regulatory review and presumed concurrence, the final report will be printed and administrative terms of the permit for project completion will be followed. The report and accompanying field documentation will be curated at a State-approved facility.
- 4.3.1.5. Coordination with Project Engineers – Utilizing information gathered during the pedestrian survey, the Professional will coordinate with the project engineers to determine what requirements may be required under the Endangered Species Act or other environmental regulations.
- 4.3.1.6. Agency Coordination - The Professional shall submit coordination/notification letters and the draft EID to appropriate agencies, as required, including potentially U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, local managers of the Federal Flood Insurance Program, the local council of government, and other regional agencies or local governments that may have jurisdiction. Comments received from the agencies shall be incorporated into the final EID. If necessary, the Professional shall work with NBU's Project Manager to prepare and submit written responses to address state and/or federal resource agency comments. We assume that this project shall be non-controversial and that agency comments shall be minimal. If an unusual level of agency comments may cause the Professional's budget to be

exceeded, the Professional will notify NBU's Project Manager for written authorization before proceeding.

4.3.1.7. Preparation of Draft and Final EID - The Professional shall prepare a draft EID following appropriate TWDB guidelines (form TWDB-0801). The draft EID shall be submitted to NBU's Project Manager for review and comment. The Professional shall incorporate NBU comments into the draft EID and submit the revised draft EID to NBU's Project Manager to be made available for public review prior to the TWDB required public meeting. After the public meeting and agency coordination, the EID shall be finalized by incorporating required changes or comments received into the final document. The Final EID shall be submitted to the TWDB for approval.

4.3.1.8. Public Meeting - The Professional shall assist NBU's Project Manager with holding one (1) Public Meeting, held at a physical location determined by NBU, by preparing a public notice for NBU to submit to local newspaper(s), participating in the public meeting, and summarizing the results of the meeting into the EID. NBU shall be responsible for having the public notice published and all costs associated with the publication and for providing verbatim transcript services, if required.

#### 4.3.2. DELIVERABLES

4.3.2.1. Preparation and submission of one (1) EID to TWDB for approval

4.3.2.2. Preparation and submission of one (1) Archeological Report to the THC

### **Task 5. Permitting & Stakeholders**

5. The Professional shall coordinate with the following stakeholders/agencies as described herein.

5.1. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. The Professional shall prepare and submit permit applications to Texas Commission on Environmental Quality for approval of all design documents. The permit applications include the following:

5.1.1. Water Pollution Abatement Plan ("WPAP");

- 5.1.1.1. The Professional will assist a different firm in preparing the WPAP for this project as part of an overall WPAP for the site and will not be solely responsible to prepare and submit the WPAP.
- 5.1.2. Variance letter/Exception Request;
- 5.1.3. Notification letter for sewer plans;
- 5.1.4. Approval letter for water systems;
  - 5.1.4.1. The Professional will prepare a design report for the WTP as part of this submittal.
- 5.1.5. Updated CT Study Approval;
- 5.1.6. Updated corrosion study;
- 5.1.7. Sewer Collection System (“SCS”) Permit; and
- 5.1.8. Above Ground Storage Tank (“AST”) Permit.
  - 5.1.8.1. The Professional shall prepare and submit to TCEQ an AST Permit for any new generators installed at the project site, as part of the Edwards Aquifer Protection Program permitting process.
- 5.2. CITY OF NEW BRAUNFELS. The Professional shall prepare and submit permit applications to the City of New Braunfels to obtain permits for:
  - 5.2.1. Site development permit;
  - 5.2.2. Tree removal permit; and
  - 5.2.3. Commercial Building Permit.
- 5.3. EASEMENT ACQUISITION COORDINATION. The Professional shall coordinate and provide support to NBU and/or an NBU hired consultant to obtain easements for up to 1 parcel. The Professional shall provide the following easement acquisition coordination support services:
  - 5.3.1. attend up to one (1) meeting per easement with NBU, the hired consultant and/or the property owner; and
  - 5.3.2. review draft and final easement documents for up to 1 parcel.
- 5.4. COORDINATION WITH ADJACENT PROJECTS. The Professional shall coordinate with NBU and firms responsible for program management, design and construction of projects located adjacent to the Project Site.
  - 5.4.1. meetings with additional stakeholders to coordinate adjacent projects design and

permitting (8 meetings).

5.5. TEXAS WATER DEVELOPMENT BOARD COORDINATION. The Professional shall provide the following services associated with the TWDB funding process as described herein.

5.5.1. CHANGE OF SCOPE PHASE

5.5.1.1. The Professional shall coordinate with TWDB throughout the change of scope review to address comments and provide additional information as necessary. The Professional shall coordinate with NBU and other design consultants responsible for additional projects included on the change of scope to address comments from TWDB.

5.5.1.2. The Professional shall schedule and attend one (1) meeting with TWDB on change of scope phase process

5.5.2. POST CLOSING PHASE

5.5.2.1. The Professional shall schedule and attend one (1) meeting with NBU and other design firms on post-closing phase process and roles for this phase of the Project.

5.5.2.2. The Professional shall prepare the “outlay” process on behalf of NBU for all projects included in the loan to show the TWDB how funding is being spent, and to request draws on the funding loan.

5.5.2.2.1. Outlays shall be prepared by the Professional on a monthly basis throughout the TWDB’s review and approval process of the Project’s EID and EFR and design plans and specifications.

5.5.2.2.2. Outlays shall be prepared by the Professional on a monthly basis during the construction phase of the Project.

5.5.2.2.3. The Professional shall coordinate internally and with NBU and other design professionals and TWDB to prepare and submit to TWDB on behalf of NBU up to:

5.5.2.2.4. One (1) EID’s (see Section 3);

5.5.2.2.5. Three (3) EFR’s; and

5.5.2.2.6. Three (3) sets of design plans and specifications for TWDB Review.



- 5.5.2.3. The Professional shall address comments received from TWDB and resubmit to TWDB as required.
- 5.5.2.4. The Professional shall submit any change orders on behalf of NBU and coordinate with TWDB for approval.
- 5.5.2.5. Attend up to two (2) inspections with TWDB of project construction.
- 5.5.2.6. The Professional shall assist NBU in obtaining a TWDB Certificate of Approval (“COA”), including attending construction contract final inspection with TWDB to obtain the Certification of Final Inspection (“CFI”).

5.6. DELIVERABLES.

- 5.6.1. TCEQ submittal packages/ approval letters - one (1) PDF electronic copy of each;
- 5.6.2. City of New Braunfels permit - one (1) PDF electronic copy; and
- 5.6.3. TWBD

**Task 6. Bid Phase Services**

- 6. Upon completion of the final design, the Professional shall proceed with the bid phase Services for one bid package described below.
  - 6.1. PREBID CONFERENCE. The Professional shall attend one (1) pre-bid conference to be administered by NBU. The Professional shall assist NBU with preparation of agenda, provide NBU with meeting notes, and coordinate conference responses with NBU. Written responses to issues identified at the pre-bid conference shall be in the form of addenda issued after the conference.
  - 6.2. INTERPRET BID DOCUMENTS. The Professional shall assist NBU with responding to questions and interpreting bid documents and prepare addenda to the bid documents if necessary.
  - 6.3. PROPOSAL EVALUATION. The Professional shall attend one (1) proposal-opening conference to be administered by NBU. The Professional shall hold a position on the evaluation committee which will assist with analyzing and scoring of the proposals

received for the Project. The Professional shall attend one (1) evaluation committee meeting administered by NBU.

6.4. CONFORMED CONSTRUCTION DOCUMENTS. The Professional shall conform the construction documents by incorporating all addenda items into the plans and specifications.

6.5. DELIVERABLES.

6.5.1. Addenda - one (1) PDF electronic copy and bidders;

6.5.2. Proposal Evaluation Scoring Sheet - one (1) PDF electronic copy; and

6.5.3. Conformed construction documents - one (1) PDF electronic copy and 3 hard copies.

### **Task 7. Construction Phase Services**

7. Upon completion of the bid phase services, the Professional shall proceed with construction phase administration Services described herein.

7.1. FACILITY INTEGRATION AND OPERATIONS (“FIO”). The Professional shall develop an FIO memorandum that provides specific instructions on how the new facilities should be integrated into the existing water system, as well as special operating instructions. The FIO memorandum shall generally include:

7.1.1. Description of New Facilities – major components and equipment, purpose and intent and how new facilities tie to existing infrastructure.

7.1.2. Integration Requirements - completion & testing procedures, owner staff required, responsibilities and notifications.

7.1.3. Operational & Maintenance Requirements - design settings & controls, operating procedures and maintenance procedures.

7.2. MEETINGS AND SITE VISITS. The Professional shall provide the following services for meetings and site visits:

7.2.1. assist NBU in conducting one (1) pre-construction conference with the construction contractor and prepare agenda, prepare and provide NBU with meeting notes and coordinate conference responses with NBU;

7.2.2. conduct one (1) construction document control workshop for the contractor;

7.2.3. attend up to a total of 34 bi-weekly construction progress meetings. The

Professional shall prepare agenda via email one (1) day prior to meeting, record and distribute meeting minutes via email within one (1) week of meeting to the NBU Project Manager and the contractor via email;

7.2.4. attend up to a total of 34 bi-weekly site visits during construction of the Project, as distinguished from the continuous services of a resident Project representative, to observe the progress and the quality of work and to determine if the work is proceeding in accordance with the contract documents. Bi-weekly site visits may be scheduled so they are either directly before or after bi-weekly construction progress meetings. The Professional shall prepare and provide NBU with electronic observation reports via email for each site visit and notify NBU of any non-conforming work performed by the contractor, observed on the site visits;

7.2.5. conduct with NBU's representatives two (2) substantial completion inspections and punch list reviews of the Project for conformance with the design concept of the Project and compliance with the construction contract documents. The Professional shall prepare a list of deficiencies to be corrected by the contractors before recommendation of final payment;

7.2.6. conduct one (1) final completion inspection of the Project for conformance with the design concept of the Project and compliance with the construction contract documents. The Professional shall prepare final completion reports and make recommendation of final payment.

7.3. SUBMITTAL MANAGEMENT. The Professional shall use FNiManager, a document management system for construction documents. The Professional shall monitor the processing of contractor's submittals (shop drawings, requests for information, schedules, certified test reports, etc.), provide for filing and retrieval of Project documentation, and verify that the contractor is sending and processing submittals in accordance with the schedules. The Professional shall produce monthly reports and submit a pdf version to the NBU Project Manager via email indicating the status of all submittals in the review process

7.3.1. SUBMITTAL REVIEW. The Professional shall review all contractor submittals for compliance with the design concepts to include the following:

7.1.1.1. shop drawings (up to 80);

- 7.1.1.2. record data (up to 10);
- 7.1.1.3. requests for information (up to 20);
- 7.1.1.4. schedules (up to 16);
- 7.1.1.5. certified test reports (up to 10);
- 7.1.1.6. operation and maintenance manuals; and
- 7.1.1.7. miscellaneous submittals (up to 10).

7.4. CHANGE ORDERS. The Professional shall manage the field/change order documents, requests for proposals, and contractor claim process for the Project as described herein.

7.4.1. The Professional shall establish procedures and document construction changes required to implement modifications to the Project.

7.4.2. The Professional shall process contract modifications and negotiate with the contractor at NBU's direction to determine the cost and time impacts of these changes.

7.4.3. The Professional shall prepare field/change order documentation for up to ten (10) field orders for minor alterations and up to five (5) change orders.

7.4.4. The Professional shall evaluate notices of contractor claims and make initial recommendations to NBU on the merit and value of the claim based on information submitted by the contractor or available Project documentation. The Professional shall negotiate a settlement value with the contractor at NBU's direction.

7.5. INTERPRET DRAWINGS AND SPECIFICATIONS. The Professional shall interpret the drawings and specifications for NBU and contractor during the course of construction per the schedule assumed herein.

7.6. PAY ESTIMATES. The Professional and NBU shall review and comment on monthly and final estimates for payment to the contractor pursuant to the general conditions of the construction contract during the course of the construction project per the schedule assumed herein.

7.7. RESIDENT PROFESSIONAL REPRESENTATIVE AND CONSTRUCTION MANAGEMENT. The Professional will have a full-time (40 hours per week) Resident Project Representative (RPR) on the Site for 16-months and provide an average of eight (8) hours per week of construction management time. The duties, responsibilities and the limitations of authority of the RPR, and designated assistants, are as follows:

7.7.1. RPR is the Professional's agent at the site, will act as directed by and under the supervision of the Professional's Construction Manager, and will confer with The Professional regarding RPR's actions. The RPR's dealings in matters pertaining to the on-site Work shall in general be with the Professional's Construction Manager and Contractor, keeping Owner advised as necessary. The RPR's dealings with Subcontractors shall only be through or with full knowledge and approval of Contractor. The RPR shall generally communicate with Owner with the knowledge of and under the direction of the Professional's Construction Manager.

7.7.2. Duties and Responsibilities of RPR shall include:

7.7.2.1. Schedules: Review the progress schedule, schedule of Shop Drawing submittals and schedules of values prepared by Contractor and consult with the Professional concerning acceptability.

7.7.2.2. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other Project-related meetings, and prepare and circulate copies of minutes thereof.

7.7.2.3. Liaison:

7.7.2.3.1. Serve as the Professional's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of Contract Documents; and assist the Professional in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.

7.7.2.3.2. Assist in obtaining from Owner additional details or information, when requested.

7.7.2.4. Shop Drawings and Samples:

7.7.2.4.1. Record date of receipt of Shop Drawings and Samples.

7.7.2.4.2. Receive Samples which are furnished at the Site by Contractor and notify the Professional of availability of Samples for examination.

7.7.2.4.3. Advise the Professional and Contractor of the commencement of any Work requiring a Shop Drawing or Sample if the submittal has not been approved by the Professional.

- 7.7.2.5. Review of Work, Rejection of Defective Work, Inspections and Tests:
- 7.7.2.5.1. Conduct on-site observations of the Work in progress to determine if the Work is in general proceeding in accordance with the Contract Documents.
  - 7.7.2.5.2. Based on the information, knowledge and belief of RPR, report to NBU Project Manager whenever RPR believes that any Work will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise the Professional of Work the RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
  - 7.7.2.5.3. Verify that tests, equipment and systems start-up and operating and maintenance training are conducted in the presence of appropriate personnel, and the Contractor maintains adequate records thereof; and observe record and report to NBU Project Manager appropriate details relative to the test procedures and start-ups.
  - 7.7.2.5.4. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to NBU Project Manager.
- 7.7.2.6. Interpretation of Contract Documents: Report to NBU Project Manager when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by the Professional.
- 7.7.2.7. Request for Revisions: Consider and evaluate Contractor's suggestions for revisions to Drawings or Specifications and report with RPR's recommendations to the Professional. Transmit to Contractor in writing decisions as issued by the Professional.
- 7.7.2.8. Records: Maintain at the job site orderly files for correspondence, reports

of job conferences, Shop Drawings and Samples, reproductions of original Contract Documents, including all Work Change Directives, Addenda, Change Orders, Field Orders, Written Amendments, additional Drawings issued subsequent to the execution of the Contract, the Professional's clarifications and interpretations of the Contract Documents, progress reports, submittals and correspondence received from and delivered to Contractor and other Project related documents.

7.7.2.9. Reports:

7.7.2.9.1. Furnish to the Professional periodic reports as required of progress of the work and of Contractor's compliance with the progress schedule and schedule of Shop Drawings and Sample submittals.

7.7.2.9.2. Consult with NBU in advance of scheduled major tests, inspections or start of important phases of the Work.

7.7.2.9.3. Draft proposed Written Amendments, Change Orders and Work Change Directives, obtaining backup material from Contractor and recommend to NBU Written Amendments, Change Orders, Work Change Directives, and Field Orders.

7.7.2.9.4. When known, report immediately to NBU and Owner the occurrence of any accident.

7.7.2.10. Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Owner, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment at the Site but not incorporated in the Work.

7.7.2.11. Certificates, Maintenance and Operation Manuals: During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to NBU for review and forwarding to Owner prior to final payment for the Work.

7.7.2.12. Completion:

- 7.7.2.12.1. Before NBU issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- 7.7.2.12.2. Observe whether Contractor has performed inspections required by laws or regulations, ordinances, codes or order applicable to the Work, including but not limited to those to be performed by public agencies having jurisdiction over the Work.
- 7.7.2.12.3. Conduct a final inspection in the company of the Professional, Owner and Contractor and prepare a final list of items to be completed or corrected.
- 7.7.2.12.4. Observe whether all items on final list have been completed or corrected and make recommendations to NBU concerning acceptance.

7.7.2.13. Limitations of Authority of RPR:

- 7.7.2.13.1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless authorized by engineer.
- 7.7.2.13.2. Shall not exceed limitations of engineer's authority as set forth in Agreement or the Contract Documents.
- 7.7.2.13.3. Shall not undertake any of the responsibilities of contractor, Subcontractor, Suppliers, or contractor's superintendent.
- 7.7.2.13.4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
- 7.7.2.13.5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work or any activities or operations of Owner or contractor.
- 7.7.2.13.6. Shall not accept shop drawing or sample submittals from anyone other than the contractor.



7.7.2.13.7. Shall not participate in specialized field or laboratory tests or inspections conducted by others, except as specifically authorized by engineer.

## 7.8. CLOSE-OUT DOCUMENTS

7.8.1. RECORD DRAWINGS. The Professional shall prepare the record drawings based on the revised redline construction drawings and information furnished by the construction contractor reflecting changes in the Project made during construction. The Professional shall prepare one (1) set of record drawings at the completion of the Project and submit to the NBU Project Manager as a PDF via email within 60 days of final completion.

7.8.2. ASSET INFORMATION. The Professional shall prepare a memorandum that provides the asset information listed below for all above grade facilities for insurance purposes within 30 days after substantial completion.

- Address
- Year Built
- Description
- Square Footage of Building
- Building Value
- Contents Value

7.9. DELIVERABLES. The Professional shall provide the following deliverables to NBU:

7.9.1. one (1) PDF electronic copy of FIO memorandum;

7.9.2. project site visit memos and construction progress meeting minutes;

7.9.3. one (1) PDF electronic copy of record drawings plans and specifications and at least one (1) georeferenced .dwg file of record drawings plans in accordance with NBU standards, with features adjusted to the location of GPS points collected in the field by the contractor; and

7.9.4. one (1) PDF electronic copy of Asset Information memorandum.

## **SUPPLEMENTAL SERVICES**

Pursuant to Section 4(B) of this Agreement, the Professional shall seek prior written approval from NBU before commencing work on any Supplemental Services described in this Section. If NBU requests the Professional to perform the Supplemental Services, NBU and the Professional shall execute a supplemental services agreement or contract amendment, as appropriate, detailing the Supplemental Services to be performed and the completion date. The Supplemental Services shall only include Project specific professional engineering services contemplated by Chapter 2254 of the Texas Government Code. The Professional acknowledges the contract duration will not increase as a result of engaging the Supplemental Services unless noted in the supplemental services agreement or contract amendment, as appropriate.

## **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>Project Milestones</b>	<b>Start Date</b>	<b>End Date</b>
Notice to Proceed	8/2/21	
30% Preliminary Design	8/2/21	11/6/21
60% Final Design	11/7/21	3/13/22
90% Final Design	3/14/22	6/18/22
100% Final Design	6/19/22	7/18/22
Permitting	7/19/22	10/16/22
Bid Phase	7/19/22	12/15/22
Construction Phase to Substantial Completion	1/3/23	3/8/24
Final Completion and Closeout	3/8/24	6/8/24

## Exhibit B

### Compensation

NBU agrees to pay the Professional for the Services and the Supplemental Services rendered under this Agreement in accordance with the tables below and made part of this Agreement.

#### Services

NBU shall pay the Professional for the Services during the term of this Agreement in an amount not to exceed \$2,927,099.

Task	Cost		
	Original Agreement	First Amendment	Total
Task 1: Project Management	\$172,605	\$0	\$172,605
Task 2: Preliminary Design Phase	\$265,294	\$101,952	\$367,246
Task 3: Final Design Phase	\$847,345	\$297,276	\$1,144,621
Task 4: Field Services	\$53,434	\$131,161	\$184,595
Task 5: Permitting & Stakeholders	\$82,640	\$84,936	\$167,576
Task 6: Bid Phase	\$38,415	\$13,636	\$52,051
Task 7: Construction Phase	\$808,348	\$30,057	\$838,405
<b>Total</b>	<b>\$2,268,081</b>	<b>\$659,018</b>	<b>\$2,927,099</b>

#### Supplemental Services

NBU shall pay the Professional for the Supplemental Services in an amount not to exceed \$362,527; provided, however, that NBU must provide written approval in the form of a supplemental services agreement or contract amendment, as appropriate, prior to the Professional performing the Supplemental Services.

Exhibit C  
Evidence of Insurance

FIGURE 1  
Survey Limit Exhibit