

**CITY OF FRANKLIN, TENNESSEE  
PROFESSIONAL SERVICES AGREEMENT  
COF Contract No. 2019-0139**

THIS PROFESSIONAL SERVICES AGREEMENT ("Agreement") is by and between the City of Franklin, Tennessee, hereinafter referenced as City, and **BARGE DESIGN SOLUTIONS** hereinafter referenced as Consultant, who mutually agree as follows:

**DECLARATIONS.** City desires to retain Consultant to provide engineering, related technical, and other services in connection with City's project hereinafter referenced as Project. The Project is described as follows:

**Southeast Municipal Complex**

1. SCOPE OF SERVICES. Consultant shall provide engineering related technical services and survey services for the Project in accordance with the Scope of Services (Services) as found in Exhibit A which shall be considered as an integral part hereof.
2. Consultant shall submit as a part of Exhibit A an individual Fee Schedule and a Completion Schedule for the Project based on the detailed Scope of Services.
3. In event of a conflict between this Agreement and the attached document(s), this Agreement shall supersede conflicting terms and conditions.
4. Consultant shall be paid on a monthly basis for work performed based on the Fee Schedule as contained in Exhibit A in the Amount of Nine Hundred Ninety-Eight Thousand and 00/100 Dollars (\$998,000.00).

**The Board of Mayor and Aldermen Approved this Agreement on the \_\_\_\_\_ Day of \_\_\_\_\_ 201\_\_.**

## **TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES**

### **ARTICLE 1. SERVICES.** Consultant will:

- 1.1 Act for City in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with standards of competent consultants using the standards in the industry:
- 1.2 Consider all reports to be confidential and distribute copies of the same only to those persons specifically designated by the City.
- 1.3 Perform all services under the general direction of a senior professional employee, licensed and/or registered in the State of Tennessee, when appropriate.
- 1.4 Designate, in writing, the sole Project representative to coordinate with City the Services to be provided, including all contact information.
- 1.5 Unless provided for in the Project Scope of Services (Attachment A), Consultant shall perform all Services with his own forces (employees). Should sub-consultants be proposed to be used in the Project, a listing of said sub-consultants with Services to be performed shall be provided. After approval of this Agreement, no substitute for sub-consultants shall be allowed unless approved by City.
- 1.6 Retain pertinent records relating to the services performed for a period of seven (7) years following the completion of the work; during this period the records shall be available for review by City at all reasonable times.

### **ARTICLE 2. CITY'S RESPONSIBILITIES.** City, or its authorized representative, will:

- 2.1 Provide Consultant with all information regarding the Project, which is available to, or reasonably obtainable by, the City.
- 2.2 Furnish right-of-entry onto the Project site for Consultant's necessary field studies and surveys. Consultant will endeavor to restore the site to its original condition and shall remain solely liable for all damages, costs and expenses, including reasonable attorneys' fees, for failure to make such restoration.
- 2.3 Designate, in writing, the sole Project representative to coordinate with and direct the Consultant, including all contact information.
- 2.4 Guarantee to Consultant that it has the legal capacity to enter into this contract and that sufficient monies are available to fund Consultant's compensation.

### **ARTICLE 3. GENERAL CONDITIONS.**

- 3.1 Consultant, by the performance of services covered hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities customarily vested in other professionals or agencies participating in the Project.

- 3.2 Consultant shall be responsible for the acts or omissions of any party involved in concurrent or subsequent phases of the Project acting upon written instruction issued by the Consultant.
- 3.3 Neither City nor Consultant may assign or transfer its duties or interest in this Agreement without written consent of the other party.
- 3.4 **ALLOCATION OF RISK AND LIABILITY; GENERAL.** Considering the potential liabilities that may exist during the performance of the services of this Agreement, the relative benefits and risks of the Project, and the Consultant's fee for the services rendered, and in consideration of the promises contained in this Agreement, the City and the Consultant agree to allocate and limit such liabilities in accordance with this Article.
- 3.5 **INDEMNIFICATION.** Consultant agrees to indemnify and hold City harmless from and against legal liability for all judgments, losses, damages, and expenses to the extent such judgments, losses, damages, or expenses are caused by Consultant's negligent act, error or omission in the performance of the services of this Agreement. In the event judgments, losses, damages, or expenses are caused by the joint or concurrent negligence of Consultant and City, they shall be borne by each party in proportion to its own negligence.
- 3.5.1 **SURVIVAL.** The terms and conditions of this paragraph shall survive completion of this services agreement.
- 3.6 **LIMITATIONS OF RESPONSIBILITY.** Consultant shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project unless specifically undertaken in Attachment A, Scope of Services ; (b) the failure of any contractor, subcontractor, Consultant, or other Project participant, not under contract to Consultant, to fulfill contractual responsibilities to City or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to Consultant in Attachment A, Scope of Services.

**ARTICLE 4. TERMINATION BY THE CITY.** The City may terminate this Agreement in accordance with the following terms and conditions:

- 4.1 **Termination for Convenience.** The City may, when in the interests of the City, terminate performance under this Agreement with the Consultant, in whole or in part, for the convenience of the City. The City shall give written notice of such termination to the Consultant specifying when termination becomes effective. The Consultant shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the Consultant shall stop work when such termination becomes

effective. The Consultant shall also terminate outstanding orders and subcontracts for the affected work. The Consultant shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Consultant to assign the Consultant's right, title and interest under termination orders or subcontracts to the City or its designee. The Consultant shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Consultant has in its possession or control. When terminated for convenience, the Consultant shall be compensated as follows:

- (1) The Consultant shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Consultant fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Consultant the amount the City deems the Consultant is due.
- (2) The City and the Consultant may agree to the compensation, if any, due to the Consultant hereunder.
- (3) Absent agreement to the amount due to the Consultant, the City shall pay the Consultant the following amounts:
  - (a) Contract costs for labor, materials, equipment and other services accepted under this Agreement;
  - (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Consultant's performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the Consultant would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

The total sum to be paid the Consultant under this Section shall not exceed the total Agreement Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- 4.2 Termination for Cause. If the Consultant does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the City, in addition to any other rights it may have against the Consultant or others, may terminate the performance of the Consultant, in whole or in part at the City's sole option, and assume possession of the Project Plans and materials and may complete the work.

In such case, the Consultant shall not be paid further until the work is complete. After Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Consultant. Otherwise, the Consultant shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Agreement.

In the event the employment of the Consultant is terminated by the City for cause pursuant to this Section and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Section and the provisions of Section 4.1 shall apply.

- 4.3 Termination for Non-Appropriation. The City may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Section 4.1.
- 4.4 The City's rights under this Section shall be in addition to those contained elsewhere herein or provided by law.

**ARTICLE 5. SCOPE OF SERVICES.** Consultant shall provide the Services as described in Attachment A, Scope of Services.

- 5.1 By mutual agreement, this Agreement and scope can be amended by the parties. The scope and fee for any additional tasks or services under such amendment shall be mutually negotiated and agreed to in writing prior to beginning such additional tasks or services.

**5.2 ENVIRONMENTAL RESPONSIBILITY.**

Where drilling/sampling services are involved, the samples obtained from the Project site are the property of the City. Should any of these samples be recognized by the Consultant to be contaminated, the City shall remove them from the Consultant's custody and transport them to a disposal site, all in accordance with applicable government statutes, ordinances, and regulations. For all other samples, the Consultant shall retain them for a sixty (60)-day period following the submission of the drilling/sampling report unless the City directs otherwise; thereafter, the Consultant shall discard the samples in accordance with all federal, state and local laws.

**ARTICLE 6. SCHEDULE.**

6.1 **TIME OF THE ESSENCE.** The parties agree that time is of the essence with respect to the parties' performance of all provisions of the Agreement.

6.2 Before executing this Agreement, the Consultant shall have prepared and submitted for approval to the City a Completion Schedule for the Project with milestones for the various stages (tasks) of the Services as outlined in the Scope of Services. The Consultant shall submit and obtain the City's approval for any proposed changes to the logic, durations, sequences, or timing of tasks as approved in the Completion Schedule.

6.3 **FORCE MAJEURE.** Neither party will be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times will be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

6.4 Should City request changes in the scope, extent, or character of the Project, the fee and the time of performance of Consultant's Services as indicated in Attachment A shall be adjusted equitably.

## **ARTICLE 7. USE OF DOCUMENTS, DATA.**

7.1 All Documents, including, but not limited to, reports, drawings, specifications, and computer software prepared by Consultant pursuant to this Agreement are instruments of service in respect to the Project. Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant) whether or not the Project is completed.

7.1.1 **USE OF DATA SYSTEMS:** Ownership, property interests and proprietary rights in data systems used by Consultant do not extend to the data created by or supplied to Consultant by the City; all rights to that data (including derivative or hidden data such as metadata) shall vest solely in City at the moment of creation.

7.1.2 **DISCLOSURE OF DOCUMENTS/DATA.** City may be required to disclose documents or data under state or federal law. City shall notify Consultant if a request for data or documents has been made and shall give Consultant a reasonable opportunity under the circumstances to respond to the request by redacting proprietary or other confidential information. Consultant waives any right to confidentiality of any document, e-mail or file it fails to clearly mark on each page as confidential or proprietary. In exchange, Consultant agrees to indemnify, defend, and hold harmless City for any claims by third parties relating thereto or arising out of (i) the City's failure to disclose such documents or information required to be disclosed by law, or (ii) the City's release of documents as a result of City's reliance upon Consultant representation that materials supplied by Consultant (in full or redacted form) do not contain trade secrets or proprietary information, provided that the City impleads Consultant and Consultant assumes control over that claim.

7.2 By execution of this Agreement, Consultant and his sub-consultant(s) grant the City a royalty-free, perpetual, irrevocable, and assignable license to use any and all intellectual property interest Consultant or his sub-consultant(s) possess to any drawings, details, specifications, documents, and other information created before each of their first involvement with the Project and subsequently incorporated into the Project's documents. City-furnished data that may be relied upon by Consultant is limited to the printed copies that are delivered to the Consultant pursuant to Article 2 of this Agreement. Any copyrighted electronic files furnished by City shall be used by Consultant only for the Project as described herein. City's posting or publication of such documents created by Consultant for City shall constitute fair use and shall not constitute an infringement of Consultant's copyright, if any.

- 7.3 Documents that may be relied upon by City are limited to the printed copies (also known as hard copies) that are signed or sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by Consultant to City are only for convenience of City, unless the delivery of the Project in electronic media format has been dictated in Attachment A, Scope of Services. Any conclusion or information obtained or derived from electronic files provided for convenience will be at the user's sole risk.
- 7.4 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. Unless stated otherwise herein, Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by City.
- 7.5 When transferring documents in electronic media format, Consultant makes no representations as to long term compatibility, usability, or readability, of documents resulting from the use of software application packages, operating systems, or computer hardware differing from that as required of, and used by, Consultant at the beginning of this Project.
- 7.6 City may make and retain copies of Documents for information and reference in connection with use on the Project by the City, or his authorized representative. Such Documents are not intended or represented to be suitable for reuse by City or others on extensions of the Project or on any other project. Any such reuse or modifications without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at City's sole risk and without liability or legal exposure to the Consultant or to Consultant's sub-consultants.
- 7.7 If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- 7.8 Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle Consultant to further compensation at rates to be agreed upon by City and Consultant.

## **ARTICLE 8. INSURANCE.**

- 8.1 During the performance of the Services under this Agreement, Consultant shall maintain the following minimum insurance:
- a) General Liability Insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
  - b) Automobile Liability Insurance with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.



- c) Workers' Compensation Insurance Coverage A in accordance with statutory requirements and Coverage B, Employer's Liability Insurance, with a limit of \$500,000 for each occurrence.
  - d) Professional Liability Insurance with a limit of \$1,000,000 annual aggregate.
- 8.2 Consultant shall add the City an additional insured on all policies unless otherwise prohibited.
- 8.3 Consultant shall, upon execution of this Agreement, furnish City certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty (30) days' written notice to City.
- 8.4 No insurance, of whatever kind or type is to be considered as in any way limiting other parties' responsibility for damages resulting from their activities in the execution of the Project. City agrees to include, or cause to be included, in the Project's construction contract, such requirements for insurance coverage and performance bonds by the Project's construction contractor as City deems adequate to indemnify City, Consultant, and other concerned parties against claims for damages and to insure compliance of work performance and materials with Project requirements.

#### **ARTICLE 9. PAYMENT.**

- 9.1 City will pay Consultant for services and expenses in accordance with the Fee Schedule proposal submitted for the Project as part of the Scope of Services. Consultant's invoices will be presented at the completion of the work or monthly and will be payable upon receipt. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. City shall give prompt written notice of any disputed amount and shall pay the remaining amount.
- 9.2 Consultant shall be paid in full for all services under this Agreement, including City authorized overruns of the Project budget or unforeseen need for Consultant's services exceeding the original Scope of Services.
- 9.3 **TRAVEL; EXPENSES**  
City shall reimburse reasonable expenses, including travel and meals, when specified in the Scope of Services, but only in accordance with the City's Travel and Expense Policy and Procedures Manual. The maximum amount will be applied as of the date of travel and as listed in the per diem reimbursement rates on the "CONUS" website developed by the United States General Services Administration, located at [www.gsa.gov](http://www.gsa.gov) [click on 'per diem rates' under the 'etools' category].

## **ARTICLE 10. MISCELLANEOUS PROVISIONS**

- 10.1 **EQUAL EMPLOYMENT OPPORTUNITY.** In connection with this Agreement and the Project, City and Consultant shall not discriminate against any employee or applicant for employment because of race, color, sex, national origin, disability or marital status. City and Consultant will take affirmative action to ensure that the contractor used for the Project does not discriminate against any employee and employees are treated during employment without regard to their race, age, religion, color, gender, national origin, disability or marital status. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- 10.1.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.
- 10.2 **TITLE VI – CIVIL RIGHTS ACT OF 1964.** City and Consultant shall comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), 49 C.F.R., Part 21, and related statutes and regulations.
- 10.2.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.
- 10.3 **NO THIRD PARTY RIGHTS CREATED.** City and Consultant each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to their successors, executors, administrators, permitted assigns, legal representatives and partners of such other party in respect to all provisions of this Agreement. The Services provided for in this Agreement are for the sole use and benefit of City and Consultant. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than City and Consultant.
- 10.4 **WARRANTIES/LIMITATION OF LIABILITY/WAIVER.** City reserves all rights afforded to local governments under law for all general and implied warranties. City does not waive any rights it may have to all remedies provided by law and therefore any attempt by Consultant to limit its liability shall be void and unenforceable.

## **ARTICLE 11. EXTENT OF AGREEMENT:**

- 11.1 **APPLICABLE LAW/CHOICE OF FORUM AND VENUE.** This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee. Any provision of this

Agreement held to violate a law or regulation shall be deemed void, and all remaining provisions shall continue in force.

- 11.2 **ENTIRE AGREEMENT.** This Agreement, including these terms and conditions, represent the entire Agreement between City and Consultant for this Project and supersedes all prior negotiations, representations or agreements, written or oral. This Agreement may be amended only by written instrument signed by City and Consultant.

**ARTICLE 12. DISPUTE RESOLUTION, BREACH.**

- 12.1 If a dispute should arise relating to the performance of or payment for the Services under this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder. No arbitration or mediation shall be required as a condition precedent to filing any legal claim arising out of or relating to this Agreement. No arbitration or mediation shall be binding.
- 12.2 **BREACH.** Upon deliberate breach of the Agreement by either party, the non-breaching party shall be entitled to terminate the Agreement with notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

**ARTICLE 13. SURVIVAL.**

The provisions contained in this Professional Services Agreement shall survive the completion of or any termination of the Agreement, contract or other document to which it may accompany or incorporate by reference or which subsequently may be modified, unless expressly excepted from this Article upon consent of both parties.

BY: \_\_\_\_\_  
Consultant's Signature  
TITLE: \_\_\_\_\_  
Date: \_\_\_\_\_

BY: \_\_\_\_\_  
Dr. Ken Moore  
Mayor  
Date: \_\_\_\_\_

Approved as to Form:

\_\_\_\_\_  
Tiffani M. Pope, Staff Attorney



**Attachment A - Scope of Work  
Southeast Municipal Complex  
City of Franklin, TN  
4/2/2019**

The scope of work is presented in the following elements.

- I. Project Description
- II. Scope of Services
- III. Project Understanding, Assumptions, and Exclusions
- IV. Time of Performance
- V. Client's Responsibilities
- VI. Deliverables
- VII. Compensation

**I. Project Description**

Barge Design Solutions, Inc. (Barge) is proposing to provide survey, design, permitting, and bidding phase services for the Franklin Southeast Municipal Complex.

The conceptual site plan and project limits approved by the Client is included as Attachment B. This scope and fee include the design of Phase I of the project which is delineated on the attached site plan. The Phase I design work includes the following major elements:

- Entrance road from 100' south of the proposed bridge over the Harpeth River to the southernmost parking area. The road from the intersection with Carothers Parkway to 100' beyond the bridge, Carothers Parkway intersection improvements, and the bridge will be designed by Benesch. The roadway design for the entrance road will include shoulders/ditch sections, a sidewalk on one side, and roadway lighting (2-11' travel lanes, 1' paved shoulder, 8' grass area, 12' concrete trail-east side, drainage swale behind concrete trail).
- Site grading and erosion control to include cut and fill to 1) minimize disruption of Phase I park elements in the construction of future phases and 2) minimize the need for any import of fill material in the construction of future phases of the park.
- Four natural turf and one synthetic turf lighted multi-purpose sports fields.
- A central restroom/concessions/storage building.
- A maintenance building and storage compound.
- A pad to subgrade elevation (with 4" topsoil cover) for the inclusive playground as shown on the master plan.
- A paved perimeter 12' multi-use trail (asphalt with 2' binder, 1.5" surface mix).
- Site lighting for the main entrance road from Carothers Parkway to the drive for the maintenance building, parking lot lighting for two parking lots, and field lighting for five sports fields (electrical design and conduit to accommodate future parking lots and sport fields in the areas of Phase I as discussed with Client; emergency call boxes in the design based upon COF standards).
- Site landscape, irrigation, and hardscape.

## II. Scope of Services

Barge proposes the following Scope of Services related to the above-noted items.

### A. Survey Services

#### 1. Tennessee State Standard Topographic Survey

Barge proposes to provide a topographic and boundary survey of Parcels No. 186 and 106B, on Williamson County Property Map No. 106 and 089O respectively. The topographic survey will consist of approximately 188 acres for the area east of I-65 for the primary park area and one acre west of I-65 where the existing pump station resides. The survey will be prepared for the area shown on Attachment B. Barge will call Tennessee One-Call to have public underground utilities marked. Barge will also prepare a boundary survey of this property.

The topographic and boundary survey will be prepared at a scale of 1 inch = 50 feet and relative to NAVD 88 elevations consistent with FEMA mapping. It will be bounded on the west by Interstate 65, on the east by the Harpeth River, on the north by the Harpeth River, and on the south by the Harpeth River and private property. Contours will be shown at 1' intervals, with spot shots at 50' intervals taken to 0.01' on hard surfaces and drainage inverts and 0.1' on other surfaces. Utilities will be shown based on locations by Tennessee One-Call and available mapping from local utilities.

#### 2. As-Built Survey

Following the construction of the roadway, utilities, and mass grading, the contractor will perform an as-built survey of the improvements and provide to Barge to support the submittal of a Letter of Map Revision (LOMR). Survey information will be used to develop a surface to use as channel geometry for the hydraulic model that will support the LOMR.

#### 3. Tree Survey

A tree survey will be performed to meet City planning requirements. Barge surveyors will locate and identify every tree with a caliper of 14" or larger. The surveyors will determine if the tree is dead or alive and code in a specific number for that tree. Permanent tagging of the trees is not anticipated, but this service can be provided at an additional cost.

## **B. Design Services**

### **1. Civil Engineering Design**

#### *Site and Utility Demolition Design*

Barge proposes to provide site and utility demolition design for the site. This will include details for the demolition of site elements and utilities as required. Barge will provide the appropriate technical specifications to perform the construction work.

#### *Site Layout and Grading Design*

Barge proposes to provide site, grading, and drainage design for the site. This will include details for the parking lot entrances, driveways, curb and gutter, sidewalks, pavement, and base, designed to local specifications or geotechnical recommendations. The entire site will be mass graded. Future phases such as the inclusive playground will be graded to subgrade elevations so that future improvements funded by public/private partnerships can occur. Also included for the site will be inlet and pipe, size and location, drainage swales, and relevant spot elevations to achieve positive drainage. Barge will provide the appropriate technical specifications to perform the construction work. (The future WWTP elevation shall be 4' above the proposed BFE and the roadway, and all buildings shall be 1' above the BFE. Mass grading will only be east of the proposed roadway with cut as needed in the area for the future reclamation facility).

Barge will design the new entry drive from 100' south of the bridge across the Harpeth River to the southernmost parking area. As decided by the City during the project planning phase, this new entry drive will consist of heavy-duty asphalt pavement with two travel lanes, grass-lined ditches or swales, and a detached sidewalk along one side of the drive (as noted previously). Barge will prepare design per City of Franklin standards and requirements. For any design elements and specifications not addressed by the City, the design will follow the guidelines and standards of the Tennessee Department of Transportation (TDOT). The design effort will entail:

1. Drive alignment and profile;
2. Drive drainage design;
3. Sidewalk, and sidewalk curb ramps where needed, to be designed according to ADA accessibility requirements;
4. Pavement marking and regulatory signs (30 MPH design speed to be posted as 25 MPH);
5. General notes, construction details, and itemized quantities and OPCC for the roadway construction (item quantities for civil, site, and infrastructure will be based on TDOT/COF specifications, measurement, and payment);
6. Coordination with the proposed bridge and road design by Benesch, utility and lighting design, landscape architecture design, and site design.

### *Sanitary Sewer Design*

Barge will provide detailed design for the proposed gravity sanitary sewer connections from the proposed buildings to the existing sanitary sewer main. Barge assumes that approximately 1,300 feet of sewer service will be required to serve the proposed buildings. It is assumed that no downstream capacity study will be required due to the size of the structures. Barge will provide the appropriate technical specifications to perform the construction work.

### *Phased Erosion Control/Stormwater Management System Design*

Barge will provide storm drainage management system design, including surface conveyance system, pipe conveyance system, and water quality system per the local requirements. Stormwater calculations will be developed using the appropriate runoff method. Temporary sediment ponds may be required as part of the project erosion and sediment controls. The stormwater design will accommodate on-street and parking lot drainage, as well as park drainage. The City's water quality requirements and detention requirements will be met by using one or more detention ponds, some constructed wetlands, and bioretention areas. A stormwater pollution prevention plan (SWPPP) will be prepared as required. Plans will also include erosion, sediment, and pollution controls using accepted Best Management Practices (BMPs). Barge will provide the appropriate technical specifications to perform the construction work.

### *Domestic and Reclaimed Water System Design*

Milcrofton Utility District (MUD) will provide a domestic main water system design illustrating connection to existing water lines adjacent to the project site, size and routing of the proposed system along the main entry drive on the site, and fire hydrant location as required by local code. Barge will work with MUD to coordinate water line locations to prevent utility conflicts. Barge will design the services that will connect to the main domestic line designed by others along the access road to serve the park buildings (Q, X) and amenities (splash pad). Approximately 4,300 linear feet of reclaimed water main will be designed by Barge along the main entry drive for connection to a reclaimed water source in the future and connect to the existing pump station area located to the west of I-65. Barge will provide plan and profile sheets of the proposed reclaimed water main. Barge will coordinate connection of this main to the existing mains. The reclaimed line will be an 8" from Carothers and a 12" from the pump station extending into the park site and running south to a termination point as directed by the COF. Water demands for the water reclamation facility will be provided by the City. Typical details will be provided as well. Barge will specify COF technical specifications to perform the construction work.

### *Geotechnical Investigation*

Terracon Consultants, Inc. is providing geotechnical services to Benesch for the entry drive/bridge, and we plan to utilize them for this project. It is our intent to have them perform site investigations at the same time as the road project to save costs. See Attachment C for scope of services.

## 2. Landscape Architectural Design

### *Planting Design*

Barge will provide professional landscape architectural design services illustrating the proposed planting design for the site and other amenity areas as permitted by the budget. A site landscape plan will be developed. Barge will provide the appropriate technical specifications to perform the construction work. Plans will illustrate the following items:

1. Plant location;
2. Plant type;
3. Plant name (scientific and common);
4. Plant size;
5. Notes;
6. Details;
7. Quantity.

### *Hardscape Design*

Barge will provide professional landscape architectural design services illustrating the proposed hardscape features for the project area. Services are to include the following areas:

1. Main entry feature;
2. Specialty pedestrian areas;
3. Plaza areas;
4. Restroom/concessions building amenity areas;
5. Bleacher/spectator areas;
6. Miscellaneous site features such as water fountains, gates, turnaround areas, etc.

Plans will illustrate the following:

1. Material type and finishes;
2. Dimensions and layout;
3. Spot elevations and slopes;
4. Notes, details, section, etc.

Technical specifications for noted items will be included.

### *Sports Field Design*

Barge will complete the design of the natural and synthetic turf multi-use sports fields. This will include subgrade and playing surface design and specifications. Plans will illustrate the following:

1. Field layout/dimensions;
2. Field markings;
3. Locations of sports field equipment (goals, scoreboards, etc.);
4. Synthetic turf curb, drainage, and aggregate base;
5. Fencing;
6. Notes and details;



7. Technical specifications.

*Site Furnishings*

Barge will provide technical specifications for the following site furnishings and depict the locations of the furnishings on the plans:

1. Benches;
2. Trash receptacles;
3. Bike racks;
4. Shade structures.

*Irrigation Design*

Barge will provide professional landscape architectural design services illustrating the proposed irrigation design for the facility. The area to be irrigated will be the landscape areas at the main entry drive intersection with Carothers, a strip along both sides of the main entry drive to the Phase I parking area, the natural turf sports fields and surrounding common and landscape areas in the Phase I project area. Typical details will be provided as well. Barge will provide the appropriate technical specifications to perform the construction work. Plans will be drawn to a known scale and will illustrate the following:

1. Point of connection to water source;
2. Meter size and location;
3. Backflow size and location;
4. Controller location;
5. Main line size and routing;
6. Valve size, type, and location;
7. Lateral line size and routing;
8. Irrigation head, type, and location;
9. Quick coupler location;
10. Irrigation booster pump;
11. Notes and details.

3. Architectural Design

Barge will provide professional architectural design services for the proposed concession/ restroom/equipment/weigh-in building and the maintenance facility with staff rooms and a walkout basement space adequate to accommodate 12 people. These facilities will be designed with input from the Client.

The main concession building will generally include a concessions area, concessions storage room, electrical switchgear room, public restrooms, storage space for the Franklin Cowboys football equipment, and outdoor covered porch area. The kitchen area is to consist of countertop warming devices (no exhaust hoods), microwaves, and drink coolers. This building will be elevated above the base flood elevation a minimum of 1'.

The maintenance facility will have space for storage of equipment and supplies and space for maintaining equipment. The maintenance building will also include staff

offices, restrooms, and a walkout basement space adequate to accommodate 12 people for staff.

Services include the following items:

1. Plans and elevations;
2. Building and wall sections;
3. Details;
4. Room finish and door schedule;
5. Technical specifications.

#### 4. Structural Design

Barge will provide structural engineering design for the proposed concession/restroom/equipment/weigh-in building and the maintenance facility with staff rooms and a walkout basement space adequate to accommodate 12 people. Structural design will be performed in accordance with applicable building codes and requirements of the City of Franklin.

Services include the following items:

1. Foundations/slabs;
2. Roof framing;
3. Building framing;
4. Details;
5. Technical specifications.

#### 5. Mechanical Design

Barge will provide professional mechanical design for the proposed concession/restroom/equipment/weigh-in building and maintenance facility for the project. The engineer will work with the Client to coordinate the design to meet project requirements and operational needs. The mechanical design scope shall include the design of the facility HVAC systems, plumbing systems, and fire protection systems.

The design services include the development of the following project deliverables:

1. Plans and equipment schedules;
2. Mechanical and plumbing details;
3. Technical specifications.

The following services are not included, but are available as additional services:

1. Design of fire pump (if deemed necessary during the project design).

#### 6. Electrical Design

Barge will provide electrical design services for the proposed concession/restroom/equipment/weigh-in building and the maintenance facility with staff rooms and a walkout basement space adequate to accommodate 12 people, roadway lighting design for the entire length of the entrance road, site lighting design (including hardscape and parking), and field lighting within the boundaries of the project. Roadway lighting design will include the segment from Carothers Parkway to 100' beyond the bridge over the Harpeth that will be designed by Benesch. Park lighting is to match the Benesch design. The designs shall be with input from the Client.

Power/telecommunications service will originate at the intersection of the new access road and Carothers Parkway. It is understood that the electric and telecom utilities will be overhead from Carothers Parkway to the southernmost parking lot, and that the utility companies will design and provide said systems. Barge will coordinate with the utilities and will design underground duct banks from the overhead interface to the facilities. Additionally, a separate duct for fiber will be provided along the length of the entrance road and be hung from the bridge (3" conduit with a 48FC and TDOT Type B pull boxes at 600' o.c. west side of road).

Regarding sports field lighting and scoreboards, Barge will coordinate with the vendor/manufacturer for power/interface requirements. The vendor/manufacturer will be responsible for design of lighting luminaires, poles, mounting hardware, pole foundations, and controls.

Services include the following items:

1. Plan Drawings;
2. Single-Line Diagrams;
3. Details;
4. Schedules;
5. Specifications.

Services not included but available as additional services:

1. Design of Raceway/power for CCTV;
2. Design of Raceway/power for Wi-Fi;
3. Design of Raceway/power/equipment for sound reinforcement system;
4. Arc-Flash Analysis;
5. Coordination Studies;
6. Design of underground utility infrastructure for the site;
7. Design of power/lighting/systems for remaining portion of project site;
8. Security system design.

## **C. Delivery Process**

Barge proposes to deliver the above stated Design Services through the following process.

### **1. Kick-Off Meeting and Programming**

Barge will work with the Client to understand the issues and design goals for the park. Concurrently, we will identify regulatory and construction issues that should be addressed during the design process. Specifically, the programming phase will consist of the following steps:

1. Conduct a detailed Kick-Off and Programming meeting with the Client team.  
During this meeting, we will complete with you a Barge-developed park design checklist. This 20-page checklist has been developed and utilized through our years of experience with park and recreation projects. The checklist covers details for almost every component of a park and streamlines the programming process.
2. Develop a detailed Project Management Plan for coordination with the Client. The plan will include Risk and Response Register, communications plan, refinement of the schedule, etc.
3. Review the program for the site and building functional requirements.

4. Define and document site and building space requirements for types of activities to be accommodated.
5. Summarize special facilities and equipment needed for operations and management.
6. Present and submit formal program documents to the Client for approval to proceed with design phases.

## 2. Schematic Design Documents

Barge will use the site Master Plan, programming information, and input from the Client team to refine the Master Plan into a Schematic Design (30% complete). Following are the steps in this phase:

1. Formulate site and building design alternatives and review with the Client.
2. Prepare site and building code analysis.
3. Review basic materials; mechanical, plumbing, and electrical systems; and structural systems.
4. Review with the Client sustainable site and building and design strategies that may be appropriate for this project.
5. Develop schematic drawings which include site plan, preliminary grading and utilities plans, building floor plans, and elevations.
6. Develop basis of design document.
7. Refine Master Plan Level Opinion of Probable Construction Cost to the Schematic Design level.
8. Submit schematic design document to the Client for review and comment.
9. Review schematic design documents during a meeting with the Client and secure approval to proceed to Design Development.

### Deliverables:

- Refined Phase I site plan, preliminary grading and utility plans;
- Floor plan(s);
- Building elevations;
- Basis of Design Document;
- Narrative summary of building systems;
- Building code compliance concepts;
- Opinion of Probable Construction Cost (OPCC).

## 3. Design Development Documents

Barge will provide Design Development Documents (60% complete) based on the approved Schematic Design Documents. The Design Development Documents will illustrate and describe the refinement of the design of the project, establishing the scope, relationships, forms, size, and appearance of the project by means of plans, sections and elevations, typical construction details, and equipment layouts. The Design Development Documents will include outline specifications that identify major materials and systems and establish in general their quality levels. We will update the Opinion of Probable Construction Cost to the Design Development level, identifying cost variances from the Schematic level Opinion. Barge will submit drawings and related documents describing the Design Development to the Client for review and comment. Barge anticipates two (2) progress meetings during the Design Development phase to discuss issues and finalize the design. The Barge team will

meet again with the Client at the end of the Design Development Phase to review the proposed design approach, receive comments, and obtain approval to proceed with the Construction Documents Phase.

**Deliverables:**

- 60% complete site and building plans;
- Outline technical specifications;
- Updated OPCC.

**4. Construction Documents**

Barge will provide Construction Documents based on the approved Design Development Documents. The Construction Documents will set forth in detail the requirements for construction of the project. The Construction Documents will include drawings and specifications that establish in detail the quality levels of materials and systems required for the project. Barge will provide the technical specifications for incorporation into a Project Manual containing all other bidding documents that will be prepared by the City. We will update the Opinion of Probable Cost to Construction Document level and identify any cost variances from the Design Development level Opinion.

We will submit the final Construction Documents to the Client for review and comment and will conduct a meeting to receive and review the comments. We will revise the Construction Documents based on comments received and issue complete sealed sets of plans and technical specifications for bidding and construction. Barge anticipates one (1) revision to documents based on comments.

The Construction Documents package will be completed such that the City can separate the drawings and specifications and issue a separate bid package for the central restroom/concessions/storage building and the maintenance building.

**Deliverables:**

- 100% complete sealed plans and technical specifications Issued for Bidding and Construction;
- Final updated OPCC.

**D. Permitting/Planning Services**

Barge will provide the following permitting services:

1. Barge will prepare the SWPPP and Notice of Intent (NOI) and submit to TDEC.
2. Barge will prepare a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR). During the master planning effort, a preliminary HEC-RAS model was developed to model the impacts of the proposed roadway bridge and the two proposed pedestrian bridges. The hydraulic model shows that installation of the bridges will cause a rise in water surface elevation upstream. This will require the preparation of a CLOMR application package to be submitted to FEMA to document the change. The CLOMR application package will consist of an application, hydraulic models, HEC-RAS results, annotated FIRMs, revised data, and flood maps. Barge will provide the package for the City's review and comment. The City will provide the package to FEMA for review, as the application package must come from the City. Barge will address up to two rounds of comments from

FEMA and obtain approval. Once the project is constructed, the Contractor will prepare an as-built for the project and provide to Barge to prepare a LOMR application package to be provided back to FEMA. Once approved, the FEMA flood maps will be officially changed.

3. Barge will prepare an application for a TDEC Injection Well Permit. Fill material will be required from the area designated for the future water treatment. Sinkholes exist in this area and will require disturbance. An injection well permit application will be submitted for review and approval to allow the impacts to the sinkholes. It is assumed that no Geotech information will be needed for this area since we anticipate only grading activities.
4. Barge will provide the PUD and Site Plan submittal packages to the COF staff to carry through the approval process. Additionally, Barge will support the PUD and Site Plan approval process by providing one staff member to attend two preapplication meetings.

#### **E. Bid Administration**

Barge will provide professional services related to supporting the Client during bidding and awarding of the construction contract for the work outlined above under Construction Documents. This work will include one bid package. Barge will only provide technical specifications and will use TDOT/COF specifications whenever possible; the City will prepare all "front end" Division 0 and 1 bidding documents. The City will manage this phase with support from Barge as follows:

1. Provide the City with responses to contractor questions during the bidding phase concerning the plans and technical specifications.
2. Assist the City in their preparation and issuance of addendums as required during the bid phase.
3. Attend 1 pre-bid meeting.

### **III. Project Understanding, Assumptions, and Exclusions**

A. Barge will provide the above-noted services based upon the following:

1. Barge will have access to the site and adjoining areas, as required.
2. Construction budget is assumed to be \$19.2 million (including the roadway and bridge to be designed by Benesch) based on an OPCC completed by Barge during the master planning phase. Cost for boring I-65 is not included in the construction budget.
3. FEMA review, permitting, recording fees, etc., are to be paid by the Client/Owner, or reimbursed as a direct cost.
4. Appropriate sanitary sewer, water, gas, electric, and communication services are available to the site; offsite utility design services can be provided as an additional service.
5. Overhead electrical service, communication, internet, and gas utility services to the site will be designed by others. Barge will illustrate on plans and coordinate with applicable entities.
6. Construction budget for items listed in our scope of services is only as shown in Barge's master plan level OPCC. Barge will strive to work with the Client in the refinement of this budget.

7. The concessions building will not have equipment for cooking that would require specialized ventilation and fire protection equipment such as hoods, etc. The only food preparation to be done in the concession space will be warming.
  8. There are no historical structures or cultural resources involved with the project.
  9. The site is properly zoned, and rezoning or variance applications are not necessary.
  10. The main water line along main entry drive serving the park will be designed by others; Barge will coordinate and design connections to this line to serve park elements.
  11. Adequate water supply and pressure is available to achieve required fire protection flows and pressures without a pump.
  12. Adequate sanitary sewer service is available such that no pretreatment or lift station design is required.
  13. Design fee is based upon the site plan (Attachment B). Modification or changing of the site plan may require additional services, depending upon the scope and timing of changes.
  14. Irrigation is to be from a re-use water source.
  15. Geotechnical report will be provided by Terracon and coordinated by Barge (see attached Scope of Services).
  16. Schedule is dependent upon the timely receipt of critical information, such as final site plan, building footprints with utility points of connection, responses from regulatory authorities, and Owner/Contractor/Property Owners. Information to be provided by others will be received in a timely manner that corresponds to the design and construction schedule. If the information is not received in a timely manner, then additional design fees or time may be required.
  17. Any required easements for utilities or other site requirements are assumed by others.
  18. All environmental, property, land acquisition, platting, and zoning issues are assumed to have been resolved.
  19. Any Special Waste Permit requirements from TDEC, as well as associated fees, are by the Contractor or Client.
  20. Any underground tanks are to be identified by others and are not included in this scope.
  21. In providing the OPCC, the Client understands that Barge has no control over the cost or availability of labor, equipment materials, over-market conditions, or the Contractor's method of pricing, and that Barge's OPCC are made on the basis of Barge's professional judgment and experience. Barge makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from Barge's OPCC.
  22. Irrigation booster pump will be a packaged system based upon needed irrigation design needs.
  23. Any changes made by the City after schematic and design development phase approvals by the City will constitute an amendment to Barge's contract.
  24. As-built to be provided by the Contractor.
  25. Crossing I-65 with the reclaimed waterline will be performed by jack and bore.
- B. The following excluded services can be provided as an additional service with an appropriate adjustment in fees.
1. Construction phase services;
  2. Record drawing preparation based upon markups prepared by the general contractor;

3. Services resulting from significant changes in general scope or character of the project or its design, particularly those resulting from differing field conditions discovered during construction (such as, but not limited to, soil conditions, environmental issues, etc.);
4. Design revisions requested by those outside the project team and stakeholders beyond the schematic design phase;
5. Site renderings;
6. LEED certification;
7. Zoning variance applications;
8. Lead-based paint and asbestos testing;
9. Retaining wall design;
10. Sanitary sewer lift station design;
11. Additional traffic studies (other than one already completed by Barge);
12. Offsite utility design services other than the reclaimed water line;
13. Wetlands and stream permitting;
14. Environmental studies and other environmental reports, unless noted herein;
15. Platting;
16. Construction staking;
17. Foundation survey;
18. Utility easements;
19. Signage/wayfinding studies and/or design.

#### IV. Time of Performance

Barge is prepared to begin work within two (2) weeks upon receipt of a signed professional services agreement or written authorization to proceed. For planning purposes, Barge has prepared the following milestone schedule. A more detailed preliminary schedule is included as Attachment D.

Tasks	Duration
<b>Design*</b>	
1. Topographical Survey, Due Diligence	12 weeks
2. Schematic Design	10 weeks
3. Design Development	8 weeks
4. Construction Documents	12 weeks

\*Schedule does not include Client or agency review.

Barge and the Client are aware that many factors outside Barge's control may affect Barge's ability to complete the services to be provided under this Agreement. Barge will perform these services with reasonable diligence and expediency, consistent with sound professional practices.

#### V. Client's Responsibilities

Barge strives to work closely with our Clients. For the project team to function efficiently, certain information needs to be provided by the Client and other interested stakeholders in a timely manner. These items and responsibilities are noted below.



1. Provide information as required to support development of Barge's scope, as required in the project agreement for services.
2. Provide review comments in a timely manner.
3. Provide a single point of contact for project coordination purposes.
4. Coordination of public meetings, including public announcements/invitations, providing meeting space, public information, and associated expenses will be provided by Client.

## VI. Deliverables

Several deliverables will be produced as part of the basic professional services. The following is a list of documents that will be produced as a part of this effort.

1. Topographic survey tied to existing boundary survey if supplied by Client;
2. Construction plans, notes, and details (Schematic, Design Development, and Construction Document submittals in accordance with Section II above);
3. Project manual;
4. Permit documentation.

## VII. Compensation

The compensation to be paid to Barge for providing requested services is provided in the Fee Summary Table below.

**Fee Summary Table**

Items	Fee Type	Fee Amount
<b>A.</b> Design	Lump Sum	\$915,000
<b>B.</b> Permitting	Lump Sum	\$76,000
<b>C.</b> Bidding	Lump Sum	\$7,000
<b>TOTAL</b>	Lump Sum	\$998,000

The fees provided above are valid up to three (3) months from the date of this proposal.



## Attachment B





## EXHIBIT B - SCOPE OF SERVICES

Our proposed scope of services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

### Field Exploration

The field exploration program consists of the following:

Number of Borings	Planned Boring Depth (feet) <sup>1</sup>	Planned Location
12	10 or auger refusal	Planned paved and building area
2	Auger Refusal and 5-feet into refusal material	Planned pipe crossing below I-65

<sup>1</sup>. Below ground surface

**Boring Layout and Elevations:** We use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-20 feet. Field measurements from existing site features may be utilized. If available, approximate elevations are obtained by interpolation from a site specific, surveyed topographic map.

**Subsurface Exploration Procedures:** We advance soil borings with an ATV-mounted drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Four samples are obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. Soil sampling is typically performed using thin-wall tube and/or split-barrel sampling procedures. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge is pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split barrel sampling procedure, a standard 2-inch outer diameter split barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. The samples are placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. In addition, we observe and record groundwater levels during drilling and sampling.

Upon encountering bedrock or refusal-to-drilling conditions at borings B-13 and B-14, rock coring (using NQ/NX rock core barrel) will be performed. A minimum of 5 feet of rock coring will be performed at each boring. Water will be used as a drilling fluid for rock coring and the spent water will be discharged on site. Our compensation and budget consider water is available on-site.

Our exploration team prepares field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the geotechnical engineer's interpretation, and include modifications based on observations and laboratory tests.

**Property Disturbance:** We backfill borings with auger cuttings after completion. Pavements are patched with cold-mix asphalt and/or ready mixed concrete, as appropriate. Our services do not include repair of the site beyond backfilling our boreholes, and cold patching existing pavements. Excess auger cuttings are dispersed in the general vicinity of the borehole. Because backfill material often settles below the surface after a period, we recommend boreholes are checked periodically and backfilled, if necessary. We can provide this service, or grout the boreholes for additional fees, at your request.

## Laboratory Testing

The project engineer reviews field data and assigns various laboratory tests to better understand the engineering properties of various soil strata. Exact types and number of tests cannot be defined until completion of field work. Procedural standards noted below are for reference to methodology in general. In some cases, local practices and professional judgement require method variations. Standards noted below include reference to other related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Our laboratory testing program often includes examination of soil samples by an engineer. Based on the material's texture and plasticity, we describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

When bedrock samples are obtained, rock classification will be conducted using locally accepted practices for engineering purposes; petrographic analysis (if performed) may reveal other rock types. Rock core samples typically provide an improved specimen for this classification. Boring log rock classification is determined using the Description of Rock Properties.

## Proposal for Geotechnical Engineering Services Revised

Southeast Municipal Complex ■ Franklin, Williamson County, TN

March 27, 2019 ■ Terracon Proposal No. P18185214 R1

### Safety

Terracon is currently not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our scope of services does not include environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Terracon complies with local regulations to request a utility location service through Tennessee 811. We consult with the owner/client regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

Private utilities should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities that are not made aware to us. If the owner/client is not able to accurately locate private utilities, Terracon can assist the owner/client by coordinating or subcontracting with a private utility locating services. Fees associated with the additional services are not included in our current scope of services and will be forwarded to our client for approval prior to initiating. The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the owner of their responsibilities in identifying private underground utilities.

**Site Access:** Terracon must be granted access to the site by the property owner. By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the scope of services.

### Engineering and Project Delivery

Results of our field and laboratory programs are evaluated by a professional engineer. The engineer develops a geotechnical site characterization, performs the engineering calculations necessary to evaluate foundation alternatives, and develops appropriate geotechnical engineering design criteria for earth-related phases of the project.

Your project is delivered using our **GeoReport** system. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. A typical delivery process includes three basic stages:

- Project Planning
- Site Characterization
- Geotechnical Engineering

When utilized, a collaboration portal documents communication, eliminating the need for long email threads. This collaborative effort allows prompt evaluation and discussion of options related to the design and associated benefits and risks of each option. With the ability to inform all parties as the work progresses, decisions and consensus can be reached faster. In some cases, only minimal uploads and collaboration will be required, because options for design and construction are limited or unnecessary. This is typically the case for uncomplicated projects with no anomalies found at the site.

When services are complete, we upload a printable version of our completed final geotechnical engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration, and final report are maintained in our system indefinitely. This allows future reference and integration into subsequent aspects of our services, as the project goes through final design and construction.

The final geotechnical engineering report provides the following:

- Boring logs with field and laboratory data
- Stratification based on visual soil (and rock) classification
- Groundwater levels observed during and after completion drilling
- Site and Boring location plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Recommended foundation options and engineering design parameters
- Estimated settlement of foundations
- Recommendations for design and construction of interior floor slabs
- Seismic site classification
- Subgrade preparation/earthwork recommendations
- Recommended pavement options and design parameters

## **Additional Services**

In addition to basic services noted above, the following services are often associated with geotechnical engineering services. Fees for basic services noted above do not include the following:

**Review of Plans and Specifications:** Our geotechnical report and associated verbal and written communications will be used by others in the design team to develop plans and specifications for construction. Review of the project plans and specifications is a vital part of our geotechnical engineering services. This consists of review of project plans and specifications related to site preparation, foundation, and pavement construction. Our review includes a written statement, which conveys our opinions, related to the plans and specifications' consistency with our geotechnical engineering recommendations.

**Observation and Testing of Pertinent Construction Materials:** Development of our geotechnical engineering recommendations and report relies on an interpretation of soil conditions. This is based on widely spaced exploration locations, and assuming construction methods will be performed in a manner sufficient to meet our expectations, and is consistent with recommendations made at the time the geotechnical engineering report is issued. We should be retained to conduct construction observations, and perform/document associated materials testing, for site preparation, foundation, and pavement construction. This allows a more comprehensive understanding of subsurface conditions and necessary documentation of construction, to confirm and/or modify (when necessary) the assumptions and recommendations made by our engineers.

**Perform Environmental Assessments:** Our scope for this project does not include, either specifically or by implication, an environmental assessment of the site intended to identify or quantify potential site contaminants. If the client/owner is concerned about potential for such conditions and/or contamination, an environmental site assessment should be conducted. We can provide a proposal for an environmental assessment, if desired.

