

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE ADMINISTRATOR FOR THE DEPARTMENT OF PUBLIC WORKS TO ENTER INTO AN AGREEMENT WITH BARGE WAGGONER SUMNER & CANNON, INC. FOR PROFESSIONAL SERVICES RELATIVE TO CONTRACT NO. W-09-006-102, SOUTH CHICKAMAUGA CREEK PUMP STATION RELIABILITY IMPROVEMENTS – PHASE 2, AND SPRING CREEK PUMP STATION IMPROVEMENTS PROJECT, FOR AN AMOUNT NOT TO EXCEED FIVE HUNDRED NINE THOUSAND EIGHT HUNDRED DOLLARS (\$509,800.00).

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, it is hereby authorizing the Administrator for the Department of Public Works to enter into an agreement with Barge Waggoner Sumner & Cannon, Inc. for professional services relative to Contract No. W-09-006-102, South Chickamauga Creek Pump Station Reliability Improvements – Phase 2, and Spring Creek Pump Station Improvements Project, for an amount not to exceed \$509,800.00.

ADOPTED: _____, 2015

/mem

City of Chattanooga



Resolution/Ordinance Request Form

Date Prepared: March 13, 2015

Preparer: Dennis Malone

Department: Public Works

Brief Description of Purpose for Resolution/Ordinance:

Res./Ord. # _____

Council District #

4,5,6,8,9

A Council Action is requested for the Administrator of the Department of Public Works to enter into an agreement with Barge Waggoner Sumner & Cannon, Inc., for professional services, relative to Contract No.W-09-006-102, South Chickamauga Creek Pump Station Reliability Improvements - Phase 2, and Spring Creek Pump Station Improvements Project, in an amount not to exceed \$509,800.00.

Name of Vendor/Contractor/Grant, etc.	<u>Barge Waggoner Sumner & Cannon, Inc.</u>	New Contract/Project? (Yes or No)	Yes
Total project cost \$	<u>509,800.00</u>	Funds Budgeted? (YES or NO)	Yes
Total City of Chattanooga Portion \$	<u>509,800.00</u>	Provide Fund	<u>6012</u>
City Amount Funded \$	<u>509,800.00</u>	Provide Cost Center	<u>K37123</u>
New City Funding Required \$	<u>0</u>	Proposed Funding Source if not budgeted	
City's Match Percentage %	<u></u>	Grant Period (if applicable)	<u>SRF 2011 - 289</u>

List all other funding sources and amount for each contributor.

Amount(s)	Grantor(s)
<u>\$509,800.00</u>	<u>SRF 2011 - 289</u>

Agency Grant Number _____

CFDA Number if known _____

Other comments: (Include contingency amount, contractor, and other information useful in preparing resolution)

Funding is ISS Funding from previous FY.

Approved by: _____

DESIGNATED OFFICIAL/ADMINISTRATOR

Reviewed by: FINANCE OFFICE

Please submit completed form to @budget, City Attorney and City Finance Officer

Revised: 1/26/09



CITY OF CHATTANOOGA
STANDARD AGREEMENT FOR ENGINEERING SERVICES

SOP 2003-9
Date of Issue 10-16-03
Rev. 11-13-12

THIS AGREEMENT, is between the City of Chattanooga, Tennessee, a municipal corporation in the state of Tennessee, hereinafter called Owner, and

Barge Waggoner Sumner & Cannon, Inc.,

Hereinafter called Engineer.

The Owner wishes to employ the Engineer to perform professional engineering services for

Contract Number: W-09-006-122 South Chickamauga Creek Pump Stations Reliability Improvements – Phase 2 and Spring Creek Pump Station Improvements Project,

hereinafter called Project.

In consideration of the provisions contained in this Agreement, the Owner and Engineer agree to the following:

1. **EFFECTIVE DATE**
The effective date of this Agreement shall be _____, 20_____.
2. **GOVERNING LAW**
This Agreement shall be governed by the laws of the State of Tennessee and the codes of the City of Chattanooga.
3. **SERVICES TO BE PERFORMED BY ENGINEER**
Engineer shall perform the Services described in Attachment A, Scope of Services, in accordance with applicable sections of the City of Chattanooga Design and Construction Standards in effect on the date of this agreement.
4. **COMPENSATION**
Owner shall pay Engineer in accordance with the Attachment B, Compensation.
5. **OWNER’S RESPONSIBILITIES**
Owner shall be responsible for all matters described in Attachment C, Owner's Responsibilities.
6. **SUPPLEMENTAL AGREEMENTS**
The provisions set forth in Attachment D, Supplemental Agreements, shall be incorporated into this Agreement
7. **PROJECT SCHEDULE**
The provisions set forth in the Attachment E, Project Schedule, shall be incorporated into this Agreement.
8. **RATE SCHEDULE**
The Engineer shall provide a schedule of standard hourly rates for all employees to be used in the performance of all contracts with a cost-not-to-exceed basis. This schedule shall be incorporated into the agreement as Attachment F.
9. **INVOICING**
The Engineer will use the format established in Attachment G, Standard Invoice, for all invoices submitted for services on the Project.



10. STANDARD OF CARE

Engineer shall exercise the same degree of care, skill, and diligence in the performance of Services as is ordinarily possessed and exercised by a professional engineer under similar circumstances in the same area of practice. Engineer makes no warranty or guarantee, either expressed or implied, as part of this agreement.

11. INDEMNIFICATION

Engineer hereby agrees to fully indemnify and hold harmless Owner and any of its departments, divisions, agencies, officers, employees and elected officials from all loss, damage, cost, or expenses specifically including attorneys' fees and other expenses of litigation incurred by or on behalf of the Owner and any of its officers, employees or elected officials arising out of Engineer's actual negligent performance of Services under this Agreement, including errors or omissions.

Owner hereby agrees to fully indemnify and hold harmless Engineer and any of its officers, employees, or designated agents from all loss, damage, cost, or expenses specifically including attorneys' fees and other expenses of litigation incurred by or on behalf of the Engineer and any of its officers, employees or designated agents arising out of Owner's negligence to the extent provided by the Tennessee Governmental Tort Liability Act, T.C.A. 29-20-201 et seq.

12. INSURANCE

Engineer shall purchase and maintain during the life of this Agreement, insurance coverage which will satisfactorily insure him against claims and liabilities which arise because of the execution of this Agreement, with the minimum insurance coverages as follows:

- a. Commercial General Liability Insurance, with a limit of \$1,000,000 for each occurrence and \$2,000,000 in the general aggregate.
- b. Automobile Liability Insurance, with a limit of \$1,000,000 for each accident, combined single limit for bodily injury and property damage.
- c.
- d. Worker's Compensation Insurance and Employer's Liability Insurance, in accordance with statutory requirements, with a limit of \$500,000 for each accident.
- e. Professional Liability Insurance, with a limit of \$1,000,000 for each claim and aggregate.

Prior to issuance of the Notice to Proceed by Owner, Engineer shall have on file with Owner certificates of insurance acceptable to Owner. Said certificates of insurance shall be filed with Owner in January of each year or may be submitted with each agreement. Upon completion of all Services, obligations, and duties provided for in this Agreement, or if this Agreement is terminated for any reason, the terms and conditions of this section shall survive.

Notwithstanding any other provision of the Agreement, Owner waives any claim against Engineer and, to the maximum extent permitted by law, agrees to defend, indemnify, and hold Engineer harmless from any claim, liability, and/or defense costs for injury or loss arising from Engineer's discovery of unanticipated hazardous materials or suspected hazardous materials, including, but not limited to, any costs created by delay of the project and any cost associated with possible reduction of the property value.

13. LIMITATIONS OF RESPONSIBILITY

Engineer shall not be responsible for: (1) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project, (2) the failure of



any contractor, subcontractor, vendor, or other Project participant, not under contract to Engineer, to fulfill contractual responsibilities to the Owner or to comply with federal, state or local laws, regulations, and codes; or (3) procuring permits, certificates, and licenses required for any construction unless such responsibilities are specifically assigned to Engineer in Attachment A, Scope of Services.

14. OPINIONS OF COST AND SCHEDULE

Since Engineer has no control over the cost of labor, materials, or equipment furnished by others, or over the resources provided by others to meet Project construction schedules, Engineer's opinion of probable construction costs and of construction schedules shall be made on the basis of experience and qualifications as a professional engineer. Engineer does not guarantee that costs will not vary from Engineer's cost estimates or that actual construction schedules will not vary from Engineer's projected schedules.

15. REUSE OF DOCUMENTS

All documents, including, but not limited to calculations, drawings, specifications, and computer software prepared by Engineer pursuant to the Agreement are instruments of service in respect to the Project. They are not intended or represented to be suitable for reuse by Owner or others on extensions of the Project or on any other project. Any reuse without prior written verification or adaptation by Engineer for the specific purpose intended will be at Owner's sole risk and without liability or legal exposure to Engineer. Any verification or adaptation requested by Owner shall entitle Engineer to compensation at rates to be agreed upon by Owner and Engineer.

16. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

Except as otherwise provided herein, engineering documents, calculations, drawings, specifications, and other documents prepared by Engineer as part of the Services shall become and be the sole property of Owner. However, both Owner and Engineer shall have the unrestricted right to their use. Engineer shall retain its rights in its standard drawing details, specifications, databases, computer software, and other proprietary property protected under the copyright laws of the United States. Rights to intellectual property developed, utilized, or modified in the performance of services shall remain the property of Engineer.

17. RECORDS RETENTION AND AUDIT PROVISION

The term "Engineer" is used interchangeably to describe signatories to contracts, grants, and agreements with the City and applies to reflect the relationship with the City (Engineer, Contractor, Licensee, Supplier, Vendor, Consultant, Grant Recipient, etc.).

- a. All records relating in any manner whatsoever to the Project, or any designated portion thereof, which are in the possession of the Engineer or the Engineer's consultants, shall be made available for inspection and copying upon written request to the Owner. Additionally, said records shall be made available, upon request by the Owner, to any state, federal or other regulatory authorities and any such authority may review, inspect and copy such records. Said records include, but are not limited to, all plans, specifications, submittals, correspondence, minutes, memoranda, tape recordings, videos, or other writings or things which document the Project, its design and its construction. Said records expressly include those documents reflecting the time expended by the Engineer and its personnel to perform the obligations of this Agreement and the records of expenses incurred by the Engineer in its performance under said Agreement. The Engineer shall maintain and protect these records for no less than seven (7) years after the completion of the Project, or for any longer period of time as may be required by applicable law, good engineering practice, and upon notice during the pendency of any claims or litigation arising from the Project.



- b. The Owner or its assign may audit all financial and related records (including digital) associated with the terms of the contract or agreement including timesheets, reimbursable out of pocket expenses, materials, goods, and equipment claimed by the Engineer. The Owner may further audit any of Engineer's records to conduct performance audits (to identify waste and abuse or to determine efficiency and effectiveness of the contract or agreement) or to identify conflicts of interest.
- c. The Engineer shall at all times during the term of the contract or agreement and for a period of seven years after the end of the contract, keep and maintain records of the work performed pursuant to this Contract or Agreement. This shall include proper records of quotations, contracts, correspondence, invoices, vouchers, timesheets, and other documents that support actions taken by the Engineer. Documents shall be maintained by the Engineer, which are necessary to clearly reflect all work and actions taken. All such records shall be maintained in accordance with generally accepted accounting principles. The Engineer shall at its own expense make such records available for inspection and audit (including copies and extracts of records as required) by the Owner at all reasonable times and without prior notice.
- d. The obligations of this Section shall be explicitly included in any subcontracts or agreements formed between the Engineer and any subcontractors or suppliers of goods or services to the extent that those subcontracts or agreements relate to fulfillment of the Engineer's obligations to the Owner.
- e. Costs of any audits conducted under the authority of this section and not addressed elsewhere will be borne by the Owner unless the audit identifies significant findings that would benefit the Owner. The Engineer shall reimburse the Owner for the total costs of an audit that identifies significant findings that would benefit the Owner.
- f. This Section shall not be construed to limit, revoke, or abridge any other rights, powers, or obligations relating to audit which the Owner may have by Federal, State, or Municipal law, whether those rights, powers, or obligations are express or implied.

18. TERMINATION

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement. The nonperforming party shall have fifteen calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party. Owner may terminate or suspend performance of this Agreement for Owner's convenience upon written notice to Engineer. If termination or suspension is for Owner's convenience, Owner shall pay Engineer for all Services performed prior to the date of the termination notice. Upon restart, an adjustment acceptable to Owner and Engineer shall be made to Engineer's compensation.

19. DELAY IN PERFORMANCE

Neither Owner nor Engineer shall be considered in default of the Agreement for delays in performance caused by circumstances beyond the reasonable control of the nonconforming party. For purposes of this Agreement, such circumstances include abnormal weather conditions; floods; earthquakes; fire; epidemics; war, riots, or other civil disturbances; sabotage; judicial restraint; discovery of unanticipated hazardous wastes; and inability to procure permits, licenses, or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses, or services required to be provided by either Owner or Engineer under this Agreement. Should such circumstances occur, the nonconforming party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of the



Agreement. If the Engineer is delayed in the performance of the services for more than 365 calendar days, either by the Owner or circumstances beyond his control, an equitable adjustment to the contract amount can be made to compensate for additional costs incurred.

For delays in performance by Engineer, as set forth in Attachment E, Project Schedule, caused by circumstances which are within its control, such delays shall be documented on the Engineer's Project Performance Evaluation form. Said form shall be completed at the conclusion of Project and acknowledged by both Owner and Engineer. Completed form shall be retained by Owner for a period of seven years and reviewed prior to consultant selection for City projects. In the event Engineer is delayed in the performance of Services because of delays caused by Owner, Engineer shall have no claim against Owner for damages or contract adjustment other than an extension of time.

20. HAZARDOUS MATERIALS

Hazardous materials may exist at a site where there is no reason to believe they could or should be present. The Owner and Engineer agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. Owner and Engineer also agree that the discovery of unanticipated hazardous materials may make it necessary for the Engineer to take immediate measures to protect health and safety. Owner agrees to compensate Engineer for any equipment decontamination or other costs incident to the discovery of unanticipated hazardous materials.

Engineer agrees to notify Owner when unanticipated hazardous materials or suspected hazardous materials are encountered. Owner agrees to make any disclosures required by law to the appropriate governing agencies, and agrees to hold Engineer harmless for any and all consequences of disclosures made by Engineer which are required by governing law. In the event the project site is not owned by Owner, the Owner agrees to inform the property owner of the discovery of unanticipated hazardous materials or suspected hazardous materials.

21. COMMUNICATIONS

Any communication required by this Agreement shall be made in writing to the address specified below:

Engineer: **Barge Waggoner Sumner and Cannon, Inc.**
1110 Market Street, Suite 200, Chattanooga, TN 37402
Phone: 423-756-3025 Fax: 423756-8477 Email: Russell.Moorehead@bwsc.net

Owner: City of Chattanooga
Department of Public Works
Engineering Division
Suite 2100, Development Resource Center
1250 Market Street
Chattanooga, TN 37402
(423) 643- 6033

Nothing contained in the Article shall be construed to restrict the transmission of routine communications between representatives of Engineer and Owner.

22. WAIVER

A waiver by either Owner or Engineer of any breach of this Agreement shall be in writing. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.



23. DISPUTE RESOLUTION

Claims, disputes or other matters in question between the parties to this Agreement arising out of or relating to this Agreement or breach thereof shall be subject to mediation in Chattanooga, Tennessee, in accordance with the following provisions:

- a. The mediation shall be conducted by a mediator mutually acceptable to both parties.
- b. The parties agree to share equally in the expenses of mediations.
- c. Such mediation may include the Engineer or any other person or entity who may be affected by the subject matter of the dispute.
- d. Unless the parties agree otherwise, mediation shall be a condition precedent to the exercise of any legal remedy other than a proceeding seeking an immediate injunction or restraining order to protect the rights of a party pending litigation. Notwithstanding the issuance of an injunction or restraining order or the refusal of a court to issue such an order, the dispute shall continue to be subject to mediation.

24. SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this Agreement or the occurrence of any event rendering any portion or provision of this Agreement void shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void. The parties further agree to amend this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this Article shall not prevent this entire Agreement from being void should a provision which is of the essence of this Agreement be determined void.

25. INTEGRATION

This Agreement represents the entire and integrated agreement between Owner and Engineer. All prior and contemporaneous communications, representations, and agreements by Engineer, whether oral or written, relating to the subject matter of this Agreement, as set forth in Attachment D, Supplemental Agreements, are hereby incorporated into and shall become a part of this Agreement.

26. SUCCESSORS AND ASSIGNS

Owner and Engineer each binds itself and its directors, officers, partners, successors, executors, administrators, assigns, and legal representatives to the other party of this Agreement and to the directors, officers, partners, successors, executors, administrators, assigns, and legal representatives of such other party in respect to all provisions of this Agreement.

27. ASSIGNMENT

Neither Owner nor Engineer shall assign any rights or duties under this Agreement without the prior written consent of the other party. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this Agreement. Nothing contained in this Article shall prevent Engineer from employing independent consultants, associates, and subcontractors to assist in the performance of the Services; however, other agreements to the contrary notwithstanding, in the event Engineer employs independent consultants, associates, and subcontractors to assist in performance of the Services, Engineer shall be solely responsible for the negligent performance of the independent consultants, associates, and subcontractors so employed.



CITY OF CHATTANOOGA
STANDARD AGREEMENT FOR ENGINEERING SERVICES

SOP 2003-9
 Date of Issue 10-16-03
 Rev. 11-13-12

28. **THIRD PARTY RIGHTS**

Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than Owner and Engineer.

29. **RELATIONSHIP OF PARTIES**

Nothing contained herein shall be construed to hold or to make the Owner a partner, joint venturer, or associate of Engineer, nor shall either party be deemed the agent of the other, it being expressly understood and agreed that the relationship between the parties is and shall at all times remain contractual as provided by the terms and conditions of this Agreement.

30. **NON-DISCLOSURE**

Engineer agrees not to disclose or to permit disclosure of any information designated by the Owner as confidential, except to the engineer's employees and subcontractors who require such information to perform the services specified in this agreement.

31. **NON-DISCRIMINATION**

Engineer agrees to comply with all federal, state, and local non-discrimination laws and regulations. Engineer agrees not to discriminate against any participant in this Agreement on the basis of race, color, religion, sex, age or national origin. Engineer further agrees to comply with all federal, state and local laws regarding treatment and accommodations for individuals with disabilities.

32. **DRUG FREE WORKFORCE**

Engineer certifies that it will provide a drug-free workplace and agrees to comply with the applicable requirements of the Drug-Free Workplace Act of 1988.

33. **FEDERAL OR STATE FUNDING**

In the event that the Project is funded in whole or in part by Federal or State grants, Engineer agrees to abide by all applicable Federal and State laws, regulations, grant conditions and procedures.

IN WITNESS WHEREOF, Owner and Engineer have executed this Agreement.

 3/5/15
 Russell D. Moorehead, Vice President Date

 Administrator of Public Works Date

 [Consultant Name & Title] Date

 Director of Purchasing Date

Reviewed by City Attorney Office _____
 Initial Date



ATTACHMENT A

Owner: City of Chattanooga, Tennessee

Engineer: Barge Waggoner Sumner and Cannon, Inc.
Project Number & Name: [Project Number]
South Chickamauga Creek Pump Stations Reliability Improvements –
Phase 2 and Spring Creek Pump Station Improvements Project

SCOPE OF SERVICES

1. BASIC SERVICES

The project is specifically defined as: Barge Waggoner Sumner & Cannon, Inc. (BWSC) proposes to provide consulting services to the City of Chattanooga (City or Owner) for (1) Evaluation of proposed reliability improvements and upgrades to the South Chickamauga Creek Pump Station – Phase 2; (2) Evaluation and design of Spring Creek Interceptor Rehabilitation; and (3) Evaluation of Spring Creek Pump Station Improvements. The project includes:

1. Prepare Preliminary Engineering Report for South Chickamauga Creek Pump Station. Evaluation will include improvements for reliability, pump station capacity upgrade considering said upgrades with and without system storage addition, and rehabilitation for the 2040 planning period. Existing pump station has a design capacity of approximately 103 MGD.
2. Provide Sanitary Sewer Evaluation Survey (SSES) on the existing gravity interceptor upstream of Spring Creek Pump Station consisting of approximately 11,000 linear feet of 18"-36" gravity sewer. BWSC will subcontract these services with one or more of the approved firms provided to BWSC by the City.
3. Perform design, bidding, and engineering services during construction for rehabilitation of approximately 1,100 linear feet of 18"-36" gravity sewer upstream of Spring Creek Pump Station based on the results of the SSES performed by others.
4. Perform initial evaluation of Spring Creek Pump Station and force main system to examine the causes of reduced performance and investigating alternatives for increasing station's firm capacity up to 11.5 MGD. Preliminary evaluation work will include site visit, conducting pump test with City's staff, performing evaluation and preparing Technical Memorandum covering possibility of restoring pump station firm capacity up to 11.5 MGD (two pumps operating) by only changing out pumps and not requiring more extensive upgrades to electrical system, etc.
5. If preliminary evaluation of Spring Creek Pump Station indicates more extensive improvements than just replacing existing pumps are required, prepare a Preliminary Engineering Report covering the proposed improvements and upgrades for increasing station's firm capacity up to 11.5 MGD.
6. Preparation of permit applications to support construction of the project.
7. Providing support services to the Consent Decree Program Manager and the City for reporting project status and activities to regulatory agencies.
8. Provide supplemental services, as requested, by the client. Scope and fee for supplemental services will be approved by the client before commencing the work.



The Engineer agrees to provide the following services: **BWSC will provide the following Basic Engineering Services:**

1. TASK 1 – PROJECT MANAGEMENT AND DATA GATHERING

A. Task 1.1 – Project Management

1. Attend a project kickoff meeting with the City of Chattanooga and Program Manager.
2. Prepare project management plan and submit to Program Manager.
3. Prepare project schedule and update schedule on a monthly basis.
4. Prepare and submit monthly progress updates.
5. Develop and execute a project quality management plan.
6. Prepare and execute a project safety management plan for BWSC personnel.
7. Perform general project administrative duties including supervision and coordination of the project team, review of project costs and billings, status reports, communication with Owner’s representative and general clerical work.

B. Task 1.2 – Data Gathering

1. Obtain and review record drawing information and review available drawings, data and pump curves of pump stations and associated facilities.

2. TASK 2 – SOUTH CHICKAMAUGA CREEK PUMP STATION PRELIMINARY ENGINEERING REPORT

1. Obtain and review basis of design flow capacity of South Chickamauga Creek Pump Station and related capacity and flow data for proposed system storage (equalization tank) from City of Chattanooga’s master planning resources for planning period (2040) including future growth, I & I reduction, etc.
2. South Chickamauga Creek Pump Station Alternatives Analysis:
 - a. Utilize basis of design flow and capacity projections described in Item 1 above to evaluate proposed improvements and upgrades necessary for the South Chickamauga Creek Pump Station for the following two alternatives:
 - i. Proposed pump station upgrades for planning period without system storage.
 - ii. Proposed pump station upgrades with equalization tank facilities for peak flow shaving for planning period.
 - b. Perform preliminary siting study for possible equalization tank facilities to determine if it is feasible to provide storage in this area. Engineering effort



- will be limited to review of land around and immediately upstream of existing pump station site using existing mapping, etc. available from City.
- c. Evaluate existing pump station components and incorporate items to be rehabilitated, replaced, upgraded and/or expanded in each alternative analysis considering existing condition, age of equipment, reliability, operational aspects and maintenance requirements. These items will include but not be limited to the following:
 - i. Rehabilitation of concrete surfaces in inlet chamber downstream of junction box, divided wet well channels and pump well of pump station.
 - ii. Replacement or rehabilitation of six sluice gates and operators as necessary.
 - iii. Replacement of mechanical bar screen and fixed bar rack.
 - iv. Pumps and VFD's.
 - v. Electrical system including controls and SCADA system.
 - vi. Piping and valves.
 - vii. Building and site improvements and/or expansion.
 - d. Prepare Preliminary Opinions of Probable Construction Costs for each alternative.
3. Prepare a Preliminary Engineering Report (PER) including:
- a. Cost analysis and alternatives comparison as applicable.
 - b. Preliminary plan for bypass pumping and construction sequencing plan for performing the wet well rehabilitation and modifications.
 - c. Hydraulic design calculations and system curve analysis as applicable.
 - d. Conceptual plans and sections for proposed modifications.
 - e. Basis of design including equipment operating characteristics, maintenance reliability, safety consideration, etc.
 - f. Electrical system design criteria including generator calculations, phasing and sequencing.
4. Attend two (2) progress meetings with City of Chattanooga and Program Manager Personnel to review alternatives analysis and PER.
5. Submit draft copy of Preliminary Engineering Report to City of Chattanooga and Program Manager.
6. Address comments from City of Chattanooga and Program Manager Personnel and submit final Preliminary Engineering Report.

Assumptions:

1. The Preliminary Engineering Report described under this Task will not include all of the items required to be SRF compliant. Additional effort required to modify PER to be SRF compliant can be performed as Additional Services if requested.
2. BWSC will not be performing any flow or capacity projections.



3. No surveying, deed research or contacting of existing landowners shall be included in the preliminary siting study for any proposed system storage facilities. Site work associated with equalization basin facilities in developing opinion of construction costs will be estimated assuming general nature of work involved at site from existing information available. Level of effort for this siting study shall be limited to 24 hours.
4. The basis of design data for the South Chickamauga Creek Pump Station to be provided from City's master planning resources to BWSC will include but not be limited to:
 - a. Proposed pump station design capacity and associated flow data/modeling for planning period assuming that no system storage (equalization tank) will be added upstream of existing South Chickamauga Creek Pump Station.
 - b. Proposed pump station design capacity and equalization tank capacity for planning period assuming system storage will be added upstream of existing South Chickamauga Creek Pump Station. Projected peak flows at diversion structure for proposed equalization tank will also be provided.
 - c. The basis of design flow and capacity projections described above will include all future flows from proposed Friars Branch and East Brainerd Pump Stations upgrades and any flow restrictions that may result at the downstream Citico Creek Pump Station or associated needs for additional system storage between South Chickamauga Creek and Citico Creek Pump Stations.

3. TASK 3 – SPRING CREEK INTERCEPTOR SSES

A. SSES

BWSC will provide Sanitary Sewer Evaluation Survey (SSES) on the existing gravity interceptor upstream of Spring Creek Pump Station consisting of approximately 11,000 linear feet of 18"-36" gravity sewer. BWSC will subcontract these services with Hydromax, one of the City's pre-qualified vendors, to perform the detailed SSES.

1. Conduct sanitary sewer pipeline investigations pursuant to City Standards.
2. Conduct sanitary sewer manhole investigations pursuant to City Standards.
3. Conduct quality control measures on inspection media.
4. All SSES work to be completed in accordance with the requirements of the City's standard specification sections referenced below as applicable:
 - a. 33 01 30.14 - Precondition and Cleaning of Sewers
 - b. 33 01 30.16 - Close Circuit TV Inspection of Sewers
 - c. 33 01 30.22 - Flow Isolation Inspection of Underground Sewer Pipelines
 - d. 33 01 30.24 - Smoke Testing of Underground Sewer Pipelines
 - e. 33 01 30.29 - Inspection of Sanitary Sewer Manholes



5. Prepare and deliver one brief summary memo of SSES findings and inspection data to PM and City for analysis and prioritization.
6. Obtain prioritized rehabilitation recommendations from the City and the PM, in database format.
7. Review pipes, manholes, and the associated rehabilitation methods and check for constructability. A site visit will be performed to review the rehabilitation areas and viable options based on access issues.
8. Prepare 30% conceptual plans based on pipes and manholes selected for rehabilitation by the PM and City. Plans will be aerial background with GIS-based sewer locations.
9. Prepare Conceptual level cost estimates.
10. Conduct Rehabilitation Workshop to review rehabilitation plan with City and PM.
11. The data from the SSES will be analyzed and prioritized by the City and the PM to develop rehabilitation recommendations for the interceptor. The design and construction services of the rehabilitation recommendations shall be completed as separate tasks under this project. Rehabilitation is estimated to be no more than 10% of the entire interceptor, and shall include approved trenchless technologies (where possible) and open cut construction.

Assumptions:

Spring Creek Interceptor SSES

1. BWSC will notify property owners as listed by the Catoosa County Tax Assessor's Office via certified letter and with door hangers prior to working on easements. Access to the easement will be requested to limit creek crossings. Verification of existing easements and acquisition of any required access easements are not included in the basic services but can be provided as additional services. Title searches are not proposed as part of these services.
2. Sonar, laser profiling and dyed water flooding are not included in the scope and would be considered supplemental services.
3. The Spring Creek Pump Station level shall be controlled by the City of Chattanooga as to not cause a backwater effect in the interceptor (i.e. maintain flow level in interceptor at approximately 30% level). Bypass pumping is not included in the basic services and would be considered additional service.
4. The City of Chattanooga will provide a dump site free of charge for any debris removed from the sewer.
5. It has been assumed that SSES field work can be completed prior to mid-spring as much of the site will be inaccessible due to plant over-growth once spring growth begins.



4. TASK 4 – SPRING CREEK PUMP STATION EVALUATION & PRELIMINARY ENGINEERING REPORT

A. Preliminary Evaluation

Perform initial evaluation of Spring Creek Pump Station and force main system to examine the causes of reduced performance and investigate alternatives for increasing station's firm capacity up to 11.5 MGD (two pumps operating) by only changing out pumps and not requiring more extensive upgrades to electrical system, etc. Preliminary evaluation work will include:

1. Conduct site visit to examine pump station and force main components including any evidence of surcharging conditions in discharge manhole.
2. Conduct pump test with City's staff using existing pump station flow meter to determine pumping rate, pump operating head condition, and approximate roughness coefficient of existing force main.
3. Perform hydraulic analysis of pump station and force main system to determine if existing pumps can be replaced with slightly larger capacity pumps without major electrical system modifications.
4. Develop Opinion of Probable Construction Cost (OPCC).
5. Prepare Technical Memorandum of findings covering possibility of restoring pump station firm capacity up to 11.5 MGD (two pumps operating) by only changing out pumps and not requiring more extensive upgrades to electrical system, etc. and present to City and Program Manager.
6. Attend one (1) progress meeting with City and Program Manager Personnel to review Technical Memorandum.
7. Revise Technical Memorandum based on comments received at progress meeting.

B. Preliminary Engineering Report

If the findings of the preliminary evaluation task above (Item A of Task 4) indicate that the station's firm capacity cannot be increased up to 11.5 MGD by only changing out pumps and not requiring more extensive upgrades to electrical system, etc., then the work below shall be performed.

1. Evaluate the existing pump station and force main components, configuration and capacities and determine pump station improvements to increase firm capacity up to 11.5 MGD with two pumps operating.
2. Evaluate pump and wet well configuration in existing pump station for compliance with Hydraulic Institute Standards.
3. Based on preliminary observations, the proposed upgrades should include but not be limited to the following components:
 - a. Installation of three new pumps with variable frequency drives.
 - b. Construction of an electrical building to house variable frequency



- drives and associated electrical components.
 - c. Electrical and control system upgrade.
 - d. Addition of Dri-Prime Backup Pumping System or larger emergency generator with above ground fuel storage tank.
 - e. Possible baffle wall modifications in wet well.
 - f. Site and other appurtenant work.
4. Develop Opinion of Probable Construction Costs (OPCC) for proposed pump station upgrade.
5. Attend one (1) progress meeting with City and Program Manager Personnel to review alternatives analysis.
6. Prepare a Preliminary Engineering Report (PER) covering proposed modifications including:
 - a. Hydraulic design calculations and system curve analysis as applicable.
 - b. Preliminary plan for bypass pumping, if required.
 - c. Proposed modifications and associated Preliminary Opinion of Probable Construction Costs.
 - d. Preliminary pump evaluation, selection and sizing.
 - e. Conceptual plans and sections for proposed modifications.
 - f. Basis of design including equipment operating characteristics, maintenance reliability, safety consideration, etc.
 - g. Electrical system design criteria including generator calculations, phasing and sequencing.
7. Submit draft copy of Preliminary Engineering Report to City of Chattanooga and Program Manager.
8. Attend one (1) progress meeting with City of Chattanooga and Program Manager Personnel to review PER.
9. Address comments from City of Chattanooga and Program Manager Personnel and submit final preliminary engineering report.

Assumptions:

1. City will also provide any data indicating a surcharge condition may exist from its flow monitoring data and other visual observations by City staff.
2. It is assumed that the existing flow meter is properly calibrated. If not, City will ensure flow meter is properly calibrated prior to performing pump tests.
3. City staff will install new pressure gages on pump discharge piping prior to testing.
4. If it is determined that the pump station's firm capacity can be increased up to 11.5 MGD by replacing pumps only, it is assumed the City will be responsible for ordering and installing the new pumps. If that is the case, any involvement by BWSC staff will be considered additional services.
5. The Preliminary Engineering Report described under this Task will not include all of the items required to be SRF compliant. Additional effort required to modify PER to be SRF compliant can be performed as Additional Services if requested.



5. TASK 5 – SPRING CREEK INTERCEPTOR REHAB - DESIGN DRAWINGS AND SPECIFICATIONS

BWSC will develop one (1) set of plans and specifications for the work associated with the Spring Creek Interceptor Rehabilitation.

Data from the SSES will be analyzed and prioritized by the City and the PM to develop rehabilitation recommendations for the interceptor. Rehabilitation is estimated to be 10% of the entire interceptor and shall include approved trenchless technologies (where possible) and open cut construction.

BWSC will perform basic engineering services associated with this task using the following approach:

A. 90% Design Submittal Documents

1. Design of the Spring Creek Interceptor Rehabilitation includes:
 - a. Rehab of approximately 1,100 feet of gravity sewer line.
 - b. Rehab of approximately 10 manholes.
2. Perform internal design coordination and conduct internal progress meetings.
3. Prepare design drawings and technical specifications that represent 90% complete design documents. Any plan and profile drawings will be based on GIS contour data.
4. Perform an internal quality control review of the 90% design documents prior to City submittal.
5. Prepare Opinion of Probable Construction Cost of proposed improvements.
6. Prepare Erosion and Sediment Control Plan, a Storm Water Pollution Prevention Plan (SWPPP) and any other required permits, if authorized under Supplemental Services, with a completed Notice of Intent form for the City to execute and forward to the appropriate regulatory agency.
7. Revise documents based on quality control comments and submit the 90% complete design documents to the City and Program Manager for review.
8. Meet with City and Program Manager to review the 90% design documents and discuss their review comments.
9. Provide 90% design submittal documents no later than 90 days after meeting with City and Program Manager to discuss Preliminary Engineering Report and receiving authorization to proceed with 90% design document preparation.

B. Final Bid Documents

1. Incorporate review comments from City into the contract documents and prepare design drawings and technical specifications that represent 100% design documents.
2. Submit all permit documentation to regulatory agency for review and approval. Two copies will be provided to the PM and the Owner. Permit fees shall be paid by the City directly to regulatory agency.
3. Incorporate comments from regulatory agency and prepare final plans and specifications for bid.
4. Provide a final Opinion of Probable Construction Cost.



5. Provide four sets of final plans to City and Program Manager.
6. Complete 100% design documents no later than 14 days after receiving final comments and authorization to proceed from City.

Assumptions:

Spring Creek Interceptor Rehabilitation

1. Standardized contract documents, technical specifications and/or design guidance shall be provided by City or Program Manager for rehabilitation work.
2. No field surveying work is included. All plan and profiles of gravity sewer shall be prepared using City's GIS system.
3. Verification of existing easements and acquisition of any required construction easements are not included in the basic services but can be provided as additional services.

6. TASK 6 – SPRING CREEK INTERCEPTOR REHAB - BID PHASE SERVICES

BWSC will provide the following engineering services during construction bidding phase:

1. Attend Pre-bid meeting and prepare minutes of the meeting.
2. Respond to contractor inquiries, as required, during the bidding process
3. Issue addenda as required.
4. Attend the bid opening.
5. Prepare bid tabulation and review the bids and make a recommendation of award to the City of Chattanooga and Program Manager.
6. Prepare contract documents for execution.
7. Submit Authorization to Award documents to City/PM for their submittal to SRF.
8. Provide twenty sets of contract documents. The City will advertise and sell or distribute bidding documents. The reproduction cost will be billed as direct expense.
9. Assist in submitting MBE/WBE documentation to SRFLP.

7. TASK 7 – SPRING CREEK INTERCEPTOR REHAB - CONSTRUCTION PHASE SERVICES

Engineering services during construction is based on a 60 consecutive day maximum construction period to substantial completion plus a one month closeout period. BWSC will provide the following services:

1. Attend a pre-construction conference and prepare meeting minutes.
2. Review contractor submittals for compliance with the specifications and Drawings. BWSC's review shall be for general conformity to the construction contract documents and shall not relieve the Contractor of any of his contractual responsibilities. Such reviews shall not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions and programs incident thereto. It has been assumed that review time will be limited to the initial submittal and one resubmittal for each separately submitted item.



3. Interpret construction contract documents when requested by City or Program Manager.
4. Review up to two contractor's partial pay requests and make recommendations to the City and Program Manager for payment or contract adjustment.
5. Review up to two requests for change orders, prepare change orders and make recommendations to the City and Program Manager for incorporation into construction contract.
6. Attend up to two construction progress meetings and prepare minutes.
7. Conduct up to two periodic site visits during construction (normally concurrent with progress meetings).
8. Attend pre-final inspection and prepare punch-list of items to be completed prior to final payment.
9. Conduct final inspection to verify completion of punch list and other items and make a recommendation for final payment to the contractor.
10. Marked up construction drawings based on the best available information from the construction records shall be provided from the construction contractor to City as record drawings.

General Construction Phase Limitations (Relative to all Construction Phase Services).

1. By performing the construction phase services, BWSC shall not have authority or responsibility to supervise, direct, or control the Contractor's work or the Contractor's means, methods, techniques, sequences or procedures of construction. BWSC shall not have authority or responsibility for safety precautions and programs incident to the Contractor's work or for any failure of the Contractor to comply with laws, regulations, rules, ordinances, codes, or orders applicable to the Contractor furnishing and performing the work.
2. BWSC shall not be responsible for the acts or omissions of the Contractor, or of any subcontractor or supplier, or any of the Contractor's or subcontractor's or supplier's agents or employees or any other persons (except BWSC's employees or agents) at the site or otherwise furnishing or performing any of the Contractor's work.
3. During the Construction Phase, BWSC's employees shall not direct or have control over Contractor's work nor have the authority or be responsible for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to the work of Contractor, or for any failure of Contractor to comply with laws, rules, regulations, codes or orders applicable to Contractor furnishing and performing their work. BWSC's effort will be directed toward providing observation for the Owner that the completed project will conform to the contract documents, but BWSC can neither guarantee the performance of the construction contracts by Contractor nor assume the responsibility for Contractor's failure to furnish and perform their work in accordance with the contract documents.

2. SUPPLEMENTAL SERVICES



Any work requested by the Owner that is not included in the Basic Services will be classified as Supplemental Services. Supplemental Services shall include, but are not limited to the following:

C. SUPPLEMENTAL SERVICES

Any work requested by the Owner that is not included in the Basic Services will be classified as Supplemental Services. The proposed scope of services also includes the following Supplemental Services to be provided as authorized by Owner. Supplemental Services shall include, but are not limited to the following:

8. TASK 8 –PERMITTING

1. Prepare the following permit applications:
 - a. State Construction Review and Bidding Documents for Georgia EPD and TDEC as appropriate.
 - b. Local Land Disturbance Permits, if required.
2. Prepare an ESPCP and Notice of Intent form for the Spring Creek Interceptor Rehab in accordance with appropriate regulatory agency requirements.

9. TASK 9 – SPRING CREEK INTERCEPTOR REHAB - RESIDENT PROJECT REPRESENTATIVE (RPR)

- A. For the Spring Creek Interceptor Rehab Project – Provide full time Resident Project Representative (RPR) at periodic intervals to observe the Contractor's work and perform the services listed below. The RPR shall not have responsibility for the superintendence of construction site conditions, safety, safe practices or unsafe practices or conditions, operation, equipment, or personnel other than employees of the BWSC. This service will in no way relieve the Contractor of complete supervision and inspection of the work or the Contractor's obligation for complete compliance with the drawings and specifications. The Contractor shall have sole responsibility for safety and for maintaining safe practices and avoiding unsafe practices or condition. The level of effort for these services is limited to 240 hours.
- B. Specific services performed by the RPR are as follows:
 - a. Conduct onsite observations of the general progress of the work to assist BWSC in determining if the work is proceeding in accordance with the construction contract documents.
 - b. Assist BWSC in providing interpretation of the construction contract documents. Transmit BWSC's clarifications and interpretations of the construction contract documents to the Contractor.
 - c. Assist BWSC in serving as City's liaison with the Contractor when the Contractor's operations affect City's onsite operation.
 - d. Monitor changes of apparent integrity of the site, such as differing subsurface and physical conditions, existing structures, and site-related utilities when such utilities are exposed.



- e. Visually inspect materials, equipment, and supplies delivered to the worksite. Reject materials, equipment, and supplies that do not conform to the construction contract documents.
- f. Coordinate onsite materials testing services during construction.
- g. Submit weekly construction progress reports containing summary of the Contractor's progress, general condition of the work, problems, and resolutions or proposed resolutions to problems.
- h. Upon substantial completion, inspect the construction work and prepare a punch list of those items to be completed or corrected before final completion of the project.
- i. Upon completion or correction of the items of work on the punch list, conduct a final inspection to determine if the work is completed.

10. TASK 10 – OTHER ADDITIONAL SERVICES

Other supplemental services not included in the basic scope of services for this contract will be performed at City's request. A compensation adjustment in the form of a change order may be required if the requested service exceeds the not to exceed amount for that service under this task for this contract. Supplemental services that City might choose to add to the scope of services include, but are not limited to, the following items.

1. Prepare a new SRF compliant Preliminary Engineering Report (PER) or an addendum to the existing SRF compliant PER and attend any associated public meetings.
2. Additional meetings with local, State, or Federal agencies to discuss the Project beyond those indicated in the Basic Services.
3. Appearances at public hearings or before special boards, except as specifically indicated in the Basic Services.
4. Supplemental engineering work required to meet the requirements of regulatory or funding agencies that become effective subsequent to the date of this agreement.
5. Special consultants or independent professional associates, other than those indicated in the scope above, that are requested or authorized by the City.
6. Support services in connection with public information/relations activity as requested by the City.
7. Services for making revisions to drawings and specifications made necessary by the acceptance of substitutions proposed by the General and/or Construction Contractor(s); and services after the award of the contracts for evaluation and determining the acceptability of substitutions proposed by the Contractors.
8. Assistance in connection with bid protests, re-bidding or renegotiating contracts for construction, materials, equipment, or services of the project.
9. Preparation for litigation, arbitration, or other legal or administrative proceedings; and appearances in court or at arbitration sessions in connection with bid protests, change orders, or construction incidents.
10. Services resulting from significant changes in the scope, extent, or character of the portions of the Project designed or specified by BWSC or its design requirements including, but not limited to, changes in size, complexity, City's schedule, character of construction, or method of financing; design changes initiated by the City after City's acceptance of Preliminary Design Report; and revising previously accepted studies, reports, Drawings, Specifications, or Contract Documents when such revisions are



required by changes in Laws and Regulations enacted subsequent to the Effective Date of this Agreement or are due to any other causes beyond BWSC's control.

11. Involvement with and responding to a formal Value Engineering review conducted by a third party. Revisions of design, drawings, and specifications arising from the formal third party Value Engineering review which cause changes in the general scope, extent or character of the Project, including but not limited to changes in size, complexity, City's schedule, character of construction, or method of financing.
12. Services in connection with Work Change Directives and Change Orders to reflect changes requested by the City so as to make compensation commensurate with the extent of the Additional Services rendered.
13. Preparing additional Bidding Documents or Contract Documents for alternate bids or prices requested by the City for the Work or a portion thereof.
14. Determining the acceptability of substitute materials and equipment proposed during the Bidding or Negotiating Phase when substitution prior to the award of contracts is allowed by the Bidding Documents.
15. Providing any type of property or boundary surveys, preparing legal descriptions, or related engineering services or assistance needed for the transfer of interest in real property or acquisition of easements and rights-of-way; providing construction surveys and staking to enable Contractor to perform its work; and providing other special field surveys.
16. Redesign and rebidding the Project in the event the City does not accept bids on the original advertisement of the construction contract.
17. Services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or-equal" items; and services after the award of the Construction Contract in evaluating and determining the acceptability of a substitution which is found to be inappropriate for the Project or an excessive number of substitutions.
18. Additional or extended services during construction made necessary by (1) work damaged by fire or other cause during construction, (2) a significant amount of defective or neglected work by the Contractor, (3) acceleration of the progress schedule involving service beyond normal working hours, (4) default by any Contractor, and (5) failure of the Contractor to complete the work within the construction contract time.
19. All review or permit fees charged by the State or other agencies are not included in the basic compensation and will be paid directly by the City.
20. Other services performed or furnished by BWSC not otherwise provided for in this Agreement.
21. Providing Construction Phase Services including Resident Project Representative Services beyond the assumed construction contract times outlined in Basic Services and beyond the assumed level of effort outlined in Basic Services.
22. Providing permitting assistance beyond the level of effort outlined in Basic Services.
23. Performing water analyses, test borings, subsurface testing, or other investigations and services furnished by independent associates or consultants as may be required during the construction of the project.
24. Performance of computational fluid dynamic modeling of the new wetwell to optimize mixing and influent pump hydraulic conditions.
25. Perform sewer basin tributary flow study to examine upstream and downstream flow impacts of pump station improvements.
26. Review of closed circuit television video (CCTV) inspection records for the existing sanitary sewer system.
27. Design of expanded wet wells, pump pits, and valve pits.



28. Forensic/structural analysis of existing structures
29. Air quality permit application for the new diesel generator.
30. Fire sprinkler design for pump buildings and canopies
31. Design of SCADA, CCTV, or Security equipment for this project.
32. Design of extension of fiber optic cable with data/telephone service to the pump stations and connection to the City's fiber mesh network.
33. Pre-qualifications of contractors and vendors.
34. Services of a qualified appraiser to appraise property or rights-of-way and easements to be acquired, and to meet and negotiate with the property owners.
35. Engineering assistance to the City in negotiation meetings and condemnation proceedings.
36. Environmental assessment reports and/or environmental impact statements.
37. Cultural resources and/or archaeological study and reports.
38. Remedial investigation/feasibility study or Phase 1 environmental assessment to determine quantity and location of contaminants.
39. Support services for additional work in connection with public information activity.
40. Evaluation of unusually complex or unreasonably numerous claims submitted by the Contractor or others in connection with the work.
41. Preparation of Operation and Maintenance Manuals.

3. REIMBURSABLE EXPENSES:

Project specific reimbursable expenses and charges shall include the following:

Outside services contracted for a specific project, such as professional and technical consultants, laboratory testing, reproduction, photography, etc., will be invoiced at the amount of the subcontractor's statement plus 5 percent.

Other expenses which are properly chargeable to the work will be invoiced as follows:

- a. Travel by company or private vehicle at the IRS approved standard mileage rate.
- b. In-house printing and reproduction charges at commercial rates for bid document production.
- c. Travel and living expenses for all personnel when required to be away from headquarters in connection with the work at cost.



ATTACHMENT B

Owner: City of Chattanooga, Tennessee

Engineer: Barge Waggoner Sumner and Cannon, Inc.
Project Number & Name: [Project Number]
South Chickamauga Creek Pump Stations Reliability Improvements –
Phase 2 and Spring Creek Pump Station Improvements Project

COMPENSATION

For the services covered by this Agreement, the Owner agrees to pay the Engineer as follows:

- For the Basic Services described in Attachment A, a cost based on time worked on the project by various personnel at hourly rates shown in Rate Table in Attachment F plus applicable outside services and other reimbursable expenses properly charge to the project in accordance with the terms of Paragraph 3 “Reimbursable Expenses” of Attachment A with a total not to exceed limit of \$ 474,800.00 . Payments shall be made monthly in amounts which are consistent with the amount of engineering services provided, as determined by the Engineer.

Task 1	Project Management & Data Gathering (Hourly Basis)	\$ 54,000
Task 2	South Chickamauga Creek Pump Station Preliminary Engineering Report (Hourly Basis)	\$ 104,900
Task 3	Spring Creek Interceptor SSES (Hourly Basis) – See Appendix II	\$ 145,600
Task 4	Spring Creek Pump Station Evaluation & Preliminary Engineering Report (Hourly Basis)	\$ 52,200
Task 5	Spring Creek Interceptor Rehab - Design Drawings & Specifications (Hourly Basis)	\$ 58,900
Task 6	Spring Creek Interceptor Rehab - Bid Phase Services (Hourly Basis)	\$ 22,300
Task 7	Spring Creek Interceptor Rehab - Construction Phase Services (Hourly Basis)	\$ 36,900

Subtotal \$474,800.00

- Compensation for Supplemental Services shall be made as defined below, when authorized in writing by the Owner. The maximum limit for each item of additional service shall be established individually and specifically agreed to by the Owner as stated below, unless the service is included in a subsequent agreement.

Task 8	Permitting (Hourly Basis)	\$ 11,400
Task 9	Spring Creek Interceptor Rehab - Resident Project Representative (Hourly Basis)	\$ 21,500
Task 10	Other Additional Services, as requested (Hourly Basis)	\$ 2,100

Subtotal \$35,000.00

Grand Total \$509,800.00

- Hourly rates for each classification as defined by the Engineer's rate schedule, see Attachment F. Overtime, when authorized by the Owner, will be billed at 1.5 times the rates listed (non-engineer



CITY OF CHATTANOOGA
STANDARD AGREEMENT FOR ENGINEERING SERVICES

SOP 2003-9
Date of Issue 10-16-03
Rev. 11-13-12

time only).

4. Reimbursable charges will be considered the amount of actual costs of project related expenses or charges times a markup of 1.1. Charges for use of computer equipment or software, local travel, local telephone, project photographs, miscellaneous supplies, and reproduction are not considered reimbursable charges. Allowable project-specific reimbursable expenses shall be outlined in Attachment A.
5. The entire amount of each statement shall be due and payable 30 days after receipt by the Owner.
6. The Engineer shall keep records on the basis of generally accepted accounting practice of costs and expenses which records shall be available for inspection at all reasonable times.
7. Invoices shall be submitted using the Standard Invoice form, Attachment G.



ATTACHMENT C

Owner: City of Chattanooga, Tennessee

Engineer: **Barge Waggoner Sumner and Cannon, Inc**
Project Number & Name: **[Project Number]**
**South Chickamauga Creek Pump Stations Reliability Improvements –
Phase 2 and Spring Creek Pump Station Improvements Project**

OWNER'S RESPONSIBILITIES

The Owner will furnish, as required by the work and not at the expense of the Engineer, the following:

11. The Owner will provide the Engineer copies of all current and necessary permits and approvals from all federal, state and local regulatory agencies. These include air quality, water quality, storm water quality, solid waste, special wastes, and other regulatory permits that may be required.
12. The Owner will provide Engineer access to all of available NPDES reports as required.
13. The Owner will coordinate and facilitate meetings or the exchange of information between any other interested parties that may also prospectively participate in the project as required.
14. The Owner will coordinate for the Engineer the acquisition of future population and employment figures from regional planning institutions as required for the project as required.
15. The Owner will provide the Engineer copies of all available sewer reports related to sewer facility planning as required.
16. The Owner will provide access to the system wide hydraulic model outputs as required.
17. The Owner will provide the Engineer the most up-to-date GIS data available for all sewer system components as required.
18. The Owner will provide the Engineer access to all its pump station and CSOTF sites as required.
19. The Owner will provide Engineer access to all available plans and specifications for the facilities as required.
20. The Owner will provide the Engineer with documentation of existing O&M procedures related to the operation of the treatment works that may be relative to the project as required.
21. The Owner will provide the Engineer with documentation of existing standards and procedures related to the sewer system development and expansion as required.
22. The Owner will provide the Engineer with documentation of existing standards and



CITY OF CHATTANOOGA
STANDARD AGREEMENT FOR ENGINEERING SERVICES

SOP 2003-9
Date of Issue 10-16-03
Rev. 11-13-12

- procedures related to the treatment works as required.
23. The Owner will arrange for facilities for the Engineer and attend public information meetings as required. The Owner will prepare and mail invitations for public information meetings as required. The Owner and the Engineer will conduct monthly project progress meetings as required.
 24. The Owner will designate a project representative to be the liaison between the Engineer and the Owner on the project.
 25. Owner will make a reasonable effort to evaluate if hazardous materials are on or near the project site, and will inform Engineer of findings relative to the possible presence of such materials.



ATTACHMENT D

Owner: Owner of Chattanooga, Tennessee

Engineer: Barge Waggoner Sumner and Cannon, Inc
Project Number & Name: [Project Number]
South Chickamauga Creek Pump Stations Reliability Improvements –
Phase 2 and Spring Creek Pump Station Improvements Project

SUPPLEMENTAL AGREEMENTS

A. Engineers Responsibilities:

1. During Contract negotiation, the Engineer shall describe in detail its overall approach that will be used by its Engineer's Project Team to perform the scope of work described herein for the development of the project for the Owner.
2. The Engineer shall provide all labor, benefits, equipment, materials, fuel, utilities, insurance, out-of-pocket expenses, and other related services required in connection with development of the project.
3. The Engineer shall obtain all necessary permits and approvals from all federal, state, and local regulatory agencies related to development of the project as required. Furnish copies of all required permits and approvals to the Owner.
4. The Engineer shall provide and submit reports and certifications as required by all applicable EPA and/or State regulations of development of the project as required. Furnish a copy of all required reports to the Owner in a timely manner.
5. The Engineer shall coordinate its work with the operating schedule of the Owner as required.
6. The Engineer shall conduct the work for the development of the project in compliance with all applicable federal, state, and local laws, regulations, permits, and approvals.
7. The Engineer shall provide adequate supervision and technical and managerial oversight of the Engineer's employees, subcontractors, and agents
8. The Engineer shall support and utilize the Owner's Standard Operating Procedures developed for the Consent Decree (CD) Program. Specifically, the design of each project shall comply with CADD standards, standardized specifications, or approved design guidelines, cost estimating guidelines, and materials and functional layout and operation of equipment and systems as required.
9. The Engineer shall administer the project to comply with the scheduling goals established by the Program Manager (PM) to ensure that the CD milestones are being met. The Engineer shall timely report project information as prescribed by the PM.
10. The Engineer shall prepare an initial and minimum monthly update to its project schedule; updates can be more frequent or as significant activities change.



11. The Engineer shall prepare, implement and execute a project quality management plan which complies with quality program guidelines and requirements and goals to be established by the PM, and the Engineer's own internal quality procedures/program requirements. The Engineer shall be fully responsible for the quality of their work products and associated quality assurance and quality control activities.
12. The Engineer shall prepare, implement and execute a written project safety management plan which following the Engineer's own internal safety procedures/program requirements and which will also reflect the goals of the safety program to be established by the PM for the CD program project.
13. The Engineer shall provide all documents in a timely manner and format prescribed by the PM to support a document management/imaging repository. All documents shall be maintained in this manner for general and financial record keeping, contract compliance, claims and litigation, warranty issues, and related purposes.
14. The Engineer may assist the PM in reviewing the preliminary project budget and provide recommendations relative to project updates for design, construction contract administration and inspection, contracting costs, and industry appropriate level of contingency as required. The Engineer shall assist the PM in coordinating the program budget with the plan schedule in order to ensure compliance with the CD needs and constraints regarding the overall budget as required. Engineer shall maintain and input pertinent information to account for all costs of the project in a form and manner prescribed by the PM as required.
15. The Engineer shall assist the PM with the preparation of project progress reports as required. Reports shall include, but not be limited to, all reports required to satisfy requirements of the CD.
16. The Engineer may be asked to provide technical support to the CD Public Relations Plan.
17. The Engineer shall utilize the Owner's standardized Division 00 and 01 specifications as in developing project specific specifications- In addition the PM will provide to the Engineer certain technical specifications, details and minimum design guidelines intended to provide consistency across the design deliverables from various Engineers on similar types of work as required.
18. The Engineer shall submit all Requests for Information (RFIs) and change order for their professional services agreement to the PM first for approval.
19. The Engineer shall submit all pay requests/invoices to PM first for approval.
20. Engineer shall identify any and all permits during the first month of project activity from Notice to Proceed (NTP). Likely easements and permanent real estate acquisitions shall be identified with special purpose survey exhibits depicting areas needed based on a schedule to be developed by the Engineer within the first month of project activity from NTP.
21. The PM may conduct monthly progress meetings, value engineering (VE) reviews and constructability review as required and include Owner and PM staff as needed.



CITY OF CHATTANOOGA
STANDARD AGREEMENT FOR ENGINEERING SERVICES

SOP 2003-9
Date of Issue 10-16-03
Rev. 11-13-12

B. Owner and Engineer agree that the following communications, representations, and agreements by Engineer relating to the subject matter of the Agreement are hereby incorporated into and shall become a part of the Agreement.

[All necessary items as Supplemental]



ATTACHMENT E

Owner: Owner of Chattanooga, Tennessee

Engineer: **Barge Waggoner Sumner and Cannon, Inc**
Project Number & Name: **[Project Number]**
**South Chickamauga Creek Pump Stations Reliability Improvements –
Phase 2 and Spring Creek Pump Station Improvements Project**

PROJECT SCHEDULE

Owner and Engineer recognize that time is of the essence of the Agreement and that Owner may suffer financial loss if the work is not completed within the times stipulated herein, plus any extensions thereof. Accordingly, Engineer will develop for this Agreement a preliminary schedule based on the schedule requirements specified in the Specific Scope of Work for this project and either provide it below or as Attachment E1.

A detailed schedule (project schedule) will be required as one of the Project Management deliverables as specified in the Specific Scope of Work for this project once the Agreement is executed. The Engineer will produce the project schedule using industry accepted scheduling software approved by the Owner.

It is understood and agreed that the Engineer shall start the performance of Services within 10 days of receipt of a written Notice to Proceed and shall complete the work in accordance with the contract times set forth herein.

[Project Schedule]



ATTACHMENT F

Owner: Owner of Chattanooga, Tennessee

Engineer: Barge Waggoner Sumner and Cannon, Inc.
Project Number & Name: [Project Number]
South Chickamauga Creek Pump Stations Reliability Improvements –
Phase 2 and Spring Creek Pump Station Improvements Project

RATE SCHEDULE

Hourly Rate Schedule

Classification	Rate
Principal-In-Charge/Technical Advisor	\$ 215
Sr. Project Manager/Sr. Technical Leader/Quality Control	\$ 205
Sr. Technical Specialist	\$ 205
Sr. Professional Engineer IV/Project Manager II/Engineering Manager II	\$ 190
Sr. Professional Engineer III	\$ 185
Project Manager I/Engineering Manger I	\$ 175
Sr. Professional Engineer II	\$ 165
Sr. Professional Engineer I	\$ 150
Professional Engineer II	\$ 140
Professional Engineer I	\$ 125
Staff Engineer II	\$ 110
Staff Engineer I	\$ 100
Designer III/Sr. Specialist	\$ 150
Designer II	\$ 120
Designer I	\$ 110
CAD Technician II	\$ 100
CAD Technician I	\$ 90
Sr. Registered Land Surveyor	\$ 120
Registered Land Surveyor	\$ 100
2-Man Survey Crew	\$ 130
Resident Project Representative III	\$ 110
Resident Project Representative II	\$ 100
Resident Project Representative I	\$ 85
Project Administrator	\$ 90
Office Administrator	\$ 80
Administrative Assistant	\$ 75



ATTACHMENT G

STANDARD INVOICE

Indicates MANDATORY Item

CONSULTANT LETTERHEAD

ATTN: City Project Manager
REF: **Project Name**
CODE: Consultant Project Number
PO: **City Project Number in format S-02-001-101**

Provided by City

INVOICE

TERMS: Net 25 days
DUE: 08/01/03

Must be Sequential Number

City Project Manager
City Project Manager Title
City of Chattanooga
Engineering Division/DRC
1250 Market Street, Suite 2100
Chattanooga TN 37402

Invoice Number 5
Dated 07/07/03

Invoice Must show Billing Period.

For Professional Services from May 31 to June 27, 2003

This Breakdown must list each item of the Contract.

Consultant Project No.	Description	Fee	Fee Basis	Percent Work to Date	Amount Billed	Previous Billed	This
							Invoice Billed
C03009-01	01 - Design	\$51,500.00	LS	55%	\$28,325.00	\$18,540.00	\$9,785.00
	02 - Survey	\$15,700.00	LS	0%	\$0.00	\$0.00	\$0.00
C03009-02	Barton Avenue and Brown Acres Golf Course Design	\$20,000.00	CP	12%	\$2,391.02	\$2,033.00	\$358.02
C03009-03	Permitting/Easement Assistance	\$5,000.00	CP	6%	\$291.08	\$0.00	\$291.08
C03009-04	Bidding/Construction Assistance	\$10,000.00	CP	0%	\$0.00	\$0.00	\$0.00
C03009-05	Misc. As-Requested Services	\$5,000.00	CP	7%	\$363.85	\$0.00	\$363.85
Total Contract Amount		\$107,200.00			\$31,370.95	\$20,573.00	
TOTAL THIS INVOICE							\$10,797.95

Must Match Contract Amount

Prior Invoices	\$20,573.00
This Invoice	\$10,797.95
Payments	-\$20,573.00
Balance on Account	\$10,797.95

NOTE

- There shall be only one invoice per contract per billing period
- Any necessary details should be attached as backup

APPENDIX II – SSES ACTIVITIES UNIT RATE COST SCHEDULE

Subcontractor Name: Hydromax USA

Consultant Name: BWSC

Project Name: Chattanooga - Spring Creek

TASK	Units	Units	Unit Rate	Total
MACP Manhole Inspection (NASSCO Level 2)	Ea.	50	\$100.00	\$5,000.00
Smoke Testing	L.F.	11,174	\$0.50	\$5,587.00
Flow Isolations	Ea.			\$0.00
Dyed Water Tracing	Ea.			\$0.00
Dyed Water Flooding of Storm Sewers	Ea.			\$0.00
CCTV Inspection (8 inch or smaller diameter)	L.F.			\$0.00
CCTV Inspection (Greater than 8 inch less than or equal to 15 inch diameter)	L.F.			\$0.00
CCTV Inspection (Greater than 15 inch less than or equal to 24 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 24 inch less than or equal to 30 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 30 inch less than or equal to 36 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 36 inch less than or equal to 42 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 42 inch less than or equal to 48 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 48 inch less than or equal to 54 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 54 inch less than or equal to 72 inch)	L.F.			\$0.00
CCTV Inspection (Greater than 72 inch less than or equal to 84 inch)	L.F.			\$0.00
Rough Easement - CCTV Inspection (8 inch or smaller diameter)	L.F.			\$0.00
Rough Easement - CCTV Inspection (Greater than 8 inch less than or equal to 18 inch diameter)	L.F.	4,116	\$4.25	\$17,493.00
Rough Easement - CCTV Inspection (Greater than 18 inch less than or equal to 24 inch)	L.F.	81	\$4.30	\$348.30
Rough Easement - CCTV Inspection (Greater than 24 inch less than or equal to 30 inch)	L.F.			\$0.00
Rough Easement - CCTV Inspection (Greater than 30 inch less than or equal to 36 inch)	L.F.	6,976	\$4.50	\$31,392.00
Rough Easement - CCTV Inspection (Greater than 36 inch less than or equal to 42 inch)	L.F.			\$0.00

Appendix II - SSES Activities Unit Rate Cost Schedule

TASK	Units	Units	Unit Rate	Total
Rough Easement - CCTV Inspection (Greater than 42 inch less than or equal to 48 inch)	L.F.			\$0.00
Rough Easement - CCTV Inspection (Greater than 48 inch less than or equal to 54 inch)	L.F.			\$0.00
Rough Easement - CCTV Inspection (Greater than 54 inch less than or equal to 72 inch)	L.F.			\$0.00
Rough Easement - CCTV Inspection (Greater than 72 inch less than or equal to 84 inch)	L.F.			\$0.00
CCTV Reverse Set-Up	Ea.			\$0.00
Cleaning (8 inch or smaller diameter)	L.F.			\$0.00
Cleaning (Greater than 8 inch less than or equal to 18 inch diameter)	L.F.	4,116	\$1.80	\$7,408.80
Cleaning (Greater than 18 inch less than or equal to 24 inch)	L.F.	81	\$1.80	\$145.80
Cleaning (Greater than 24 inch less than or equal to 30 inch)	L.F.			\$0.00
Cleaning (Greater than 30 inch less than or equal to 36 inch)	L.F.	6,976	\$1.80	\$12,556.80
Cleaning (Greater than 36 inch less than or equal to 42 inch)	L.F.			\$0.00
Cleaning (Greater than 42 inch less than or equal to 48 inch)	L.F.			\$0.00
Cleaning (Greater than 48 inch less than or equal to 54 inch)	L.F.			\$0.00
Cleaning (Greater than 54 inch less than or equal to 72 inch)	L.F.			\$0.00
Cleaning (Greater than 72 inch less than or equal to 84 inch)	L.F.			\$0.00
Heavy Cleaning (8 inch or smaller diameter)	L.F.			\$0.00
Heavy Cleaning (Greater than 8 inch less than 18 inch diameter)	L.F.	824	\$3.50	\$2,884.00
Heavy Cleaning (Greater than 18 inch less than or equal to 24 inch)	L.F.	0	\$3.55	\$0.00
Heavy Cleaning (Greater than 24 inch less than or equal to 30 inch)	L.F.			\$0.00
Heavy Cleaning (Greater than 30 inch less than or equal to 36 inch)	L.F.	1,395	\$3.75	\$5,231.25
Heavy Cleaning (Greater than 36 inch less than or equal to 42 inch)	L.F.			\$0.00
Heavy Cleaning (Greater than 42 inch less than or equal to 48 inch)	L.F.			\$0.00
Heavy Cleaning (Greater than 48 inch less than or equal to 54 inch)	L.F.			\$0.00
Heavy Cleaning (Greater than 54 inch less than or equal to 72 inch)	L.F.			\$0.00

Appendix II - SSES Activities Unit Rate Cost Schedule

TASK	Units	Units	Unit Rate	Total
Heavy Cleaning (Greater than 72 inch less than or equal to 84 inch)	L.F.			\$0.00
Intruding Tap Removal	Ea.			\$0.00
By-Pass Pumping	L.S.			\$0.00
Property Owner Notification and Easement Access/Mobilization	L.S.	1		\$5,500.00
TOTAL SUBCONTRACTOR PRICE				\$93,546.95
ENGINEERING FEE				\$47,360.00
ENGINEERING MARKUP	<i>Rate</i>	5%		\$4,677.35
TOTAL ENGINEERING PRICE				\$52,037.35
TOTAL BASE PRICE				\$145,584.30

ID	Task Name	Duration	Start	Finish	2016																			
					Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May					
1	South Chickamauga Pump Station PER	6 mons	Mon 3/16/15	Fri 8/28/15																				
2																								
3	Spring Creek Pump Station Evaluation/PER	5 mons	Mon 3/16/15	Fri 7/31/15																				
4																								
5	Spring Creek Interceptor Rehabilitation																							
6	SSES & Rehab Report	4.5 mons	Mon 3/16/15	Fri 7/17/15																				
7	Establish Rehab Scope with PM and City	1.5 mons	Mon 7/20/15	Fri 8/28/15																				
8	90% Design	3 mons	Mon 8/31/15	Fri 11/20/15																				
9	100% Design	0.5 mons	Mon 11/23/15	Fri 12/4/15																				
10	Bid and Award	3 mons	Mon 12/7/15	Fri 2/26/16																				
11	Construction	2 mons	Mon 2/29/16	Fri 4/22/16																				
12	Closeout	1 mon	Mon 4/25/16	Fri 5/20/16																				

Project: South Chick PS & Spring C
Date: Fri 2/20/15

	Task		External Milestone		Manual Summary Rollup
	Split		Inactive Task		Manual Summary
	Milestone		Inactive Milestone		Start-only
	Summary		Inactive Summary		Finish-only
	Project Summary		Manual Task		Deadline
	External Tasks		Duration-only		Progress