

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE ADMINISTRATOR OF THE DEPARTMENT OF PUBLIC WORKS TO ENTER INTO AN AGREEMENT WITH BARGE, WAGGONER, SUMNER AND CANNON, INC. FOR PROFESSIONAL SERVICES RELATIVE TO CONTRACT NO. W-09-013-102, COLLEGEDALE SEWER BASIN PUMP STATION IMPROVEMENTS, FOR AN AMOUNT NOT TO EXCEED NINE HUNDRED SIXTY-SEVEN THOUSAND ONE HUNDRED DOLLARS (\$967,100.00).

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, it is hereby authorizing the Administrator of the Department of Public Works to enter into an agreement with Barge, Waggoner, Sumner and Cannon, Inc. for professional services relative to Contract No. W-09-013-102, Collegedale Sewer Basin Pump Station Improvements, for an amount not to exceed \$967,100.00.

ADOPTED: _____, 2013.

/mms

City of Chattanooga



Resolution/Ordinance Request Form

Date Prepared: 1/3/13 R1

Preparer: Dennis Malone

Department: Public Works

Brief Description of Purpose for Resolution/Ordinance:

Res./Ord. # _____ Council District # 4

A Council Action is requested for the Administrator of the Department of Public Works to enter into an agreement with Barge Wagoner Sumner and Cannon, Inc., for professional services, relative to Contract No. W-09-013-102, Collegedale Sewer Basin Pump Station Improvements, in an amount not to exceed \$967,000.00.

Name of Vendor/Contractor/Grant, etc.	<u>BWSC</u>	New Contract/Project? (Yes or No)	<u>No</u>
Total project cost \$	<u>967,000.00</u>	Funds Budgeted? (YES or NO)	<u>Yes</u>
Total City of Chattanooga Portion \$	<u>967,000.00</u>	Provide Fund	<u>6011</u>
City Amount Funded \$	<u>967,000.00</u>	Provide Cost Center	<u>K37107</u>
New City Funding Required \$	<u>0</u>	Proposed Funding Source if not budgeted	<u>ISS - CD</u>
City's Match Percentage %	_____	Grant Period (if applicable)	_____

List all other funding sources and amount for each contributor.

<u>Amount(s)</u>	<u>Grantor(s)</u>
\$ _____	_____
_____	_____
_____	_____

Agency Grant Number _____

CFDA Number if known _____

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

Approved by: _____

Reviewed by: FINANCE OFFICE

DESIGNATED OFFICIAL/ADMINISTRATOR

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 CD
Date of Issue 10-16-03
Rev. 11-14-12

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

Barge Waggoner Sumner and Cannon, Inc.

hereinafter called Engineer.

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

Contract Number: W-11-007-102-Design and Construction of the Effluent Disinfection System Upgrade for Moccasin Bend WWTP

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 & Cannon, Inc. / Russell Moorehead, PE**
1110 Market Street, Suite 200
Chattanooga, TN 37402
Phone: 423-756-3025 Fax: 423-756-8477 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

- 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.

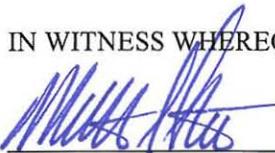
- 30. **NON-DISCLOSURE**
 Engineer agrees not to disclose or to permit disclosure of any information designated by the Owner as confidential, except to the engineer's employees and subcontractors who require such information to perform the services specified in this agreement.

- 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.

 1/3/13

 Matthew S. Stovall, ASLA, LEED® AP Date
 Vice President/Chattanooga Office Mgr.

 Administrator of Public Works Date

 Date

 Director of Purchasing Date

Reviewed by City Attorney Office _____
 Initial Date



ATTACHMENT A

Owner: City of Chattanooga, Tennessee
Engineer: Barge Waggoner Sumner & Cannon, Inc.
Project Number & Name: Contract No. W-09-013-102
Collegedale Basin Pump Stations Improvements

SCOPE OF SERVICES

1. BASIC SERVICES

Basic Services are considered to be Task Items 1 thru 7 of the Specific Scope of Work found in Section 3.2.B of the Scope and Fee Negotiations Packet for said project.

The project is specifically defined as:

Design recommended solution for Collegedale Basin Pump Stations Improvements to increase capacity and reliability for the Collegedale Pump Station and reduce sanitary sewer overflow. Project includes redirection of flow from the Lee Highway Pump Station, subject to agreement between City of Chattanooga and Hamilton County WWTAA.

This project will be funded by State Revolving Loan funds (SRF), and the Preliminary Engineering Report prepared by Arcadis in October 2010 is SRF compliant. Therefore, a new SRF report is not proposed by BWSC unless further evaluation of the pumping conditions results in significant modifications to the project scope. It is anticipated that the Collegedale Pump Station and force main upgrade and the Lee Highway Pump Station and force main upgrade will be bid and constructed separately. The proposed design parameters for this scope of services include:

- o Collegedale Pump Station and Force Main – 5 MGD at 260 feet of TDH (assuming a 20” DIP force main). BWSC will consider larger diameters to reduce TDH prior to proceeding with design.
 - a. Five new pumps with variable frequency drives and softstart bypass;
 - b. One new 8,600 lf. of 20” diameter force main (generally following the route of the existing TVA power line easement from the Collegedale Pump Station to Pattentown Road);
 - c. Extension of the existing 30” gravity sewer approximately 350 lf. from the west side of Pattentown Road to the proposed termination point for the proposed force main;
 - d. One new diesel emergency generator with base mounted fuel storage tank. Generator and fuel tank are to be sized for the generator to run (4) pumps and miscellaneous loads for (24) hours. Generator to be located adjacent to the new electrical building. Generator to have critical grade sound enclosure and exhaust;
 - e. One new magnetic flow meter and meter vault for the new force main;
 - f. Demolition of the existing superstructure over the pump pit to existing floor slab;
 - g. A new 14 ft. x 30 ft. open canopy structure (12 ft. to 14 ft. clearance) will be provided over this existing pad to protect the pumps below with an electric hoist for the removal of the pumps. Assume the proposed canopy support posts can utilize the existing concrete slab;
 - h. One new 14 ft. x 50 ft. masonry building with minimum 11 ft. 4 in inside clearance for housing the five new VFD’s. New electrical building to house the (5) VFDs with bypass contactors, Pump Station electrical service entrance equipment, Automatic Transfer Switch, Pump Station controls and interface for Owner furnished SCADA equipment and Owner furnished camera/security system. The building will be air



- conditioned as required for VFDs and PLCs. Building to be equipped with all necessary power and lighting and an integral air conditioning system sized for the heat load of the five VFD's. Building will include a restroom facility;
- i. Rough-in for Owner furnished SCADA equipment and Owner furnished camera/security system;
 - j. Canopy lighting and hoist under canopy for pump motors;
 - k. Modification to the site and fencing to accommodate the new Electrical building;
 - l. New site lighting and exterior lighting on wall. LED site light fixtures with full cutoff;
 - m. Provision of pad for pad mounted transformer to be furnished and installed by EPB;
 - n. Pole mounted alarm light for general pump station alarm;
 - o. Site work required for electrical equipment to be located above the 100 year flood elevation;
 - p. Modification to the site and fencing to accommodate the new building;
 - q. Development of a bypass pumping plan;
 - r. New electrical service to the station;
 - s. Associated piping and valving necessary to connect the new pumps to the new force main;
 - t. Instrumentation;
 - u. Review of TDOT plans and paperwork to coordinate the proposed force main route with the proposed Apison Pike roadway improvements, and preparation of submittals to TDOT for reimbursement of project costs under TDOT Chapter 86 rules.
- o Summit Landfill Force Main – 3,200 lf. of 10” force main relocation to accommodate the TDOT Apison Pike roadway improvement project.
 - a. New 3,200 lf. of 10” diameter force main (generally following the route of the existing TVA power line easement from the Summit Landfill access drive to Pattentown Road);
 - b. Review of TDOT plans and paperwork to coordinate the proposed force main route with the proposed Apison Pike roadway improvements, and preparation of submittals to TDOT for reimbursement of project costs under TDOT Chapter 86 rules.
 - o Lee Highway Pump Station and Force Main – 5.3 MGD at 225 feet of TDH (assuming 20” DIP force main)
 - a. Three new pumps with variable frequency drives and softstart bypass;
 - b. New 11,700 lf. of 20” force main (generally following Old Lee Highway from the pump station to Apison Pike);
 - c. One new diesel emergency generator with base mounted fuel storage tank. Generator and fuel tank is to be sized for the generator to run (2) pumps and miscellaneous loads for (24) hours. Generator to be located behind the new electrical building. Generator to have critical grade sound enclosure and exhaust;
 - d. One new magnetic flow meter and meter vault for the new force main;
 - e. One new concrete pad mounted 14 ft. x 30 ft. masonry building with a minimum 11 ft. 4 in inside clearance for housing the three new VFD's. New electrical building to house the (3) VFDs with bypass contactors, Pump Station electrical service entrance equipment, Automatic Transfer Switch, Pump Station controls and interface for Owner furnished SCADA equipment and Owner furnished camera/security system. The building will be air conditioned as required for VFDs and PLCs;
 - f. Modification to the site and fencing to accommodate the new VFD building;
 - g. Rough-in for Owner furnished SCADA equipment and Owner furnished camera/security system;



- h. Building to be equipped with all necessary power and lighting and an integral air conditioning system sized for the heat load of the three VFDs. Building will not include a restroom facility;
- i. Extension of new secondary service entrance ductbank from the road to the pump station electrical building;
- j. New site lighting and exterior lighting on building. LED site light fixtures with full cutoff;
- k. Alarm light for general pump station alarm;
- l. Site work required for electrical equipment to be located above the 100 year flood elevation;
- m. All piping and valving necessary to connect the new pumps to the new force main;
- n. Instrumentation.

The Engineer agrees to provide the following services:

The proposed scope of services includes the following basic engineering services:

- 1. Data Gathering, Preliminary Engineering, and Project Management
- 2. Collegedale Pump Station Design
- 3. Collegedale Pump Station Bidding Services
- 4. Collegedale Pump Station Construction Administration Services
- 5. Lee Highway Pump Station Design
- 6. Lee Highway Pump Station Bidding Services
- 7. Lee Highway Pump Station Construction Administration Services

TASK 1: DATA GATHERING, PRELIMINARY ENGINEERING, AND PROJECT MANAGEMENT

Task 1.1: Project Management

- 1) Attend a project kickoff meeting with the City of Chattanooga and Program Manager
- 2) Submit a copy of the project management plan
- 3) Submit a copy of BWSC's project quality management plan
- 4) Submit a copy of BWSC's existing safety management manual
- 5) Prepare project schedule and update schedule on a monthly basis
- 6) Prepare and submit monthly activity summaries with each invoice
- 7) BWSC will develop two (2) separate sets of plans and specifications for this project. The first set will be developed for the Collegedale Pump Station and force main upgrade (including the Summit Landfill force main relocation). The second set will be developed for the Lee Highway Pump Station and force main upgrade. BWSC will proceed with basic engineering services for each set of contract documents using the following approach:

Task 1.2: Data Gathering and Preliminary Engineering

- 1) Obtain GIS planimetric (sewer system, parcel, building footprints, pavement limits, and topographic data) for the project area from the City of Chattanooga in a readily usable electronic (AutoCAD or Microstation) format.



- 2) Obtain record drawing information for both pump stations.
- 3) Obtain TDOT Apison Pike roadway improvement plans in a readily usable electronic (AutoCAD or Microstation) format.
- 4) Evaluate the pump station and force main capacities as presented in the Preliminary Engineering report for this project. Obtain and review available drawings, data and pump curves of the pump station and associated facilities. Perform reconnaissance of the pump station site, take pictures of the existing facilities, obtain equipment nameplate data and confirm dimensions. Develop up to two (2) Pump Station and force main upgrade alternatives (wet well/dry pit configuration and conversion to submersible pumps configuration) for the Collegedale pump station to accommodate the wastewater flows presented in the PER. It is anticipated that the Lee Highway Pump Station will be upgraded with submersible pumps and VFDs in the existing wet well.
- 5) Develop up to two (2) opinions of probable construction costs (OPCC) and associated O&M costs for each system upgrade alternative to be considered. Attend two (2) progress meetings with City of Chattanooga and Program Manager Personnel to review alternatives analysis.
- 6) Prepare 30% submittal documents for the selected alternative including:
 - Hydraulic design calculations and system curve analysis.
 - Preliminary sizing and layout of pumps per Hydraulic Institute standards.
 - Pump operation summary.
 - Preliminary plan for bypass pumping.
 - Wetwell and pump suction analysis.
 - Evaluation of existing electrical service.
 - Analysis of existing ventilation systems with recommendations of improvements to comply with NFPA 820.
 - Conceptual plans and sections of the new pumps and piping modifications.
- 7) Prepare a letter report summarizing the findings from the study/conceptual design/alternatives development effort and the recommended basis of design no later than thirty (30) days after receiving notice to proceed from the City of Chattanooga.

Task 1.3: SRF Compliant Preliminary Engineering Report Addendum

- 1) Prepare an addendum to the existing SRF compliant Preliminary Engineering Report (PER), if the results of the study phase determines significant modifications to the original report are required.
- 2) BWSC will attend one (1) public meeting required by the SRF process.
- 3) Submit the PER Addendum no later than 30 days after receiving notice to proceed following the study/conceptual design/alternatives phase from the City of Chattanooga.

TASK 2: COLLEGEDALE PUMP STATION AND FORCE MAIN DESIGN (INCLUDING SUMMIT LANDFILL FORCEMAIN RELOCATION)

Task 2.1: Prepare 90% submittal documents for the Collegedale Pump Station including:



- 1) Process mechanical plans, sections and details.
- 2) Structural plans, sections and details.
- 3) HVAC plans and details.
- 4) Instrument schedules, P&IDs, and control panels.
- 5) Electrical power plans.
- 6) Electrical one-lines, schematics and details.
- 7) Technical specifications.
- 8) Updated opinion of probable construction cost.

Task 2.2: Prepare force main submittal documents for the Collegedale and Summit Landfill force mains including:

CONCEPTUAL PLANS

1. Utilize available electronic drawing files from the original pump station design and GIS level planimetric and topographic data for base map purposes. Refine the conceptual pump station plan and section and a force main route plan based on the alternative selected by the City of Chattanooga and Program Manager.
2. Provide a technical memorandum with the recommended locations for geotechnical borings, if any, to assess the depth to rock along the force main route.
3. Provide up to four (4) sets of concept plans to the City of Chattanooga and Program Manager. The proposed concept plans will include preliminary easement limits (permanent sanitary sewer and temporary construction) and will identify permits required to authorize the project. This information will be presented to the City of Chattanooga and Program Manager for review and comments.
4. Provide a preliminary OPCC, with 20% contingency.

FIELD CHECK PLANS

1. Revise the conceptual layout in accordance with comments from the City of Chattanooga and Program Manager.
2. Forward revised concept plan copies to utility companies with a request to identify existing utility facilities within the project limits and return the information to BWSC within two (2) weeks.
3. Submit a design locate request to the Tennessee One Call system for the proposed project limits.
4. Collect survey information for the project area in a readily usable electronic (AutoCAD or Microstation) format. Detailed survey information will be obtained for the pump station and along the force main route to a point 50 feet each side of



- the proposed force main centerline. The City of Chattanooga will be responsible for providing access to adjacent parcels, if necessary, to conduct the survey.
5. Develop a proposed force main profile based on the revised concept layout. Refine permanent and temporary construction easement limits for the force main construction.
 6. Develop pump station plan and section details with electrical and communication plans for the proposed equipment upgrades.
 7. Coordinate the geotechnical investigation. The City of Chattanooga will be responsible for obtaining these services under a separate contract with a geotechnical consultant. The City of Chattanooga will be responsible for providing access to adjacent parcels, if necessary, to conduct the geotechnical investigation. The final scope associated with the geotechnical investigation is to be determined.
 8. Attend a utility coordination meeting at the Development Resource Center to forward plan copies to utility companies with a request to identify potential conflicts with existing utility facilities and proposed relocation plans to avoid conflicts within the project limits, and return the information to BWSC within two (2) weeks. Meeting to be scheduled by City of Chattanooga or Program Manager Personnel.
 9. Coordinate verification of the horizontal and vertical locations of existing utilities in conflict with the proposed improvements. It is anticipated that City of Chattanooga personnel will be utilized to expose existing utility facilities in areas of potential conflict identified by BWSC. BWSC will tie the utility location information to existing survey control points. BWSC will utilize this information and revise the plans to minimize the potential for utility conflicts.
 10. Provide up to four sets of field check plans to the City of Chattanooga and Program Manager.
 11. Provide a revised OPCC based on field check plans, with 20% contingency.

RIGHT OF WAY PLANS

1. Revise the field check plans in accordance with comments from the City of Chattanooga and Program Manager.
2. Revise the Field Check Plans based on the results of the geotechnical investigation.
3. Prepare an Erosion and Sediment Control Plan and a Storm Water Pollution Prevention Plan (SWPPP), if authorized under Supplemental Services, with a completed Notice of Intent form for the City to execute and forward to the Tennessee Department of Environment and Conservation (TDEC).
4. Develop permanent utility easement and temporary construction easement documents and exhibits, if authorized under Supplemental Services, which will indicate the limits of additional easements necessary to accommodate the proposed improvements in order for the City of Chattanooga to obtain the necessary



authorization from the adjacent property owners to complete the proposed construction.

5. Prepare general permit applications, if authorized under Supplemental Services, for the following items:
 - TVA 26A/USACE Section 404 General Permits for stream crossings
 - Railroad encroachment for bored crossing
 - Natural Gas Pipeline encroachments
 - General Aquatic Resource Alteration Permit
 - City of Chattanooga, Hamilton County, Collegedale roadway utility permits
 - TDOT Utility permit for crossing Apison Pike, and Old Lee Highway (north of the railroad)
6. Provide up to two (2) copies of each permit application, four (4) sets of easement documents, and four (4) sets of right of way plans to the City of Chattanooga and Program Manager. Permit fees to be paid by others. The proposed right of way plans will be presented to the City of Chattanooga and Program Manager for review and comments.
7. Provide a revised OPCC based on the right of way plans.

OFFICE PLANS

1. Revise the right of way plans in accordance with comments from the City of Chattanooga and Program Manager.
2. Submit the SWPPP document to TDEC for review and approval. Permit fees are proposed to be paid by the City of Chattanooga directly to TDEC.
3. Attend a utility coordination meeting at the Development Resource Center to forward plan copies to utility companies and to request that each utility company verify the proposed plans conform to the information previously provided by the utility companies. Responses from the utility companies will be requested to be submitted within two (2) weeks.
4. Develop a draft copy of the contract documents using the City's technical standards and specifications for bidding and construction of the proposed project.
5. Provide four (4) sets of office plans to the City of Chattanooga and Program Manager.
6. Provide a final OPCC based on design quantities and estimated unit prices.

BID DOCUMENTS

1. Revise the right of way documents, office plans, and draft contract documents in accordance with comments from the City of Chattanooga.
2. Prepare twenty (20) sets of plans with contract documents for submittal to the City of Chattanooga to be used for bidding purposes.



TASK 3: COLLEGEDALE PUMP STATION AND FORCE MAIN BIDDING SERVICES

- 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 a 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.

TASK 4: COLLEGEDALE PUMP STATION AND FORCE MAIN CONSTRUCTION ADMINISTRATION SERVICES

Engineering services during construction is based on a 240 consecutive day construction 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.
- 3) Review up to nine (9) contractor's pay requests and requests for change orders and make recommendations to the City and Program Manager for payment or contract adjustment.
- 4) Prepare change orders, as necessary.
- 5) Attend up to sixteen (16) construction progress meetings and prepare minutes.
- 6) Conduct up to sixteen (16) site visits during construction.
- 7) Conduct erosion control inspections as required for the TDOT funded portion of the project.
- 8) Attend pre-final inspection and prepare punch-list of items to be completed prior to final payment.
- 9) Attend pump start up with contractor.
- 10) Conduct final inspection to verify completion of punch list and other items and make a recommendation for final payment to the contractor.
- 11) Prepare record drawings from marked drawings provided by the Contractor.

TASK 5: LEE HIGHWAY PUMP STATION AND FORCE MAIN DESIGN

Task 5.1: Prepare 90% submittal documents for the Lee Highway Pump Station including:

- 1) Process mechanical plans, sections and details.



- 2) Structural plans, sections and details.
- 3) HVAC plans and details.
- 4) Instrument schedules, P&IDs, and control panels.
- 5) Electrical power plans.
- 6) Electrical one-lines, schematics and details.
- 7) Technical specifications.
- 8) Updated opinion of probable construction cost.

Task 5.2: Prepare force main submittal documents for the Lee Highway force main including:

CONCEPTUAL PLANS

1. Utilize available electronic drawing files from the original pump station design and GIS level planimetric and topographic data for base map purposes. Refine the conceptual pump station plan and section and a force main route plan based on the alternative selected by the City of Chattanooga and Program Manager.
2. Provide a technical memorandum with the recommended locations for geotechnical borings, if any, to assess the depth to rock along the force main route.
3. Provide up to four (4) sets of concept plans to the City of Chattanooga and Program Manager. The proposed concept plans will include preliminary easement limits (permanent sanitary sewer and temporary construction) and will identify permits required to authorize the project. This information will be presented to the City of Chattanooga and Program Manager for review and comments.
4. Provide a preliminary OPCC, with 20% contingency.

FIELD CHECK PLANS

1. Revise the conceptual layout in accordance with comments from the City of Chattanooga and Program Manager.
2. Forward revised concept plan copies to utility companies with a request to identify existing utility facilities within the project limits and return the information to BWSC within two (2) weeks.
3. Submit a design locate request to the Tennessee One Call system for the proposed project limits.
4. Collect survey information for the project area in a readily usable electronic (AutoCAD or Microstation) format. Detailed survey information will be obtained for the pump station and along the force main route to a point 50 feet each side of the proposed force main centerline. The City of Chattanooga will be responsible for providing access to adjacent parcels, if necessary, to conduct the survey.



5. Develop a proposed force main profile based on the revised concept layout. Refine permanent and temporary construction easement limits for the force main construction.
6. Develop pump station plan and section details with electrical and communication plans for the proposed equipment upgrades.
7. Coordinate the geotechnical investigation. The City of Chattanooga will be responsible for obtaining these services under a separate contract with a geotechnical consultant. The City of Chattanooga will be responsible for providing access to adjacent parcels, if necessary, to conduct the geotechnical investigation. The final scope associated with the geotechnical investigation is to be determined.
8. Attend a utility coordination meeting at the Development Resource Center to forward plan copies to utility companies with a request to identify potential conflicts with existing utility facilities and proposed relocation plans to avoid conflicts within the project limits, and return the information to BWSC within two (2) weeks. Meeting to be scheduled by City of Chattanooga or Program Manager Personnel.
9. Coordinate verification of the horizontal and vertical locations of existing utilities in conflict with the proposed improvements. It is anticipated that City of Chattanooga personnel will be utilized to expose existing utility facilities in areas of potential conflict identified by BWSC. BWSC will tie the utility location information to existing survey control points. BWSC will utilize this information and revise the plans to minimize the potential for utility conflicts.
10. Provide up to four (4) sets of field check plans to the City of Chattanooga and Program Manager.
11. Provide a revised OPCC based on field check plans, with 20% contingency.

RIGHT OF WAY PLANS

1. Revise the field check plans in accordance with comments from the City of Chattanooga and Program Manager.
2. Revise the Field Check Plans based on the results of the geotechnical investigation.
3. Prepare an Erosion and Sediment Control Plan and a Storm Water Pollution Prevention Plan (SWPPP), if authorized under Supplemental Services, with a completed Notice of Intent form for the City to execute and forward to the Tennessee Department of Environment and Conservation (TDEC).
4. Develop permanent utility easement and temporary construction easement documents and exhibits, if authorized under Supplemental Services, which will indicate the limits of additional easements necessary to accommodate the proposed improvements in order for the City of Chattanooga to obtain the necessary authorization from the adjacent property owners to complete the proposed construction.



5. Prepare general permit applications, if authorized under Supplemental Services, for the following items:
 - TVA 26A/USACE Section 404 General Permits for stream crossings
 - Railroad encroachment for bored crossing
 - Natural Gas Pipeline encroachments
 - General Aquatic Resource Alteration Permit
 - City of Chattanooga, Hamilton County, Collegedale roadway utility permits
 - TDOT Utility permit for crossing Apison Pike, and Old Lee Highway (north of the railroad)
6. Provide up to two (2) copies of each permit application, four (4) sets of easement documents, and four (4) sets of right of way plans to the City of Chattanooga and Program Manager. Permit fees to be paid by others. The proposed right of way plans will be presented to the City of Chattanooga and Program Manager for review and comments.
7. Provide a revised OPCC based on the right of way plans.

OFFICE PLANS

1. Revise the right of way plans in accordance with comments from the City of Chattanooga and Program Manager.
2. Submit the SWPPP document to TDEC for review and approval. Permit fees are proposed to be paid by the City of Chattanooga directly to TDEC.
3. Attend a utility coordination meeting at the Development Resource Center to forward plan copies to utility companies and to request that each utility company verify the proposed plans conform to the information previously provided by the utility companies. Responses from the utility companies will be requested to be submitted within two (2) weeks.
4. Develop a draft copy of the contract documents using the City's technical standards and specifications for bidding and construction of the proposed project.
5. Provide four (4) sets of office plans to the City of Chattanooga and Program Manager.
6. Provide a final OPCC based on design quantities and estimated unit prices.

BID DOCUMENTS

1. Revise the right of way documents, office plans, and draft contract documents in accordance with comments from the City of Chattanooga.
2. Prepare twenty (20) sets of plans with contract documents for submittal to the City of Chattanooga to be used for bidding purposes.

TASK 6: LEE HIGHWAY PUMP STATION AND FORCE MAIN BIDDING SERVICES

- 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 a 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.

TASK 7: LEE HIGHWAY PUMP STATION AND FORCE MAIN CONSTRUCTION ADMINISTRATION SERVICES

Engineering services during construction is based on a 240 consecutive day construction 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.
- 3) Review up to nine (9) contractor's pay requests and requests for change orders and make recommendations to the City and Program Manager for payment or contract adjustment.
- 4) Prepare change orders, as necessary.
- 5) Attend up to sixteen (16) construction progress meetings and prepare minutes.
- 6) Conduct up to sixteen (16) site visits during construction.
- 7) Conduct erosion control inspections as required for the TDOT funded portion of the project.
- 8) Attend pre-final inspection and prepare punch-list of items to be completed prior to final payment.
- 9) Attend pump start up with contractor.
- 10) Conduct final inspection to verify completion of punch list and other items and make a recommendation for final payment to the contractor.
- 11) Prepare record drawings from marked drawings provided by the Contractor.

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:



The proposed scope of services also includes the following supplemental services to be provided as authorized by the City of Chattanooga.

8. Collegedale Pump Station and Force Main Storm Water Pollution Prevention Plan Development
9. Lee Highway Pump Station and Force Main Storm Water Pollution Prevention Plan Development
10. Collegedale Pump Station and Force Main Easement and Permitting
11. Lee Highway Pump Station and Force Main Easement and Permitting
12. Collegedale Pump Station and Force Main Surveying and Mapping
13. Lee Highway Pump Station and Force Main Surveying and Mapping
14. Collegedale Pump Station and Force Main Resident Project Representation Services
15. Lee Highway Pump Station and Force Main Resident Project Representation Services
16. Collegedale Pump Station and Force Main Geotechnical Exploration
17. Lee Highway Pump Station and Force main Geotechnical Exploration
18. Additional services, as requested

TASK 8: COLLEGEDALE PUMP STATION AND FORCE MAIN STORM WATER POLLUTION PREVENTION PLAN

- 1) Prepare a SWPPP and Notice of Intent form for the Collegedale Pump Station and Force Main Upgrade in accordance with TDEC requirements.

TASK 9: LEE HIGHWAY PUMP STATION AND FORCE MAIN STORM WATER POLLUTION PREVENTION PLAN

- 1) Prepare a SWPPP and Notice of Intent form for the Lee Highway Pump Station and Force Main Upgrade in accordance with TDEC requirements.

TASK 10: COLLEGEDALE PUMP STATION AND FORCE MAIN EASEMENTS AND PERMITTING

- 1) Easement Preparation for up to eighteen (18) easement documents for the Collegedale Pump Station and Force Main Project
- 2) Prepare the following permit applications for the Collegedale Pump Station and Force Main Project:
 - TVA 26A/USACE Section 404 General Permits for stream crossings
 - General Aquatic Resource Alteration Permit
 - City of Chattanooga roadway utility encroachment permit
 - City of Collegedale roadway utility encroachment permit
 - TDOT Utility permit
 - TVA right of way encroachment permit
 - Collegedale and City of Chattanooga Local Land Disturbance Permits

TASK 11: COLLEGEDALE PUMP STATION AND FORCE MAIN EASEMENTS AND PERMITTING

- 1) Easement Preparation for up to eight (8) easement documents for the Lee Highway Pump Station and Force Main Project
- 2) Prepare the following permit applications for the Lee Highway Pump Station and Force Main Project:



- TVA 26A/USACE Section 404 General Permits for stream crossings
- Railroad encroachment for bored crossing
- Natural Gas Pipeline encroachments
- General Aquatic Resource Alteration Permit
- City of Chattanooga roadway utility encroachment permit
- Hamilton County roadway utility encroachment permit
- TDOT Utility permit
- City of Chattanooga and Hamilton County Local Land Disturbance Permits

TASK 12: COLLEGEDALE PUMP STATION AND FORCE MAIN SURVEYING AND MAPPING

- 1) Topographic survey for the Collegedale Pump Station site and a 50 foot wide corridor survey along the proposed Force Main route (outside the limits of the Apison Pike plan limits). The base map will utilize City of Chattanooga GIS level parcel information with the field run topographic information. Boundary surveys are not proposed as part of the base services, but may be provided upon written authorization from the City of Chattanooga.

TASK 13: LEE HIGHWAY PUMP STATION AND FORCE MAIN SURVEYING AND MAPPING

- 1) Topographic survey for the Lee Highway Pump Station site and a corridor survey within the Old Lee Highway right of way. The base map will utilize City of Chattanooga GIS level parcel information with the field run topographic information. Boundary surveys are not proposed as part of the base services, but may be provided upon written authorization from the City of Chattanooga.

TASK 14: COLLEGEDALE PUMP STATION AND FORCE MAIN RESIDENT PROJECT REPRESENTATION SERVICES

- 1) For the Collegedale Pump Station and Force Main Project - Full Time Resident Project Representation Services. The level of effort for these services is 1400 hours.

TASK 15: LEE HIGHWAY PUMP STATION AND FORCE MAIN RESIDENT PROJECT REPRESENTATION SERVICES

- 1) For the Lee Highway Pump Station and Force Main Project - Full Time Resident Project Representation Services. The level of effort for these services is 1400 hours.

TASK 16: COLLEGEDALE PUMP STATION AND FORCE MAIN GEOTECHNICAL EXPLORATION

- 1) For the geotechnical investigation for the Collegedale Pump Station and Force Main Project:
 - a. Locating the borings using hand held equipment;
 - b. 16 borings or a boring about every 1,000 feet to 15 feet or auger refusal;
 - c. 6 Atterberg Limits and 10 natural moisture content tests to evaluate soil type;
 - d. 2 unconfined compressive strength tests;
 - e. Boring logs and a boring location plan showing the approximate boring locations;



- f. A report describing the conditions encountered, anomalies, or conditions that could impact construction such as soft soil conditions, an elevated groundwater level, sinkholes, and depth to rock;
- g. Excavation side slope recommendations based on OSHA requirements;
- h. Bull dozer and operator to clear access to the boring locations (rate \$800/day).

TASK 17: LEE HIGHWAY PUMP STATION AND FORCE MAIN GEOTECHNICAL EXPLORATION

- 1) For the geotechnical investigation for the Lee Highway Pump Station and Force Main Project:
 - a. Locating the borings using hand held equipment;
 - b. 14 borings or a boring about every 1,000 feet to 15 feet or auger refusal;
 - c. 6 Atterberg Limits and 10 natural moisture content tests to evaluate soil type;
 - d. 2 unconfined compressive strength tests;
 - e. Boring logs and a boring location plan showing the approximate boring locations;
 - f. A report describing the conditions encountered, anomalies, or conditions that could impact construction such as soft soil conditions, an elevated groundwater level, sinkholes, and depth to rock;
 - g. Excavation side slope recommendations based on OSHA requirements;
 - h. Traffic control during the boring operations;
 - i. Bull dozer and operator to clear access to the boring locations (rate \$800/day).

TASK 18: ADDITIONAL SERVICES

Additional services are not in the scope of services for this contract. These services will be performed at Owner's request with compensation adjustments. Additional services that Owner might choose to add to the scope of services include, but are not limited to, the following items.

- 1) Evaluation/delineation of wetlands within the project limits.
- 2) Perform sewer basin tributary flow study to examine upstream and downstream flow impacts of pump station improvements.
- 3) Review of closed circuit television video (CCTV) inspection records for the existing sanitary sewer system.
- 4) Design of expanded wet wells, pump pits, and valve pits.
- 5) Forensic/structural analysis of existing structures.
- 6) Air quality permit applications for the new diesel generator.
- 7) Structural design for connections to existing bridge structures.
- 8) Structural design for aerial crossings of streams.
- 9) Fire sprinkler design for pump buildings and canopies.
- 10) Assistance with rezoning or zoning variance requests.
- 11) Preparation of a new SRF compliant PER.



- 12) Design of SCADA, CCTV, or Security equipment for this project.
- 13) Design of extension of fiber optic cable with data/telephone service to the pump stations and connection to the City's fiber mesh network.
- 14) Designs for extension of primary power line to the new pump station.
- 15) Specification of a pad mounted transformer.
- 16) Design or specification of SCADA system or components.
- 17) Design of CCTV/Security cameras, keypads or door alarms.
- 18) Value Engineering reviews and services.
- 19) Pre-qualifications of contractors and vendors.
- 20) Additional meetings with local, State or Federal agencies to discuss the project.
- 21) Additional appearances at public hearings or before special boards.
- 22) Supplemental engineering work required to meet the requirements of regulatory or funding agencies that become effective subsequent to the date of this agreement.
- 23) Assistance with bid protests and rebidding.
- 24) 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.
- 25) Revisions of designs, drawings, and specifications to incorporate changes arising from Value Engineering Study.
- 26) 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.
- 27) Engineering assistance to Owner in negotiation meetings and condemnation proceedings.
- 28) Environmental assessment reports and/or environmental impact statements.
- 29) Cultural resources and/or archaeological study and reports.
- 30) Remedial investigation/feasibility study or Phase I environmental assessment to determine quantity and location of contaminants.
- 31) Support services for additional work in connection with public information activity.
- 32) Evaluation of unusually complex or unreasonably numerous claims submitted by the Contractor or others in connection with the work.



- 33) 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.
- 34) Modifications to the design resulting from changes in the general scope, extent, or character of the project are generally described as follows:
 - a. Changes in size or complexity.
 - b. Owner's schedule, design, or character of construction.
 - c. Method of financing or funding availability.
 - d. Changes proposed or requested after acceptance by City of the final Basis of Design Memorandum.
 - e. Revision of previously accepted studies, reports, design documents, or construction contract documents when such revisions are required by changes in laws, rules, regulations, ordinances, codes, or orders enacted subsequent to the preparation of such studies, reports, documents, or designs; or are required by any other causes beyond Engineer's control.
- 35) Property or boundary surveys, and services, required to obtain easements or purchase of additional property
- 36) Landscaping plans, planting plans, or landscape design beyond specification for seeding and sodding.
- 37) Services for making revisions to drawings and specifications made necessary by the acceptance of substitutions proposed by the Generator 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. Payment for such engineering services shall be the responsibility of the Contractor who is proposing the substitution.
- 38) Other services, as requested and agreed by the Client and Engineer.

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 10 percent.

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

- a. Non-local travel by company or private vehicle at the IRS approved standard mileage rate.



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- 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 & Cannon, Inc.
 Project Number & Name: Contract No. W-09-013-102
 Collegedale Basin Pump Stations Improvements

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 billing rates and expenses with a not to exceed limit of \$620,400 per the Rate Table in Attachment F. Payments shall be made monthly in amounts which are consistent with the amount of engineering services provided, as determined by the Engineer.

Task 1:	Data Gathering, Preliminary Engineering, and Project Management (Hourly)	\$ 42,500
Task 2:	Collegedale Pump Station Design (Hourly)	\$210,000
Task 3:	Collegedale Pump Station Bidding Services (Hourly)	\$ 15,500
Task 4:	Collegedale Pump Station Construction Administration Services (Hourly)	\$104,600
Task 5:	Lee Highway Pump Station Design (Hourly)	\$166,000
Task 6:	Lee Highway Pump Station Bidding Services (Hourly)	\$ 15,500
Task 7:	Lee Highway Pump Station Construction Administration Services (Hourly)	\$ 66,300
	Subtotal	\$620,400

- 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:	Collegedale Pump Station and Force Main Storm Water Pollution Prevention Plan Development (Hourly)	\$ 3,650
Task 9:	Lee Highway Pump Station and Force Main Storm Water Pollution Prevention Plan Development (Hourly)	\$ 3,650
Task 10:	Collegedale Pump Station and Force Main Easement and Permitting (Hourly)	\$ 16,600
Task 11:	Lee Highway Pump Station and Force Main Easement and Permitting (Hourly)	\$ 22,400
Task 12:	Collegedale Pump Station and Force Main Surveying and Mapping (Hourly)	\$ 45,000
Task 13:	Lee Highway Pump Station and Force Main Surveying and Mapping (Hourly)	\$ 30,000
Task 14:	Collegedale Pump Station and Force Main Resident Project Representation Services (Hourly)	\$ 91,000
Task 15:	Lee Highway Pump Station and Force	



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Main Resident Project Representation Services (Hourly)	\$ 91,000
Task 16: Collegedale Pump Station and Force	
Main Geotechnical Exploration (Hourly)	\$ 9,100
Task 17: Lee Highway Pump Station and Force	
Main Geotechnical Exploration (Hourly)	\$ 13,300
Task 18: Additional services, as requested(Hourly)	\$ 21,000
	Subtotal\$ 346,700
	Grand Total\$967,100

- 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 1.5times the rates listed (non-engineer time only).
- Reimbursable charges will be considered the amount of actual costs of project related expenses or charges times a markup of 10%. 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.
- The entire amount of each statement shall be due and payable 30 days after receipt by the Owner.
- 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.
- Invoices shall be submitted using the Standard Invoice form, Attachment G.



ATTACHMENT C

Owner: City of Chattanooga, Tennessee

Engineer: **Barge Waggoner Sumner & Cannon, Inc.**
Project Number & Name: **Contract No. W-09-013-102**
Collegedale Basin Pump Stations Improvements

OWNER'S RESPONSIBILITIES

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

1. 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.
2. The Owner will provide Engineer access to all of available NPDES reports as required.
3. 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.
4. 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.
5. The Owner will provide the Engineer copies of all available sewer reports related to sewer facility planning as required.
6. The Owner will provide access to the system wide hydraulic model outputs as required.
7. The Owner will provide the Engineer the most up-to-date GIS data available for all sewer system components as required.
8. The Owner will provide the Engineer access to all its pump station and CSOTF sites as required.
9. The Owner will provide Engineer access to all available plans and specifications for the facilities as required.
10. 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.
11. The Owner will provide the Engineer with documentation of existing standards and procedures related to the sewer system development and expansion as required.
12. The Owner will provide the Engineer with documentation of existing standards and procedures related to the treatment works as required.
13. 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.
14. The Owner will designate a project representative to be the liaison between the Engineer and the



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Owner on the project.

15. 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: City of Chattanooga, Tennessee

Engineer: **Barge Waggoner Sumner & Cannon, Inc.**
Project Number & Name: **Contract No. W-09-013-102**
Collegedale Basin Pump Stations Improvements

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.



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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.

None.



ATTACHMENT E

Owner: City of Chattanooga, Tennessee

Engineer: **Barge Waggoner Sumner & Cannon, Inc.**
Project Number & Name: **Contract No. W-09-013-102**
Collegedale Basin Pump Stations Improvements

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.

See Attachment E1



ATTACHMENT F

Owner: City of Chattanooga, Tennessee

Engineer: **Barge Waggoner Sumner & Cannon, Inc.**
Project Number & Name: **Contract No. W-09-013-102**
Collegedale Basin Pump Stations Improvements

RATE SCHEDULE

Hourly Rate Schedule

Classification	Rate
Principal-In-Charge	\$200
Project Manager	\$180
Senior Technical Specialist	\$220
Senior Process Engineer	\$180
Senior Engineer	\$165
Professional Engineer II	\$130
Professional Engineer I	\$110
Engineer-In-Training	\$90
Senior Landscape Architect	\$130
Landscape Architect	\$95
Landscape Architect-In-Training	\$85
CADD Designer	\$100
CADD Technician	\$70
Office Administrator	\$70
Administrative Support	\$40
Senior Resident Project Representative	\$80
Resident Project Representative	\$65
Senior Registered Land Surveyor	\$115
Registered Land Surveyor	\$95
Survey Technician	\$60
2-Man Survey Crew	\$110



ATTACHMENT G

STANDARD INVOICE

Indicates MANDATORY Item

CONSULTANT LETTERHEAD

INVOICE

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

Provided by City

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	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.

ID	Task Name	Duration	Start	Finish	2013												2014												2015
					Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Collegedale Pump Station Upgrade Project	60 days	Mon 1/7/13	Fri 3/29/13																									
2	Data Gathering, Preliminary Engineering, and Project Management	1 day	Mon 1/28/13	Mon 1/28/13																									
7	Collegedale Pump Station Upgrade Design	140 days	Mon 6/3/13	Fri 12/13/13																									
8	Concept Plans	10 days	Mon 6/3/13	Fri 6/14/13																									
9	Field Check Plans	80 days	Mon 6/17/13	Fri 10/4/13																									
16	Right of Way Plans	20 days	Mon 10/7/13	Fri 11/1/13																									
21	Office Plans	15 days	Mon 11/4/13	Fri 11/22/13																									
26	Easement Acquisition (By others)	40 days	Mon 10/21/13	Fri 12/13/13																									
27	Permit Acquisition	40 days	Mon 10/21/13	Fri 12/13/13																									
28	Bid Documents	15 days	Mon 11/25/13	Fri 12/13/13																									
31	5. Bidding (Collegedale PS & FM)	50 days	Fri 1/10/14	Fri 3/21/14																									
38	6. Construction	180 days	Mon 4/14/14	Fri 12/19/14																									
39	4. Lee Highway Pump Station Upgrade Design	245 days	Mon 1/28/13	Fri 1/3/14																									
40	Coordination with WWTA (By Others)	60 days	Mon 1/28/13	Fri 4/19/13																									
41	Concept Plans	10 days	Mon 6/3/13	Fri 6/14/13																									
42	Field Check Plans	80 days	Mon 6/17/13	Fri 10/4/13																									
49	Right of Way Plans	20 days	Mon 10/7/13	Fri 11/1/13																									
54	Office Plans	15 days	Mon 11/4/13	Fri 11/22/13																									
59	Easement Acquisition (By others)	40 days	Mon 10/21/13	Fri 12/13/13																									
60	Permit Acquisition	40 days	Mon 10/21/13	Fri 12/13/13																									
61	Bid Documents	15 days	Mon 11/25/13	Fri 12/13/13																									
64	5. Bidding (Collegedale PS & FM)	50 days	Fri 1/10/14	Fri 3/21/14																									
71	6. Construction	180 days	Mon 4/14/14	Fri 12/19/14																									

Attachment E1 Project: Collegedale Pump Sta Schedule Revi Date: Thu 12/27/12	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			