

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE ADMINISTRATOR OF THE DEPARTMENT OF PUBLIC WORKS TO ENTER INTO AN AGREEMENT WITH VOLKERT, INC. FOR PROFESSIONAL SERVICES RELATIVE TO CONTRACT NO. W-10-012-101, TELEMETRY AND SCADA UPGRADES TO THE MOCCASIN BEND WASTEWATER TREATMENT PLANT AND REMOTE FACILITIES, FOR AN AMOUNT NOT TO EXCEED FOUR HUNDRED THIRTY-SIX THOUSAND DOLLARS (\$436,000.00).

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 Volkert, Inc. for professional services relative to Contract No. W-10-012-101, Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities, for an amount not to exceed \$436,000.00.

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 # 1

A Council Action is requested for the Administrator of the Department of Public Works to enter into an agreement with Volkert, Inc., for professional services, relative to Contract No. W-10-012-101, Telemetry and SCADA Upgrades to the MBWWTP and Remote Facilities, in an amount not to exceed \$436,000.00.

Name of Vendor/Contractor/Grant, etc. Volkert, Inc.
Total project cost \$ 436,000.00
Total City of Chattanooga Portion \$ 436,000.00
City Amount Funded \$ 436,000.00
New City Funding Required \$ 0
City's Match Percentage % _____

New Contract/Project? (Yes or No) No
Funds Budgeted? (YES or NO) Yes
Provide Fund 6011
Provide Cost Center K43113
Proposed Funding Source if not budgeted ISS
Grant Period (if applicable) _____

List all other funding sources and amount for each contributor.

Amount(s)	Grantor(s)
\$ _____	_____
_____	_____
_____	_____

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
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

Volkert, Inc.,

hereinafter called Engineer.

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

Contract Number: W-10-012-101, Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities,

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.

M M C



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: **David M. Young, Jr., P.E.**
1428 Chestnut Street, Suite C, Chattanooga, TN 37402
423-842-3335

Owner: City of Chattanooga
Department of Public Works
Engineering Division
Suite 2100, Development Resource Center
1250 Market Street
Chattanooga, TN37402
(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.

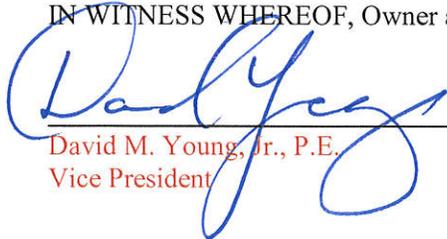
32. DRUG FREE WORKFORCE

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.



David M. Young, Jr., P.E.
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: **Volkert, Inc.**
Project Number & Name: **W-10-012-101**
Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities

SCOPE OF SERVICES

1. BASIC SERVICES

The project is specifically defined as:

Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities

DESCRIPTION OF PROJECT

The city owns, operates, and maintains 99 remote sewage, storm water pumping stations, and combined sewer overflow treatment facilities (CSOTF) located throughout Hamilton County TN, Catoosa County GA, Walker County GA, and Dade County GA. Status and alarm conditions are monitored remotely from the Moccasin Bend WWTP in Chattanooga, TN by plant personnel in addition to site visits by pump station operations staff. The current radio communications system for the remote pump stations and CSO facilities has been in service since 1994 and the manufacturer no longer supports the operation and maintenance of this equipment. Several communication failures have resulted in slower response times to sanitary sewer overflows. As a result, the existing telemetry and SCADA systems were evaluated for the remote facilities and the Moccasin Bend WWTP.

The Engineer agrees to provide the following services:

Task 1-Data Gathering, Preliminary Engineering Report and Project Management

Task 1.1 Project Management

- a. Volkert will establish project management procedures early in the project, provide necessary information and data as required, and coordinate with the City WRD and their Program Manager (PM) throughout the process.
- b. Volkert will develop a detailed project schedule and submit it to the City for approval. An outline of the anticipated project schedule is shown in Attachment F. This schedule assumes timely plan reviews by the City and TDEC/SRF as well as satisfactory scheduling from the City's Information Services Department.
- c. Volkert will hold regularly scheduled progress meetings with the City staff to discuss the design as well as progress / schedule.

Task 1.2 Data Gathering

- a. Volkert will obtain a detailed inventory from the City of the existing equipment at each remote facility.



- b. Volkert will visit each remote facility to determine the layout of the equipment, potential communications methods, and other field conditions.
- c. Volkert will work with the City of Chattanooga to finalize the equipment to be installed at each remote location.
- d. Volkert will coordinate with the City I.S. Department, EPB, and other communications and software providers throughout the planning and design process.

Task 1.3 Preliminary Engineering Report

Volkert will develop a preliminary (30%) design based on the State Revolving Loan Fund Planning Document for the Evaluation of Telemetry and SCADA Systems for the MBWWTP and Remote Facilities, dated June 2012. Volkert will meet with and discuss the preliminary design with the City WRD staff as well as SRF staff.

Task 2 Detailed Design

- a. The design of the telemetry and SCADA upgrade for the remote sites will include but not be limited to upgrading the existing Motorola radio system at all remote sites. The remote sites with a “high consequence of failure” would be added to the City of Chattanooga’s Regional Public Safety Wireless Network to provide redundant communication. Specific items include, but are not limited to the following:

Pump stations and remote sites:

- i. Upgrade radio equipment at pump stations and other remote sites
- ii. Replace radio antennae at pump stations and other remote sites
- iii. Upgrade radio repeater sites and add additional channels
- iv. Install City of Chattanooga Wireless Mesh Network at critical sites
- v. Install remote pump start/stop capability at critical sites
- vi. Upgrade remote sites hardware/software in operation center

- b. The design of the telemetry and SCADA upgrade for Moccasin Bend WWTP (plant system) will include but not be limited to upgrading the existing Fiber System. Specific items include, but are not limited to the following:

Plant System:

- i. Replace obsolete/mature components at plant for future upgrades
- ii. Genius I/O Block replacement – Versa max system
- iii. 90-30 Remote I/O modification
- iv. Fiber optics upgrade
- v. Install gas scrubber
- vi. Capture recording data and the development of reporting tools
- vii. Streamline current manual methods of data entry to improve efficiency
- viii. Configure/prioritize alarms and installation
- ix. Configuration and installation of database backup system
- x. Strategy and security for remote access to the control system
- xi. Development and installation of HMI improvements for SCADA

- c. Volkert will utilize the State Revolving Loan Fund Planning Document for the Telemetry and SCADA Systems for the MBWWTP and Remote Facilities, dated June 2012, as well as information from subsequent meetings with the City WRD and field investigations to



- design the Telemetry and SCADA system updates for each remote location.
- d. Volkert anticipates that the design drawings will be in the form of detailed schematic layouts and instrumentation diagrams of the various facility types and communications methods taking into account varying field conditions at the remote locations. It is understood that the plans will contain the required site specific information for installation.
 - e. Volkert will prepare 60% and 90% plans for review by the City and incorporate any City comments into the final plans.
 - f. Volkert will prepare final Contract Documents and Specifications referencing the City of Chattanooga Department of Public Works Standard Specifications for this project. Revise the City of Chattanooga Standard Details and Specifications only as required, and provide supplemental specifications and/or details when needed.
 - g. Volkert will calculate construction quantities and prepare cost estimates in the City of Chattanooga standard format, and monitor the cost estimate throughout the design.
 - h. It is understood that the City's I.S. Department will design and install required equipment for the Regional Public Safety Wireless Network at the location designated as "critical sites" in the planning document.
 - i. It is understood that the City intends to sole-source the required upgrades to the existing fiber optic system at the MBWWTP including, equipment and installation to their current contractor Engineered Software Products (ESP). Volkert will coordinate with TDEC/SRF to confirm that it is acceptable to proceed in this manner. If TDEC/SRF allows the City to sole-source this work to ESP, then Volkert will prepare the contract documents required for the work.

Task 3-Bidding Services:

Volkert will provide professional services associated with solicitation of bids, including but not limited to the following:

- a. Attend Pre-bid meeting if required
- b. Attend Bid opening
- c. Answer bidders questions
- d. Prepare addendums as required
- e. Prepare Bid comparison / certified tabulation
- f. Prepare Bid recommendations
- g. Prepare contract books for execution

Task 4-Construction Administrative Services:

The engineer will provide Construction Phase Engineering Services for this project as described below:

- a. Perform project management/coordination and provide supervision of the Resident Project Representative (RPR).
- b. Attend and participate in the pre-construction conference and monthly construction progress conferences and record minutes of meetings.
- c. Review contractor's submitted progress reports for conformance with the contract requirements and general acceptability. Monitor contractor's performance in accordance with the contract documents.
- d. Review and make recommendations concerning substitute materials and equipment,



- detailed construction drawings, shop drawings, and other detailed information submitted by contractor for approval. Advise the contractor and the owner of review comments.
- e. Review and approve or make recommendations relative equipment and testing.
 - f. Interpret contract requirements as they relate to the various phases of contractor's work, and answer contractor questions concerning the design of the project. In addition, prepare sketches and specifications as necessary to resolve problems encountered during construction/installation due to actual field conditions.
 - g. Respond to requests for information (RFIs) and process Change Requests and Change Orders as required.
 - h. Make periodic visits to the construction site to observe, monitor, and document contractor's compliance with contract requirements.
 - i. Verify contractor's periodic estimates for partial payment and provide recommendations concerning payments to the Owner upon request.
 - j. Coordinate the scheduling and attendees in conjunction with the Owner for the Final Construction Inspection. Conduct the Final Construction Inspection and prepare a Final Punch List on behalf of the City of Chattanooga.
 - k. After construction is complete, Volkert will provide record drawings based on construction changes recorded by the RPR and information 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:

Task 5-Resident Project Representative (RPR) Services:

Volkert will provide Resident Project Representative (RPR) Services, including but not limited to the following:

- a. Attend and participate in the pre-construction conference and assist Owner in coordinating and scheduling an appropriate Notice to Proceed date with the contractor.
- b. Observe, monitor, and confirm contractor's compliance with contract requirements.
- c. Perform field testing as required, and monitor the testing provided by the contractor in the field as defined in the Contract, Plans or Specifications. Testing performed by RPR will be documented on standard forms and distributed as required.
- d. Observe equipment and materials being used onsite for compliance with specifications.
- e. Documentation of construction thru daily reports and digital photographs backed up on digital media. Daily reports will include documentation of personnel on site, the number of hours the contractor works per day, the equipment and supplies onsite, and/or other essential information that may be necessary in recording work progress of the contractor.
- f. Assist in coordination with utility owners on behalf of the Owner.
- g. Review contractor's submitted progress reports for conformance with the contract requirements and general acceptability. Monitor contractor's performance in accordance with this submittal. Assist in submit weekly progress reports to the Owner covering progress of work and outlining any problems or factors contributing to delays.
- h. Review contractor's schedule and monitor contractor's progress. In the event that the



contractor is not meeting the Owner's approved schedule, the RPR shall notify the Owner and assist in coordinating an appropriate course of action to assist the contractor as required to improve the schedule wherever possible.

- i. Verify contractor's periodic estimates for partial payment and provide recommendations concerning payments to Owner.
- j. Attend project-related meetings and conferences with the Owner, contractor, engineer and other applicable parties.
- k. Assist in coordinating the schedule and attendees in conjunction with the Owner for the Final Construction Inspection. Conduct the Final Construction Inspection and prepare a Final Punch List on behalf of the City of Chattanooga.
- l. Make recommendations on completion status of the project, including final payments to contractor, release of retained percentages, and/or liquidated damages, if any.
- m. The RPR services fee is based on a construction time of 365 calendar days and a close out time of an additional 30 calendar days. The RPR Services fee is based on 20 hours per week for the combined time above (395 calendar days).

Task 6-Additional Services as Required:

Any work requested by the Owner that is not included in the above Scope of Services will be classified as Additional Services. Anticipated additional services are as follows:

- Assist in conducting on-site demonstrations or pilot testing of vendor equipment and/or viewing and evaluating with City representatives and vendor equipment installed in other similar applications.

Assist in presentations to public works officials, other staff, and/or elected officials.

- If it is determined that permits are required, assistance will be provided to obtain them.

3. REIMBURSABLE EXPENSES:

Project specific reimbursable expenses and charges shall include the following:

Project-specific reimbursable expenses are included in the cost for each task.



ATTACHMENT B

Owner: City of Chattanooga, Tennessee

Engineer: **Volkert, Inc.**
Project Number & Name: **W-10-012-101**
Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities

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, **An hourly not to exceed fee based on billing rates and expenses of \$ 292,800.00.** Payments shall be made monthly in amounts which are consistent with the amount of engineering services provided, as determined by the Engineer.

Task 1 - Data Gathering, Prelim Engineering Report and Project Mgmt	\$115,140.00
Task 2 - Detailed Design	\$ 138,440.00
Task 3 - Bidding Phase Services	\$6,500.00
Task 4 - Construction Phase Engineering Services	\$32,720.00

Subtotal **\$ 292,800.00**

- 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 5 - Resident Project Representative Service	\$ 133,200.00
Task 6 - Additional Services	\$10,000.00

Subtotal **\$ 143,200.00**

Grand Total **\$ 436,000.00**

- 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 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



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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: **Volkert, Inc.**
Project Number & Name: **W-10-012-101**
Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities

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.



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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 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: Owner of Chattanooga, Tennessee

Engineer: **Volkert, Inc.**
Project Number & Name: **W-10-012-101**
Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities

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.



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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.

The City WRD agrees to supply a WRD employee to accompany the Volkert staff during visits to the MBWWTP, pump stations, combined sewer overflow treatment facilities and any other remote facilities for access and safety purposes.



ATTACHMENT E

Owner: Owner of Chattanooga, Tennessee

Engineer: **Volkert, Inc.**
Project Number & Name: **W-10-012-101**
Design and Construction of Telemetry and SCADA Upgrades to the Moccasin Bend Wastewater Treatment Plant and Remote Facilities

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.

Volkert will develop a detailed project schedule in Microsoft Project format and submit it to the City for approval. It is anticipated that the project schedule will follow the below outline.

- | | | |
|----|-------------------------------|--|
| 1. | Project Procedures Manual | 30 Days from project NTP |
| 2. | Preliminary Design | 150 Days from project NTP |
| 3. | Complete Field Investigations | 120 Days following NTP for Detailed Design (expected 150 days after project NTP) |
| 4. | Detailed Design | 210 Days following NTP for Detailed Design |
| 5. | Bidding Assistance | 90 Days after SRF approval to advertise |
| 6. | Construction Phase Services | 360 Days from NTP of Construction Contract |



ATTACHMENT F

Owner: Owner of Chattanooga, Tennessee

Engineer: **Volkert, Inc.**
 Project Number & Name: **W-10-012-101**
Design and Construction of Telemetry and SCADA Upgrades to the
Moccasin Bend Wastewater Treatment Plant and Remote Facilities

RATE SCHEDULE

Principal	\$200.00
Manager	\$190.00
Supervisor	\$170.00
Project Manager	\$160.00
Staff 2 Professional	\$130.00
Staff 1 Professional	\$110.00
Senior Designer	\$130.00
Designer	\$110.00
Technician	\$85.00
Drafter	\$66.00
Construction Manager	\$145.00
Resident Project Representative	\$90.00
Clerical	\$60.00



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.