



# Tetra Tech, Inc.

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## **SUPPLEMENTAL WORK ORDER for the CITY OF CLEARWATER**

**Date:** April 13, 2017

**Project Number:** \_\_\_\_\_

**City Project Number:** 15-0031-UT

**1. PROJECT TITLE:**

Water Treatment Plant 1 Improvements - Construction Engineering and Inspection (CEI) Services

**2. SCOPE OF SERVICES:**

The city of Clearwater (City) is constructing miscellaneous equipment replacement and automation needs that are necessary at Water Treatment Plant 1 (WTP 1) and has requested Tetra Tech, Inc. (Engineer) to provide a scope of work for construction engineering and inspection (CEI) services. In general, the improvements are in the areas of the existing pressure filter system that was originally installed in 2003 with the original RO treatment facilities construction and the arsenic absorber system that was added in the latest capacity expansion to the WTP. A general description of the improvements to WTP 1 improvements is as follows:

- a. Improvements include the equipping of the existing arsenic absorber system with electric motor operated valves and related automation and controls to allow for routine automated backwashing of the system, replacement of the existing pressurized media filter blower and air control valves, and replacement of the existing painted steel structural supports at the filter control panels and piping.
- b. Controls will be provided through the existing programmable logic controller (PLC) and Supervisory Control And Data Acquisition (**SCADA**) Human Machine Interface (HMI) at the WTP.
- c. The supply of electrical power will be through the existing plant Motor Control Center (MCC), starters, and power distribution panels.

### CEI Resident Project Representative

In order to better ensure that the Project is constructed in accordance with the Contract Documents, the Engineer will provide the services of a CEI Resident Project Representative (RPR) throughout the duration of construction. It is anticipated that such services will be provided over an eleven (11) month period. The role of the RPR, and limitations of the RPR's responsibilities, are set forth below:

1. The RPR will be the Engineer's agent or employee and under the Engineer's supervision and may act on the Engineer's behalf as directed by the Engineer and may carry out any activities designated herewith for Construction Phase engineering services. Accordingly, the Engineer will provide the services of a RPR at the site to assist the Engineer and to provide more continuous observation of such work and observe the project as a whole.
2. The purpose of representation by the RPR at the site will be to enable the Engineer to better carry out the scope and the duties and responsibilities assigned to and undertaken by the Engineer during the Construction Phase, and, in addition, by exercise of the Engineer's efforts as an experienced and qualified design professional, to provide the City with a greater degree of confidence that the completed work of the Contractor will conform generally to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by the Contractor. On the other hand, the Engineer or RPR shall not, during such visits or as a result of such observations of the Contractor's work in progress, supervise, direct or have control over the Contractor's work nor shall the Engineer have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, for safety precautions and programs incident to the work of the Contractor or for any failure of the Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to the Contractor furnishing and performing work.
3. The RPR shall keep the City informed of the progress of the Project as a whole and shall file a daily construction report.
4. The RPR may disapprove of or reject Contractor's work while it is in progress if the Engineer believes that such work will not produce a completed Project that conforms generally to the Contract Documents or that it will prejudice the integrity of the design concept of the Project as reflected in the Contract Documents.
5. The RPR shall consult with the Engineer and shall issue necessary interpretations and clarifications to the Contract Documents and prepare work directive changes and change orders as required.
6. The RPR shall act on the Engineer's behalf and shall observe testing and inspections as the Engineer deems necessary. Inspections, testing, and approvals shall be as required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents (but only to determine

generally that their content complies with the requirements of, and the results certified indicate compliance with the Contract Documents)

7. The RPR shall review work daily and shall inform the Engineer of percent complete based on the project Schedule of Values or appropriate unit prices, and the Contract Documents for review of payment applications. The Engineer shall as a qualified design professional, provide final written recommendation of payment for each pay period. The RPR shall assist the Engineer to assure that the quality of such work is generally in accordance with the intent established in the Contract Documents. By recommending any payment, the Engineer will not thereby be deemed to have represented that exhaustive, continuous or detailed reviews or examinations have been made by the Engineer to check the quality or quantity of Contractor's work as it is furnished and performed beyond the responsibilities specifically assigned to the Engineer in the Contract Documents. The Engineer's review of Contractor's work for the purposes of recommending payments will not impose on the Engineer's responsibility to supervise, direct or control such work or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs or Contractor's compliance with laws, rules, regulations, ordinances, codes or orders applicable to furnishing and performing the work. It will also not impose responsibility on the Engineer to make any examination to ascertain how or for what purposes the Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any of the work, materials or equipment has passed to the City free and clear of any lien, claims, security interests or encumbrances, or that there may not be other matters at issue between the City and the Contractor that might affect the amount that should be paid.
8. The RPR shall conduct inspections to assist the Engineer in determining if the work is substantially complete and a final inspection to determine if the completed work is acceptable so that the Engineer may recommend, in writing, final payment to Contractor and may give written notice to the City and the Contractor that the work is acceptable, but any such recommendation and notice will be subject to the limitations expressed above and the General Conditions of the Contract Documents.
9. The RPR and/or the Engineer shall not be responsible for the acts or omissions of the Contractor, or of any subcontractor or supplier, or any of the Contractor's subcontractor's or supplier's agents or employees or any other persons (except the Engineer's own employees and agents) at the site or otherwise furnishing or performing any of the Contractor's work; however, nothing contained in paragraphs above inclusive, shall be construed to release the Engineer from liability for failure to properly perform duties and responsibilities assumed by the Engineer in the Contract Documents.
10. The RPR shall facilitate the exchange of documents and other necessary information between the City, the Engineer, and the Contractor.

## CONSTRUCTION PHASE TASKS

During the construction phase, Tetra Tech will complete the following tasks:

1. Prepare for and attend one (1) preconstruction conference, take meeting minutes, and distribute written minutes to all attendees.
2. Provide CEI Resident Project Representative (RPR) as described above to observe construction of the project, coordinate construction activities with the Contractor, document project progress, and conduct progress meetings. The contracted construction period is 11 months. It is expected that onsite construction observation and coordination services will be conducted as follows during the project:
  - An average of 20 hours per week for 24 weeks (480 hours total). The project construction period is 11 months to final completion. The time provided herein is estimated based on assumed active onsite construction period of 6 months.
3. Provide interpretation or clarification of the design documents when requested.
4. Review shop drawings and other submittals up to two (2) times per submittal for general conformance with the Contract Documents. The Contract Documents will require the Contractor to pay for additional reviews, if necessary.
5. Review test reports for soils, concrete and other materials.
6. Review applications for payment and the accompanying data and schedules, determine the amounts owed to the Contractor, and advise the City of the recommended payments.
7. Evaluate any claims made by the Contractor and prepare change orders as required.
8. Conduct substantial and final completion inspections.
9. Observe start-up testing of major equipment.
10. Prepare record drawings, incorporating changes made during construction based on record information furnished by the Contractor and provide two (2) sets of drawings, and one (1) compact disk with an electronic version of the documents to the City.

### **3. PROJECT GOALS:**

The following work products will be delivered to the City as part of this project:

- Construction observation and coordination documentation

- Project completion certification to regulatory agencies
- Record Drawings

**4. BUDGET:**

See Attachment “B”

This price includes all labor and expenses anticipated to be incurred by Tetra Tech, Inc. for the completion of these tasks in accordance with Professional Services Method “A” – Cost Times Multiplier Basis **for a fee not to exceed ninety seven thousand nine hundred eighty eight dollars (\$97,988.00).**

**5. SCHEDULE:**

Project construction is scheduled to be completed within 11 months from issuance of notice-to-proceed. The record drawings are scheduled to be completed within two (2) months of construction completion.

**6. STAFF ASSIGNMENT (Consultant):**

Emilie Moore, PE – Client Manager  
 Brian Foulkes, PE – Project Manager  
 Phil Walker, EI – Field Engineer  
 Amal Yelker, EI – Electrical Engineer

**7. CORRESPONDENCE/REPORTING PROCEDURES:**

ENGINEER’s project correspondence shall be directed to Emilie Moore, PE. All City project correspondence shall be directed to Lan-Anh Nguyen, PE with copies to others as may be appropriate.

**8. INVOICING/FUNDING PROCEDURES:**

For work performed, invoices shall be submitted monthly to the City of Clearwater, Engineering Department, Attn.: Veronica Josef, Senior Staff Assistant, PO Box 4748, Clearwater, Florida 33758-4748. Contingency services will be billed as incurred only after written authorization provided by the City to proceed with those services.

City Invoicing Code: **0382-96764-561300-533-000-0000**

**9. INVOICING PROCEDURES**

At a minimum, in addition to the invoice amount(s) the following information shall be provided on all invoices submitted on the Work Order:

- A. Purchase Order Number and Contract Amount.
- B. The time period (begin and end date) covered by the invoice.
- C. A short narrative summary of activities completed in the time period
- D. Contract billing method – Lump Sum or Cost Times Multiplier

- E. If Lump Sum, the percent completion, amount due, previous amount earned and total earned to date for all tasks (direct costs, if any, shall be included in lump sum amount).
- F. If Cost Times Multiplier, hours, hourly rates, names of individuals being billed, amount due, previous amount earned, total earned to date for each task and other direct costs (receipts will be required for any single item with a cost of \$50 or greater or cumulative monthly expenses greater than \$100).
- G. If the Work Order is funded by multiple funding codes, an itemization of tasks and invoice amounts by funding code.

**10. SPECIAL CONSIDERATIONS:**

The consultant named above is required to comply with Section 119.0701, Florida Statutes (2013) where applicable.

**PREPARED BY:**

**APPROVED BY:**

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**Emilie Moore, PE, PMP  
Sr. Project Manager  
Tetra Tech, Inc.**

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**Michael D. Quillen, PE  
City Engineer  
City of Clearwater**

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**Date**

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**Date**



# CITY OF CLEARWATER ENGINEERING DEPARTMENT

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## SUPPLEMENTAL WORK ORDER CITY DELIVERABLES

### 1. **FORMAT**

The design plans shall be compiled utilizing the following methods:

1. City of Clearwater CAD standards.
2. Datum: Horizontal and Vertical datum shall be referenced to North American Vertical Datum of 1988 (vertical) and North American Datum of 1983/90 (horizontal). The unit of measurement shall be the United States Foot. Any deviation from this datum will not be accepted unless reviewed by City of Clearwater Engineering/Geographic Technology Division.

### 2. **DELIVERABLES**

The design plans shall be produced on bond material, 24" x 36" at a scale of 1" = 20' unless approved otherwise. Upon completion the consultant shall deliver all drawing files in digital format with all project data in Autodesk Civil 3D file format. If not available Land Desktop files are still acceptable, however the City or Clearwater is currently phasing out Land Desktop.

NOTE: If approved deviation from Clearwater CAD standards are used the Consultant shall include all necessary information to aid in manipulating the drawings including either PCP, CTB file or pen schedule for plotting. The drawing file shall include only authorized fonts, shapes, line types or other attributes contained in the standard release of Autodesk, Inc. software. All block references and references contained within the drawing file shall be included. Please address any questions regarding format to Mr. Tom Mahony, at (727) 562 4762 or email address Tom.Mahony@myClearwater.com.

All electronic files (CAD and Specification files) must be delivered upon completion of project or with 100% plan submittal to City of Clearwater.

# Water Treatment Plant 1 Improvements - Construction Engineering and Inspection (CEI) Services

## Tetra Tech, Inc.

### SUPPLEMENTAL WORK ORDER PROJECT BUDGET

Task	Description	Subconsultant Services	Labor	Total
<b>5.0</b>	<b>Construction Phase Services</b>			
5.1	Preconstruction Conference		\$3,099	\$3,099
5.2	Construction Observation (20hrs/wk, 24 wks)		\$52,794	\$52,794
5.3	Design Documents Clarification		\$8,354	\$8,354
5.4	Shop Drawings / Submittals Reviews		\$9,244	\$9,244
5.5	Review Test Reports		\$2,522	\$2,522
5.6	Review Applications for Payment		\$2,772	\$2,772
5.7	Evaluate Contractor Claims		\$2,322	\$2,322
5.8	Conduct Substantial and Final Completion Inspections		\$2,889	\$2,889
5.9	Observe Major Equipment Start Up		\$2,659	\$2,659
5.10	Prepare Record Drawings		\$2,425	\$2,425
5.11	Task Allowance (10%)		\$8,908	\$8,908
<b>Grand Total</b>				<b>\$97,988</b>