



SUPPLEMENTAL WORK ORDER

for the CITY OF CLEARWATER

Date: December 13, 2017
Project Number: 16-0012-UT
City Project Number: 2016019

1. PROJECT TITLE:

Marshall Street and Northeast WRF Alum Feed System Improvement

2. SCOPE OF SERVICES:

Add construction phase services and SCADA integration for Marshall Street and Northeast WRF Alum Feed System Improvements

A. CONSTRUCTION PHASE

1. Preconstruction Conference - MWI Project Manager, Electrical Engineer and Resident

Project Representative will attend and participate in a pre-construction conference.

2. Contractors RFI's- MWI shall provide technical interpretation of the Drawings, Specifications and Contract Documents when requested by the Contractor and evaluate requested deviations with regard to the plans or specifications (Request for Information [RFI] process). MWI shall develop and maintain an RFI log noting the date received/answered, subject matter, and resolution to the request. A copy of the RFI log will be included with each progress meeting agenda.

3. Shop Drawing Review - MWI shall review or take other appropriate action with respect to material and equipment submittals, shop drawings, samples and other data that the Contractor is required to submit. MWI shall develop and maintain a shop drawing log. Review will be limited to conformance with the design concept of the project and compliance of the information given in the Contract Documents. Such reviews or other actions shall not extend to means, methods, techniques, sequences, or procedures of construction or safety program of the contractor. MWI shall respond to all contractors' submittals within fourteen (14) calendar days following receipt in MWI's office.

4. Progress Meetings – The MWI Resident Project Representative (RPR) shall lead and conduct regular progress meetings, and prepare and circulate copies of the meeting minutes including topics discussed, action items, and decisions made. For purposes of this proposal it is assumed that there will be six (6) progress meetings. The RPR will assemble agenda for each progress meeting. In addition, the RPR shall prepare, maintain, and circulate logs and records for:

Action Items log/Contractor follow up Shop Drawing Submittal / Approval

Testing as required by Contract Documents

Request for Proposal(s)

Proposed Change Request (PCR)

Deficiency / Noncompliance

Complaints

Project Photographs

Inventory and Verification of Stored Materials

Punch Lists

5. Construction Observation- MWI shall provide a Resident Project Representative (RPR) to observe and document work in progress, along with keeping the Project Manager advised of any conflicts or potential delays. Based on the proposed work schedule, MWI will provide an RPR for an average of twenty (20) hours per week with actual hours onsite determined by Contractor work schedule. Construction observation time will be split/shared between the two project locations. The RPR shall maintain a daily log of activities for periods of time when the RPR is on-site. These daily logs shall be submitted to the Project Manager on a weekly basis. Progress photos shall also be taken and provided to the Project Manager to document project progress. The RPR shall also conduct and document substantial and final completion inspections.

6. Substantial/Final Electrical Inspection- MWI shall conduct substantial and final electrical inspections to determine the completeness of the project and recommend final payment to Contractor. Following each inspection, MWI shall prepare a punch list of all items requiring completion, and follow up on the completed and/or corrected items. The punch list shall be provided to the Contractor and the Project Manager. It is assumed that the site visits for Substantial and Final inspections will be scheduled such that both sites will be inspected on the same trip (One trip visiting both sites for Substantial, One trip visiting both sites for Final).

7. Record Drawing Preparation- MWI shall prepare record drawings from the original AutoCAD file based on information provided by the Contractor regarding field changes, modifications, etc. made during the construction phase of the project. Such information shall only be verified through field observation and will not be surveyed to verify accuracy of Contractor's measurements. The Project Manager will be provided with two (2) signed and sealed copies and one electronic copy (AutoCAD format, PDF and a disk) of the record drawings. Record Drawing copies shall be in 11-inch x 17-inch format.

B. Health and Safety Plan:

Prepare and submit a *Health & Safety Plan*, which may include at a minimum the following:

- Project Team Organization and Responsibilities with contact information
- Hazards Analysis
 - General
 - Chemical Exposure Hazards
 - Physical Hazards
 - Temperature; noise; air pollution; slips, trips, and falls; fire and explosions; confined space; working near equipment; electricity; utilities; and vehicular traffic
 - Biological Hazards
 - Animals and insects
- Task Hazard Analysis
- Emergency Response Plan
 - Locations of emergency facilities
 - Routes to emergency facilities
- Record Keeping Requirements

C. Add SCADA Integration to Existing Design Documents:

The existing design scope will be modified to include integration of the proposed Northeast WRF and Marshall Street WRF Alum Feed Facilities into the associated SCADA systems at the respective WRF's. The change will include the following tasks:

TASK 1

This work shall consist of a site visits to the Northeast WRF and Marshall Street WRF to evaluate the capability of the existing SCADA (PLC system) to accommodate the I/O requested by the City for the proposed pump skid equipment required for each project

TASK 2

Provide the design for the modifications required to the Northeast WRF and Marshall Street WRF SCADA for the integration of the following field I/O associated with the proposed pump skid equipment:

1. Eyewash station alarms.
2. Chemical storage tank levels.
3. Control of alum pump flow/speed via SCADA based on plant influent flow (plant influent flow currently available from SCADA system).

TASK 3

Generate a P&ID for the Northeast WRF and Marshall Street WRF alum pump skid system.

TASK 4

Provide a narrative indicating the requirements for the Northeast WRF and Marshall Street WRF SCADA graphics to be generated for the proposed Alum pump skid.

Items to be provided to MWI:

1. Proposed control methodology for each Alum pump skid.
2. Northeast and Marshall Street WRF P&ID record drawings.
3. Screen captures of existing Northeast and Marshall Street SCADA screens.

D. Project Dossier:

At the conclusion of the project, ENGINEER will combine the following information into a project dossier and submit to the City for review and comment. The project dossier will be submitted electronically on CD/DVD ROM. MWI has budgeted for up to one round of City review and comment. To Be Included: Files of correspondence, meeting minutes, Contract Documents, Change Orders, Field Orders, RFIs, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Contract, progress reports, Shop Drawing and Progress submittals, regulatory correspondence and other Project-related documents.

E. Owners Allowance:

\$5,000 allowance available for use at the owner/project manager's discretion

3. PROJECT GOALS:

No change

4. BUDGET:

See Attachment "B".

This price includes all labor and expenses anticipated to be incurred by Metzger & Willard, Inc. for the completion of these tasks in accordance with Professional Services Method "A" – Cost Times Multiplier Basis, **for a fee not to exceed Seventy Nine Thousand Nine Hundred Fifty Dollars (\$79,950.00).**

5. SCHEDULE:

No Change

6. STAFF ASSIGNMENT:

Consultant's Staff:

Nancy O Metzger, PE- Principal

Susan G. Martelli, PE- VP Engineering

Joe Martelli, PE- Senior Project Manager

Dale Connor, Senior Inspector

Tim Thomas, PE – Tricon, Electrical Subconsultant

Elizabeth Broadway, PE, Broadway Engineering, Structural Subconsultant

City's Staff:

Todd Kuhnel	Project Manager
Mike Flanigan	Public Utilities Liaison
Ryan Alexander	NE WRF Public Utilities Site Representative
Ron Nelson	Marshall WRF Public Utilities Site Representative
Jeremy J. Brown, PE	Utilities Engineering Manager
Richard G. Gardner, PE	Public Utilities Assistant Director

7. CORRESPONDENCE/REPORTING/COMMUNICATION PROCEDURES:

ENGINEER's project correspondence shall be directed to: Joe Martelli, PE.

All City project correspondence shall be directed to the Project Manager, with copies to the Utilities Engineering Manager and Public Utilities Assistant Director.

ENGINEER shall provide a minimum of forty-eight (48) hours' notice prior to conducting fieldwork/site visits. ENGINEER shall provide a minimum of seven (7) days notification for site visits requiring the assistance of City Operations and Maintenance personnel.

ENGINEER acknowledges that all City directives shall be provided by the City Project Manager.

A health and safety plan must be submitted and approved by the Project Manager prior to conducting any fieldwork/site visits.

In addition to the original copies delivered as stated in the scope of work, all project deliverables will be submitted in electronic format on CD or other City approved device prior to approval of final invoice.

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: 327-96664-561300-535-000-0000

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. Project Number, 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, 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:

Nancy O. Metzger, PE
Principal
Metzger & Willard, Inc.

D. Scott Rice, PE
City Engineer
City of Clearwater

Date

Date



CITY OF CLEARWATER ENGINEERING DEPARTMENT

WORK ORDER INITIATION FORM 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 addressTom.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.



Marshall St and NE WRF Alum Feed System Project

WORK ORDER INITIATION FORM PROJECT BUDGET

Task	Description	Subconsultant Services	Labor	Total
1.0	Construction Phase Services			
1.1	Preconstruction Conference	\$540	\$810	\$1,350
1.2	Contractors RFI's	\$2,280	\$2,230	\$4,510
1.3	Shop Drawing Review	\$2,940	\$7,230	\$10,170
1.4	Progress Meetings (6)	---	\$4,090	\$4,090
1.5	Construction Observation (500 Hours)	---	\$31,000	\$31,000
1.6	Substantial/Final Electrical Inspection	\$810	\$0	\$810
1.7	Record Drawing Preparation	\$1,188	\$3,182	\$4,370
1.8	Health and Safety Plan	---	\$3,290	\$3,290
1.9	SCADA Integration	\$11,460	\$2,210	\$13,670
1.10	Project Dossier	---	\$1,440	\$1,440
1.11	Owner's Allowance			\$5,000
Subtotal, Labor and Subcontractors				\$79,700
Other Direct Costs (prints, photocopies, postage, etc.) (Not applicable to lump sum Work Orders)				\$250
Grand Total				\$79,950