

## TASK ORDER NO. 36

### SCOPE OF SERVICES AND FEE PROPOSAL

#### WWTF AERATION BASIN INFLUENT PIPING REPLACEMENT

#### CITY OF NEW PORT RICHEY

### I. PROJECT SCOPE

#### Description:

The City of New Port Richey (CITY) owns and operates the New Port Richey Wastewater Treatment Facility (WWTF), located at 4730 Main Street, New Port Richey, Florida 34652. The WWTF has a treatment capacity of 7.5 Million Gallon Per Day (MGD) based on an Annual Average Daily Flow (AADF) measurement. On May 4, 2019, a buried section of the 20-inch ductile iron influent piping, which transfers mixed liquor suspended solids (MLSS) flows from the headworks to Aeration Basin No. 2 (i.e. Oxidation Ditch No. 2), ruptured, resulting in a significant sewage spill. Upon visual inspection of the pipe there was catastrophic corrosion of the interior of the pipe wall, ultimately causing the pipe to rupture. This pipe was installed as part of the facility expansion completed in 1988. Due to the state of observed corrosion in the pipe, it is suspected that other process piping that was installed during that same facility expansion time frame may be in a similar state of deterioration. The CITY is requesting professional engineering assistance from Stroud Engineering Consultants, Inc. (ENGINEER) with the emergency replacement of the influent MLSS piping from the Headworks structure to Aeration Basins No. 1 and 2, along with an evaluation of the structural conditions of the influent piping to Aeration Basins No. 3 and 4, and the Schreiber Tank. It is understood that this project will entail the following components and will be implemented in the order listed:

1. Install a new 20-inch diameter isolation valve on the exposed piping penetration into Aeration Basin No. 2 and temporary replacement piping (D.I., HDPE, or PVC) along the existing ground surface between the Headworks and Aeration Basin No. 2, to allow the basin to promptly be placed back into service. This activity will require assistance from City staff to remove a portion of the existing security fencing along the eastern perimeter of the site and to perform clearing of the invasive vegetation. The purpose of the fence removal and clearing is to provide access space for the utility contractor to perform temporary piping connections at the Headworks, provide space for the SUE subconsultant to perform investigation of existing underground utilities (i.e. process, electrical, communication) within the area, and to provide potential space for additional piping installation.
2. Upon connection of the temporary piping, return Aeration Basin No. 2 to active service.
3. Remove Aeration Basin No. 1 from service by raising the dedicated weir gate at the Headworks and draining the liquids within the basin to the plant drain system.
4. Design permanent piping replacements for the 20-inch diameter MLSS influent pipe from the Headworks structure to the connection with the existing 20-inch wall stub-outs at Aeration Basins No. 1 and 2.
5. Install permanent piping replacement and isolation valve for the 20-inch diameter MLSS influent pipe from the Headworks structure to the connection with the existing 20-inch wall stub-outs at Aeration Basins No. 1. Upon completion of the piping connections, return Basin No. 1 to active service and remove Aeration Basin No. 2 from service.
6. Install permanent piping replacement for the 20-inch diameter MLSS influent pipe from the Headworks structure to the connection with the newly-installed isolation valve (Item No. 1 above) at Aeration Basin No. 2. Upon completion of the piping connections, Basin No. 2 will be available for service at the CITY's discretion.

7. Upon completion of the permanent piping connections to Aeration Basins 1 and 2, perform an inspection of the current condition, and possible testing, of the existing ductile iron piping between the headworks and Aeration Basins 3 and 4, and the Schreiber Tank. The outcome of the inspection/testing activities will provide insight into the potential piping repair methods available and extent of repairs needed for the piping to these structures. The resulting design and construction services associated with these repairs will be addressed in a separate task order, as agreed to by the CITY.

Mr. Brent Heath, P.E. will serve as the ENGINEER's project manager on this task order for the duration of the scope of services. The ENGINEER will provide project management as part of this task order, which shall include: continuous management and coordination of the overall project; preparation of miscellaneous correspondence; coordination of subconsultant services; necessary scheduling of design and construction activities; coordination with the contractor to assist with establishing the construction cost proposal and associated schedule of values (if not lump sum format); and attendance at monthly project meetings (as requested) with the CITY. The progress of the project will be discussed with the CITY's designated project manager during each regular monthly project status meeting at the Public Works Building and/or the scheduled on-site construction meetings, and as necessary throughout the remaining life of the project. A written summary of the project status and completed tasks will be provided with each invoice submitted by the ENGINEER.

Based on the above background discussion, the following specific tasks and services are anticipated for this project, and are included in this Scope of Services:

## **1.0 ENGINEERING DESIGN SERVICES**

This project will be executed as a fast-track process due to the emergency status of the treatment facility MLSS influent piping condition. As such, the ENGINEER will work closely with CITY Public Works staff and the selected Contractor during the design phase in order to expedite the piping replacement.

The ENGINEER will gather background information needed from the CITY, such as record drawings of the WWTF, to complete the design and produce drawings for construction purposes. These documents will be evaluated with a specific emphasis on determining the optimum alignment for the process piping installations, as well as operational capabilities of WWTF. The ENGINEER will make site visits to further our understanding of both the existing facilities and proposed piping replacements.

The ENGINEER will provide the labor, materials, and equipment necessary to design the piping replacements. Plan and section view drawings will be prepared as necessary to provide information for construction purposes. Details of the pipe installation work will be included. The final documents will be suitable for establishing a construction contract for the project while being in sufficient detail to permit construction by the contractor.

The ENGINEER's final design scope will include the following:

- Coordinate with a subsurface utility engineering (SUE) subconsultant to identify the horizontal location of buried utilities, utilizing ground penetrating radar technology, within the proposed project area and obtain utility locates in select locations for the purpose of confirming horizontal and vertical locations of buried utilities, which have a direct impact on the proposed piping improvements. The SUE data will be utilized to provide representative location information for the final design drawings. The ENGINEER has included costs within Task 1.0 to provide funding for the proposed utility locates, with an anticipated quantity of

fifteen (15) utility locations. If additional SUE locates are recommended by the ENGINEER and/or desired by the CITY, the available allowance costs in Task 3.0 shall be used to provide funding for these locates, as authorized by the CITY.

- Prepare and submit copies of final construction drawings for review, comment, and approval by the CITY. The construction drawings will include construction notes, plan sheets at appropriate scale for legible interpretation, and standard utility details. Electronic files of construction drawings will be provided to the CITY.
- Attend design coordination meetings with the CITY and selected Contractor as necessary.
- Prepare Contract Documents for use in developing a construction contract with the selected Contractor.
- Evaluate the tabulation of material quantities and corresponding Contractor costs, based upon experience with similar work in the area.

## 2.0 SERVICES DURING CONSTRUCTION

- 2.1 **Pre-Construction Meeting:** Upon award of the construction contract, the ENGINEER will assist the CITY during the construction phase by attending the pre-construction conference.
- 2.2 **Work Recommendations:** The ENGINEER will communicate with the CITY and contractor throughout the construction phase and respond to any construction or design issues that are conveyed by either party. The ENGINEER will interpret the plans and specifications for the contractor and assist with resolution of construction difficulties encountered. If warranted, the ENGINEER will modify the design drawings to illustrate the required additional changes so that the project can be successfully completed.
- 2.3 **Shop Drawing Reviews:** In accordance with the Contract Documents, the selected contractor will be required to provide utilities-related equipment/material submittals to the ENGINEER and obtain approvals prior to installing the materials. The ENGINEER will review these submittals per the contract and return them to the CITY and contractor for subsequent processing.
- 2.4 **Construction Observation/Field Services:** It is anticipated that construction of the temporary piping replacements for Aeration Basin No. 2 will commence in May 2019 and be completed within a two-week time frame. It is anticipated that the subsequent construction of the permanent piping replacements for Aeration Basins No. 1 and 2 will begin in July 2019 and that the construction duration will be three (3) months, with the majority of the required utility installation activities performed over a two (2) month time frame. The piping inspection and testing effort for the remaining structures is expected to immediately follow the piping installation activities, with an expected duration of one (1) month. The ENGINEER will conduct periodic site visits to observe the work in progress, especially during periods of major construction, and consult with the CITY's inspector to monitor conformance with the contract documents. An average field observation time of 20 hours per week has been estimated by the ENGINEER during the initial temporary piping replacement effort, followed by an estimated observation time of 10 hours per week throughout the primary two (2) month period of the permanent piping replacement activities and subsequent one (1) month of piping inspection/testing activities. It is anticipated that on-site observation of the work in progress will be conducted with assistance from the CITY's inspections staff at intervals necessitated by

the contractor's schedule, capabilities and effectiveness, and as required to provide final regulatory certification. The ENGINEER will assist the CITY with operational questions associated with acceptance of the completed project.

It is anticipated that the ENGINEER will observe the following activities in the field, at a minimum:

- hydrostatic pressure/leakage testing
- routine materials installation
- connections to existing utilities
- applicable testing procedures.

**2.5 Piping Inspection and Testing:** Upon completion of the permanent piping connections to Aeration Basins 1 and 2, the ENGINEER will coordinate with a pipeline testing subconsultant to perform a visual inspection of the existing ductile iron piping between the headworks and Aeration Basins 3 and 4, and the Schreiber Tank, assuming the piping is able to be adequately isolated and flushed by the facility staff. Depending on the internal piping conditions as observed in the visual inspections, additional testing of the structural integrity (i.e. degree of corrosion, wall thickness, joint seals, hydrostatic leakage, etc.) of the piping may be conducted. The intent of the inspection, and associated testing, will be to determine the current condition of the piping and to evaluate if repairs are needed. If repairs are determined to be necessary, an assessment of the type of repair methods available, extent of piping in need of repair, and estimated costs involved, will be performed and provided to the CITY for consideration. The ENGINEER will coordinate with the CITY and inspection/testing subconsultant(s) throughout this process, provide copies of reports, and assist the CITY with review of the information generated and resulting recommendations. Due to the unknown condition of the existing piping and the range of testing procedures that may be available or recommended, along with the variable cost associated with these procedures, it is anticipated that the allowance costs in Task 3.0 shall be used to provide funding for these services, as authorized by the CITY.

**2.6 Record Drawings:** Upon receipt of the as-built drawings and survey information from the contractor, we will provide signed and sealed record drawings along with the project certification documents to the CITY. The record drawings will also be included on the CITY's master drawing file. The record drawing submittal will include two complete sets of paper drawings (22"x34"), two complete sets of paper drawings (11"x17"), and two compact discs with the complete set of drawings in AutoCAD and PDF file formats.

**2.7 Project Closeout:** In order to properly close out the project, it is anticipated that the ENGINEER will be required to submit a Certificate of Substantial Completion. This Certificate will fix the date when the entire work, associated with the CITY's utilities, is considered substantially complete and ready for its intended use. It will identify significant items that need to be addressed or corrected before final payment can be recommended. Upon resolution and completion of the items mentioned in the Certificate and submittal of all contractual documents by the contractor, the ENGINEER will prepare and submit final Change Order to adjust the Contract amounts to the completed quantities and submit a Recommendation of Final Payment to the CITY.

### **3.0 ALLOWANCE FOR AUTHORIZED ADDITIONAL WORK**

In the event that other additional work is required or requested by the CITY, which may arise from unforeseen field conditions, change in the project limits, or the need for additional design

and inspection/testing services, this task is intended to provide an allowance for such work. Such additional work shall be authorized in writing by CITY.

**II. DELIVERABLES**

This Scope of Services is to include the following deliverables:

- Final Design Drawings
- Piping Inspection/Testing Reports
- Certificate of Substantial Completion
- Recommendation for Final Payment
- Record Drawings & CD's

**III. ASSUMPTIONS**

This Scope of Services is based upon the following assumptions:

- **Permitting Assistance:** It is assumed that the process piping replacements are defined as a maintenance activity and not subject to permitting requirements with FDEP, and no permitting activities are required as part of this Task Order.
- **Bidding Services:** Due to the emergency status of this project, it is assumed that the CITY will enter into a construction contract with a selected Contractor and no bidding activities are required as part of this Task Order.
- **Construction Phase Services:** It is assumed the CITY will provide staff for on-site observation for the duration of the construction phase.

**IV. ENGINEER'S COMPENSATION**

For Tasks 1 – 3 described above, the CITY will compensate the ENGINEER on a fixed fee basis. Compensation to the ENGINEER for the services included in the above tasks shall not exceed the following:

1.	ENGINEERING DESIGN SERVICES	\$ 29,650.00
2.	SERVICES DURING CONSTRUCTION	\$ 29,430.00
3.	ALLOWANCE FOR AUTHORIZED ADDITIONAL WORK	\$ 20,000.00
	TOTAL LUMP SUM AUTHORIZATION	\$ 79,080.00

**V. ADDITIONAL SERVICES REQUIRING AUTHORIZATION IN ADVANCE**

If required by the ENGINEER and authorized by the CITY, additional services related to this Task Order shall be provided by the ENGINEER for additional professional fees negotiated with and agreed to by the CITY.

If required by the ENGINEER and authorized by the CITY, additional services related to this Work Authorization shall be provided by the ENGINEER for additional professional fees negotiated with and agreed to by the CITY. It is anticipated that the allowance in Task 3 will provide the funding for additional authorized design services.

## VI. PROJECT SCHEDULE

The ENGINEER will begin the activities described herein immediately upon receiving written notice to proceed. It is estimated that the temporary piping replacement activities will be completed with the first 4 weeks, while the remaining design and construction phase activities will be completed with 6 months from notice to proceed.

TASK ORDER NO. 36

WWTF AERATION BASIN INFLUENT PIPING REPLACEMENT

Stroud Engineering Consultants, Inc.

A. SCOPE OF SERVICES – The City of New Port Richey hereby authorizes the firm of Stroud Engineering Consultants, Inc. to perform the specific services summarized on the attached statement entitled TASK ORDER NO. 36, SCOPE OF SERVICES AND FEE PROPOSAL.

B. TIME OF COMPLETION – Work under this Authorization will begin upon Notice to Proceed from the City and will be completed within the schedule presented on the attached statement entitled TASK ORDER NO. 36, SCOPE OF SERVICES AND FEE PROPOSAL.

C. KEY PERSONNEL – Stroud Engineering Consultants, Inc. shall appoint a single representative with whom the City of New Port Richey shall coordinate. This representative shall have the authority to transmit instructions, receive information, interpret and deliver decisions, etc. Key personnel assigned to the project by Stroud Engineering Consultants, Inc. shall not be removed from the project without the prior written approval of the City of New Port Richey. For this authorization key personnel are as follows: Brent Heath, P.E.

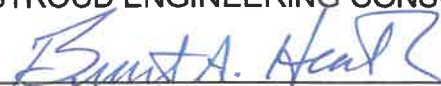
D. COMPENSATION – Professional fees for this authorization will be lump sum in accordance with the PROFESSIONAL ENGINEERING AND WATER-RESOURCE AND ENVIRONMENTAL CONTINUING CONSULTING AGREEMENT with the City of New Port Richey, dated December 17, 2013.

E. ACCEPTANCE – By signature hereon, the parties each accept the provisions of this TASK ORDER NO. 36, and authorize the Consultant to proceed at the direction of the City's representative, in accordance with the SCOPE OF SERVICES AND FEE PROPOSAL.


Witness:

  
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STROUD ENGINEERING CONSULTANTS, INC.

  
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Brent A. Heath, President

  
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Date

Attest:

CITY OF NEW PORT RICHEY, FLORIDA

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Date