



# CITY OF RIVIERA BEACH

P.O. DRAWER 10682  
(561) 845-4180

RIVIERA BEACH, FLORIDA 33419  
FAX (561) 842-5105

## PURCHASING DIRECTOR

**DATE:** 12 February 2017

**RE:** Purchasing Recommendation – Agenda Item for Globaltech to Complete Two Phase Improvement at Avenue U Water Pump Station

### **BACKGROUND:**

C-Solutions and Chen Moore produced a Preliminary Design Report for the Secondary Disinfection System for Avenue U Re-Pump Station on May 11, 2012. The re-pump station maintains system water pressures and water quality for the western portion of the service area. There have been consistent issues with the effectiveness of the existing system utilized at the re-pump station based on water quality samples obtained at the Avenue U Re-Pump Station. Construction was never addressed from the 2012 report. This project was designed by C-Solutions for Chen Moore in 2014 and subsequently bid. By 2014 the City had expended \$43,716 for the original design and electrical redesign. The estimated cost in 2014 for the entire project to be designed, project administration and construction bid was \$368,560.00

On October 14, 2014, an Invitation to Bid (ITB) No. 440-14 was issued by the Purchasing Department for the Installation of Secondary Disinfection System at Avenue U. The project cost came in much higher than the engineers estimate and the project was put on hold. A minor redesign updating the process control system was done in 2015, however, the project was not bid at that time and continues to be on hold.

This is the highest priority project needed to insure cost effective, good water quality for the long-term in the Western portion of the District's service area, and to comply with the PBCHD Consent Order. Completion of this project will eliminate thousands of dollars of overtime each month required for weekend line flushing.

As a result of the consent orders issued in the fall of 2016, the City hired US Water Services to review the status of Utility District. The Avenue U Re-Pump Station was noted as a critical path item to stabilizing the water quality in the western portion of the service area.

Based on the critical nature of the Avenue U Re-Pump Station, the Utility District requested Globaltech provide an updated evaluation and quote to finalize the project. Globaltech provided a proposal to upgrade the Avenue U Re-pump Station (re-pump station) with the goal of improving chlorine residuals from the re-pump station and associated ground storage tank (GST). The initial request was to replace the existing gas chlorine system at the re-pump station. However, after visiting the site and discussing the project goals with staff and the Utility District's Technical Consultant, their recommended improvements also include adding a GST tank mixer, adding a flow meter, changing the existing chlorine gas system to a liquid sodium hypochlorite system, adding an ammonium sulfate system as well as adding associated appurtenances for the various equipment.

The difference from the original C-Solution and Chen Moore recommendation in 2012/14 to what Globaltech has recommended is the addition of a tank mixer, adding a flow meter, changing the existing chlorine gas system to a liquid sodium hypochlorite system, adding an ammonium sulfate system and adding associated appurtenances for the various equipment.

Globaltech recommends the following:

### **SCOPE**

The proposed scope of work generally described below is to be performed by the Design-Build Entity (Globaltech). It includes furnishing all labor, equipment, materials, tools, supervision, and services required to permit, design, construct, test, and startup the proposed work as follows:

- Furnish and install mixer in the GST. The GST inlet and outlet are at the same approximate elevation and within 50 feet of each other on the circular tank. The tank is likely stratifying with the "newest/freshest" water being added to tank being withdrawn first. Improving the mixing of the tank will help limit the deterioration of water quality with in the GST and reduce water age.
- Furnish and install a flow meter on the inlet pipe of the ground storage tank. A GST tank influent flow meter is needed to in order to flow pace chemical addition (chlorine/ammonia). There is currently no inlet flow meter and chlorine gas addition is done manually.
- Furnish and install one ammonia analyzer (two channel) to measure free ammonia, total ammonia, and monochloramine on the inlet and outlet of the GST. The analytical information from the analyzer will provide operation staff the ability to determine how much chlorine or ammonia should be added.
- Furnish and install a liquid sodium hypochlorite system instead of a gas system to provide chlorine. The main reason for choosing the liquid

sodium hypochlorite system over a gas chlorine system is safety for the operation staff and surrounding community.

- Furnish and install a liquid ammonium sulfate feed system. The addition of supplemental ammonia might be necessary in order to boost chloramine residual. A liquid ammonia sulfate system is recommended over a gas ammonia system or liquid ammonium hydroxide is for safety.
- Furnish and install a control panel with PLC to flow pace and residual trim sodium hypochlorite and ammonium sulfate addition.

### **Task 1 – Administrative and Engineering Services**

1. Meet with the District to review project scope.
2. Develop subcontracts with mixer supplier, electrical contractor and other entities as may be required.
3. Prepare a preliminary (60%) design.
4. Submit five (5) half-size copies of the 60% design to the District. Meet with the District to review the design.
5. Incorporate the District comments and proceed to final design.
6. Submit FDEP/Palm Beach County Health Department and building department permit applications.
7. Prepare detailed construction schedule to include as a minimum; engineering and permitting services, site mobilization, detailed construction activities, scheduled shutdowns and durations, equipment/material delivery times, testing, startup and commissioning.
8. Prepare submittals, administer and track submittal process.
9. Schedule meetings, inspections, and testing with District staff.
10. Provide Engineer's site visits during construction to confirm construction is being performed in conformance with the Design Drawings and Specifications.
11. Prepare Record Drawings, Operation and Maintenance Manuals, and closeout permits.

Palm Beach County Water has an existing contract for construction services of this specialized nature which the Utility District can access to utilize Globaltech to complete the design, project management and construction. The estimated costs are as follows:

The costs for the proposed scope of work shall not exceed the Guaranteed Maximum Price of \$397,899.

### **PROJECT SCHEDULE**

Globaltech will begin work immediately following approval of this task order.

#### **Task from Notice to Proceed (NTP)**

60% Design 12 Weeks

Final Design 16 Weeks

Permitting 18 Weeks  
Construction/Installation of Improvements 32 Weeks

**Note:** Installation of GST mixer can be expedited separate from the rest of the project. However, it would require separate permits and additional permit fees to be paid by the District. If expedited separately, the mixer could be installed as early as 18 weeks from NTP.

The original design needs to be redone to incorporate several very important features that were not previously included. The cost of the redesign by the original engineers is substantial and re-bidding of the project will cause significant delay in completion of this critical project. The bidding environment is also much less favorable to owners than it was in 2014.

**RECOMMENDATION:**

The Utility District has recommended an expedited procurement of this project to address the immediate nature of water delivery to the western portion of the service area. The estimated costs from Globaltech are in line with those of the 2012 and 2014 bid amounts. Globaltech has recommended additional equipment to meet the requirements of service delivery.

Due to nature of the critical delivery of water, the fact that the Utility has been addressing the design, project management and construction since 2012, and the most recent review by the FDEP/Palm Beach County Health Department.

Purchasing is recommending piggy-back of the Palm Beach Contract to Globaltech to accomplish this procurement based on critical need of water delivery to the western service area in amount not-to-exceed \$397,899.00

Should you have any questions, please do not hesitate to contact me.

Respectfully,



Dean Mealy, II  
City Purchasing Director