



October 18, 2018

Mr. Leighton Walker  
Assistant Executive Director – Utilities Special District  
City of Riviera Beach  
600 W. Blue Heron Boulevard  
Riviera Beach, FL. 33404

**Re:** Continuing Engineering Services Agreement – RFQ No. 947-18-1  
City of Riviera Beach Utility Special District  
**Evaluation of Singer Island Water Pressure Issues**  
**EAC Project No. 18034.WW01-01**

Dear Mr. Walker,

**EAC Consulting Inc.** is pleased to submit this fee proposal to provide requisite services (referenced above) as part of our Continuing Engineering Services Agreement with the City of Riviera Beach. We look forward to working with the Utility District on this important project.

The anticipated scope of work is as itemized within Attachment 1. We are of the understanding that the work will be undertaken in full compliance with the contract requirements executed on August 14, 2018 by the Utility Special District Board.

Please find enclosed the following attachments to this fee proposal letter:

1. Attachment 1 – Scope of Services
2. Attachment 2 – Project Schedule
3. Attachment 3 – Project Budget

The following information will be required for us to commence engineering services.

- i. Written authorization to proceed with services.

Please feel free to call me at (954) 714-2007 with any questions you may have.

Sincerely,  
**EAC Consulting, Inc.**

A handwritten signature in blue ink that reads "Donna Grace".

Donna Grace, P.E.  
Senior Project Manager

cc: File, Huntley Higgins, P.E.

**ATTACHMENT 1**

**Scope of Services**

Contract No: RFQ No. 947-18-1  
Contract Title: Continuing Engineering Services Agreement for Riviera Beach Special Utility District  
Project Name: Evaluation of Singer Island Water Pressure Issues

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**Introduction**

The City of Riviera Beach Utility District (CRBUD) produces potable water for its service area that includes the corporate limits of the City of Riviera Beach, the Town of Palm Beach Shores, parts of the City of West Palm Beach and unincorporated Palm Beach County in the Gramercy Park area. Potable water is produced from the city's 17.5 mgd Water Treatment Plant (WTP) located at 800 West Blue Heron Boulevard. In addition to a 1-million-gallon storage tank at the WTP, there are three other 1-million-gallon storage tanks that repump potable water into the distribution system. These tanks are located at a) Avenue U and MLK Boulevard, b) Avenue C and E. 12<sup>th</sup> Street, and c) North Singer Island. The CRBUD has three (3) emergency interconnect agreements with the City of West Palm Beach and Seacoast Utilities. The Utility District collects pressure monitoring data from 17 pressure monitoring stations throughout the service area.

The Utility District has received complaints about low water pressures on Singer Island for some time. Despite changing the North Singer Island repump storage tank filling operations to periods of low water demand between 1 am and 6 am, the low water pressure issues continue. CRBUD has confirmed these low pressures with SCADA and pressure monitoring records. This project is intended to evaluate the existing InfoWater distribution system hydraulic model, SCADA and pressure records to provide a comprehensive planning report for the CRBUD. This report shall include basic information and guidance to correct existing system deficiencies and recommend improvements to meet the existing system needs.

**Task 1 - Data Collection and Review**

1. CRBUD shall provide Consultant with a GIS file and Info Water file of the entire water distribution system service area with the existing water utility infrastructure data. The Consultant has been assured of high degree of accuracy of the information in the files.
2. CRBUD shall provide Consultant with representative SCADA data of a) Singer Island storage tank filling and drawdown height and b) WTP high service pump output in an Excel format at 5-minute intervals for a 30-day time period of low distribution system water pressure.
3. CRBUD shall provide Consultant with pressure recording data at the North Singer Island repump station in an Excel format for the same 30-day time period of low distribution system water pressure.
4. The Consultant shall compile and review all the data received from CRBUD for completeness and identify when low pressures are occurring.
5. Consultant shall meet with Utility staff to determine consecutive operations during low water pressure events.
6. Consultant shall meet with Fire Marshall to determine fire flow requirements on Singer Island.
7. The Consultant will perform field visits as necessary to visually observe and coordinate the locations of above-ground elements.

**ATTACHMENT 1**

**Scope of Services**

**Task 2 – Establishment of Analyses Criteria and Model Development**

1. Consultant shall establish and outline the analyses and criteria required for evaluating the potable water distribution system.
2. The Consultant shall coordinate with the authorities having jurisdiction (AHJs) over water distribution system flows and pressure and fire safety to establish compliance requirements for the potable water distribution systems.
3. Consultant shall also review all applicable codes and regulations, including but not limited to Florida Fire Prevention Code, NFPA 1 - Annex H and Palm Beach County Fire requirements, and other applicable jurisdictions.
4. The SCADA and pressure recording data will be used to develop a typical diurnal curve during low water pressure conditions to be used for extended period simulation of the distribution system during tank filling and drawdown.
5. The fire flow requirements obtained from the Fire Marshall and NFPA research will be evaluated during steady state modeling scenarios.

**Task 3 – Water Modeling Scenarios and Recommended Improvement Plan**

1. Consultant shall utilize the computerized InfoWater© distribution system hydraulic network model of the existing water distribution system provided by CRBUD. No model calibration will be performed for this project.
2. The model shall be used to analyze the performance of the existing system during a typical day, particularly during the Singer Island tank filling and fire flow conditions.
3. The Hydraulic Model will be analyzed by Consultant under a 24-hour extended period simulation to evaluate tank filling conditions.
4. Consultant will compare model results with SCADA and pressure data obtained from CRBUD.
5. The Hydraulic Model will be analyzed by Consultant under a steady-state Maximum Day plus Fire Flow Demand.
6. Consultant shall identify system deficiencies that relate to pressure, flow, piping, velocities, code and/or regulatory requirements and show via model results that.
7. Consultant shall identify recommended improvements to meet distribution pressure, flowrates, velocities demonstrated by model results.
8. Consultant shall utilize the model results and subsequent recommended improvements to develop an overall improvement plan for the Singer Island area including an engineer's opinion of probable construction cost. Criteria, including cost benefit, shall be established to evaluate improvement projects, resulting in a decision matrix.

**ATTACHMENT 1**

**Scope of Services**

**Task 4 – Project Management, QA/QC and Final Report Preparation**

This task includes project administration, invoice preparation, attendance at meetings, coordination with project staff, monitoring the project's progress, quality assurance and quality control, and final report preparation. A total of five (5) meetings with the city staff, Fire Marshall and/or other jurisdictional agencies are included in this fee proposal.

A Final Report documenting the evaluation and modeling results will be submitted by the Consultant at the conclusion of Task 4. The Evaluation Report will include the following Sections:

1. Executive Summary
2. Introduction and Project Scope
3. Evaluation Criteria
4. Hydraulic Modeling and Model Results
5. Recommended Improvements Plan
6. Engineer's Opinion of Probable Construction Cost
7. Appendices:
  - a. SCADA Data used for evaluation
  - b. Pressure Recording Data used for evaluation

The project deliverables will include:

1. Electronic submittal (pdf) by email or SharePoint of the draft Evaluation Report
2. Five (5) hard copies of the Final Evaluation Report.
3. One electronic copy (pdf) of the Final Evaluation Report on a CD

CRBUD will reimburse CONSULTANT for all printing, reproduction and mailing/courier costs incurred for this project from the miscellaneous reimbursable expenses identified in the fee breakdown.

**Continuing Engineering Services Agreement – RFQ No. 947-18-1**

**ATTACHMENT 2**

**Project Schedule**

Contract No: RFQ No. 947-18-1  
Contract Title: Continuing Engineering Services Agreement for Riviera Beach Special Utility District  
Project Name: Evaluation of Singer Island Water Pressure Issues

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Prior to start of project, Consultant shall provide an agreed upon deliverables schedule, detailed at task level. The schedule shall provide for completion of the Evaluation Report at the earliest date possible and shall consider urgency of coordination (no later than 6 months after Notice to Proceed).

The anticipated project schedule milestones for this project are presented below.

<b>ACTIVITY</b>	<b>DATE REQUIRED OR ESTIMATED TIME PERIOD</b>
Task 1	
- Data Collection and Review	3 weeks
Task 2	
- Establishment of Evaluation Criteria and Model Development	3 weeks
Task 3	
- Water Modeling Scenarios	6 weeks
- Recommended Improvement Plan	2 weeks
- Probable Cost Estimate	2 weeks
Task 4	
- Project Management	ongoing
- QA/QC	ongoing
- Final Report Preparation	4 weeks
<b>TOTAL</b>	<b>20 Weeks</b>

Continuing Engineering Services Agreement – RFQ No. 947-18-1

ATTACHMENT 3

Project Budget

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This Lump Sum Fee Proposal corresponding to the scope of services.

<b>Tasks</b>	<b>\$</b>
Task 1 – Data Collection and Review	\$8,362.00
Task 2 – Evaluation Criteria and Model Development	\$4,865.00
Task 3 – Water Modeling Scenarios and Recommended Improvement Plan	\$40,823.00
Task 4 – Project Management, QA/QC and Final Report Preparation	\$24,673.00
<b>Lump Sum Fee</b>	<b>\$78,723.00</b>
Miscellaneous Reimbursable Expenses (NTE)	\$1,000.00
<b>Grand Total Fee</b>	<b>\$79,723.00</b>