

EMERALD COAST UTILITIES AUTHORITY

BID NUMBER: 2018-12

SPECIFICATIONS

ANNUAL WATER WELL MAINTENANCE AND REPAIR

CONTRACT EFFECTIVE: December 1, 2018 through November 31, 2019 (With two one-year optional extensions upon mutual written agreement of both parties, with no increase in price)

PURPOSE:

It is the intent of the Emerald Coast Utilities Authority to enter into a contract for the maintenance and repair of the ECUA's wells.

GENERAL DESCRIPTION:

The work involved is divided into several tasks, which identify the work to be performed under each task. Several of the tasks are separated into different well sizes and depths that will require individual cost estimates.

DESCRIPTION OF TASKS

TASK 1: Site meeting to look at condition of concern:

An ECUA staff member will alert the contractor's point of contact person of the need to meet at a well site to look into a concern. The contractor's representative shall be available to meet at the site within three (3) calendar days after notification of the need for a site meeting by ECUA. The contractor shall assess the condition causing the concern. Regardless of the condition of concern, the contractor is to take vibration readings at the pumps normal operating conditions (rate of flow, head and speed) in accordance with attached Section 9.6.4 of the Hydraulic Institute Standards and the pump manufacturer's recommendations of the motor coupled and uncoupled with a vibration measuring device approved by ECUA and the pump manufacturer. Vibration readings taken shall be provided in a report (see attached Appendix of Section 9.6.4, Hydraulic Institute Standards for test report form) along with the pump and motor manufacturer's maximum permissible vibration recommendations and the Hydraulic Institute's standards maximum permissible vibrations. The report shall include the contractor's findings along with a proposal of work to further investigate the problem or work recommended to resolve the problem.

Three copies of the report shall be delivered to ECUA within 5 calendar days of the site meeting. ECUA will review the report and discuss the specifics with the contractor. If ECUA agrees with the proposed work, the contractor shall be issued a purchase order (PO) from ECUA as necessary.

TASK 2: Removal of the vertical turbine pump assembly:

The contractor shall be responsible for the removal of the motor, discharge head, pump discharge column, pump shaft, and pump bowls/impellers from the well. These items are to be stored at the site if room is available or at the contractor's facility. In either case, it shall be the contractor's responsibility to protect the equipment from the elements and damage. Column and shaft sections should be handled with extreme care. These parts are machined to achieve precision alignment. If dropped, bent, or otherwise mistreated, misalignment and pump malfunction will occur. Shafts are especially sensitive to abuse.

Bent or dropped shafts should not be re-used. Photographs of the pump, pump discharge column, and pump line shaft shall be taken immediately upon removal from the well. During removal of the pump discharge column and shaft, the contractor shall assess the condition of both. For pump discharge column sections the condition of the interior and exterior of the column section walls, pipe end couplings and the supporting spiders for the line shaft shall be assessed. For the line shaft, the exterior surface and end couplings shall be assessed. The contractor shall mobilize on the site, commence work within 14 calendar days of receipt of the PO from ECUA, and alert ECUA in writing 24 hours prior to mobilization.

TASK 3: Video Survey of the well casing and screen:

The contractor shall perform a video survey of the inner casing and screen from the ground surface to the bottom of the well with-in two (2) calendar days of removal of the pump assembly from the well casing. The video shall record the distance from ground surface in one-foot increments. The video shall consist of downhole view of the entire well column with horizontal views taken a maximum of ten feet apart, at points of significant surface condition change, and at any change of casing/screen material. The camera shall be equipped with a light capable of illuminating the wall of the casing/screen and down hole of the camera. The camera used shall be equivalent in resolution, field of view and articulation to a Laval Underground Surveys model R10 camera. Two (2) copies of the video shall be provided to ECUA's Water Production Department with-in two (2) calendar days of the day the video was taken. The contractor is to provide a report indicating the contractor's interpretation of the video with suggested further actions to be taken along with proposed costs and a schedule of work. The report can be in the form of a printed document or an email. ECUA shall review the video and report within seven (7) calendar days of the receipt and will contact the contractor to discuss the findings. ***NOTE: No further action is to be taken by the contractor until ECUA has reviewed the video and consulted with the contractor on further actions to be taken. This includes placing the pump assembly back into the well casing.***

TASK 4: Disassembly of the pump:

If it is suspected that the existing pump is the cause of the problem, the contractor is to disassemble the pump to check on the condition of the bowls, impellers, bearings, wear plates, etc. The contractor shall provide a report to ECUA on their findings along with a recommendation of work required to resolve problems determined with the pump. The report will provide alternatives for restoring the pump to efficient operating conditions with a schedule provided for each alternative. A detailed list of parts required for each alternative along with detailed pricing of parts, materials and labor shall be provided. The report shall be prepared by a Water Well Contractor Licensee or Professional Engineer, licensed to practice in the state of Florida, with experience in the design, operation and maintenance of public supply wells. The report shall contain photos taken of the pump assembly components prior to disassembly, during disassembly, and after all parts have been disassembled. Reassembly is also to be included in this task. The report shall be delivered to the ECUA within 14 calendar days of the delivery of the PO to perform this task or within 14 days of the completion of TASK 2 if both tasks are listed on the same PO. The report can be in the form of a printed document or an email.

TASK 5: Rehabilitate or replace pump discharge column sections or suction column sections

If during TASK 2 the contractor discovers that any or all of the existing pump discharge column sections or pump suction column sections need rehabilitation or replacement the contractor is to contact a representative of ECUA's Water Production Department with-in two (2) calendar days to schedule a meeting to look at the sections of the pump discharge column and suction sections to come to an

agreement on what actions to take. The contractor shall prepare and submit a proposal to ECUA to rehabilitate or replace sections of pump discharge or suction column in accordance with the decisions made at the meeting. The proposal shall include a schedule of delivery of the rehabilitated or replaced sections of column.

ITEM 1: Rehabilitate existing pump discharge column or suction column sections

The interior and exterior of each column section shall be blasted to white metal (SSPC-SP10) then shop coated with two coats of potable water safe NSF 61 approved high-build epoxy to a total dry film thickness (DFT) of 14 mils minimum. The DFT per coat shall be more than the minimum thickness recommended by the coating manufacturer and shall be no more than the maximum thickness per coat. Improper coat thickness application shall be corrected in a manner acceptable to ECUA.

ITEM 2: Provide new pump discharge column or suction column sections:

New pump discharge column sections shall be constructed of low-carbon steel with a minimum wall thickness of:

Size column	Min. wall thickness
6"	0.280"
8"	0.322"
10"	0.365"
12"	0.375"

Carbon steel must meet the requirements of ASTM Designation A53/A53B, or API Standard Specification 5CT or 5L. Discharge column sections shall be provided in standard ten-foot lengths threaded at each end. The column ends shall butt together and be connected by threaded sleeves. New pump discharge column sections shall contain a heavy bronze or cast-iron supporting spider for the line shaft at each joint 10-feet apart. When cast-iron spiders are used, the spider shall be an integral part of the column coupler.

ITEM 3: Provide new line shaft sections:

The line shaft shall be made from 416 stainless steel turned, ground and polished with 416 stainless steel couplings. It shall be properly sized for continuous operation at the pump level setting required, and shall run in bearings spaced not over 10-feet apart. Line shaft bearings shall be bronze drop in spiders with cutless rubber bearings (R-3) or cast iron combination coupling.

Top column pipe shall be lugged prior to coating. The interior and exterior of each pipe section shall be blasted to white metal (SSPC-SP10) then shop coated with two coats of potable water safe NSF 61 approved high-build epoxy to a dry film thickness (DFT) of 14 mils minimum. The total per coat shall be more than the minimum thickness recommended by the coating manufacturer and shall be no more than the maximum thickness per coat. Improper coat thickness application shall be corrected in a manner acceptable to ECUA.

Submittals required:

The contractor is to provide information substantiating that any new column section or line shaft meets the requirements listed above. In addition, information such as the coating manufacturer, coating type, and manufacturer's coating application recommendations, minimum and maximum blasting profiles, and other pertinent information shall be provided.

TASK 6: Reinsertion of the pump assembly into the well column.

Installation of the pump (with suction column), pump shaft and discharge column back into the well casing shall be in accordance with attached ANSI/HI 2.4-2014, Section A.4.8.1.2., Appendix A and manufacturer's recommendations. Commissioning and start up shall be in accordance with attached Section A.5, Hydraulic Institute Standards Appendix A and manufacturer's recommendations. Upon receipt of **written** approval from ECUA, the contractor is to install the pump, pump shaft and pump discharge column back into the well. The contractor is to take vibration readings following the protocol outlined in Task 1. Vibration readings taken, the pump and motor manufacturer's maximum allowable vibration recommendations and the Hydraulic Institutes Standards maximum permissible vibration amounts shall be provided to ECUA's Water Production department in writing. If vibration readings taken show that the pump and/or motor are outside the manufacturer's or the Hydraulic Institute's maximum allowable vibration limits, but were found to be in compliance in Task 1, the contractor shall take those actions necessary to get vibrations within the manufacturer's recommendations and/or the Hydraulic Institute Standards. Once the assembly is aligned, plumb and balanced the contractor shall disinfect the well column in accordance with the requirement indicated in **TASK 8**.

Submittals required:

The contractor is to provide proposed elevations of the top of the pump, bottom of the pump suction pipe along with existing screen elevations. ECUA staff will review the information provided and provide approval or propose a change in elevation to the contractor. This information shall be provided in a drawing.

TASK 7: Well and pump performance/efficiency tests

The contractor shall submit a plan to ECUA for approval that will allow for 3 points to be established to define the pump curve. In general, it will follow the following criteria: Test pump the well for a period of 3 hours total. For 2 hours the well shall be pumped at normal system discharge pressure, then 1 hour at system pressure minus 25% and then instantaneously at shut off head. The following data is to be obtained and recorded:

- Operating speed.
- Power input.
- Flow rate and discharge pressure
- Static water level before pumping
- Water surface elevation each 15 minutes of the flow test.

With this data, drawdown and specific capacity are to be determined and presented in the report. Elevations are to be measured from the ground surface.

TASK 8: Disinfection:

The contractor shall disinfect the well in accordance with AWWA C 652.

The contractor is to submit a detailed step-by-step plan for the disinfection procedure including flushing of the well column. Once the disinfection process is complete, the well shall be flushed to waste until the disinfection residual is less than 0.2 ppm as measured by a device capable of measuring chlorine residual to the nearest 0.1ppm. Unless the wellhead failing bacteriological test results prior to the well maintenance being performed, the disinfection task is not considered complete until acceptable (absent detection of bacteria) bacteriological test results are received and the well can be placed back into service.

Submittals required:

The contractor is to provide information on the proposed disinfectant to be utilized, any additives to be utilized, mechanical agitation proposed, flushing and disposal of water and other pertinent information.

Three (3) copies of the information required shall be submitted.

SPECIAL NOTE:

If the contractor does not meet the time stipulations contained in the tasks listed above ECUA reserves the right to cancel the contract without prejudice to any other relief to which it may be entitled.

GENERAL NOTES:

- A) Insurance: Vendor awarded this contract will supply ECUA with an insurance certificate complying with insurance requirements prior to the start of the contract. (See Risk Management/Insurance Requirements)
- B) A statement of the bidder's qualifications shall be included as part of this proposal and shall be a factor used in the selection of the successful bidder.
- C) The contractor and its employees, any material suppliers or anyone associated with the contractor shall meet ECUA security requirements for entry into an ECUA water production site. This includes the submittal of results of a criminal history background check to ECUA prior to entry onto any water production site. Criminal history checks must be conducted by/through a law enforcement agency, or agency having access to such information. Public records checks are not acceptable. Anyone entering an ECUA site must have an ECUA Identification badge prominently displayed on them at all times while on the site.
- D) A list of ECUA wells containing information on well depth, casing size, etc. is attached.
- E) For technical information, contact Tom Dawson at 850-969-3341 or email to thomas.dawson@ecua.fl.gov. For questions pertaining to the bid, contact Amy Williamson at 850-969-3350 or email to amy.williamson@ecua.fl.gov.

ADDITIONAL WORK ITEMS

For work requested by ECUA or identified by the contractor but not listed in the tasks above the contractor is to provide ECUA with a proposal to perform the work identified. The proposal shall contain an itemized cost of materials and labor along with a schedule to perform the work. If ECUA desires for the work to be performed by the contractor in accordance with the proposal provided ECUA will issue a separate purchase order for the work.

- A) In order to maintain the value of presently installed units, stored spares and future interchangeability of parts, all pump parts and components supplied shall be genuine pump parts as manufactured by ITT Goulds Pumps and supplied through their authorized distributor. The parts and components shall be duplicates to the original equipment in both material and construction. Any exception to this has to be approved of beforehand in writing by ECUA.
- B) ECUA reserves the right to supply any and all repair parts as needed. ECUA reserves the right to issue an RFP for any and all replacement parts as needed.
- C) ECUA reserves the right to inspect all parts and components removed to verify the condition of said parts and components. All parts and components replaced shall be the property of ECUA.

Name of Contractor

CONTRACTOR'S EXPERIENCE QUESTIONNAIRE

The signatory of this Questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made.

1. How many years has your organization been in business as a general contractor under your present business name? _____
2. How many years' experience has your organization had (a) as a general contractor? _____ (b) as a sub-contractor? _____
3. What water well maintenance projects have your organization completed within the past 5 years? Please attach a list with the following information: Contract Amount, Completion Date, Name and Address of Owner.
4. Have you ever failed to complete any work awarded to you? _____ If so, please attach a statement stating where and why.
5. Has any officer or partner of your organization ever been an officer or partner of some other organization that failed to complete a construction contract? _____ If so, attach a statement stating name of individual, other organization and reason therefore.
6. Has any officer or partner of your organization ever failed to complete a construction contract handled in his own name? _____ If so, attach a statement stating name of Owner and reason therefore.
7. Attach a list of your major equipment assets to perform the work in which you are requesting prequalification.

Name of Person Answering This Questionnaire

Date

Name of Contractor

TABLE 1

WATER WELL MAINTENANCE EXPERIENCE

(Insert project histories demonstrating Applicant has successfully completed at least 5 previous Water Well Maintenance Projects.)

Owner Name and Address	Contact Name and Phone Number	Completion Date (mm/yy)	Water Well Maintenance Projects	Manufacturer and Model of Water Well Equipment Installed	Name of Project Foreman or Individual Responsible for work and Company Affiliation

TABLE 2

FOREMAN EXPERIENCE

(Insert name and experience of foreman demonstrating supervisory responsibilities for installation of a minimum of 5 Water Well Maintenance Projects.)

Name of foreman proposed for this project and whose experience is documented in this Table and Table 1 as noted:

. (Insert Name)*

(1) Owner Name and Address	(2) Contact Name and Phone Number	(3) Completion Date (mm/yyyy)	(4) Number of Water Well Maintenance Projects Completed (list by project name)	(5) Manufacturer and Model of Water Well Equipment Installed

* Provide additional copies of this Table as appropriate when proposing to use more than one foreman for the project.

(Insert Resume of Project Foreman)