

RECEIPT OF ADDENDUM ACKNOWLEDGEMENT

ADDENDUM NO. 5

TO

BID DOCUMENTS FOR
POOKELA WELL "B" – DEVELOPMENT
JOB NO. 15-05A

Please acknowledge the receipt of the above ADDENDUM issued by the Department of Water Supply, County of Maui, by signature and recording the date of receipt below.

Bidder: _____

Authorized Signatory: _____ Date: _____

NOTE: This form may be FAXED to the Engineering Division at (808) 270-7833.

ADDENDUM NO. 5

**TO THE
BID DOCUMENTS
FOR**

**POOKELA WELL "B" – DEVELOPMENT
JOB NO. 15-05A**

NOVEMBER 6, 2019

Contractors preparing bids are hereby notified of the following revisions and additions to the project plans and specifications. These changes will govern the work and take precedence over previously issued plans and specifications governing the items mentioned.

BID OPENING DATE

The following amendment shall be made to the NOTICE TO BIDDERS:

"The bid opening date shall be Thursday, November 14, 2019 at 2:00 pm HST."

SPECIFICATION REVISIONS

1. Specification 15011 Mechanical General Requirements

a. DELETE Paragraph 3.7.E Pump Efficiency Test and ADD the following:

"E. Contractor Pump Efficiency Test: In the course of the operational test, the Contractor shall measure the wire-to-water pump efficiency. The Contractor shall measure incoming power usage at the starter input connections and calculate theoretical power consumption based on pump output flow rate and pressure measurements. Contractor shall submit pump efficiency test results and data to the Department with certification stating that the pumping system meets or exceeds the wire-to-water overall efficiency specified. If the pumping system fails to meet the minimum overall efficiency specified, the Contractor shall make all corrections needed to meet the overall efficiency and retest. All costs of retesting shall be borne by the Contractor. If after the Contractor's corrective measures are implemented and the overall efficiency is between 0% and 1%, inclusive, below the minimum specified, then the overall efficiency will be accepted by the Department. If the overall efficiency is more than 1% below the minimum specified, the Contractor may make further corrections or propose the following:

1. If the overall efficiency is between 1% and 5% below the specified overall wire-to-water efficiency, the overall efficiency shall be accepted at the discretion of the Department. Should the department choose to issue a penalty, the Contractor shall compensate the County DWS for the additional power cost due to lesser efficiency. Power cost shall be calculated based on current utility power costs for operating the pumping system for 12 hours per day for 3 years. Penalty shall be as calculated by the Department.

2. If the overall efficiency is 5% or more below the specified overall wire-to-water efficiency, the pumping unit and/or the pump starter and appurtenant electrical components shall be replaced. All costs for replacement and retesting, including liquidated damages for delay, shall be borne by the Contractor.

- b. Paragraph 3.7 Field Testing and Operational Demonstration, ADD subsections H and I:

"H. Manufacturer Pump Efficiency Test: In the factory, the pump manufacturer shall measure the pump bowl efficiency at the design point as part of the witness test. Contractor shall submit pump efficiency test results and data to the Department with certification stating that the pump meets or exceeds the pump bowl efficiency required. If the pump fails to meet the minimum pump bowl efficiency required, the pump manufacturer shall make all corrections needed to meet the minimum efficiency and retest.

I. Manufacturer Motor Efficiency Test: In the factory, the motor manufacturer shall measure the full load motor efficiency. Contractor shall submit motor efficiency test results and data to the Department with certification stating that the motor meets or exceeds the full load motor efficiency required. If the motor fails to meet the minimum motor efficiency required, the motor manufacturer shall make all corrections needed to meet the minimum efficiency and retest."

2. Specification 15131 Submersible Vertical Turbine Deep Well Pumping Unit

- a. Paragraph 1.3F Certifications, ADD subsection 5 :

"5. The round cable assembly (including the cable splice) has been Hi-Pot tested by the pump/motor manufacturer to a voltage of 15 kV."

- b. Paragraph 1.4 Supplier Qualifications, DELETE subsection A. ADD the following:

"Pump/motor supplier shall have facilities at the point of manufacture capable of testing the complete pump/motor assembly under full duty conditions and shall test the complete pump/motor assembly."

- c. Paragraph 2.1.B.2 Pump Bowl Assembly, DELETE subsection b. ADD the following:

"b. Min. bowl efficiency at
design point: 78% ± 1%"

- d. Paragraph 2.1.B.6 Motor, DELETE subsection e. ADD the following:

"e. Min. full motor
efficiency: 89% ± 1%"

- e. Paragraph 2.1.D.1 General, DELETE subsection h. ADD the following:

"H. Cable

The pump/motor manufacturer shall supply a power cable assembly of not less than 5 kV rating and of appropriate size and construction to meet the service intended.

Minimum cable size shall be as specified above. Power cable shall be furnished in the proper length to extend from the motor terminals to the junction box mounted on the surface plate. The power cable shall include a sealing terminal plug with metal guards for protection during pump installation. Only one cable splice near the motor plug to transition flat to round cable shall be allowed. Pump/motor manufacturer shall supply a certificate certifying that the round cable assembly (including the splice) has been Hi-Pot tested at the factory to a voltage of 15 kV. The electrical contractor shall test the entire cable assembly to twice the rated voltage plus 1,000 volts."

f. DELETE Paragraph 2.5 Power Cable. ADD the following:

"2.5 POWER CABLE

A. General:

The pump/motor manufacturer shall supply a power cable assembly of not less than 5 kV rating, minimum #2/0 size or as recommended by the manufacturer, and construction to meet the service intended. The power cable assembly shall be furnished in the proper length to extend from the motor terminals to the junction box mounted at the surface. The power cable assembly design shall include a sealing terminal plug arrangement with metal guards for protection against rubbing the casing ID during installation. The flat cable section shall be factory spliced to the round cable by the pump/motor manufacturer.

1. Cable Plug Assembly:

Power cable assembly shall include a factory hot-injection molded plug at the motor terminal end. The plug design shall incorporate a sealing plug-in design, which can be removed without disassembling any part of the motor. The cable plug design shall be capable of withstanding full submergence pressure without failure.

2. Round Cable Assembly:

Pump/motor manufacturer shall supply a certificate certifying that the round cable assembly (including the splice) has been Hi-Pot tested at the factory to a voltage of 15 kV. Round cable shall be based on three (3) conductors of stranded copper. Each conductor shall have cross-linked polyethylene insulation. Round cable shall include integral ground lead of proper size. Power cable shall have a PVC jacket. Cable shall be sized for not less than motor size supplied plus allowances for length and voltage drop. The entire power cable assembly, including the flat cable splice and plug, shall be tested by the electrical contractor to twice rated voltage plus 1000 volts."

END OF ADDENDUM

APPROVED BY:



JEFFREY T. PEARSON, P.E.
Director, Department of Water Supply

11/6/19

Date

