

**DOCUMENT 00 90 10  
ADDENDUM No. 1**



**PART 1 GENERAL**

**1.1 DOCUMENT INCLUDES**

- A. Changes to the Bid Schedule.
  - 1. Revised Bid Schedule No. 1, Bid Item No. A4a
- B. Changes to the Specification
  - 1. Revised Document 33 20 00 2062, Install Pump for Well Development and Testing
- C. Changes to the Bid Opening Time.
  - 1. All times in the contract referencing a bid opening at 11:00 a.m. will be changed to Friday February 15, 2019 at 3:00 p.m.

**1.2 CONSTRUCTION CONTRACT**

- A. The Construction Contract is known as Ogden Airport Well.
- B. Date of this Addendum: February 13, 2019.

**PART 2 CHANGES**

**2.1 CHANGES TO PRIOR ADDENDA**

- A. None

**2.2 CHANGES TO BIDDING REQUIREMENTS**

- A. Document 00 41 10 (Bid Schedule), Change Item A4a quantities from 450 linear feet to 960 linear feet of 28-inch Production Borehole Drilling (Reaming)
- B. Changes to the Bid Opening Time.
  - 1. All times in the contract referencing a bid opening at 11:00 a.m. will be changed to Friday February 15, 2019 at 3:00 p.m.

**2.3 CHANGES TO AGREEMENT AND OTHER CONTRACT FORMS**

- A. None

**2.4 CHANGES TO CONDITIONS OF THE CONTRACT**

- A. None

**2.5 CHANGES TO SPECIFICATIONS**

- A. None

**2.6 CHANGE TO DRAWINGS**

- A. None

END OF ADDENDUM

**DOCUMENT 00 41 10**  
**BID SCHEDULE**

**PART 1 GENERAL**

**1.1 DOCUMENT INCLUDES**

- A. Bid schedules.
- B. Measurement and payment provisions.

**1.2 CONSTRUCTION CONTRACT**

- A. The Construction Contract is known as:  
**Ogden Airport Well**

**1.3 REFERENCES**

- A. APWA 01 29 00: Payment Procedures.
- B. Document 00 50 00: Agreement.

**PART 2 BID SCHEDULES**

**2.1 BASE BID**

- A. Bid Schedule No. 1 below describes work basic to the Contract.

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**BID SCHEDULE No. 1****3715 South Airport Rd, Ogden Airport Well**

<b>Item No.</b>	<b>Specification Reference Number Classification of Unit Price Work</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Unit Price</b>	<b>Amount</b>
A1	Section 33 20 00 2015 Mobilization/Demobilization/Clean up	lump sum	1	\$	\$
A2	Section 33 20 00 2015 Sound Control	lump sum	1	\$	\$
A3	Section 33 20 00 2020 30-inch Diameter, 0.3125-inch wall, Steel Surface Conductor Casing and Certified Seal (Note: installed to a minimum depth of 40 feet)	lump sum	1	\$	\$
A4a	Section 33 20 00 2035 13 to 17.5-inch Pilot Borehole Drilling (Note: 40 to 1,000 feet)	linear feet	960	\$	\$
A4b	Section 33 20 00 2035 28-inch Production Borehole Drilling (Reaming) (Note: 40 to 1,000 feet)	linear feet	960	\$	\$
A5	Section 33 20 00 2045 Geophysical Logging	lump sum	1	\$	\$
A6	Section 33 20 00 2046 Caliper Survey	lump sum	1	\$	\$
A7a	Section 33 20 00 02047 Formation Water Zone Testing	each	3	\$	\$
A7b	Section 33 20 00 02047 Additional Zone Development	hour	20	\$	\$

A8	Section 33 20 00 2050 Well Installation – 20” Steel Casing, 0.375-inch wall	linear feet	700	\$	\$
A9	Section 33 20 00 2050 Well Installation – 20” Well Screen 60 Slot, 304-SS Wire-Wrap	linear feet	300	\$	\$
A10	Section 33 20 00 2050 Well Installation – 2.5” Gravel Feed Tube	linear feet	510	\$	\$
A11	Section 33 20 00 2050 Well Installation – 2” Water Level Measurement Tube	linear feet	600	\$	\$
A12	Section 33 20 00 2052 Gravel Pack Installation – 8-12 Gradation	linear feet	500	\$	\$
A13	Section 33 20 00 2054 Installation of Annular Grout Seal	linear feet	500	\$	\$
A14	Section 33 20 00 2060 Initial Well Development with Rotary Drill Rig	hour	40	\$	\$
A15	Section 33 20 00 2062 Install Pump for Development and Testing	lump sum	1	\$	\$
A16	Section 33 20 00 2062 Provide/Operate booster pump and piping system for water discharges	lump sum	1	\$	\$
A17	Section 33 20 00 2064 Well Development by Pumping	hour	80	\$	\$
A18	Section 33 20 00 2066 Step-Rate Drawdown Test	hour	10	\$	\$

A19	Section 33 20 00 2068 Constant-Rate Discharge Test	hour	24	\$	\$
A20	Section 33 20 00 2070 Video Camera Survey	lump sum	1	\$	\$
A21	Section 33 20 00 2072 Plumbness and Alignment Testing	lump sum	1	\$	\$
A22	Section 33 20 00 2080 Well Disinfecting	lump sum	1	\$	\$
A23	Section 33 20 00 2082 Well Head	lump sum	1	\$	\$
A24	Section 33 20 00 2084 Well Capping	lump sum	1	\$	\$

Total = \$ \_\_\_\_\_

Schedule Total in Words \_\_\_\_\_

Signature \_\_\_\_\_

## **PART 3 MEASUREMENTS AND PAYMENT**

### **3.1 GENERAL**

All work completed under this contract shall be in accordance the DRAWINGS and specifications and will be measured by the ENGINEER. The quantities appearing on the Bid Schedule are approximate only, and are prepared for the comparison of bids. Payment to the CONTRACTOR on bid items with unit prices other than “Lump Sum” will be made for actual quantities of work performed and accepted, or material furnished in accordance with the Contract. The scheduled quantities of work to be done and materials to be furnished may be increased or decreased.

The term “Lump Sum” when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure, portion of work, or unit is specified “Lump Sum” as the unit of measurement, the unit will include fittings, accessories, and all work necessary to complete the work as shown on the DRAWINGS and as specified.

When the accepted quantities of work vary from the quantities in the Bid Schedule, the CONTRACTOR shall accept as payment in full, so far as contract items are concerned, payment at the original contract unit prices for the work done. The OWNER reserves the right to add to or delete from quantities listed in the Bid Schedule in order to match the total bid with the budget money available.

Measurement and calculation of quantities for payment to be as indicated in this section and supersedes the measurement and payment articles in applicable sections of the 1997 Utah Public Works Standard Specifications.

Unit prices or lump sum amounts to include full compensation for furnishing all labor, materials, products, tools, equipment, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit, and doing all work shown on the Drawings, defined in the Specifications, and/or stipulated herein.

Payment covers the cost of incidental work which includes: progress schedule; CQC program; mobilization and temporary facilities; safety procedure plan; dust control; surface water and drainage handling; coordination with property owners, businesses, contractors, and government agencies; all provisions required to provide and maintain full and continuous access to all properties affected by construction operations; construction surveying; saw cutting, removal, and disposal of existing trench pavement, curb and gutter, sidewalk, and concrete waterway; unclassified excavation; pot hole excavations; trench excavations; trench shoring or trench boxes as applicable; removal and disposal of waste materials; trench dewatering; pipe zone material; select import fill material; compaction of trench backfill materials; compaction density testing; monument restoration; roadbase; protection and support of existing surface and subsurface features; replacement of concrete waterway and drive approach(es); tree root trimming; replacement and restoration of existing utilities and other items damaged by the CONTRACTOR’s operations; removal and replacement of landscape materials and irrigation systems equal to or better than existing if damaged by the CONTRACTOR’s operations;

installation of sewer manhole invert cover(s) and subsequent removal as directed by governing authorities; and all other necessary work, to install the Work complete in place.

**1. Bid Item A1 – Mobilization/Demobilization/Cleanup**

- a. Measurement for Mobilization and Demobilization will be made on a lump sum basis.
- b. For purposes of payment, mobilization shall be 75 percent of the bid price for this item. Mobilization to include all equipment and materials necessary to complete the work including, but not limited to, drill equipment, logging, and pump test equipment.
- c. Payment Covers: Cost of mobilization; demobilization, including final site cleanup; obtaining any additional permits not already obtained by the OWNER. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
- d. The lump sum bid price for this bid items shall not exceed 15 percent of the total bid price.
- e. Pay requests shall be made in 5% increments and must be approved by the OWNER.

**2. Bid Item A2 – Sound Control**

- a. Measurement: Measured and paid for on a lump sum basis.
- b. Payment Covers: Cost of sound/noise control during the drilling, construction, developing and testing of the production well. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project. Additional sound control measures will be at the discretion of the OWNER and ENGINEER.

**3. Bid Item A3 – 30-inch Diameter, 0.3125-inch wall, Steel Surface Conductor Casing and Certified Seal**

- a. Measurement: Measured and paid for on a lump sum basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to drill a minimum 36-inch borehole to a minimum depth of approximately 40 feet, or an appropriate depth determined by the CONTRACTOR, and set and seal the corresponding length of minimum 30-inch conductor casing as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**4. Bid Item A4a – 13 to 17.5-inch Pilot Borehole Drilling**

- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to drill a 13-17.5-inch pilot borehole to a



depth as required by Specifications. The measurement is from 40 feet below ground surface (assumed bottom of the installed intermediate conductor casing) to the total depth of the completed well. The measurement does not include any “rathole” or other structure deemed necessary by the CONTRACTOR to log or test the borehole to the specified depth.

- c. Also includes cost of disposing drilling fluids, cuttings, and pumped water associated with the borehole drilling. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**5. Bid Item A4b – 28-inch Production Borehole Reaming**

- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to ream out the pilot borehole after testing and drill a 28-inch borehole to a depth as required by Specifications. The measurement is from 40 feet below ground surface (assumed bottom of the installed intermediate conductor casing) to the total depth of the completed well. The measurement does not include any “rathole” or other structure deemed necessary by the CONTRACTOR to log or construct the well to the specified depth. Also includes cost of disposing drilling fluids, cuttings, and pumped water associated with the borehole drilling. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**6. Bid Item A5 – Geophysical Logging**

- a. Measurement: Measured and paid for on a lump sum basis.
- b. Payment Covers: Cost of geophysical logging of a pilot well borehole. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**7. Bid Item A6 – Caliper Survey**

- a. Measurement: Measured and paid for on a lump sum basis.
- b. Payment Covers: Cost of caliper survey of the pilot and production well boreholes. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**8. Bid Item A7a – Formation Water Zone Testing/Sampling**

- a. Measurement: Measured and paid for on a unit cost per each zone test basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to conduct Zone Testing (Formation Water Samples) as required by Specifications. This pay item shall constitute full

compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**9. Bid Item A7b – Additional Zone Development**

- a. Measurement: Measured and paid for on a unit cost per hour basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to conduct Zone Testing (Formation Water Samples) as required by Specifications and shown on the DRAWINGS. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**10. Bid Item A8 – Well Installation 20-inch Mild Steel Casing**

- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to install 20-inch mild steel well casing as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**11. Bid Item A9 – Well Installation 20-inch Well Screen – 60 Slot**

- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to install 20-inch diameter stainless steel well screen, 60 slot (range 40 to 80 slot), as required by Specifications and shown on the DRAWINGS. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**12. Bid Item A10 – Well Installation 2.5-inch Gravel Feed Tube**

- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to install 2.5-inch mild steel gravel feed tube as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**13. Bid Item A11 – Well Installation 2-inch Water Level Measurement Access Tube**

- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
- b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to install 2-inch mild steel water level access tube as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

14. **Bid Item A12 – Installation of Gravel Pack – 8-12 Gradation**
- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
  - b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to install 8-12 gradation gravel pack (range 6-9 to 10-20) as required by Specifications and shown on the DRAWINGS. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
15. **Bid Item A13 – Installation of Annular Grout Seal**
- a. Measurement: Measured and paid for on a unit cost per linear foot basis.
  - b. Payment Covers: Costs associated with all labor, materials, supplies, tools, and equipment required to install annular cement grout seal as required by Specifications and shown on the DRAWINGS. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
16. **Bid Item A14 – Initial Well Development with Rotary Drill Rig**
- a. Measurement: Measured and paid for on a unit cost per hour basis.
  - b. Payment Covers: Cost associated with all labor, materials, supplies, tools, and equipment required for the initial development of the production well as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
17. **Bid Item A15 – Install Pump for Well Development and Testing**
- a. Measurement: Measured and paid for on a lump sum basis.
  - b. Payment Covers: Cost associated with all labor, materials, supplies, tools, and equipment required to provide, install, and remove the pump and associated appurtenance for the development and testing of the production well as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
18. **Bid Item A16 – Provide/Operate Booster Pump and Piping System for Water Discharges**
- a. Measurement: Measured and paid for on a lump sum basis.
  - b. Payment Covers: Cost associated with all labor, materials, supplies, tools, and equipment required to provide, install, operate, and remove the booster pump and piping and associated appurtenance for movement of water discharges from the Airport stormwater retention basin to the storm drain box that crosses underneath Airport Road as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

19. **Bid Item A17 – Well Development by Pumping**
- a. Measurement: Measured and paid for on a unit cost per hour basis.
  - b. Payment Covers: Cost associated with all labor, materials, supplies, tools, and equipment required for the development of the production well by pumping as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
20. **Bid Item A18 – Step-Rate Drawdown Test**
- a. Measurement: Measured and paid for on a unit cost per hour basis.
  - b. Payment Covers: Cost associated with all labor, materials, supplies, tools, and equipment required to test the production well by the Step-Rate Drawdown Test as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
21. **Bid Item A19 – Constant-Rate Discharge Test**
- a. Measurement: Measured and paid for on a unit cost per hour basis.
  - b. Payment Covers: Cost associated with all labor, materials, supplies, tools, and equipment required to test the production well by the Constant-Rate Discharge Test as required by Specifications. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
22. **Bid Item A20 – Video Camera Survey**
- a. Measurement: Measured and paid for on a lump sum basis.
  - b. Payment Covers: Cost to video camera survey of the production well. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
23. **Bid Item A21 – Plumbness and Alignment Testing**
- a. Measurement: Measured and paid for on a lump sum basis.
  - b. Payment Covers: Cost to perform the plumbness and alignment test for the casing and well screen of the production well. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.
24. **Bid Item A22 – Well Disinfecting**
- a. Measurement: Measured and paid for on a lump sum basis.
  - b. Payment Covers: Cost to disinfect the production well after completion of the well testing and prior to final capping. This pay item shall constitute

full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**25. Bid Item A23 – Well Head**

- a. Measurement: Measured and paid for on a lump sum basis.
- b. Payment Covers: Cost to complete the well head. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

**26. Bid Item A24 – Well Capping**

- a. Measurement: Measured and paid for on a lump sum basis.
- b. Payment Covers: Cost to cap the production well. This pay item shall constitute full compensation for all labor, equipment, tools, supplies, and materials required to complete this portion of the Work for this construction project.

END OF DOCUMENT

**SECTION 33 20 00 2062**  
**INSTALL PUMP FOR WELL DEVELOPMENT AND TESTING**

**PART 1 - GENERAL**

**1.1 THE REQUIREMENT**

- A. Work to be performed under this Section includes the work necessary to provide, install, and remove the pump and associated appurtenances for development, test pumping, and water level measurement, and includes installation of two (2) 1-inch water level measurement access pipes. The sounder pipes must be of sufficient size for the CONTRACTOR supplied electronic well sounder and pressure transducers.
- B. Work to be performed under this Section includes the work necessary to provide, install, operate, and remove a booster pump and piping conveyance system and associated appurtenances to move discharged well water from the Airport storm water retention basin to the storm water collection box that crosses underneath Airport Road. Access to the Airport property will require an Escort provided by the OWNER or require obtaining a FAA security clearance badge. The booster pump system must be of sufficient size for the CONTRACTOR to move discharged well water and not impact or restrict the pumping rate achieved by the well. The section of conveyance piping that crosses the airport security fencing must be buried and backfilled so there are no holes or breaks in the security fence. Figure 3 shows the location of the onsite storm drain manhole for water discharge along with the location of the Airport Storm Water Retention Basin and the location of the booster pump and conveyance piping system.

**PART 2 - PRODUCT**

**2.1 GENERAL**

- A. Provide all temporary and permanent materials, supplies, tools, equipment, and labor required to accomplish the work as specified.
- B. Plumbness and alignment testing will be performed prior to installing the test pump in accordance with SECTION 33 20 00 2072.

**2.2 SAMPLE PORT**

- A. Provide a sample port at the well head for the collection of water quality samples.

**2.3 SAND CONTENT MEASURING DEVICE**

- A. Provide a sand content measuring device such as a Rossum centrifugal sand separator, or equal.

## 2.4 FLOW MEASUREMENT

- A. Provide an orifice plate and manometer capable of reading the maximum pumping rate.
- B. Provide an in-line totalizing and instantaneous flow meter capable of the maximum pumping rate.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Following the completion of initial development with the drill rig, the CONTRACTOR shall install a deep well high capacity test pump to perform the development of the well by pumping. The CONTRACTOR shall mobilize and commence development with the test pump within 1 week (7 calendar days) of completion of initial development with the drill rig. If the CONTRACTOR does not commence development with the test pump within the 1 week period, the CONTRACTOR will perform 4 hours of development with the test pump for each day delay at no additional cost to the OWNER. The test pump shall not be removed from the well until all well testing, including recovery monitoring, is complete. All fuel shall be provided by the CONTRACTOR.
- B. Provide 2 sounding tubes adequate for insertion of water level sensing devices into the well before, during, and after the test pumping. The access pipe must allow free passage of pressure transducers that are 1-inch in diameter and approximately 8-inches long. The sounding tube shall be securely fastened to the pump column assembly, terminate approximately 5 feet above the pump, and be perforated along the bottom 10 feet.
- C. The test pump shall be of a type and capacity to pump under the performance conditions outlined in the following table, unless otherwise directed by the ENGINEER.

Well Name	Pump Capacity (gpm)	Minimum Pump Setting* (ft bgs)	Maximum Pump Setting (ft bgs)
Airport Well	500-3,500	300	550

- D. \*The CONTRACTOR shall set the test pump between the minimum and maximum pump setting. The CONTRACTOR shall be responsible for lowering the pump setting as necessary to achieve the maximum test pump capacity.
- E. The prime motor shall be of a variable-speed type and be equipped with sound-deadening devices as appropriate. Discharge piping shall be provided by the CONTRACTOR and be of sufficient size and length to conduct water to the wastewater disposal area as specified in 33 20 00 2095 DRILLING FLUIDS, CUTTINGS, AND PUMPED WATER DISPOSAL. The CONTRACTOR shall provide instantaneous and totalizing flow meters or other approved devices that will measure the flow rate to an accuracy of at least

5 percent. The CONTRACTOR shall also provide an orifice plate and manometer with appropriate apparatuses to measure discharge flow from the well.

END OF SECTION