CENTRAL UTAH WATER CONSERVANCY DISTRICT CWP HIGH HEAD WELL PUMP HOUSE PROJECT WELLS #7, #16, AND #17 June 8, 2023

DOCUMENT 00 91 13.2 ADDENDUM NO. 2

PART 1 – GENERAL

- A. The following ADDENDUM (with attachments and drawings) shall be made part of the Bidding Documents, and the bidder shall acknowledge receipt thereof on page 2 of the BID FORM.
- B. This addendum does not change the bid date. It remains on Wednesday, June 15, 2023, at 2:00 P.M.

1.1 DOCUMENT INCLUDES

A. Changes to the Bid Documents.

1.2 CONSTRUCTION CONTRACT

A. The Construction Contract is known as **CENTRAL UTAH WATER CONSERVANCY DISTRICT, CWP HIGH HEAD WELL PUMP HOUSE PROJECT – WELLS #7, #16, AND #17.**

1.3 BID PERIOD QUESTIONS AND ANSWERS, AND COMMENTS

- A. **Question**: Just confirming that this project does not have a tax exemption status. **Response**: That is correct. This project does not have tax exemption status.
- B. Question: Can trench spoils and excess fill be taken to Site #16 area?
 Response: No. Well Site #16 is surrounded by other property owners. We do not have permission to place any fill on adjacent property to the well site.
- C. **Question:** Currently there are sound boards protecting the neighbors from nuisance noise. Assuming those will be taken down when the contractor comes on site, do they need to be put back in place by the contractor?

Response: The well drilling contractor works 24-hr days at points throughout their contract. For this reason, the sound walls were required for that project. Sound walls will not be required for this project.

D. Question: Regarding the surge tanks, would a bladder surge tank be considered?

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Response: See response in Addendum No. 1 to similar question. "In accordance with the contract documents, "equals" or "substitutes" will only be considered after the award of the bid. Contractors are instructed to carry the cost of the listed products or manufacturers in their bid in the event that a proposed "equal" or "substitutes" is not approved. See the following references in the contract documents regarding proposed "equals." 00 21 13-5 Instructions to Bidders, Paragraph 15.5 00 70 00-31 General Conditions, Paragraph 7.05 00 73 00-21 Supplementary Conditions, Paragraph SC-7.05 and SC-7.06

- E. Question: Does the large pipeline trench detail requiring CLSM apply to the pump to waste HDPE line running from well 16 to well 12?
 Response: No, backfill for the HDPE pipeline can be either CLSM or process granular material as defined in Section 31 23 23.15 paragraph 2.01.A.
- F. **Comment:** Hydro Resources is completing well development and pump testing work on Wells 7 and 17. Work is anticipated to be completed on Well 7 by October 1, 2023 and on Well 17 by August 1, 2023. AECOM is performing site work at Well 16 to remove existing regulated soils. Work will be completed by August 1, 2023. CONTRACTOR should not anticipate commencement of work on these sites prior to these dates. OWNER has pushed the bidding schedule to allow award of the project to CONTRACTOR in June 2023 at the June CUWCD Board Meeting. Otherwise, the project start would be delayed by two months since there is no Board Meeting in July. The purpose for pushing award as soon as possible is to allow CONTRACTOR more time to order long-lead equipment to accomplish the required project schedule. The current schedule for these three well houses is the longest time period CUWCD has designated to date for any of its well houses.
- G. Question: The generator at 12,470 volts cannot be configured with a factory installed circuit breaker. We have two options to consider then. We can have a breaker cabinet built that can sit in the generator room next to the generator, or we can add a protective relay to the generator side breaker of the ATS and utilize it as the protection for the generator. For simplicity, and value I would like to use the breaker at the ATS for the generator protection. We would include differential CT'S into that scheme so that the lines between the generator and ATS breaker are monitored by the protective relay. Please advise which option is acceptable.
 Response: The 12 kV generator circuit breaker can be the Automatic Transfer Switch draw-out breaker, providing appropriate relaying provides generator

protection. Differential relaying for the generator to ATS is appropriate.

H. Questions: Requesting that Hoover Vault (By Advanced Fuel Systems) be an acceptable supplier of the 4000 Gallon storage fuel tank. Requesting that Fuel Tec (By Advanced Fuel Systems) be an acceptable supplier of the fuel polishing system. Requesting that Tramont Co be an acceptable supplier of the 4000 Gallon storage fuel

ADDENDUM NO. 2 00 91 13.2 - 2 207.27.200 JUNE 8, 2023 ©COPYRIGHT 2023 CUWCD tank. Requesting that Tramont Co be an acceptable supplier of the 150Gallon indoor fuel day tank.

Response: See response in Addendum No. 1 to similar question. "In accordance with the contract documents, "equals" or "substitutes" will only be considered after the award of the bid. Contractors are instructed to carry the cost of the listed products or manufacturers in their bid in the event that a proposed "equal" or "substitutes" is not approved. See the following references in the contract documents regarding proposed "equals." 00 21 13-5 Instructions to Bidders, Paragraph 15.5 00 70 00-31 General Conditions, Paragraph 7.05 00 73 00-21 Supplementary Conditions, Paragraph SC-7.05 and SC-7.06

I. **Question: 6.** Requesting clarity of the grade of muffler needed. There are several different grades with associated noise reduction. We typically see either industrial grade (15DB reduction), or Critical Grade (25DP reduction). We are assuming the critical grade is required, can you clarify?

Response: While there are no immediate buildings in the vicinity of Well 16, the engine silencer should be the critical grade unit. It is anticipated that the surrounding area around this well will be developed and occupied.

PART 2 – CHANGES

Item	Location	Description of Change				
1	$00\;41\;13$	Replace Specification Section 00 41 13 – Bid Form with the attached				
		revised Section 00 41 13 – Bid Form. Added Bid Item 10 to Schedule				
		of Values 1.				
2	$00\ 73\ 00$	Replace Paragraph C of SC-8.02 of Section 00 73 00 – Supplementary				
		Conditions with the following:				
		 C. Owner intends to contract with others for the performance of other work at or adjacent to the Site. 1. AECOM will perform site work at Well 16 to remove the upper 3 feet of regulated soil. Work will be completed by end of August 1, 2023. 2. Hydro Resources is completing well development and pump testing at Wells 7 and 17. Work is anticipated to be completed at Well 7 by October 1, 2023 and at Well 17 by August 1, 2023. 3. CONTRACTOR should not anticipate commencement of work on these sites prior to these dates. 				
2	01 91 19	Ronlago Paragraph 1 02 B of Spation 01 21 12 Project Coordination				
3	01 31 13	with the following:				
$207\ 27$	200	ADDENDUM NO 2				

Addendum to include Location and Description of Change:

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Item	Location	Description of Change
		 B. Well 16 Site Work: 1. Agency or Project Owner: Central Utah Water Conservancy District. 2. Contact Person: Shaun Hilton, Project Engineer/Manager 3. Work to be performed by others: AECOM will perform site work at Well 16 to remove the upper 3 feet of regulated soil. Work will be completed by August 1, 2023. 4. Work to be performed by Contractor: AECOM.
4	01 31 13	 Add the following Paragraphs D and E to Subsection 1.02 of Section 01 31 13 – Project Coordination: D. Well 7 Well Development Work: Agency or Project Owner: Central Utah Water Conservancy District. Contact Person: Shaun Hilton, Project Engineer/Manager Work to be performed by others: Finish development and testing of the well. Work will be completed by October 1, 2023. Work to be performed by Contractor: Hydro Resources. E. Well 17 Well Development Work: Agency or Project Owner: Central Utah Water Conservancy District. Contact Person: Shaun Hilton, Project Engineer/Manager
5	01 31 13	Replace Paragraph 1.04.B of Subsection 1.02 of Section 01 31 13 – Project Coordination with the following: B. Project Milestones: 1. Described in detail in Section 00 41 13 - Bid Form.

Item	Location	Description of Change
6	$22\ 11\ 24$	Delete the following sentence from paragraph 3.01.C.4.c
		"Pump shaft shall have chromed journals at the bearing points."
7	$33\ 12\ 00$	Replace paragraph 2.02.A with the following revised paragraph:
		2.02 BUTTERFLY VALVES
		 A. Butterfly valves shall be AWWA C504, Standard Class 150B, NSF 61 certified and have a flange-by-flange, flange-by-mechanical joint, or mechanical joint body style, as shown on Drawings, rated at 250 psi working pressure. Valves shall have a heavy-duty ductile iron body. Flanged valves shall have flat-faced flanges with serrations to aid in gasket retention and drilled per ANSI B16.1, Class 125. Shells shall be tested at a minimum of 500 psi. Valves shall have a 2-inch Standard AWWA nut operator, worm gear actuator rated at 300 foot pounds input torque at the end of travel stops, integral <i>mechanical</i> disc position indicators and <i>electronic</i> switches, and hand wheels and bench stands where shown on Drawings. <i>Electronic position switches shall have 24 VDC power supply and 3/5-wire output connection. Position indicators shall be of the double-offset design whereby the elastomeric seal shall not be in compression by the disc with valve in the open position.</i>
8	C-1	Replace Drawing C-1 with attached revised C-1.
9	C-27	Replace Drawing C-27 with attached revised C-27.
10	S-6	Replace Drawing S-6 with attached revised S-6.
11	S-16	Replace Drawing S-16 with attached revised S-16.
12	E1.2	Replace Drawing E1.2 with attached revised E-1.2.
13	E6.3	Replace Drawing E6.3 with attached revised E-6.3.
14	<u>E6.4</u>	Replace Drawing E6.4 with attached revised E-6.4.
15	<u>E6.7</u>	Replace Drawing E6.7 with attached revised E-6.7.
16	E7.7	Replace Drawing E7.7 with attached revised E-7.7.
17	E8.7	Replace Drawing E8.7 with attached revised E-8.7.

This Addendum shall be incorporated into and made part of the Bidding Documents.

- END OF DOCUMENT -

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SECTION 00 41 13 BID FORM

This bid form will be replicated on the QuestCDN website and is provided here for information only. Bidder will complete Bid Form on the QuestCDN website and submit as their Bid.

1. BID RECIPIENT

- 1.1. To: Central Utah Water Conservancy District
- 1.2. Date: June 15, 2023 before 2:00 p.m.
- 1.3. Project: CWP HIGH HEAD WELL PUMP HOUSE PROJECT WELLS #7, #16, AND #17

2. CONTRACT EXECUTION AND BONDS

2.1. Undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the Owner in the form included in the Contract Documents to perform the Work as specified or indicated in said Contract Documents.

2.2. Bidder accepts all of the terms and conditions of the Contract Documents, including without limitation those in Section 00 21 13, Instructions to Bidders, dealing with the disposition of the Bid Security.

2.3. This Bid will remain open for the period stated in Section 00 11 13, Advertisement for Bids, unless otherwise required by law. Bidder will enter into an Agreement within the time and in the manner required in Section 00 21 13, Instructions to Bidders, and will furnish the insurance certificates, Payment Bond, and Performance Bond required by the Contract Documents.

3. CONTRACT TIMES, COMPLETION MILESTONES, AND LIQUIDATED DAMAGES

3.1. To all the foregoing, and including all Bid Forms contained in this Bid, Bidder further agrees to complete the Work required under the Contract Documents within the Contract Times and the Work milestones stipulated in the Contract Documents, and to accept in full payment therefore the Contract Price based on the Lump Sum Bid Price(s) named in this Bid.

3.2. Work completion dates and liquidated damages for exceeding these dates are listed in the supplements to this Bid Form.

4. BIDDER'S REPRESENTATION

4.1. In submitting this Bid, Bidder represents that:

4.1.1. Bidder has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality where the Work is to be performed, the legal requirements (federal, state, and local laws, ordinances rules, and regulations), and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as Bidder deems necessary.

4.1.2. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the Addenda, receipt of which is hereby acknowledged. Failure to acknowledge addenda shall render the bid nonresponsive and shall be cause for its rejection.

4.1.3. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

4.1.4. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.

4.1.5. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

4.1.6. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) Bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

4.1.7. Bidder is aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents. 4.1.8. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, and data with the Bidding Documents.

4.1.9. Bidder has provided written notice to the Owner of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by the Owner is acceptable to Bidder.

4.1.10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.1.11. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

4.1.12. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation.

4.1.13. Bidder has not directly or indirectly included or solicited any other Bidder to submit a false or sham Bid.

4.1.14. Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought collusion to obtain for itself any advantage over any other Bidder or over the Owner.

4.1.15. Bidder understands and agrees that the Owner reserves the right to reject any and all bids and to waive any informalities in the bidding.

4.1.16. Bidder agrees that this Bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.

4.1.17. Bidder is responsible for the quantity takeoffs from which the bid is based from the information in the Contract Documents.

4.1.18. Bidder has examined the Agreement Form attached hereto, and the Specifications, and proposes and agrees that if his bid as submitted, and as more fully described in the attached sheets, be accepted, the Bidder will contract in the form so attached to furnish the items and perform work called for in accordance with the provisions of said Agreement Form and the Specifications and to deliver the same within the time stipulated therein.

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4.1.19. Bidder will accept in full payment, therefore, the prices named in this Bid.

5. SALES AND USE TAX

5.1. The Bidder agrees to pay all Federal, State, and local sales and use taxes for the Work contemplated herein.

6. SUBCONTRACTOR WORK

6.1. The Bidder shall perform at least 40 percent of the total project Work with the Bidder's own forces. Failure to comply with this requirement will render the Bid nonresponsive and may cause its rejection.

6.2. The Bidder shall list as part of the Bid the name and the location of the place of business of each Subcontractor who will perform Work or labor or render service to the Bidder in or about the construction of the Work or improvement, in an amount in excess of 2 percent of the Prime Contractor's total Bid. A sample table of Subcontractors is shown below. The Bidder shall also list the portion of the Work which will be done by each Subcontractor under this Contract. The Bidder shall list only one Subcontractor for each portion as is defined by the Bidder in its Bid. Failure to comply with this requirement will render the Bid nonresponsive and may cause its rejection. The Bidder shall also list the name and location of the place of business of each supplier to be used to complete the work. A sample table of suppliers is shown below. Use of the listed supplier will be contingent on an approved submittal. Rejected equipment or supplies can be provided by an alternate vendor assuming an approved submittal is produced. Failure to comply with this requirement the Bid nonresponsive and may cause its rejection.

7. BASIS OF LUMP SUM BID

7.1. Award of the Contract will be based upon the total bid price for the Contract. The Bid Schedule consists of lump sum bid amounts. The Total Lump Sum Bid Price is the sum of these figures plus any increased amount the Contractor determines necessary to complete the entire project based on the Work shown in the Contract Documents that may not be included as an individual bid item in the Schedule of Values Bid Items.

7.2. Bid Schedule A includes the prices which will be incorporated into the Agreement by reference for Well # 7, Well #16, and Well #17. Bidders must bid on all schedules included in the Bid Form. The determination of the low bidder will be based on total of Bid Schedule A.

8. PROPOSAL ADJUSTMENT

8.1. The proposed adjustment allows the Bidder to adjust their bid prior to bid opening without the need to adjust individual schedule of values bid item amounts. The sum of the extended total shall be increased (or decreased) by this

BID FORM ADDENDUM 2 00 41 13 - 4 Proposal Adjustment amount. Indicate increase or decrease in parenthesis (______). For payment purposes, this correction amount will be applied proportionally to all items in the Bid Schedule.

9. WITNESS

In compliance with Section 00 21 13, Instruction to Bidders, and all conditions of the Contract Documents,

the undersigned ______

a corporation organized under the laws of the State of _____

a partnership consisting of _____

or an individual trading as _____

of the City of ______, hereby proposes and agrees to furnish any and all materials, labor, construction equipment, services, transportation and other items as required for performing all the work for the construction described in the Contract Documents and to construct the same and install the material therein for the Owner in a good and workmanlike and substantial manner acceptable to the Owner and strictly pursuant to and in conformity with the Specifications and Drawings prepared by the Engineer, and with such modifications of the same and other documents that may be made by the Owner as provided herein.

The undersigned hereby declares, as Bidder, that the only persons or parties interested in this Bid as principals are those named herein; that no elected official or employee of the Owner is in any manner interested directly or indirectly in this Bid or in the profits to be derived from the Contract proposed to be taken, other than as permitted by law; that this Bid is made without any connection with any other person or persons making a separate Bid for the same purpose; that the Bid is in all respects fair and without collusion or fraud.

By signing this Bid, the Bidder certifies that neither the Bidder nor any of its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in any program or project which is 100 percent or partially funded with federal funds.

Respectfully submitted,

Bidder

(Corporate Seal) If Bid is by corporation

By _____

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Title

Witness: if Bidder is an individual

Bidder's post office address:

Names and address of all members of the firm or names and titles of all officers of the corporation.

Name and Title	Address
Phone:	

SEAL

10. SUPPLEMENTS

10.1. The supplements listed below, following "End of Section," are part of the Specification.

- 1. Project Milestones and Liquidated Damages.
- 2. Bid Schedule A Basis of Award (to be completed by Bidder).
- 3. Addenda to the Bidding Documents (to be completed and acknowledged by Bidder).
- 4. List of Subcontractors (to be completed by Bidder).
- 5. List of Suppliers (to be completed by Bidder).

END OF SECTION

BIDDERS have indicated that certain electrical equipment may have very long order times. For example, transformer 12.47kV to 480 Volt up to 2.5 years. From a supplier contacted by ENGINEER, 15 kV switchgear is currently 36 to 40 weeks, and the VFD would be out 44 to 54 weeks. The generator and automatic transfer switch for Well 16 could also be longer lead items. The schedule for Well 16 is critical to OWNER. OWNER has recently completed construction on Wells 8, 9 and 10. Due to water quality issues these wells have not been placed into service, pending construction of a water polishing plant. Existing electrical equipment on these three wells is compatible for Well 16. If long lead electrical items such as the transformer are not available for timely completion of Well 16 in accordance with the schedule below, electrical equipment from Existing Well 10 may be moved to Well 16 by CONTRACTOR. New equipment shall still be ordered and installed on Well 10 to replace equipment moved to Well 16. Project Milestone dates for Wells 7 and 17 have been moved to March through May of 2026 to accommodate these long lead electrical items.

	Project Milestones and Liquidated Damages					
Item No.	Description	Project Milestone Date	Liquidated Damages for Failure to Achieve Project Milestone \$/calendar day			
1	Intermediate milestone #1: Installation of all structures, mechanical piping, valves, equipment, electrical, HVAC, instrumentation and appurtenant work necessary to begin loop testing, start up and commissioning of Well 16. Based on input from Contractors and long lead times for some electrical equipment, in order to meet this schedule CONTRACTOR may pull required electrical equipment from existing CUWCD Well 10 that has the same electrical requirements as Well 16. This might include primarily the transformer; but if required to meet schedule other electrical equipment as well. The generator and automatic transfer switch, if not available by this date shall be installed asap after this date (specified liquidated damages for the generator and ATS shall not apply).	March 1, 2025	\$1,000			

Project Milestones and Liquidated Damages					
Item No.	Description	Project Milestone Date	Liquidated Damages for Failure to Achieve Project Milestone \$/calendar day		
2	Substantial Completion Well 16	March 31, 2025	\$5,000		
3	Final Completion and Readiness for Final Payment Well 16	May 16, 2025	\$1,000		
4	Intermediate milestone #2: Installation of all structures, mechanical piping, valves, equipment, electrical and electrical equipment available by this date, HVAC, and instrumentation at Wells 7 and 17.	July 1, 2025	\$1,000		
5	Intermediate milestone # 3: Install the remainder of electrical equipment that are long lead items not available to meet Intermediate Milestone #2, and appurtenant work necessary to begin loop testing, start up and commissioning of Wells 7 and 17	March 1, 2026	\$1,000		
6	Substantial Completion Wells 7 and 17	March 31, 2026	\$5,000		
7	Final Completion and Readiness for Final Payment Wells 7 and 17	May 16, 2026	\$1,000		

SUPPLEMENT NO. 2 BID SCHEDULE A Basis for Award

Total Bid Schedule A Lump Sum Bid Amount, Including Schedule of Values 1, 2, and 3=	\$
Proposal Adjustment =	\$
Total Adjusted Bid Schedule A	\$

Bidder agrees to accept as full payment for work proposed with the Bidding Documents based upon the undersigned's own estimate of quantities and cost including sales, consumer, use, other taxes, and overhead and profit, the following amount for Bid Schedule A for the Contract:

Written Value:	Dollars and

Cents

Numerical Value: \$ _____

A. SCHEDULE OF VALUES 1 - WELL PUMP HOUSE #7 AND SITE IMPROVEMENTS

Based upon Bidder's own estimate of quantities and costs, the Bidder provides costs for the following items in Bidder's Schedule of Values for Well # 7.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
1	Mobilization/Demobilization	1	L.S.		\$
2	Construction Surveying and Control Services	1	L.S.		\$
3	Quality Control Testing Agency Services	1	L.S.		\$
4	Development and Implementation of the Storm Water Pollution Prevention Plan	1	L.S.		\$
5	Surge Tank with Valve Vault, Piping & Equipment Complete	1	L.S.		\$
6	Pump House Structure Complete	1	L.S.		\$

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ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
7	Furnish and Install 1,250 HP Pump, Motor & Discharge Head, and Pump Base Modifications	1	L.S.		\$
8	Pump House Piping Complete (All Piping to 2-foot Outside of Building)	1	L.S.		\$
9	Pump Station Electrical System Complete	1	L.S.		\$
10	Furnish and Install 6" Diameter Sch 80 PVC Electrical Conduit between RMP Pad Mounted Equipment to RMP Switch Located Near the Intersection of Vineyard Road and 350 East, including trenching and surface restoration.	1	L.S.		\$
11	SCADA Systems Complete by APCO Inc	1	L.S.		\$
12	Security Systems Complete by Mountain West Security Systems, LLC	1	L.S.		\$
13	Pump Station HVAC System Complete	1	L.S.		\$
14	Other instrumentation, including conductivity, pH, and turbidity	1	L.S.		\$
15	Remove existing fill to required grade (approx. 2,590 cy) and subgrade preparation	1	L.S.		\$
16	Fill placement to required grade (approximately 1,816 cy)	1	L.S.		\$
17	Site work including finish site grading, base course, remove and replace existing asphalt, asphalt driveway, concrete flatwork, curb and gutter, etc. complete	1	L.S.		\$

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
18	Yard piping, including 20" CML&W steel pipe, 12" CML&W steel pipe, and 12" HDPE pipe and 14" steel discharge into area inlet.	1	L.S.		\$
19	Yard drainage piping, including 18": and 12" RCP, area inlet, cleanout box, manhole, and catch basin.	1	L.S.		\$
20	Furnish and install sump vault and piping complete	1	L.S.		\$
21	Cathodic protection complete	1	L.S.		\$
22	Relocate 36' double swing chain link gate & replace chain link fence in area of gate removal	1	L.S.		\$
23	Furnish and install chain link fence gates complete	1	L.S.		\$
24	Landscaping complete	1	L.S.		\$
25	Irrigation System complete	1	L.S.		\$
26	Remove existing 40' long I-Beam camera pole and salvage to Owner at the end of the project.	1	L.S.		\$
27	Complete all appurtenant work for a fully functional system, including but not limited to permits, clean-up, commissioning, etc.	1	L.S.		\$
	TOTAL OF SCH	EDULE OF VAL	UES 1 F	OR WELL 7	\$

B. SCHEDULE OF VALUES 2 - WELL PUMP HOUSE #16 AND SITE IMPROVEMENTS

Based upon Bidder's own estimate of quantities and costs, the Bidder provides costs for the following items in Bidder's Schedule of Values for Well # 16.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
1	Mobilization/Demobilization	1	L.S.		\$
2	Construction Surveying and Control Services	1	L.S.		\$
3	Quality Control Testing Agency Services	1	L.S.		\$
4	Development and Implementation of the Storm Water Pollution Prevention Plan	1	L.S.		\$
5	Surge Tank with Valve Vault, Piping & Equipment Complete	1	L.S.		\$
6	Pump House Structure Complete	1	L.S.		\$
7	Furnish and Install 1,250 HP Pump, Motor & Discharge Head, and Pump Base Modifications	1	L.S.		\$
8	Pump House Piping Complete (All Piping to 2-foot Outside of Building)	1	L.S.		\$
9	Furnish and install 1500 KW generator with 4000-gallon storage tank and accompanying piping, and appurtenances, complete	1	L.S.		\$
10	Pump Station Electrical System Complete (except electrical equipment relocated from existing Well 10).	1	L.S.		\$
11	Remove from Well 10, Transport, Install on Well 16, Test and Start- up Existing Electrical Equipment Required to Meet Completion Schedule for Well 16.	1	L.S.		\$
12	Provide, Install, Test and Start-up New Electrical Equipment on Existing Well 10 to Replace Electrical Equipment removed from Well 10 for use on Well 16.	1	L.S.		\$

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
13	Furnish and Install 6" Diameter Sch 80 PVC Electrical Conduit between Existing Well 12 and Well 16, with pull boxes, including trenching and surface restoration.	1	L.S.		\$
14	SCADA Systems Complete by APCO Inc	1	L.S.		\$
15	Security Systems Complete by Mountain West Security Systems, LLC	1	L.S.		\$
16	Pump Station HVAC System Complete	1	L.S.		\$
17	Other instrumentation, including conductivity, pH, chlorine and turbidity	1	L.S.		\$
18	Chlorine chemical feed & instrumentation systems complete	1	L.S.		\$
19	Subgrade preparation, and fill placement (approx. 2,686 cy)	1	L.S.		\$
20	Site work including finish site grading, base course, asphalt driveway, concrete flatwork, curb and gutter, etc. complete	1	L.S.		\$
21	Yard piping, including 20" CML&W steel pipe, 12" CML&W steel pipe, 12" HDPE pipe and 14" steel discharge into area inlet, 4" HDPE pipe (including connection to 20" steel pipe), and connection to 48" steel pipe.	1	L.S.		\$
22	Yard drainage piping, including 15": and 18" RCP, area inlet, manhole, and catch basin.	1	L.S.		\$
23	Furnish and install sump vault and piping complete, including 4" PVC pipe to manhole.	1	L.S.		\$

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT		
24	Cathodic protection complete	1	L.S.		\$		
25	New pump-to-waste 7' x 7' precast valve vault, including box, hatches, and all piping and valves in box at Well 16.	1	L.S.		\$		
26	New pump-to-waste pipeline, including 12" steel pipe, 20" HDPE pipe and connections and fittings.	1	L.S.		\$		
27	New pump-to-waste 7' x 8' precast valve vault, including box, hatches, and all piping and valves in box at Well 12.	1	L.S.		\$		
28	New 7 ft high PVC coated chain link fence and gate, with mow curb.	1	L.S.		\$		
29	Landscaping complete	1	L.S.		\$		
30	Irrigation System complete	1	L.S.		\$		
31	31 Complete all appurtenant work for a fully functional system, including but not limited to permits, clean-up, commissioning, etc.						
	TOTAL OF SCHE	DULE OF VALU	JES 2 FO	R WELL 16	\$		

C. SCHEDULE OF VALUES 3 - WELL PUMP HOUSE #17 AND SITE IMPROVEMENTS

Based upon Bidder's own estimate of quantities and costs, the Bidder provides costs for the following items in Bidder's Schedule of Values for Well # 17.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
1	Mobilization/Demobilization	1	L.S.		\$

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
2	Construction Surveying and Control Services	1	L.S.		\$
3	Quality Control Testing Agency Services	1	L.S.		\$
4	Development and Implementation of the Storm Water Pollution Prevention Plan	1	L.S.		\$
5	Surge Tank with Valve Vault, Piping & Equipment Complete	1	L.S.		\$
6	Pump House Structure Complete	1	L.S.		\$
7	Furnish and Install 1,250 HP Pump, Motor & Discharge Head, and Pump Base Modifications	1	L.S.		\$
8	Pump House Piping Complete (All Piping to 2-foot Outside of Building)	1	L.S.		\$
9	Pump Station Electrical System Complete	1	L.S.		\$
10	SCADA Systems Complete by APCO Inc	1	L.S.		\$
11	Security Systems Complete by Mountain West Security Systems, LLC	1	L.S.		\$
12	Pump Station HVAC System Complete	1	L.S.		\$
13	Other instrumentation, including conductivity, pH, and turbidity	1	L.S.		\$
14	Remove existing fill to required grade (approx. 1,219 cy) and subgrade preparation	1	L.S.		\$
15	Fill placement to required grade (approximately 871 cy)				

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
16	Site work including finish site grading, base course, asphalt driveway, concrete flatwork, curb and gutter, etc. complete	1	L.S.		\$
17	Yard piping, including 20" CML&W steel pipe, 12" CML&W steel pipe, and 12" HDPE pipe and 14" steel discharge into pump-to- waste box on north side of building.	1	L.S.		\$
18	Yard drainage piping, including 24": RCP, connection to manhole by others, and catch basin.	1	L.S.		\$
19	Furnish and install sump vault and piping complete	1	L.S.		\$
20	Cathodic protection complete	1	L.S.		\$
21	Furnish and install 8' precast concrete fence with 2' wide mow strip.	1	L.S.		\$
22	Furnish and install ornamental iron gates complete	1	L.S.		\$
23	Landscaping complete	1	L.S.		\$
24	Irrigation System complete	1	L.S.		\$
25	Remove existing 40' long I- Beam camera pole and salvage to Owner at the end of the project.	1	L.S.		\$
26	Complete all appurtenant work for a fully functional system, including but not limited to permits, clean-up, commissioning, etc.	1	L.S.		\$
	TOTAL OF SCHE	DULE OF VALU	JES 3 FO	R WELL 17	\$

Addenda to the Bidding Documents								
Addendum No.	Addendum Date	Bidder Acknowledgment						

List of Subcontractors										
Work to be Performed	Subcontractor License Number	Percent of Total Bid	Subcontractor's Name and Address							
SCADA Integrator			APCO Inc. 710 S. Redwood Road, North Salt Lake, UT 84054							
Access Control/Door Security			Mountain West Security Systems, LLC, 764 North 400 West, Orem, UT 84057							
Electrical										
Masonry										
HVAC										
Roofing										
Asphalt										
Irrigation and Landscape										

List of Suppliers								
Material to be Supplied	Percent of Total Bid	Supplier's Name and Address						
Pump and Motor								
Butterfly Valves								
Pump Control Valves								
Check Valves								
Chlorine Equipment								
VFD								
Welded Steel Pipe								
Surge Tank								
Generator								

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		GRADING	PLAN COC	RDINATES]			GRADING	PLAN COOR	DINATES]			STRUCT	URE COORDI	INATES
PT #	NORTHING	EASTING	ELEVATION	DESCRIPTION		PT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	1	PT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
21	7,279,782.40	1,572,164.35	4,538.12	EOA] (73	7,279,811.20	1,572,214.35	4,538.32	EOA	$\left \right\rangle$	11	7,279,793.90	1,572,183.68		CENTER OF WELL
22	7,279,782.40	1,572,174.01	4,538.32	EOA		74	7,279,825.40	1,572,209.35	4,538.21	EOA GB	12	12	7,279,815.40	1,572,209.35	4,538.75	BLD NE CNR
23	7,279,782.40	1,572,209.35	4,538.32	EOA GB		75	7,279,811.23	1,572,214.33	4,538.65	тос	13	13	7,279,787.41	1,572,209.35	4,538.75	BLD SE CNR
24	7,279,782.40	1,572,214.35	4,538.22	EOA		76	7,279,811.23	1,572,220.27	4,538.18	тос	12	14	7,279,862.90	1,572,220.64	4,526.15	SURGE TANK NE CNR FF
25	7,279,787.40	1,572,214.35	4,538.32	EOA GB		77	7,279,825.38	1,572,209.35	4,538.21	TOC GB	1	15	7,279,849.90	1,572,220.64	4,526.15	SURGE TANK SE CNR FF
26	7,279,815.40	1,572,220.29	4,538.19	EOA] `	L.									110	MMC
27	7,279,819.90	1,572,220.29	4,538.17	EOA PC, R=5.5'				YARD P		NNATES					1	
28	7,279,825.40	1,572,214.79	4,538.21	EOA PT		PT #	NORTHING	FASTING		DESCRIPTION						
29	7,279,825.40	1,572,173.85	4,538.22	EOA PC, R=9.5'		91	7 279 848 40	1 572 173 85	4 5 3 6 3 9		-				12 ·	111111
30	7,279,815.90	1,572,164.35	4,538.31	EOA PT		01	7,273,040.40	1,572,175.05	4,550.53		-				1	5 11 11 11
31	7,279,815.40	1,572,164.35	4,538.32	EOA GB		82	7,279,799.82	1,572,170.01	4,532.42	PIPE CONNECTION (INV)	-				a start	H H H H
32	7,279,797.40	1,572,164.35	4,538.32	EOA GB		83	7,279,799.82	1,572,145.42	4,537.04	CLEANOUT BOX (RIM)	-					HHH
33	7,279,782.43	1,572,164.37	4,538.46	тос		84	7,279,709.86	1,572,134.19	4,535.64	CATCH BASIN (RIM)	-					
34	7,279,782.43	1,572,174.01	4,538.65	TOC GB		85	7,279,720.45	1,572,145.42	4,536.04	5' DIA MH (RIM)						
35	7,279,782.43	1,572,209.35	4,538.65	TOC GB		86	7,279,802.73	1,572,225.81	4,530.86	20" X 12" STEEL TEE (CL)				4	+	- Coper 11 19
36	7,279,782.43	1,572,214.32	4,538.55	тос		87	7,279,802.73	1,572,232.05	4,530.82	20" STEEL BEND (CL)						
-37	7,279,787.40	1,572,214.32	4,538.65	TOC_GB		88	7,279,785.21	1,572,241.86	4,530.72	20" STEEL 22.5" VERT BEND (CL)						TRAIL SHA
38	7,279,815.40	1,572,220.27	4,538.19	TOC GB])	89	7,279,776.43	1,572,246.77	4,526.31	20" STEEL 22.5" VERT BEND (CL)			EP)	Ĵ		γ
39	7,279,819.90	1,572,220.27	4,538.17	TOC PC, R=5.5'	К	90	7,279,773.65	1,572,248.33	4,526.25	20" PIPE CONNECTION (CL)						× /
} 40	7,279,825.38	1,572,214.79	4,538.21	TOC PT		91			4,531.15	12" PIPE CONNECTION (CL)	-					
41	7,279,825.38	1,572,173.85	4,538.55	TÔC PĈ, R=9.48'		92	7.279.856.40	1.572.225.81	4.531.12	12" STEEL BEND (CL)	1000					A Contract I
42	7,279,815.90	1,572,164.38	4,538.64	TOC PT		93	.,		4 533 23	12" PIPE CONNECTION (CL)						
43	7,279,815.40	1,572,164.38	4,538.65	TOC GB		35	7 270 844 11	1 572 216 50	4 5 3 3 20							VELL 7 +
44	7,279,797.40	1,572,164.37	4,538.65	TOC GB		94	7,279,044,11	1.272,210.30	+,255.20		N					HOUSE
45	7,279,777.40	1,572,164.35	4,538.02	GB		95	7,279,844.11	1,5/2,18/./6	4,533.05	12 HDPE 45' BEND (CL)		2			₹ P	10 the
46	7,279,777.40	1,572,214.35	4,538.12	GB		96	7,279,849.52	1,572,177.35	4,532.99	14" STEEL 90" VERT BEND (CL)	5				<u> </u>	
47 <u></u>	7,279,782.40	1,572,219.35	4,538.12	GB		97	7,279,849.52	1,572,182.35	4,533.01	12" HDPE 45° BEND (CL)] {	A			i	
48	7,279,811.20	1,572,220.29	4,538.18			E			~~~~~	PROTECT EXISTING	FENO	<u>ж</u>			=	
49	7,279,767.02	1,5/2,238.42	4,538.36	EOA	- 1		SCHOOL			AND CONCRETE CUR REPAIR ANY DAMA	RB AN					E E
51	7,279,700.70	1,572,205.01	4,537.79			1				CONSTRUCTION ACR	TIVITIE	S				
52	7 279 820 66	1 572 252 41	4 537 15					NEW AC I BELOW I	PAVEMENT S EXISTING CO	HALL BE 1/4-INCH						IL DI
53	7,279,821,35	1.572.253.57	4.537.08	FOA				PRO	PERTY BOU	NDARY						de e a
54	7.279.849.65	1.572.236.59	4,536.94	EQA				ANI	D EXISTING	FENCE						
55	7,279,849.54	1,572,236.40	4,536.95	EOA PC. R=22'		• (STING IRRIGATIO	ON BOX						k	
56	7.279.846.40	1.572.225.08	4.537.43	FOA PT		• A(CESS TO SCHO	DOL MUST -	5		V	XXXX				
57	7,279,846.40	1,572,171.35	4,537.16	EOA PC, R=33'		REN	AIN OPEN AT	ALL TIMES							× × × × ×	
58	7,279,813.40	1,572,138.35	4,537.42	EOA PT			. A .	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	The	3	7.	177		11111	X	
59	7,279,777.40	1,572,138.35	4,537.60	EOA GB			1	A			(30)	m				
60	7,279,723.27	1,572,138.34	4,535.98	EOA PC, R=27'							°		400	NORTH		(2)
61	7,279,703.45	1,572,129.67	4,536.30	EOA PT				5/1		EXISTING AC PAVEMENT			1			<u> </u>
62	7,279,702.22	1,572,008.44	4,532.34	EOA			5	121					NEW AC	PAVEMENT SH	ALL MATCH	
63	7,279,688.23	1,572,009.08	4,532.45	EOA			51						EXISTIN	G TBC ELEVATIO		
64	7,279,688.81	1,572,149.87	4,536.40	EOA			5/	2 2 /		"// T	2			1. 1.	· /:	
65	7,279,698.27	1,572,170.25	4,536.29	EOA PC, R=27'				2	OLAS		5	*				
66	7,279,701.22	1,572,182.57	4,536.40	EOA PT	and the	1		h	2000		F	16 m		0		
67	7,279,701.22	1,572,268.91	4,537.27	EOA PC, R=23'		Q		NEW 6" DIA	ELECTRICAL					The state	1	
68	7,279,735.46	1,572,288.98	4,538.26	EOA PT			This			unite			0			-1 do a statistication
69	7,279,742.86	1,572,284.83	4,538.43	EOA			11						1 Para Car			
70	7,279,728.98	1,572,259.99	4,537.86	EOA			41.	9	hand							39
71	7,279,673.67	1,572,008.55	4,532.46	EOA	100		K) PA									
72	7,279,813.62	1,572 247.07	4,537.63	EOA GB		and and	Por	-i (and and and							
		5 No. 199750	(E)		1		or	1 Alexandre	12.			-			100	
H	INSEN	CHAMERS	DES	SIGNED MMC 3			NO 0						SCALE		CENT	TRAL UTAH WATER
2		STATE UTA		ECKED MEA 1 06/01/23	ADI		NO. 2 NO. 1				JRE	MMC	AS SHOWN		(CONSERVANCY
🌥		DRO TOT EN						BEV					С	ENTRAL UTAH WAT	FER	DISTRICT





PLE NAME: PROJECTS/207 - CUWOD/27.200 - WELL HOUSE 7 & 16 & 17\CAD\C-27 MISCELLANEOUS DETAILS...





	UNDUII7 THH	VCON N T	IDUCI HWN	OR S	CHEDULE		
RATING	ID TAG.	QTY.*	SIZE	SIZE	EXCEPTIONS		
	010			7 / 4 "			
20**	212	2		3/4			
20+	312	3	#12	3/4"			
	412	4		3/4"			
	20	2		3/4"			
30**	30	3	#10	3/4"			
30+	40	4	<i>"</i>	3/4"			
	0	2		7/4"			
40**	28	2		3/4			
50+	- 38	3	#8	3/4			
	48	4		3/4"			
55**	26	2		3/4"			
65+	36	3	#6	3/4"			
	46	4		3/4"	1"(C9)		
	24	2		3/4"	1"(C2,C9)		
70**	.34	.3	#4	1"	3/4"(C4).1-1/4"(C9		
85+	44	1	<i>"</i> ''	1"	1-1/4"(C9)		
	44	4		4.7	1 17 1 (00)		
95**	22	2	"	. "	1 1 (4"(00)		
115+	32	3	#2	1"	1-1/4 (C9)		
	42	4		1-1/4"			
110**	21	2		1-1/4"	1"(C3,C4)		
130-	31	3	#1	1-1/4"	1"(C3)		
'50+	41	4		1-1/4"	1-1/2"(C2,C9,C10)		
	210	2		1-1/4"			
150	310		1 /0	1 _ 1 / 4"	1-1/2"(03.00)		
150	510	<u> </u>	1/0	1-1/4	0.000		
	410	4		1-1/2"	Z (U9)		
	220	2		1-1/4"	1-1/2"(C3,C4,C9)		
175	320	3	2/0	1-1/2"			
	420	4		2"			
	230	2		1 - 1/2"	1-1/4(C4)		
200	330	3	3/0	1 - 1/2"	2"(C3.C9)		
	430	4	/ -	2"			
		2		1 1 / 2"	2"(C3)		
	240	2		1-1/2	2 (03)		
230		3	4/0	2			
	440	4		2″	2-1/2 (09)		
	225	2	250	2"	1-1/2"(C4)		
255	325	3	250	2"	2–1/2"(C1,C8)		
	425	4	KCMIL	2-1/2"	2"(C4)		
	235	2		2"	2-1/2"(C9)		
310	335	3	350	2 - 1/2"	2"(C4)		
010	435	4	KCMIL	z 1/2 z"	2-1/2"(C1 C4)		
	455	4		5	2"(04)		
	250	2	500	2-1/2			
380	350	3	КСМІІ	3	2=1/2 (01,04)		
	450	4		3″	3-1/2 (C9)		
	275	2	750	3"			
475	375	3	/50	3-1/2"	3"(C1,C7,C8)		
	475	4	KCMIL	4"	3-1/2"(C1,C4,C8)		
* CONE CONDUC WIRE S	DUCTOR QUAN CTORS. SEE IZES.	NTITY DO	DES NOT ENT GRO	INCLUDE	GROUNDING CONDUCTORS FOR		
WHERE: C C C C C C C	1 = ELECTR 2 = ELECTR 3 = FLEXIBL 4 = INTERM 7 = LIQUIDT	ICAL MI ICAL NO LE STEE EDIATE IGHT FL	ETALLIC 1 DN-META IL CONDU METALLIC LEXIBLE 1	TUBING LLIC TUBII JIT CONDUIT METAL CO	"**" = 60°C RATIN NG "+" = 75°C RATIN NDUIT		
C8 = RIGID METALLIC CONDUIT C9 = PVC SCHEDULE 80 CONDUIT C10 = PVC SCHEDULE 40 CONDUIT "**" = RATED AMPACITY AT 60°C "+" = RATED AMPACITY AT 75°C							
ARE NOT PUBLISHED							
		, Are	T.K				

PROJECT ENGINEER DATE MAY 2023 NO. DATE

NGINEERS

I&C_WIRE/CONDUIT_TABLE									
TDENT	CONDUIT	CON	DUCTOR	CICNAL DECODIDITION					
IDENT.	SIZE	QTY	SIZE	SIGNAL DESCRIPTION					
A1	3/4"	1	#18TSP	1 ANALOG SIGNAL					
A2	3/4"	2	#18TSP	2 ANALOG SIGNALS					
A3	3/4"	3	#18TSP	3 ANALOG SIGNALS					
A3	1"	4 #18TSP		4 ANALOG SIGNALS					
IDENT	CONDUIT	CON	DUCTOR	CICNAL DECODIDITION					
IDENT.	SIZE	QTY	SIZE	SIGNAL DESCRIPTION					
D1	3/4"	2	#14						
D2	3/4"	3	#14						
D3	3/4"	4	#14						
D4	3/4"	5 #14							

TABLE VFD

1 #14 _COMMON OUTPUT 1 #14 _COMMON INPUT

> #14 VFD HOA IN AUTO #14 VFD HOA IN HAND #14 VFD TRANSFOMER HIGH TEMP.

 CONDUIT
 CONDUCTOR
 SIGNAL DESCRIPTION

 SIZE
 QTY
 SIZE
 MCP TO VFD

1 #14 VFD CALL RUN #14 VFD ON

1 #14 VFD FAULT

#14 SPARE

1 CAT6U ETHERNET

1 #18TSP VFD RUNNING SPEED

1 #18TSP VFD COMMAND SPEED 1 RS485 BELDEN 9842 (TEMP. MONITOR)

TABLE SV

 CONDUIT
 CONDUCTOR
 SIGNAL DESCRIPTION

 SIZE
 QTY
 SIZE
 MCP TO SURGE VAULT

1 #14 _COMMON INPUT

1 #14 _COMMON OUTPUT

2 #14 VALVE +/- 24 VOLTS

1 #14 VALVE CLOSED #14 VALVE OPEN 1 #14 VAULT FLOOD SWITCH

TABLE VALVE

 CONDUIT
 CONDUCTOR
 SIGNAL DESCRIPTION

 SIZE
 QTY
 SIZE
 MCP TO BUTTERFLY VALVE

1 #14 COMMON INPUT

1 #14 COMMON OUTPUT

1 #14 VALVE FULL OPEN

<u>1 #14 +24VDC</u> 2 #14 -24VDC

1 #14 VALVE FULL CLOSED

PULL STRING

1 #14 ACCESS HATCH POSITION SW.

1 #14 AIR RELEASE SOL. VALVE OPEN

1 #16TSP DIFFERENTIAL PRESSURE TRANS.

1 #14 ATR SUPPLY SOL VALVE OPEN 2 #14 EF-XX-02 EXHAUST FAN RUN 1 #14 SUMP PUMP FLOW SWITCH

1

1

1

1

2

3/4"

3/4"

3/4"

3/4"

3/4"

3/4"

3/4"

3/4"

TABLE SP 07

CON

3/4"

1"

1"

1"

3/4"

SIZE QTY SIZE

SIZE QTY SIZE

	_							
CONDUIT	CON	DUCTOR	SIGNAL DESCRIPTION		CONDUIT	CON	DUCTOR	SIGNAL DESCRIPTION
SIZE	QTY	SIZE	MCP TO SECURITY PANEL		SIZE	QTY	SIZE	MCP TO MOTOR DEVICES
	2	#14	MAINTENACE ROOM DOOR OPEN			1	#14	COMMON INPUT
	2	#14	PUMP ROOM DOOR OPEN			1	#14	HIGH DISCHARGE PRESSURE
	2	#14	PUMP ROOM HATCH OPEN		3/4"	1	#14	COMMON OUTPUT
4.0	2	#14	MAIN DOOR CONTROLS			1	#14	PRE-LUBE SOLENOID VALVE
-	2	#14	MAINT. DOOR CONTROLS			1	#14	TURBIDITY SOLENOID VALVE
	2	#14	24 VAC POWER					
	4	#14	SPARE					
3/4"	1	CAT6U	ETHERNET				-	TABLE CP

CONDUIT TABLE SP 16 CONDUIT CONDUCTOR SIGNAL DESCRIPTION SIZE QTY SIZE MCP TO SECURITY PANEL 2 #14 PUMP ROOM HATCH OPEN 2 2 #14 PUMP ROOM DOOR OPEN 2 2 #14 MAINTENANCE DOOR OPEN 2 2 #14 MAINTENANCE CORROR CONTROL 2 #14 PHANTERNARCE DOOR OPEN 2 #14 MAIN DOOR CONTROLS 2 #14 CHLORINE ROOM DOOR CONTROL 2 #14 CHLORINE ROOM DOOR CONTROLS 2 #14 MAINTEENANCE DOOR CONTROLS 1 #14 MAINTEENANCE DOOR CONTROLS 1"

	2	#14	24 VAC POWER
2/48	1	CAT6U	ETHERNET
5/4			

TABLE SP 17 TABLE SP 17 CONDUIT CONDUCTOR SIGNAL DESCRIPTION SIZE QTY SIZE MCP TO SECURITY PANEL 2 #14 MAINTENANCE DOOR OPEN 2 2 #14 PUMP ROOM DOOR OPEN 2 3/4" 2 #14 MAINTENANCE DOOR CONTROLS 2 #14 MAINTEENANCE DOOR CONTROLS 2 2 #14 MAINTEENANCE DOOR CONTROLS 2 2 #14 24 VAC POWER 2 1 CAT6U ETHERNET

TABLE GEN

MCP TO GENERATOR

BY APVD.

CONDUIT CONDUCTOR SIGNAL DESCRIPTION

1 #14 COMMON INPUT

1 #14 GENERATOR RUNNING

#14 LOW FUEL LEVEL (LSL-X)

MCP TO WASTE VALVE

1 #14 GENERATOR ALARM

1 CAT 5 ETHERNET

TABLE WCV

CONDUIT CONDUCTOR SIGNAL DESCRIPTION

1 #14 COMMON INPUT

1 #14 COMMON OUTPUT 1 #14 WASTE VALVE FULL WASTE

2 #14 SPARE

1 #14 WASTE VALVE FULL SYSTEM

1 #14 VALVE COMMAND OPEN

_____ EQUIPMENT GROUNDING

1 PULL TAPE SPARE CONDUIT

	1	#14	HIGH DISCHARGE PRESSURE
3/4"	1	#14	COMMON OUTPUT
	1	#14	PRE-LUBE SOLENOID VALVE
	1	#14	TURBIDITY SOLENOID VALVE
			TABLE CP
CONDUIT	CON	DUCTOR	SIGNAL DESCRIPTION
SIZE	QTY	SIZE	MCP TO CHLORINE CONTROL PANEL
	1	#14	_COMMON INPUT
	1	#14	COMMON OUTDUT

#14 CHL. RM. EXHAUST FAN COMMAND RUN

#14 CHL. RM. EXHAUST FAN HOA IN AUTO

TABLE 4

	3/4"	1		#14	CH	L. RM. EXHAUST FAN HOA IN HAND
		1		#14	CH	L. RM. EXHAUST FAN RUNNING
		1		#14	GEI	N. RM. EXHAUST FAN COMMAND RUN
		1		#14	GEI	N. RM. EXHAUST FAN RUNNING
				т	AE	BLE DT
CONDUIT CONDUCTOR			DUCTOR		SIGNAL DESCRIPTION	
	SIZE	QT	Υ	SIZE		MCP TO DAY TANK CP
		1		#14		COMMON INPUT
		1		#14		HIGH/LOW FUEL LEVEL ALARM

00110011					
SIZE	QTY	SIZE	MCP TO DAY TANK CP		
	1	#14	COMMON INPUT		
	1	#14	HIGH/LOW FUEL LEVEL ALARM		
3/4"	1	#14	LEAK DETECTOR ALARM		
	2	#14	SPARE		
2/4"	-	-	PULL STRING		
3/4					

TABLE ATS							
CONDUIT	CON	DUCTOR	SIGNAL DESCRIPTION				
SIZE	QTY	SIZE	MCP TO ATS				
	1	#14	COMMON INPUT				
	1	#14	COMMON OUTPUT				
	1	#14	EMERGENCY CB OPEN				
	1	#14	EMERGENCY CB CLOSED				
3/4"	1	#14	NORMAL CB OPEN				
	1	#14	NORMAL CB CLOSED				
	1	#14	REMOTE TRANSFER				
	2	#14	SPARE				
1							
2/4"	1	CAT 5	ETHERNET				
3/4							

•	CONI	DUCTOR	SIGNAL DESCRIPTION		
	QTY	SIZE	MCP TO ATS		
	1	#14	COMMON INPUT		
	1	#14	COMMON OUTPUT		
	1	#14	EMERGENCY CB OPEN		
	1	#14	EMERGENCY CB CLOSED		
	1	#14	NORMAL CB OPEN		
	1	#14	NORMAL CB CLOSED		
	1	#14	REMOTE TRANSFER		
	2	#14	SPARE		
	1	CAT 5	ETHERNET		

FIXTURE SCHEDULE

TYDE	DESCRIPTION		MANUFACTURER	FIX	LAMD	MOUNTING	NOTES
TIPL	DESCRIPTION	NAME	CATALOG NO.	VA	LAN	PICONTING	NOTES.
F1	4' LED ENCLOSED INDUSTRIAL, FIBERGLASS	METALUX	4VT2-LD4-8-DR-W-UNV-L840-CD1-U	91	FURNISHED	SURFACE	
	HOUSING, DAMP LOCATION, MVOLT, 9850 LUMENS						
F2	4' LED ENCLOSED INDUSTRIAL, FIBERGLASS	METALUX	4VT2-LD4-4-DR-UNV-L840-CD1-U	38	FURNISHED	SURFACE	
	HOUSING, DAMP LOCATION, MVOLT, 4528 LUMENS						
F3	LED WALL MOUNTED 6-INCH OPEN CYLINDER 22-DEG	INFINIUM	SPC0609LEDLE-12W-41K-MD-E1-FS-5045-SCBA-WM-BZ	12	FURNIS HED	WALL	
	BEAM SPREAD, 120 VOLT, BRONZE FINISH						
				L			
F4	STRAIGHT ROUND 4.5" ALUMINUM 16' POLE	LITHONIA S	RSA-16-4-5G	2-	-	-	
	FOR SECURITY CAMERA, DARK BRONZE.	(1			
		λ					
F5	UTILITY LED FLOOD LIGHT, 2,446 LUMEN, NON-DIMMING,	RAB	X34-25L/120	25	LED	WALL	
	120 VAC, 5000K, 7H X 7V BEAM SPREAD HEAVY DUTY ARM						
	MOUNTED WITH "O" RING						
F6	LED WALL MOUNTED SECURITY LIGHT	LITHONIA	DSXW1 LED-10C-350-40K-T2M-MVOLT-DDBXD	13	LED	WALL	
				1			

"+" = RATED USE 60°C CON	AMPACITY AT 75°C IDUCTOR RATING WHEN TERMINATION RATINGS		CONDUC	TURS		BEAM SPREAD, 1	120 VOLT, BRONZE FINISH		
ARE NOT PUBL	LISHED		FUSE OR CB	SIZE					\longrightarrow
			SIZE	(COPPER)	F	4 STRAIGHT ROUN	id 4.5" aluminum 16' Pole	LITHONIA	5
		GROUNDING ELECTRODE	15	14		FOR SECURITY C	CAMERA, DARK BRONZE.		
		CONDUCTOR SERVICE	20	12			OD LOUT A 44 LUNCH NON DRAM		
		ENTRANCE OR SEPARATELY	30	10	F	5 UTILITY LED FLO	OU LIGHT, 2,446 LUMEN, NON-DIMM 7H Y 7V REAM SPREAD HEAVY DIT	NG, RAB	
			40	10		MOUNTED WITH	"O" RING		
		DERIVED STSTEM	60	10	F	6 IED WALL MOUN	ITED SECURITY LIGHT		DSXW1
			100	8		•			
			200	6					
			300	4					
			400	3					
		1 OR 1/0 #6	500	2					
		2/0 OR 3/0 #4	600	1					
		$>3/0$ THRU $_{+-}$	800	1/0					
	4	350 KCMI #2	1000	2/0					
		>350 KCMI	1200	3/0					
	THOMAS I.C.	THRU 600 1/0	1600	4/0					
		KCMI	2000	250					
	S 171214_2202 S		2500	350					
	KEITH B.								
angen	CHEGERHORST					SCALE		ENTRAL L	ITAH WZ
	DRAFTED KBH 2	06/09/23ADDENDUM NO. 2			КВН КВН	1			
	CHECKED KBH 1	06/01/23 ADDENDUM NO. 1			квн квн	NONE		CONSE	
	PROJECT ENGINEER DATE MAY 2023 NO.	DATE REVI	SIONS		BY APVD.	1	CENTRAL UTAH WATER	DIST	RICT

REVISIONS

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEM
HEGERHORST POWER ENGINEERING INCORPORATED
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

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FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

HPE PROJECT 20.111

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<u>AVAIL</u>	<u>ABLE</u> AT	<u>FAULT</u> 12.47	<u>CURF</u> KV	RENT		SERVICE ENTRANCE SWI 15 KV, 200A, NEMA	
Primary Sy	stem Fau	ult Amps	s & Impe	dances	EXISTING RMP	MAIN SERVICE VFD FEEDER TF 3 DISCONNECT DISCONNECT H MSD-07-01 DFS-07-01	ANSFORMER DISCONNECT DFS-07-02
Short-Circuit E	lox			G3 [▼			
Node - CP_114	6002.0160	903/408					
Voltage LLL LLG Dist to source R: X: Ro: Xo: S C C	12.8 5396.89 5228 4772 4393 6023.8 0.1782 1.4140 0.5143 2.4615	Amps Amps Amps Amps feet Per Unit 0.1146 0.9093 0.3307 1.5829	X/R 7.93 4.79	66. 0.4	Image: Construction of the section	Image: Second	10E 1
	SHEET E6	.2					PNL PNL-07-L PANELBOARD L

TABLES CONT

IN

		WELL 7 SECURITY	ITEMS		
DRAWING ID	TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
33	SP-07-01	SECURITY PANEL	PUMP RM.	CONTRACTOR	CONTRACTOR
57	ZS-07-01A	PUMP RM. DOOR 1A POSITION SWITCH	PUMP RM.	CONTRACTOR	CONTRACTOR
58	ZS-07-01B	PUMP RM. DOOR 1B POSITION SWITCH	PUMP RM.	CONTRACTOR	CONTRACTOR
59	ZS-07-02A	MAINTENANCE DOOR DOOR 2A POSITION SWITCH	PUMP RM.	CONTRACTOR	CONTRACTOR
60	ZS-07-02B	MAINTENANCE DOOR DOOR 2B POSITION SWITCH	PUMP RM.	CONTRACTOR	CONTRACTOR
63	ZS-07-04	PUMP RM. HATCH POSITION SWITCH	PUMP RM.	CONTRACTOR	CONTRACTOR
76	ML-07-01	MAGNETIC DOOR LOCK	PUMP RM.	CONTRACTOR	CONTRACTOR
78	CR-07-01	ACCESS CARD READER	PUMP RM.	CONTRACTOR	CONTRACTOR
123	ML-07-03	MAGNETIC DOOR LOCK	PUMP RM.	CONTRACTOR	CONTRACTOR
124	CR-07-03	ACCESS CARD READER	PUMP RM.	CONTRACTOR	CONTRACTOR
153	JB-07-01	SECURITY J-BOX (ACTIVE CAMERA)	BLD. EXTERIOR	CONTRACTOR	CONTRACTOR
154	JB-07-02	SECURITY J-BOX (FUTURE CAMERA)	BLD. EXTERIOR	CONTRACTOR	CONTRACTOR
155	JB-07-03	SECURITY J-BOX (FUTURE CAMERA)	BLD. EXTERIOR	CONTRACTOR	CONTRACTOR
156	JB-07-04	SECURITY J-BOX (FUTURE CAMERA)	BLD. EXTERIOR	CONTRACTOR	CONTRACTOR
160	CCTV-07-01	SITE CAMERA 1 (FIXTURE F4)	SITE	CONTRACTOR	CONTRACTOR
161	CCTV-07-02	SITE CAMERA 2 (FIXTURE F4)	SITE	CONTRACTOR	CONTRACTOR
		WELL 7 VALVE	S		
DRAWING ID	TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
111	SV-07-01	SURGE TANK AIR SUPPLY SOLENOID VALVE	SURGE VAULT	CONTRACTOR	CONTRACTOR
112	SV-07-02	SURGE TANK AIR RELEASE SOLENOID VALVE	SURGE VAULT	CONTRACTOR	CONTRACTOR
113	SV-07-03	WASTE VALVE PILOT SOLENOID VALVE	PUMP RM.	CONTRACTOR	CONTRACTOR
114	SV-07-06	TURBIDITY SUPPLY SOLENOID VALVE	PUMP RM.	CONTRACTOR	CONTRACTOR
116	SV-07-08	WELL PRE-LUBE SOLENOID VALVE	PUMP RM.	CONTRACTOR	CONTRACTOR
118	V-07-01	WASTE ISOLATION VALVE	PUMP RM.	CONTRACTOR	CONTRACTOR
119	V-07-02	PUMP-TO-WASTE VALVE	PUMP RM.	CONTRACTOR	CONTRACTOR
120	V-07-03	DISCHARGE VALVE	PUMP RM.	CONTRACTOR	CONTRACTOR
121	V-07-04	SURGE TANK VALVE	SURGE VAULT	CONTRACTOR	CONTRACTOR



	KEITH B.										
INGEN	5 HEGERHORST	DESIGNED K	(BH	3			·		SCALE		CENTRAL UTAH WATE
ai len	3/19/2023 -5/	DRAFTED K	(BH	2	36/09/23	ADDENDUM NO. 2	KBH	I KBH			
	OTATE OF OT	CHECKED K	(BH	1	36/01/23	ADDENDUM NO. 1	KBH	I KBH	NONE		CONSERVANCI
GINEERS	PROJECT ENGINEER	DATE MA	AY 2023	NO.	DATE	REVISIONS	BY	APVD.		CENTRAL UTAH WATER CONSERVANCY DISTRICT	DISTRICT

POWER ONE-LINE DIAGRAM

240 VAC, 225A, 3-PH, 4-W

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PNL EXISTING PRV EXISTING PANELBOARD PRV DAD VAC, 225A,

240 VAC, 225A, 1-PH, 3-W



GENERAL NOTES:

- 1. REFER TO PLAN SHEETS FOR EQUIPMENT AND DEVICE LOCATIONS.
- 2. REFER TO CONDUIT/CONDUCTOR TABLE FOR WIRE AND CONDUIT REQUIREMENTS.
- 3. UTILITY COMPANY CONTACT: ALAN STEWART (801-360-1679), RODNEY.STEWART@ROCKYMOUNTAINPOWER.NET.
- 4. THE VFD AND MAIN SERVICE DISCONNECT EQUIPMENT SHALL BE FROM THE SAME MANUFACTURER.

SHEET KEYNOTES:

- A 1. NEW 6-INCH CONDUIT. CONDUCTOR PROVIDED AND INSTALLED BY UTILITY COMPANY. COORDINATE WITH RMP AS REQUIRED.
- 2. PRIMARY METERING ENCLOSURE: PROVIDED BY UTILITY COMPANY, INSTALLED BY CONTRACTOR ON A PAD/VAULT AS REQUIRED BY UTILITY COMPANY. UTILITY COMPANY SHALL PROVIDE PT'S, CT'S AND MFTFR.
- 3. MAIN SERVICE DISCONNECT: 15 KV, 200A FUSED SWITCH IN NEMA 3R LOCKABLE ENCLOSURE. LABEL AS "MAIN SERVICE DISCONNECT". LABEL SWITCHBOARD WITH AVAILABLE FAULT CURRENT. SEE AVAILABLE FAULT CURRENT AT 12.47 KV TABLE ON THIS SHEET. LABEL AS REQUIRED BY NEC 110.24.
- 4. PROVIDE A KIRK-KEY INTERLOCK ON THE 15 KV VFD FUSED DISCONNECT AND THE VFD ENCLOSURE WITH 12 KV OR 4.16 KV COMPONENTS. VFD ENCLOSURE CANNOT BE OPENED UNLESS THE FUSED SWITCH IS OPEN.
- 5. THREE-PHASE POWER MONITOR WITH APPROPRIATE PT/CT'S FOR 12.47 KV SWITCHGEAR. EQUIPMENT SUPPLIER SHALL SIZE PT AND CT'S AS REQUIRED.
- 6. 3/4"C, WITH CONTROLS CONDUCTORS AS REQUIRED TO CONTROL THE VFD CONTACTOR.
- 7. EQUIPMENT SPACE HEATERS SHOWN ON PLAN DRAWINGS.
- 8. REFER TO PANELBOARD SCHEDULE FOR CIRCUIT ID, THEN THE WIRE AND CONDUIT REQUIREMENTS ARE AS SHOWN IN THE CONDUIT/CONDUCTOR TABLE ON E1.1.
- 9. INSTALL TRANSFORMER ABOVE EXISTING PANEL PRV IN THE VAULT.
- 10. INSTALL A 100A MAIN BREAKER IN THE EXISTING PNL PRV (SEE PHOTOS).
- 11. INSTALL A 600V, 60A, NEMA 3R DISCONNECT SWITCH AT THE ENTRY STAIR. COORDINATE LOCATION AT VAULT WITH CUWCD DURING CONSTRUCTION.
- 12. SECTIONALIZING ENCLOSURE PROVIDED BY UTILITY COMPANY, INSTALLED BY CONTRACTOR. CONDUCTORS PROVIDED AND INSTALLED BY UTILITY COMPANY.

2	PUMP HOUSE PROJECT WELLS #7, #16 & #17	SHEET
	ELECTRICAL " " " "	E6.3
	WELL 7 POWER ONE-LINE DIAGRAM	
		207.27.200



۷.	ITEMS	
	POWER	LOCATION
	SOURCE	
	UTILITY	SITE
	N/A	SITE
	PME-07-01	BLD. EXTERIOR
	MSD-07-01	BLD. EXTERIOR
	MSD-07-01	BLD. EXTERIOR
	DFS-07-02	SITE
	XFMR-07-01	PUMP RM.
Г	L-4	PUMP RM.
	L-18	SITE
	PRV-6	PRV VAULT
	H-20,22	PRV VAULT
	XFMR-07-03	PRV VAULT
	FD-07-01	PRV VAULT
	CP-07-01	SITE

H.P.E. INC. ELECTRICAL ENGINEERS	
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS	
HEGERHORST POWER ENGINEERING INCORPORATED	(801) 642-2051
708 EAST 50 SOUTH F AMERICAN FORK, UT 84003	AX (801) 642-2154
HPE PROJECT 20.111	© 2023
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST	

GENERAL NOTES:

- 1. "HOME RUN" POWER SOURCE LISTED IN THE SITE PLAN ITEM TABLE ABOVE.
- 2. FOR WIRE AND CONDUIT REQUIREMENTS, REFER TO THE POWER ONE-LINE AND/OR PANEL SCHEDULE FOR THE CIRCUIT ID, THEN THE WIRE AND CONDUIT INFORMATION IS IN THE CONDUIT/CONDUCTOR TABLE ON E1.1
- 3. CORE DRILL AND SEAL TIGHT CONDUIT PENETRATIONS THROUGH VAULT CONCRETE WALLS.
- 4. ALL EXTERIOR EQUIPMENT PADS SHALL BE ELEVATED 3-INCHES ABOVE GRADE OR FINISHED SURFACE.

SHEET KEYNOTES:

- 1. NOT USED.
- 2. TO VFD INSIDE BUILDING.
- 3. AIM CAMERA TOWARDS BUILDING ENTRY DOORS.
- 4. EXTEND TRANSFORMER PAD TO BACK OF CURB. ELEVATE HOUSEKEEPING PAD MIN. OF 3" ABOVE GRADE.

5. THIS KEYNOTE SUPERCEDES KEYNOTE 5 ON E2.1 INSTALL THREE 1-1/4" ORANGE HIGH DENSITY POLYETHYLENE HDPÉ RATED DUCTS.

- CONDUIT 1: 6-STRAND FIBER OPTIC CABLE. CONDUIT 1: 6-STRAND FIBER OFTIC CABLE. CONDUIT 2: 6-STRAND FIBER OFTIC CABLE. CONDUIT 3: LOCATING WIRE. 5.2. 5.3.
- 6. COORDINATE LOCATION OF FLOW METER WITH IRRIGATION CONTRACTOR DURING CONSTRUCTION.
- 7. INSTALL TRANSFORMER ABOVE EXISTING PANELBOARD.
- INSTALL NEW 6-IN CONDUIT TO EXISTING 6-IN CONDUIT FOR PRIMARY SERVICE TO WELL METERING ์ 8. EQUIPMENT. 6-IN CONDUIT LOCATED AT COORD. 7279807.53/1572229.97 WITH A 4X4 CEDER POST MARKER.

9. DISCONNECT SIX STRAND CONDUCTOR FROM EXISTING SPLICE CASE IN PULL BOX. UTILIZE EXISTING SPLICE CASE FOR THE SIX STRAND RUN INTO THE WELL HOUSE.

- 10. TWO 1" CONDUITS PUNCHED THROUGH THE SIDEWALL OF THE VAULT AN D RUN SURFACE MOUNTED TO THE RTU CABINET FROM THE FIBER PULL BOX.
- 11. CONDUIT1: FIBER/SIGNAL CONNECTION TO RTU IN WELL HOUSE. THIS IS A CONTINUATION OF CONDUIT UNDER SHEET KEYNOTE 5.2.
- 12. CONDUIT 2: BLANK CONDUIT WITH PU7LL STRING.

13. NEW 6-IN CONDUIT (FOR LARGER RMP CONDUCTORS) FROM RMP PAD MOUNTED EQUIPMENT TO RMP SWITCH LOCATED NEAR THE INTERSECTION OF VINEYARD ROAD AND 350 FAST (REFER TO CIVIL PLANS). INSTALL NEW CONDUIT THROUGH ONE NEW AND ONE EXISTING SECTIONALIZER CABINET. CONTRACTOR TO PROVIDE TRENCHING AND BACKFILL TO WITHIN 2-3 FEET OF THE EXISTING RMP EQUIPMENT. CONTACT RMP FOR CONDUIT INSTALLATION INTO THE RMP EQUIPMENT AND FOR CONDUCTOR INSTALLATION.

PUMP HOUSE PROJECT WELLS #7, #16 & #17 SHEE E6.4 WELL 7 SITE PLAN 207.27.200



			0 2' 4' 3/8"=1'-0"		8'	HE 70 AM HF F0	H.P.E. INC. ELECTRICAL ENGINEERS POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS (B01) 642-2051 B EAST 50 SOUTH ERICAN FORK, UT 84003 CP PROJECT 20.111 R INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST
			WELL 7 POWER PLAN ITEMS	;			
1	DRAWING			POWER		<u> </u>	<u>ENERAL NUTES:</u>
	D	TAG	DESCRIPTION	SOURCE	LOCATION		
	12	MSD-07-01	MAIN SERVICE DISCONNECT	PME-07-01	BLD. EXTERIOR	1.	POWER SOURCE OR "HOME RUN" SHOWN IN THE
	13	DFS-07-01	DISTRIBUTION EQUIPMENT FUSED SWITCH	MSD-07-01	BLD. EXTERIOR		POWER PLAN ITEM LIST ABOVE. REFER TO ONE-LINE
	14	DFS-07-02	DISTRIBUTION EQUIPMENT FUSED SWITCH	MSD-07-01	BLD. EXTERIOR		DIAGRAM, PANEL SCHEDULES AND
	16	XFMR-07-02	TRANSFOMER L	H-1,3,5	PUMP RM.		CONDUIT/CONDUCTOR TABLE FOR WIRE AND CONDUIT
	17	PNL-07-H	PANELBOARD H	XFMR-07-01	PUMP RM.		REQUIREMENTS.
	18	PNL-07-L	PANELBOARD L	XFMR-07-02	PUMP RM.		
	19	VFD-07-01	VARIABLE FREQUENCY DRIVE	DFS-07-01	PUMP RM.	2.	EQUIPMENT DIMENSIONS ARE APPROXIMATE.
	23	AC-07-01	AIR COMPRESSOR	H-8,10,12	PUMP RM.		CONTRACTOR SHALL MODIFY AS REQUIRED FOR
	24	AD-07-01	AIR DRYER	L-7	PUMP RM.		PROVIDED EQUIPMENT. MAINTAIN NEC CLEARANCES AS
	25	CP-07-01	MAIN CONTROL PANEL/REMOTE TELEMETRY UNIT	L-4	PUMP RM.		REQUIRED.
	27	CP-07-03	EXTERIOR LIGHTS/ICE MELT CONTROL PANEL	L-5,7	PUMP RM.		
	29	EM-07-1	ENERGY AND POWER MONITOR	L-18	SITE	3.	INSTALL IN-SERVICE WEATHERPROOF COVERS ON ALL
	31	P-07-01	WELL PUMP	VFD-07-01	PUMP RM.		RECEPTACLES.
	33	SP-07-01	SECURITY PANEL	L-12	PUMP RM.		
	37	IM-07-01	ICE MELT RECEPTACLE	CP-07-03	BLD. EXTERIOR	S	HEET KEYNOTES.
	38	IM-07-02	ICE MELT RECEPTACLE	CP-07-03	BLD. EXTERIOR	<u> </u>	ILLI NLINOILJ.
	39	IM-07-03	ICE MELT RECEPTACLE	CP-07-03	BLD. EXTERIOR		
	40	IM-07-04	ICE MELT RECEPTACLE	CP-07-03	BLD. EXTERIOR	١.	REFER TO WELL / WET WALL ELEVATION ON E5.4 FOR
	41	IM-07-05	ICE MELT RECEPTACLE	CP-07-03	BLD. EXTERIOR		LUCATIONS OF WATER CHEMISTRY INSTRUMENTS. SEE
	43	IT-07-01	IRRIGATION VALVE TIMER	L-15	PUMP RM.		INSTRUMENTATION ELEVATION FOR HEIGHT OF DEVICE.
	81	AIT-07-02	WELL TURBIDITY ANALYZER	L-5	PUMP RM.	~	VER INDULIRES 400 VAD ORACE LIEATER ORDOUNT
	$\sim \approx$	ATT-07-03A	WELL PULANALYZER	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- PUMP RM	∽ ^{2.}	VED INCLUDES 120 VAC SPACE HEATER CIRCUIT
(83	AIT-07-03B	WELL CONDUCTIVITY ANALYZER	L-6	PUMP RM.)	(L-10) AND 480 VAC FAN POWER CIRCUIT
1	$\sim \infty$	AIT-07-03D	WATER TEMPERATURE TRANSMITTER		<u>^PUMP RM.</u>		(H-7,9,11). REFER TO PANEL SCHEDULES FOR
	87	FIT-07-01	WELL FLOW METER	CP-07-01	PUMP RM.		ADDITIONAL INFORMATION.
	126	FC-07-01	INDOOR FAN COIL UNIT	L-34,36	PUMP RM.	_	
	127	MCU-07-01	OUTDOOR CONDENSIONG UNIT	L-30,32	PUMP RM.	3.	RECEPTACLE FOR ICE MELT CABLE. PROVIDE
	128	AH-07-01	AIR HANDLER	L-20,22,24	PUMP RM.		IN-SERVICE WEATHERPROOF COVER. FOR INSTALLATION
	129	CU-07-01	CONDENSING UNIT	H-14,16,18	PUMP RM.		REQUIREMENTS REFER TO WIRING DIAGRAM ON SEE
	134	UH-07-01	UNIT HEATER	H-13,15,17	PUMP RM.		SHEET E3.3.
	135	UH-07-02	UNIT HEATER	H-19,21,23	PUMP RM.		
						4.	RECEPTACLE FOR AIR DRYER. INSTALL BELOW AIR DRYER.

CENTRAL	UTAH	WATE
CONS	ERVAN	ICY
DIS	STRICT	

- 5. INSTALL UNIT HEATER ABOVE CP-07-03.
- 6. PROVIDE AND INSTALL A 2-INCH PVC CONDUIT FROM BELOW THE IRRIGATION TIMER TO THE IRRIGATION VALVE AREA. VALVE AREA IS NEAR THE IRRIGATION METER SHOWN ON THE E6.4 SITE PLAN.
- INSTALL RECEPTACLE +18". WIRE TO CIRCUIT L-13. PROVIDE IN-SERVICE WEATHERPROOF COVER.
- 8. DOWNSPOUT DISCHARGES INTO WASTE BASIN. INSTALL RECEPTACLE FOR ICE MELT 8-IN ABOVE WASTE BASIN TOP-OF-WALL. DO NOT INSTALL RECEPTACLE IN BASIN.
- 9. INSTALL MANUAL STARTER NEAR SECURITY ENCLOSURE AND LABEL AS "FAN COIL DISCONNECT".

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λ	10. SWITCHGEAR CONDENSAT	E HEATER	R CIRCUITS:	ξ
<u> </u>	MSD-07-01, CKT. L-12	. FUSED	DISCONNECT	SWITCH 🗸
5	DFS-07-01, CKT. L-14	. FUSED	DISCONNECT	SWITCH 2
(DFS-07-02, DKT. L-16	•		
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2	PUMP HOUSE PROJECT WELLS #7, #16 & #17	SHEET					
	ELECTRICAL						
	WELL 7 POWER PLAN						





	Н.Р.	E. INC	. ELECT	RICAL	ENGIN	IEERS
	POWER	SYSTEMS,	CONTROL &	INSTRUM	ENTATION	SYSTEM
HEGERHORST POWER	ENGINE	ERING INC	ORPORATED			
708 EAST 50 SOUTH	ł					
AMERICAN FORK, UT	84003					

(801) 642-205 FAX (801) 642-2154 © 202

HPE PROJECT 20.111 FOR INFORMATION ABOUT THIS JOB. PLEASE CONTACT: KEITH HEGERHORST

FORMATION ABOUT THIS JOB, PLEASE CONTACT: REITH HEGERH

		WELL 16 POWER PLAN ITE	MS	
DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION
12	MSD-16-01	MAIN SERVICE DISCONNECT	PME-16-01	BLD. EXTERIOR
13	DFS-16-01	DISTRIBUTION EQUIPMENT FUSED SWITCH	MSD-16-01	BLD. EXTERIOR
14	DFS-16-02	DISTRIBUTION EQUIPMENT FUSED SWITCH	MSD-16-01	BLD. EXTERIOR
16	XFMR-16-02	TRANSFOMER L	H-1,3,5	PUMP RM.
17	PNL-16-H	PANELBOARD H	XFMR-16-01	PUMP RM.
18	PNL-16-L	PANELBOARD L	XFMR-16-02	PUMP RM.
19	VFD-16-01	VARIABLE FREQUENCY DRIVE	SCB-16-01	PUMP RM.
21	GEN-16-01	BACKUP POWER GENERATOR	N/A	GENERATOR RM.
23	AC-16-01	AIR COMPRESSOR	H-8,10,12	PUMP RM.
24	AD-16-01	AIR DRYER	L-7	PUMP RM.
25	CP-16-01	MAIN CONTROL PANEL/REMOTE TELEMETRY UNIT	L-4	PUMP RM.
26	CP-16-02	SMALL MOTOR CONTROL PANEL	L-25,27	PUMP RM.
27	CP-16-03	EXTERIOR LIGHTS/ICE MELT CONTROL PANEL	L-5,7	PUMP RM.
29	EM-16-1	ENERGY AND POWER MONITOR	L-18	SITE
31	P-16-01	WELL PUMP	VFD-16-01	PUMP RM.
32	P-16-02	CHLORINE CIRCULATION PUMP	H-20,22,24	PUMP RM.
33	SP-16-01	SECURITY PANEL	L-12	PUMP RM.
34	BC-16-01	GENERATOR BATTERY CHARGER	L-24	GENERATOR RM.
35	JWH-16-01	GENERATOR JACKET WATER HEATER	L-20,22	GENERATOR RM.
37	IM-16-01	ICE MELT RECEPTACLE	CP-16-03	BLD. EXTERIOR
38	IM-16-02	ICE MELT RECEPTACLE	CP-16-03	BLD. EXTERIOR
39	IM-16-03	ICE MELT RECEPTACLE	CP-16-03	BLD. EXTERIOR
40	IM-16-04	ICE MELT RECEPTACLE	CP-16-03	BLD. EXTERIOR
41	IM-16-05	ICE MELT RECEPTACLE	CP-16-03	BLD. EXTERIOR
42	IM-16-06	ICE MELT RECEPTACLE	CP-16-03	BLD. EXTERIOR
43	Π-16-01	IRRIGATION VALVE TIMER	L-15	PUMP RM.
44	DT-16-01	GENERATOR DAY TANK	L-39	GENERATOR RM.
73	ASH-16-01	CHLORINE LEAK DETECTOR	L-29	PUMP RM.
81	AIT-16-02	WELL TURBIDITY ANALYZER	L-5	PUMP RM.
82	AIT-16-03A	WELL pH ANALYZER	L-6	PUMP RM.
83	AIT-16-03B	WELL CONDUCTIVITY ANALYZER	L-6	PUMP RM.
84	AIT-16-03C	RESIDUAL CHLORINE ANALYZER	L-6	PUMP RM.
85	AIT-16-03D	WATER TEMPERATURE TRANSMITTER	CP-16-01	PUMP RM.
100	WIT-16-01	CHLORINE TANK SCALES TRANSMITTER	L-37	CHLORINE RM.
107	FHT-16-01	FUEL PIPE HEAT TRACING	L-41	SITE
110	PV-16-01	CHLORINE PROPORTIONING VALVE	L-31	CHLORINE RM.
126	FC-16-01	INDOOR FAN COIL UNIT	L-34,36	PUMP RM.
127	MCU-16-01	OUTDOOR CONDENSIONG UNIT	L-30,32	PUMP RM.
128	AH-16-01	AIR HANDLER	L-20,22,24	PUMP RM.
129	CU-16-01	CONDENSING UNIT	H-14,16,18	PUMP RM.
134	UH-16-01	UNIT HEATER	H-13,15,17	PUMP RM.
135	UH-16-02	UNIT HEATER	H-19,21,23	PUMP RM.
136	UH-16-03	UNIT HEATER	H-25,27,29	GENERATOR RM.
137	UH-16-04	UNIT HEATER	H-31,33,38	CHLORINE RM.
144	EF-16-01	EXHAUST FAN	CP-16-02	CHLORINE RM.
145	EF-16-02	EXHAUST FAN	CP-16-02	GENERATOR RM.

SHEET KEYNOTES:

- 1. INSTALL A MANUAL STARTER AS THE DISCONNECT MEANS FOR AH-16-01. FIELD LOCATE BELOW THE AIR HANDLER.
- 2. SEE INSTRUMENTATION ELEVATION FOR HEIGHT OF DEVICE.
- 3. RECEPTACLE FOR ICE MELT CABLE. PROVIDE IN-SERVICE WEATHERPROOF COVER. FOR INSTALLATION REQUIREMENTS REFER TO WIRING DIAGRAM ON SEE SHEET E3.3.
- 4. INSTALL MANUAL STARTER NEAR SECURITY ENCLOSURE. LABEL AS "AIR HANDLER DISCONNECT".
- 5. LOCATE OUTLET WITHIN 12-INCHES OF FUEL PIPE WHERE IT ENTERS THE BUILDING. PROVIDE IN-SERVICE W/P COVER. COORDINATE HEIGHT DURING CONSTRUCTION WITH FUEL PIPE INSTALLER.
- 6. PROVIDE AND INSTALL A 2-INCH PVC CONDUIT FROM BELOW THE IRRIGATION TIMER TO THE IRRIGATION VALVE AREA. VALVE AREA IS NEAR THE IRRIGATION METER SHOWN ON THE E7.4 SITE PLAN.
- 7. INSTALL RECEPTACLE +18". WIRE TO CIRCUIT L-16. PROVIDE IN-SERVICE WEATHERPROOF COVER.
- 8. VFD INCLUDES 120 VAC SPACE HEATER CIRCUIT (L-10) AND 480 VAC FAN POWER CIRCUIT (H-7,9,11). REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

A	(9.	SWITCHGEAR CONDENSATE HEATER CIRCUITS: MSD-16-01, CKT. L-12.	ł
<u> </u>	7	FUSED DISCONNECT SWITCH DFS-16-01, CKT. L-14. FUSED	Į
	>	DISCONNECT SWITCH DFS-16-02, DKT. L-16.)
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R PUMP HOUSE PROJECT WELLS #7, #16 & #17 ELECTRICAL WELL 16 POWER PLAN

SHEET E7.7 207.27.200



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ITEM	S		
	POWER SOURCE	LOCATION	
	PME-17-01	BLD. EXTERIOR	
ттсн	MSD-17-01	BLD. EXTERIOR	1
тсн	MSD-17-01	BLD. EXTERIOR	
	H-1,3,5	PUMP RM.	1
	XFMR-17-01	PUMP RM.	1
	XFMR-17-02	PUMP RM.	
	SCB-17-01	PUMP RM.	1
	H-8,10,12	PUMP RM.	
	L-7	PUMP RM.	1
RY UNIT	L-4	PUMP RM.	1
PANEL	L-5,7	PUMP RM.	
	L-18	SITE	
	VFD-17-01	PUMP RM.	1
	L-12	PUMP RM.	
	CP-17-03	BLD. EXTERIOR	
	CP-17-03	BLD. EXTERIOR	1
	CP-17-03	BLD. EXTERIOR	
	CP-17-03	BLD. EXTERIOR	
	CP-17-03	BLD. EXTERIOR	
	L-15	PUMP RM.	
	L-5	PUMP RM.	
\sim	-	PUMPRM	
	L-6	PUMP RM.	D
<u>fr</u>	CP1701	~POMP'RM.~	r
	CP-17-01	PUMP RM.	
	L-34,36	PUMP RM.	1
	L-30,32	PUMP RM.	1
	L-20,22,24	PUMP RM.	1
	H-14,16,18	PUMP RM.	1
	H+13,15,17	PUMP RM.	1
	H-19,21,23	PUMP RM.	1
			1
			1
			•

H.P.E. INC. ELECTRICAL ENGINEERS		
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEM	s	
HEGERHORST POWER ENGINEERING INCORPORATED 708 EAST 50 SOUTH AMERICAN FORK, UT 84003	FAX	(801) 642-205 (801) 642-2154
HPE PROJECT 20.111		© 2023
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST		

GENERAL NOTES:

- POWER SOURCE OR "HOME RUN" SHOWN IN THE POWER PLAN ITEM LIST ABOVE. REFER TO ONE-LINE DIAGRAM, PANEL SCHEDULES AND CONDUIT/CONDUCTOR TABLE FOR WIRE AND CONDUIT REQUIREMENTS.
- 2. EQUIPMENT DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL MODIFY AS REQUIRED FOR PROVIDED EQUIPMENT. MAINTAIN NEC CLEARANCES AS REQUIRED.
- 3. INSTALL IN-SERVICE WEATHERPROOF COVERS ON ALL RECEPTACLES.

SHEET KEYNOTES:

- 1. REFER TO WELL 17 WET WALL ELEVATION ON E5.4 FOR LOCATIONS OF WATER CHEMISTRY INSTRUMENTS. SEE INSTRUMENTATION ELEVATION FOR HEIGHT OF DEVICE.
- 2. VFD INCLUDES 120 VAC SPACE HEATER CIRCUIT (L-10) AND 480 VAC FAN POWER CIRCUIT (H-7,9,11). REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- RECEPTACLE FOR ICE MELT CABLE. PROVIDE IN-SERVICE WEATHERPROOF COVER. FOR INSTALLATION REQUIREMENTS REFER TO WIRING DIAGRAM ON SEE SHEET E3.3.
- 4. RECEPTACLE FOR AIR DRYER. INSTALL BELOW AIR DRYER.
- 5. INSTALL UNIT HEATER ABOVE CP-17-03.
- 6. PROVIDE AND INSTALL A 2-INCH PVC CONDUIT FROM BELOW THE IRRIGATION TIMER TO THE IRRIGATION VALVE AREA. VALVE AREA IS NEAR THE IRRIGATION METER SHOWN ON THE E8.4 SITE PLAN.
- 7. INSTALL RECEPTACLE +18". WIRE TO CIRCUIT L-13. PROVIDE IN-SERVICE WEATHERPROOF COVER.
- DOWNSPOUT DISCHARGES INTO WASTE BASIN. INSTALL RECEPTACLE FOR ICE MELT 8-IN ABOVE WASTE BASIN TOP-OF-WALL. DO NOT INSTALL RECEPTACLE IN BASIN.
- 9. INSTALL MANUAL STARTER NEAR SECURITY ENCLOSURE AND LABEL AS "FAN COIL DISCONNECT".

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	5		DF	-S-	-17	7—(D1,	С	KT.	Ŀ	-14	4.	FU	SED) [DIS	COI	NN	ECT	S	WIT	СН	4
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	ELECTRICAL	E8.7
	WELL 17 POWER PLAN	207.27.20