

RFP Grand County Water Conservancy District Replacement Irrigation Well

GENERAL CONDITIONS

Grand County Water Conservancy District's (District) "Darcey Well" will be a Public Irrigation Water Well drilled in Spanish Valley in San Juan County Utah. Refer to Location Map.

The original Darcey Well is nearby and the Drillers Log is attached. We expect the geology and drilling conditions to be similar in the replacement well. The actual depths could change depending on the hole conditions, geology, and hydrology. We do not have a preferred drilling method however the well must be drilled to the Utah Code for Water Well Construction R655-4.

We realize that not all drillers have the same equipment and tooling sizes. Bidders are welcome to submit alternative methods of drilling and testing if they wish, but the preferred method is Mud Rotary either conventional or flooded reverse. Included in the bid will be a short written approach from the driller submitting a bid. Wells in this local formation are known to be "sanders", with this in mind, the bid will be awarded on 60% price, and 40% approach.

As the existing Darcey well ended in valley fill material, the exact depth of the valley fill / bedrock contact is not known. From other logs in the area it is estimated at 270 to 360 feet. We would like to "tag" the underlying bedrock, but the final well completion will not go into bedrock. For bidding purposes an estimated 350 foot hole with a 10" well to 340 feet will be used. The exact depth and well completion will depend on geology, hydrology, and hole conditions. If a driller wanted to drill a pilot hole first and ream out that would be an accepted and favorable approach.

1. **MOBILIZE AND DEMOBILIZE:** Measurement and payment for this item is provided to cover the Contractor's cost for general and miscellaneous responsibilities and operations not normally attributed to, any other single bid item. This shall include, but is not limited to, work described or enumerated in Section 01 71 13 of the APWA Specifications, and shall include mobilization and demobilization from the well site. The site will be prepped by the District to the "reasonable" requirements of the selected driller. The cost of any required insurance and/or other miscellaneous cost associated with this project that is not found on the bid schedule shall be paid for under this line item. "Mobilization and Demobilization" shall be measured as a percentage based on the phase of work under construction. Payments shall be made in accordance with the following schedule:
 1. 50% of the amount bid for mobilization will be paid upon initiation of drilling activities.
 2. The remaining 50% of the amount bid for mobilization will be paid upon completion of drilling and restoration of the project site, and clients receiving of the Well Drillers Log.
2. **INSTALL" SURFACE CASING:** *If contractor opts to install surface casing.* Measurement and payment for this item shall be on a per lineal foot basis for each foot of surface casing

installed. Payment shall be considered full compensation for all labor, equipment and materials, reaming or drilling larger diameter to accommodate the surface casing, casing material, construction, welding, and all other incidentals required to complete this item. If surface casing is temporary, it should be noted.

3. **DRILL Hole to approximately 350 feet.** As the geology is estimated, the exact depth of the hole is also estimated. The minimum depth is estimated at 270 feet, the maximum 375 feet. The final TD will be determined by the geology and hydrology encountered. The TD will be determined by the onsite Geologist. As the final well is a minimum 10" diameter, the hole size can vary dependent on the tooling of each individual contractor. It must be at least 14 ¾" to accommodate 2" annular space of sand filter pack to the TD. Drilling will be done in accordance with DWRi rules and regulations. Measurement and payment for this item shall be on a per lineal foot basis for each foot of well hole drilled, not including the amount drilled for the surface casing. Payment shall be considered full compensation for all labor, equipment, materials, provisions for water supply, drilling fluids, construction, use and cleanup of drilling fluids handling equipment, hauling cuttings and used drilling fluids off the site, proper disposal of cuttings and drilling fluids, well drilling, reaming, and all other incidentals required to complete this item. Payment shall also be full compensation for all set-up and site preparation. It is ok if drillers submit a separate depth / footage rate schedule, ie., 0-200 X\$/ft, 200-360 X\$/ft.
4. **Minimum 10" Diameter STEEL CASING:** Measurement and payment for this item shall be on a per lineal foot basis as measured for each foot of minimum 10" steel casing installed. The steel casing must meet any requirements of DWRi for wall thickness. Payment shall be considered full compensation for all labor, equipment and materials, reaming or drilling larger diameter to accommodate the steel casing, casing material, construction, welding, and all other incidentals required to complete this item. Exact linear footage is not known, but is estimated at 220 feet.
5. **10" Diameter Stainless Steel wire wrap screen:** Measurement and payment for this item shall be on a lineal foot basis as measured for each foot of 10" screen, slot size should be 0.01 slot but Owner is flexible deepening on what wire SS wrap screen is available. The wire wrap screen must meet any requirements of DWRi. For purposes of this bid document and estimated 120 feet of wire wrap will be made, actual may vary dependent on geology and hydrology encountered. Payment shall be considered full compensation for all labor, equipment and materials, reaming or drilling larger diameter to accommodate the stainless steel casing, casing material, construction, welding, and all other incidentals required to complete this item.
6. **8-20 SAND PACK: Owner would prefer 8-20 Sand Pack.** Measurement and payment for this item shall be measured based on the volume, in cubic yards, as measured in the field following construction to furnish and install the 8-20 " or other available similar, client approved gravel. The gravel pack material shall consist of clean well-rounded, chemically stable grains that are smooth and uniform. Payment shall be at the contract unit price bid for each cubic yard of the gravel pack furnished and installed. Payment shall be considered full compensation for all labor; equipment and materials; gravel pack; installation and removal of any equipment needed to install the gravel pack; and all incidentals required to complete this item. This item shall require a 2-inch minimum annular space around the well casing to accommodate the installation of the gravel pack material. Payment for this time shall include full compensation to construct the 2-inch annular space between the inside of the bore hole and the outside of the well casing. Sand pack will be placed from 45 feet to TD. **All gravel pack will be installed with tremmie rod and not dumped from the surface.**

7. **BENTONITE Hole Plug 40-45:** Measurement and payment for this item shall be measured based on the volume, in cubic yards, as measured in the field following construction to furnish and install the bentonite hole plug or cement 40-45. Payment shall be at the contract unit price bid for each cubic yard of the bentonite furnished and installed. Payment shall be considered full compensation for all labor; equipment and materials; bentonite to plug the hole; installation and removal of any equipment needed to install the gravel pack; and all incidentals required to complete this item.
8. **Surface Seal :** Surface Seal must be installed and meet all DWRI requirements for an irrigation well. Payment is made in cubic yards installed.
9. **DRILL RIG DEVELOPMENT and AIRLIFTING:** Measurement and payment for this item shall be based on the number of hours of rig time used for drilling as directed by the Engineer. Payment shall be at the contract unit price bid for each hour of rig time use in drilling the well. Payment shall be considered full compensation for all labor, equipment, surging equipment, drill rig, and the materials and incidentals required to complete this item. If driller chooses to drill with mud, the hours required for Rig Development would be higher. Estimated 10 hours of Rig time if mud is not used, estimated 30 hours if mud is used.
10. **Pump Development and Pump Testing.** An estimated 500 gpm, 200 estimated TDH pump set to 240 feet will be used for development and pump testing. The pump parameters could change after data from drill rig development is collected. An estimated total of 16 hours of pump development and a 24 hour pump test will be required. At total of 40 hours of pump work will be estimated, however, if additional time is needed for development it can be requested to the onsite geologist
11. **STANDBY RATE:** Measurement and payment for this item shall be based on the number of hours of standby time that the driller has that is a direct result from the owner causing a delay in the drilling process. Payment shall be full compensation for all labor, equipment, tools, material and necessary items directly related to the delay. There is no "*planned*" standby time.

BID SCHEDULE

NOTE: BIDS shall include sales tax and all other applicable taxes and fees. A total contract AMOUNT shall be entered for each item and shall be the product of the number under UNIT times the UNIT PRICE unless the units are a lump sum whereby the AMOUNT shall also reflect the lump sum price. AMOUNT column shall be totaled as indicated below. The BIDDER shall sign his name in the blank space provided. If the proposal is made by a partnership or corporation, the name and address of the partnership or corporation shall be shown.

WE understand that all drillers have different diameter tooling and approaches. The diameters given are approximate. Each driller will submit his tooling size with his bid. **Drillers are free to bid project with a different approach with an explanation of why they feel their approach is acceptable.**

Item No	DESCRIPTION	QTY	UNIT	UNIT PRICE (Material & Labor)	TOTAL
1	Mobilize and Demobilize	1	Lump Sum		
2	Install Surface Casing (IF NEEDED) Driller to estimate footage		Feet		
3	Drill Hole minimum 14 3/4" estimated 350 feet;	350	Feet		
4	10" Steel Casing, must meet DWRi requirements	220	LF		
5	10" Wire Wrap SS 0.01 slot screen	120	Feet		
6	8-20 or other Available Sand Pack 115 to TD (tremmied in place)	Est	CY		
7	Bentonite Hole Plug, 40-45 feet	Est	CY		
8	Bentonite Hole Plug or Cement Seal 0-40 to DWRi Regulations	Est.	CY		
9	Drill Rig Development and Airlift	30	Hours		
10	Pump Development and Pump Testing (est. 500 gpm 200 TDH)	40	Per Hour		
11	Standby Rate		Per hour		
				Total	

It is understood that the quantities stated are approximate only and are for the purpose of comparing bids and fixing the amount of bonds, and the payments will only be made on the basis of the above unit prices in the actual quantities, as determined by the OWNER's Engineer in the completed work.

Respectfully submitted:

Contractor Name

Telephone Number

License

Address

Signature

City, State & Zip

Title

Date

**PROPOSALS DUE TO 3025 E. SPANISH TRAIL RD. OR
DANA@GRANDWATER.ORG BY 5:00 P.M. May 5, 2021.**

DARCEY WELL LOG

Form 113-5M-12-60

Examined 2/8/62 H.C.T.
 Recorded: B. C. 2/8/62 H.C.T. T. B. H.C.T.
 Inspection Sheet 2/8/62 FEB - 8 1962

REPORT OF WELL DRILLER
 STATE OF UTAH

Application No. A-27603
 Claim No. _____
 Coordinate No. (0-26-22) 35000

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
 Name NICHOLAS MURPHY
 Address MOAB UTAH

(2) LOCATION OF WELL:
 County GRAND Ground Water Basin _____
 North 35 feet, 1627.9 feet from S 1/4 Corner
 West _____
 of Section 35, T. 26, S. R. 22 E SLBM (strike
 out words not needed)

(3) NATURE OF WORK (check): New Well
 Replacement Well Deepening Repair Abandon
 If abandonment, describe material and procedure: _____

(4) NATURE OF USE (check):
 Domestic Industrial Municipal Stockwater
 Irrigation Mining Other Test Well

(5) TYPE OF CONSTRUCTION (check):
 Rotary Dug Jetted
 Cable Driven Bored

(6) CASING SCHEDULE: Threaded Welded
1 1/2" Diam. from 0 feet to 210 feet Gage 5/16"
 _____" Diam. from _____ feet to _____ feet Gage _____
 _____" Diam. from _____ feet to _____ feet Gage _____
 New Reject Used

(7) PERFORATIONS: Perforated? Yes No
 Type of perforator used MILLS
 Size of perforations 5/16 inches by 3 inches
450 perforations from 170 feet to 205 feet
 _____ perforations from _____ feet to _____ feet

(8) SCREENS: Well screen installed? Yes No
 Manufacturer's Name _____
 Type _____ Model No. _____
 Diam. _____ Slot size _____ Set from _____ ft. to _____
 Diam. _____ Slot size _____ Set from _____ ft. to _____

(9) CONSTRUCTION:
 Was well gravel packed? Yes No Size of gravel: _____
 Gravel placed from _____ feet to _____ feet
 Was a surface seal provided? Yes No
 To what depth? _____ feet
 Material used in seal: _____
 Did any strata contain unusable water? Yes No
 Type of water: _____ Depth of strata _____
 Method of sealing strata off: _____

(10) WATER LEVELS:
 Static level 140 feet below land surface Date 10-14-61
 Artesian pressure _____ feet above land surface Date _____

(11) FLOWING WELL:
 Controlled by (check) Valve
 Cap Plug No Control
 Does well leak around casing? Yes No

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
 Was a pump test made? Yes No If so, by whom? RHODES BROS.
 Yield: 700 gal./min. with 50 feet drawdown after 9 hours
 " " " " " "
 " " " " " "
 Bailer test _____ gal./min. with _____ feet drawdown after _____ hours
 Artesian flow _____ g.p.m. Date 10-16-61
 Temperature of water 58 Was a chemical analysis made? No Yes

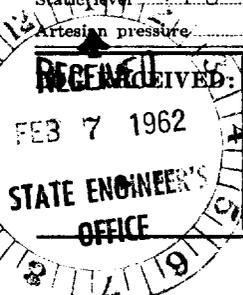
(13) WELL LOG: Diameter of well 16 inches
 Depth drilled 210 feet. Depth of completed well 210 feet.
 NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH		MATERIAL										REMARKS
From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	
0	145					X	X					
145	155				X							WATER - BRN.
155	160	X										RED
160	210				X							WATER - RED

Work started 9-18, 1961. Completed 10-14, 1961

(14) PUMP:
 Manufacturer's Name _____
 Type _____ H. P. _____
 Depth to pump or bowles _____ feet

Well Driller's Statement:
 This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
 Name Zimmerman Drilling (Type or print)
 Address Moab Utah
 (Signed) John L. Zimmerman (Well Driller)
 License No. 55 Date 12-26, 1961



TITLE CHANGE

0 - 350'
Minimum 14 3/4" borehole

0 - 40'
Sanitary seal

1.5' agl to
170' bgl
10" Steel casing

40' - 45'
Bentonite hole plug

100' Estimated
water level

45' - 350'
8-20 sand filter pack

Method of drilling up to the driller but the annular space must be at least 4" larger than the outside diameter of the casing and large enough to accommodate a tremie pipe capable of reaching the bottom of the well. If casing advance method used, casing will need to be pulled back simultaneously with installation of filter pack.

Well construction diagram is a rough guide, actual well construction will be dependent on local geology, hydrology, and drilling conditions. Hole size can be dependent on the tooling of the selected contractor but must be drilled to at least 14 3/4" and will be constructed in accordance with all Utah Codes pertaining to Water Well Construction Requirements R655-4.

170' - 200'
10" 0.01" Stainless steel
wire wrapped screen

200' - 220'
10" Steel casing

220' - 240'
10" 0.01" Stainless steel
wire wrapped screen

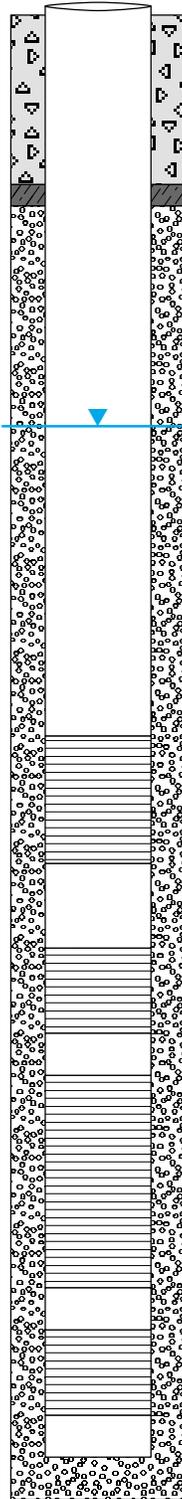
240' - 250'
10" steel casing (pump chamber)

250' - 300'
10" Stainless steel
wire wrapped screen

300' - 310'
10" steel casing (pump chamber)

310' - 330'
10" Stainless steel
wire wrapped screen

330' - 340'
10" Steel casing sump



-  Wire wrapped screen
-  Steel well case
-  Neat cement
-  8-20 sand filter pack
-  Bentonite hole plug

Proposed Well Construction Diagram for Grand Water & Sewer Service Agency New Irrigation Well

Vertical Scale: 1 inch equals 45 feet

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Project Manager:
John Files

Date: March 2021

