D.3 SUPPLEMENTAL CONDITIONS

Of the Agreement

Laguna Avenue and Santa Teresa Boulevard
Water Well Replacement Project

Santa Clara County APNs 712-18-020/021
Morgan Hill, CA 95037

July 15, 2022

Supplemental Conditions

Purpose

The Santa Clara Valley Open Space Authority (Authority) intends to manage the 60-acre project site for agriculture and currently plans to lease it to grow organic vegetable crops. Currently one irrigation well exists on the property, circa pre-1950's construction (its location shown in **Attachment 2, Plate 1**). The 135-foot deep well has a 14-inch diameter steel casing with "Mills Knife" perforations and a 25HP Gould's pump. Following a video log of the well and its condition inspected, the Authority has decided to destroy the well and install a new well. Heavy mineral incrustation was observed throughout the depth of the well below the water level and the pump was corroded and electrically damaged. Debris was also observed near the bottom of the well. The Authority is implementing a water-well replacement project (Project), which proposes to a) destroy the old well, b) construct a new water well near old well (**Plate 2 schematic**), and c) install of a pump and accessories. Technical specifications are indicated in **Attachment 1,** Supplemental Conditions.

1. LOCATION AND SITE CONDITIONS

Existing Well site is located on APNs 712-18-020/021, Morgan Hill.

2. WORK COVERED BY CONTRACT DOCUMENTS

Work includes the furnishing of all materials, labor, equipment, fuel, tools, transportation, and services for drilling, construction, development, testing, and completion of a water supply well as described in these specifications including all tasks described in B.1 above.

ATTACHMENT 1 – TECHNICAL SPECIFICATIONS

LAGUNA AVE AND SANTA TERESA BLVD WATER WELL REPLACEMENT PROJECT

1.01 – MOBILIZATION (BID ITEM NO. 1).

Mobilization shall consist of all preparatory work and materials necessary for construction operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; control of water; site leveling; and all other facilities necessary for work on the project and for all other work and operations which must be performed, or cost incurred prior to beginning work on the various Contract items on the project site.

The Contractor shall provide a complete drilling unit, all tools, accessories, power, fuel, materials, supplies, lighting, tanks, piping, and other equipment and experienced personnel necessary to conduct efficient drilling operations. Contractor shall supply sanitation facilities for use of his personnel. The drilling unit shall be in good condition and of such capacity as to drill the hole and complete a well as required by these Specifications to a depth of approximately 400 feet.

Mobilization shall also include attendance of the all project personnel for the preconstruction meeting. Contractor shall contact Underground Service Alert (USA) at least 48-hours prior to mobilization.

- Payment for mobilization shall be made at the lump sum price bid for ***"Mobilization", Bid Item No. 1***.

1.02 – WELL PERMIT (BID ITEM NO. 2).

The Contractor is responsible for obtaining permits from Valley Water and Santa Clara County Health Department, Environmental Health Division (EHD) prior to mobilization to the site. A permit is required for the destruction of the old well and also for the construction of the new well. The Contractor is also responsible for compliance with all permit conditions, including preparation and submittal of permit compliance documentation (including DWR Well Completion Report).

- Payment for the well permits shall be made at the lump sum price for ***"Well Permit" - Bid Item No. 2***.

1.03 – DESTROY OLD WELL (BID ITEM NO. 3).

The Contractor shall destroy the old well per Valley Water, Santa Clara County of Environmental Health Department, and California Department of Water Resources regulations and comply with all condition of the permit(s).

- Payment for the destruction of the old well shall be made at the lump sum price for ***"Well Permit" - Bid Item No. 3***.

1.04 – PILOT BORING DRILLING (BID ITEM NO. 4).

The Contractor shall drill a pilot bore (9-inch nominal) to a depth of 400 feet below ground surface. The stability of the near surface materials is the responsibility of the Contractor. The Contractor may opt to use a shallow temporary conductor for convenience. The pilot bore may be drilled by either direct or reverse-rotary rotary drilling method. Drilling with compressed air is preferred by Owner. If drilling with fluid is required based on site conditions, then the drilling fluid may be either polymer based or a clay-based bentonite system. The Contractor's fluid system shall be capable of removing solids and conditioning the fluids prior to re-circulation down the hole. The fluid system shall be described at the pre-construction meeting and is subject to OTR approval prior to mobilization.

The Contractor must always provide at the drilling site Standard API measurement devices in proper working order to determine the following drilling fluid properties:

- Drilling fluid weight
- Drilling fluid viscosity
- Drilling fluid sand content
- 30-minute water loss/filter cake (not applicable for polymer based fluid systems).

The above properties of the drilling fluid entering the mud pump or leaving the circulation tank must be recorded by the contractor at a minimum of 20-foot intervals during the drilling of the pilot hole. The drilling fluid shall have the following properties:

- Weight - a maximum of 9.0 pounds per gallon during all aspects of drilling.
- Marsh Funnel Viscosity – a maximum of 40 seconds during all aspects of drilling.
- Sand Content - a maximum of two percent by volume during all aspects of drilling.
- Water Loss - a maximum of 10 ml. Wall cake thickness shall be no greater than 3/32-inch.

The Contractor must record and provide the following information for the well:

- A log of drilling bit types and depths at which drill bit changes are made.
- A log of the cuttings, providing the depths and descriptions of the earth materials encountered. The Contractor shall collect cutting samples at 10-foot intervals during the drilling of the pilot boring. Samples shall be placed in "zip-lock" plastic bags and labeled with well name, sample depth interval, and date.

All measurements for depths shall be referenced to existing ground surface at the well site. All drilling records shall be delivered to the OTR upon completion of the well.

Contractor must follow State and County requirements for borehole abandonment.

- Payment for the pilot bore drilling shall be made at the unit price bid per linear foot for ***"Pilot Bore Drilling" - Bid Item No. 4***.

- After review of the cuttings samples of the pilot bore, the OTR may opt to require additional pilot bore drilling. As part of the Contractor's bid, a linear foot cost for additional pilot bore drilling shall be provided (***"Additional Pilot Bore Drilling" - Bid Item No. 4a***.)

1.05 – GEOPHYSICAL LOGGING (BID ITEM NO. 5).

The Contractor shall furnish a geophysical log of the pilot bore and shall assist with the geophysical logging as necessary. The geophysical log shall include the following surveys: spontaneous potential and 16- and 64-inch resistivity surveys; and a natural gamma survey. Two field and two final paper copies of the geophysical log shall be provided. In addition, the geophysical log shall be provided in both LAS and Adobe PDF format on either a portable memory device or on Compact Disc.

If the logging probe fails to descend to the desired depth, the Contractor, at his own expense, shall condition the hole to permit the logging probe to descend to the bottom of the hole.

- Payment for the geophysical log shall be made at the lump sum price for ***"Geophysical Logging" - Bid Item No. 5***.

1.06 – BOREHOLE REAMING (BID ITEM NO. 6A and 6B)

The Contractor shall ream the pilot hole to provide a 3-inch-diameter annulus (minimum) across the entire depth of the seal (per State, County, and Valley Water regulations for a potable water source). For bidding purposes, reaming shall provide a 22-inch diameter bore to a depth of 60 feet. The remainder of the pilot hole from the bottom of the seal to the bottom of the pilot hole shall be reamed to provide a 2-inch-diameter annulus (minimum) for the gravel pack. For bidding purposes, reaming shall provide a 20-inch diameter bore from a depth of 60 feet to 300 feet bgs (240 ft). The reaming schedule is shown in Table 1:

Table 1: Reaming Schedule

Quantity (Linear Feet)	Item	Bid Item No.
60	BOREHOLE REAMING, 3-INCH-DIAMETER ANNULUS (SEAL)	6a
240	BOREHOLE REAMING, 2-INCH DIAMETER ANNULUS (GRAVEL PACK)	6b

- Payment for the borehole reaming shall be made at the unit price bid per linear foot for ***"3-Inch-Diameter Annulus - Bid Item No. 6a and 2-Inch-Diameter Annulus - Bid Item No. 6b"***

1.07 – WELL CASINGS AND SCREENS (BID ITEM NOS. 6A and 6B)

The Contractor shall furnish all materials and work necessary to manufacture, deliver, and install the blank well casing and the well screen with end cap, as listed in the table below and shown on **Plate 2**. The casing shall consist of 16-inch diameter steel casing. The casing schedule is shown in Table 1:

Table 2: Casing Schedule

Quantity (Linear Feet)	Item	Bid Item No.
220	16-INCH-DIAMETER, MILD STEEL BLANK CASING	7a
80	16-INCH-DIAMETER, WIRE-WRAP SCREEN, 0.032-INCH APERTURE SIZE	7b

Blank casing or screen shall not be subjected to excessive stress during installation and shall not be driven into place. The casing and screen shall be plumb and shall be centered in the hole. Casing centralizers shall be attached to top and bottom of screened intervals and at intervals of not more than 60 feet in blank casing. The casing shall be suspended in tension from the surface by means of an appropriate hanger or clamp. The bottom of the casing shall be at a sufficient distance above the bottom of the reamed hole to ensure that none of the casing will be supported from the bottom of the hole.

If, for any reason, the casing cannot be landed in the correct position or at a depth acceptable to the OTR, or any portion of the casing should collapse prior to well completion, the Contractor shall remove the casing from the borehole, perform a wiper run, and reinstall the casing to the desired depth. Should it not be possible to install the casing in the borehole after the wiper run, the Contractor shall construct another well immediately adjacent to the original location and complete this well in accordance with the specifications at no additional cost. The abandoned hole shall be sealed in accordance with directions from the OTR and in accordance with any laws pertaining to proper well destruction (California Water Well Standards Bulletins 74-81 and 74-90). All work required to be repeated and all additional materials, labor, and equipment required, shall be furnished at the expense of the Contractor and no claim for additional compensation shall be made or be allowed, except as specifically provided herein.

- Payment for the well casing and screens, and installation of the well casing and screens, shall be made at the unit price bid per linear foot for ***"16-Inch-Diameter Mild Steel Blank Well Casing - Bid Item No. 7a and 16-Inch-Diameter Wire-Wrap Screen - Bid Item No. 7b"***

1.08 – GRAVEL PACK (BID ITEM NO. 8).

Gravel pack shall be installed in the annulus between the depths 60 feet and to the bottom of the well. All gravel or coarse-grained sand for packing shall be hard, water worn, and washed clean of silt, fine sand, clay, and foreign matter. Gravel pack shall be provided by Silica Resources, RMC, or an approved equal. An approximate 8 x 16 gradation shall be used. The gravel pack material proposed for use by the Contractor shall be subject to the approval of the OTR prior to delivery to the site. The gravel pack material, if stockpiled at the well site, shall be in bags, supersacks, or otherwise protected and kept free of all foreign matter.

Prior to placement of the gravel pack in the well, the drilling fluid shall be thinned and balanced. Gravel shall be installed in the annular space between the reamed hole and the well screen through a construction tremie pipe. During placement of the gravel, disinfectant (e.g., sodium hypochlorite) shall be added to the gravel at a uniform rate and in accordance with DWR Bulletin 74-81. Fluids displaced from the well casing and annulus during gravel packing operations shall controlled and directed to on-site disposal area. The final depth to the top of the gravel pack shall be verified by measurement with a sounding line, or other method acceptable to the OTR.

After placement of the gravel pack, 2-feet of bentonite pellets (Hole-Plug) shall be placed on top of gravel pack. Cost for bentonite seal will be included in "Gravel Pack."

- Payment for the gravel pack shall be made at the unit price bid per linear-foot for ***"Gravel Pack" - Bid Item No. 8.***

1.09 – CEMENT GROUT (BID ITEM NO. 9).

A cement grout annular seal for the well shall be provided between the ground surface and a depth of 60 feet. Cement grout shall be composed of not more than 3 cubic feet of sand and 1 cubic foot (one sack) of Portland cement to 5 to 7 gallons (0.67 to 0.90 cubic feet) of clean water. This is typically considered to be a 10-sack Portland cement sand slurry mix when ordered from batching plants. **Contractor is encouraged to add retardant and/or bentonite (up to 5%) to sealing material to reduce the heat of hydration. Contractor is also encouraged to keep casing full of fluid during sealing operations and curing. Risk of casing collapse will be borne solely by Contractor.**

Cement grout shall be placed in the annular space between the well casing and borehole from bottom to top by means of a tremie pipe. Cement grout material shall be placed by the positive displacement pumping method. Grout shall be placed from bottom to top in one continuous operation. Fluids displaced from the annulus during sealing operations shall be contained directed to on-site disposal area

Sealing materials and sealing operations shall be in compliance with DWR Standards, Valley Water, and Santa Clara County EHD permit conditions.

- Payment for cement grout shall be made at the unit price bid for ***"Cement Grout" - Bid Item No. 9.***

1.10 – WELL DEVELOPMENT (BID ITEM NO. 10)

The completed well shall be developed by air-lifting. Airlift pumping and swabbing shall be performed throughout the entire length of the well screen, until water produced within each airlift depth interval is relatively clear. For bidding purposes, the Contractor shall assume 4 hours of swabbing and airlift pumping.

- Payment for well development shall be made at an hourly rate for: ***"Well Development, Swabbing/Airlifting" - Bid Item No. 10"***. Payment for additional development shall be made at the unit bid price.

1.11 – SITE CLEANUP (BID ITEM NO. 11)

The Contractor shall keep the premises free from accumulations of waste materials, rubbish, and other debris resulting from the work. At completion of the work at each of the five construction sites, the Contractor shall remove all waste materials, rubbish, and debris from and about the well site as well as all tools, construction equipment, fuel tanks, machinery, and surplus materials. The Contractor shall also restore the pre-existing grade at each of the five construction sites. The OTR will be the sole judge who determines when clean up efforts can be considered to be sufficient and complete.

- Payment for site cleanup shall be made at the lump sum price for ***"Site Cleanup" - Bid Item No. 11.***

1.12 – STANDBY TIME (BID ITEM NO. 12)

During the progress of drilling operations, it may be necessary for the OTR to perform work that will require the drilling crew and equipment to stand idle. In such event, the OTR shall request the Contractor in writing to cease operations and shall state the anticipated extent or duration thereof. The Contractor shall promptly furnish such assistance and cease operations. For bidding purposes, the Contractor shall assume 8 hours of standby time.

- Payment for standby time will be paid on an hourly rate for ***"Standby Time, Bid Item 12"***, in accordance with the actual hours approved by the OTR. In no case shall standby time be approved for Contractor equipment failures or delays caused by waiting for Contractor's equipment or materials deliveries.

1.13 – PUMP AND ACCESSORIES (BID ITEM NO. 13)

Contractor shall provide specifications for approval by OSA and install a pump, downpipe, pump saver, wires, controls, and well cap. Minimum capacity of the water system at each well shall be 600 gallons per day. Power will be supplied from the electrical grid existing to the old well.

- Payment for site cleanup shall be made at the lump sum price for ***"Pump and accessories" - Bid Item No. 13.***

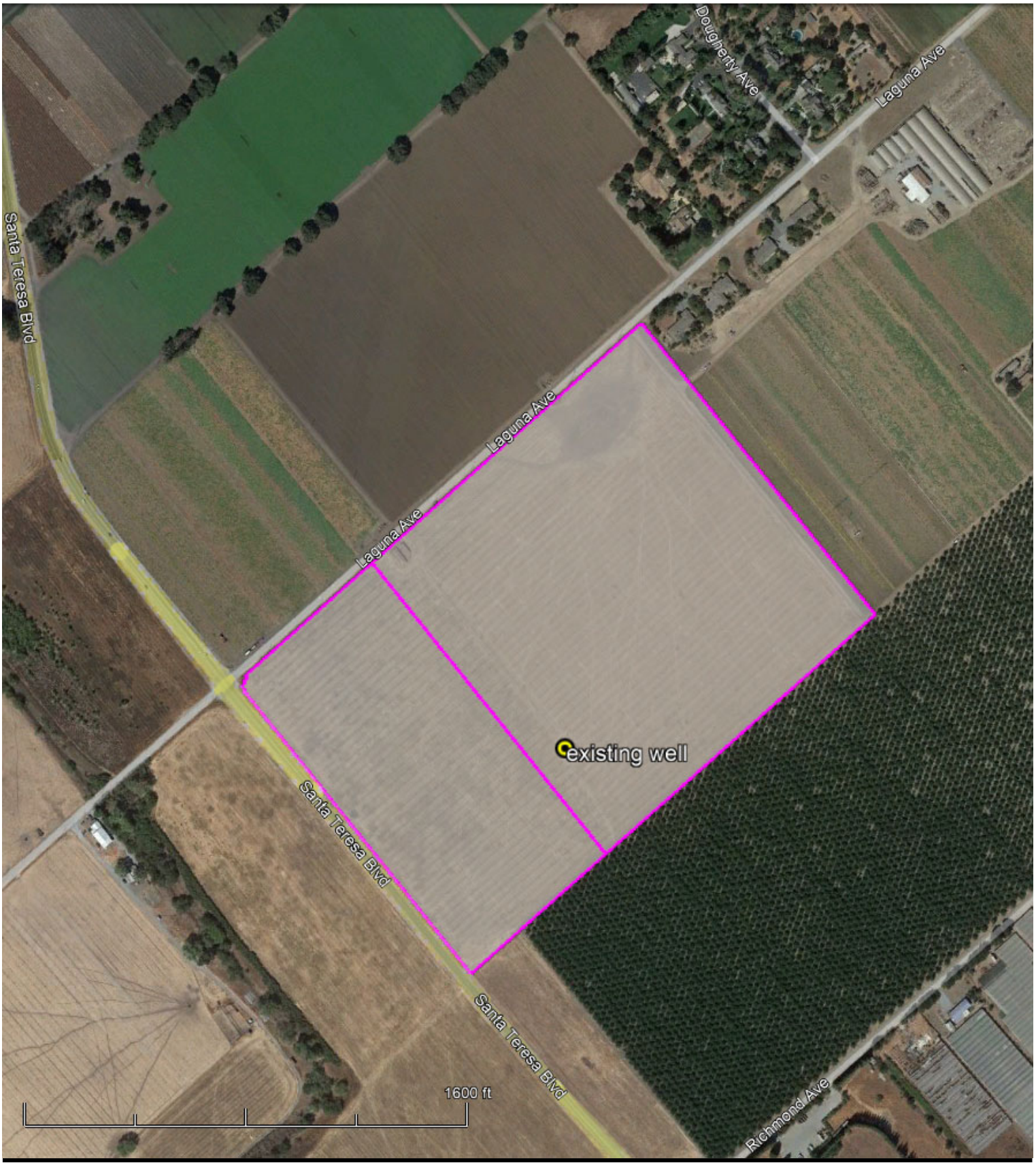
1.14 –ACCEPTANCE OF WORK (BID ITEM NO. 14)

Acceptance of the work by the owner shall be conditioned on the following criteria:

1) Ability to install and remove appropriately sized pump to depth of 200 feet without restriction.
2) Accepted closure of well permits.
3) Site is cleaned up as described in Section 1.11 above.

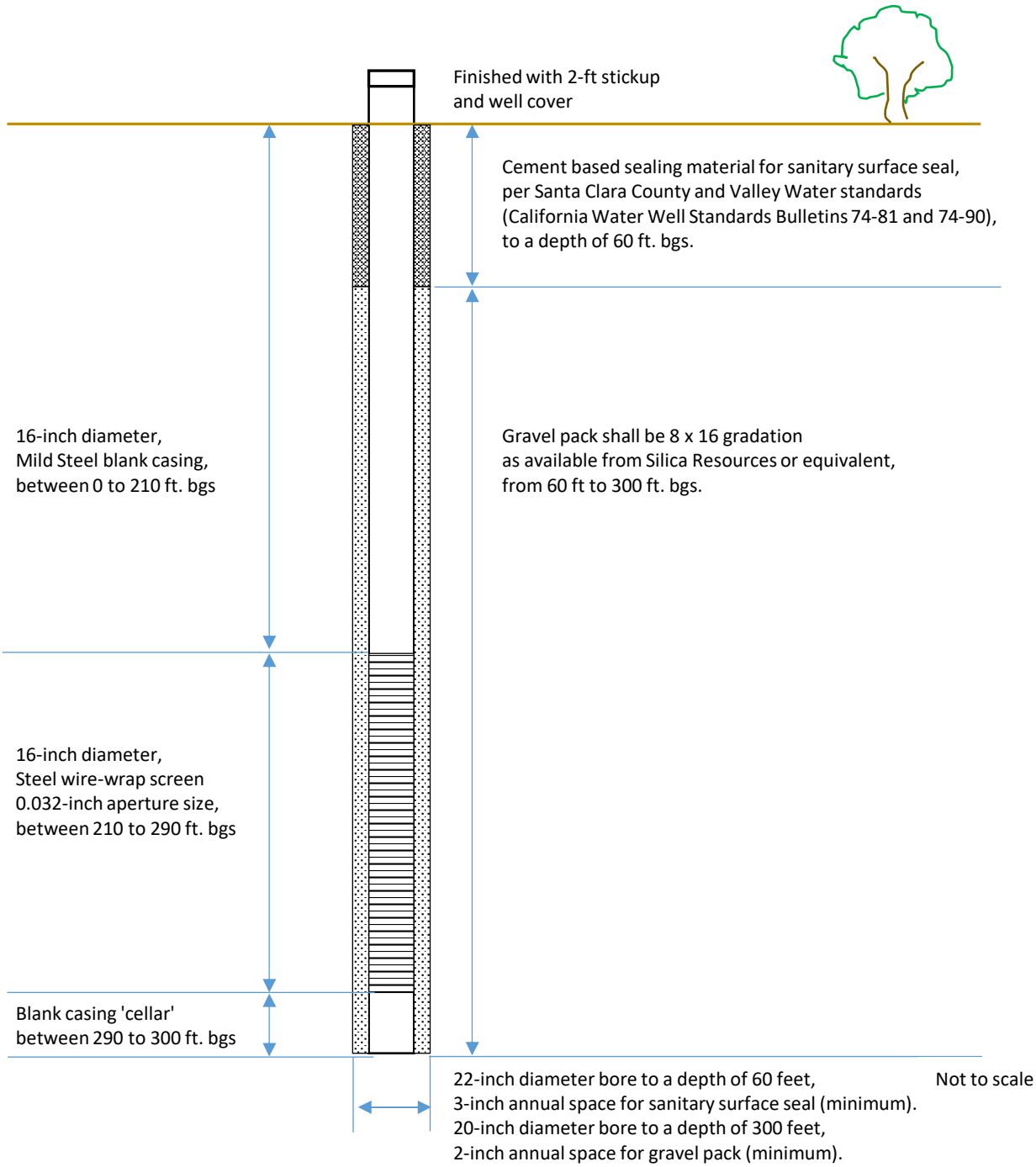
At discretion of OTR, the successful installation and removal of test pump can be used to comply with condition 1 above.

- Well acceptance activities will be paid as a lump sum under ***"Well Acceptance, Bid Item 14"***.



Balance Hydrologics

Plate 1. Location of existing well on Santa Clara County Open Space Authority's project site APNs 712-18-020/021, Morgan Hill, CA.
Note: Existing well is to be destroyed and replaced per specifications proposed in RFP.



Notes:
1) Casing and screen shall be solvent welded, and centered within the borehole using centralizers.
2) Tentative design. Final design to be modified by California Professional Geologist based on conditions observed during drilling.

Balance Hydrologics

Plate 2. Schematic of new well
Located at APN 712-180-20/21, Laguna Ave and Santa Teresa Blvd,
Morgan Hill, California