



LAKE SHASTINA COMMUNITY SERVICES DISTRICT

REQUEST FOR PROPOSALS (RFP)
FOR
WELL DRILLING SERVICES FOR NEW WATER WELL No. 10

Lake Shastina Community Services District (District)
Attn: Robert Moser, Public Works Supervisor
16320 Everhart Drive
Weed, CA 96094
robert@lakeshastina.com

KEY RFP DATES (Subject to change at discretion of the District):

Issue Date:	<u>September 12, 2018</u>
District Project Manager:	<u>Robert Moser, Public Works Supervisor</u>
Letter of Intent:	<u>September 26, 2018</u>
Pre-Proposal Meeting (optional):	<u>Will be notified if applicable.</u>
Deadline for Requests for Information:	<u>October 5, 2018</u>
Proposal Due Date:	<u>October 10, 2018, 3:00 p.m.</u>
Presentation / Interviews (optional):	<u>Will be notified if applicable.</u>
Anticipated Project Award Date:	<u>October 18, 2018</u>
Anticipated Project Completion:	<u>December 31, 2018</u>

**ATTENTION: CONTRACTORS AND SUBCONTRACTORS MANDATORY
REQUIREMENT for
DEPARTMENT OF INDUSTRIAL RELATIONS REGISTRATION**

Contractors and subcontractors are required to be registered with the Department of Industrial Relations in order to 1) submit a bid or be listed on a bid for a public works project, or 2) work on a public works project awarded on or after April 1, 2015.

Application Process

Registration and renewal costs with DIR are \$400 and covers the fiscal year (July 1st – June 30th). Credit card payments can be processed within 24 hours, while other forms of payment may delay registration for up to eight weeks.

It is the Contractors responsibility to keep registration current with DIR. If the contractor is found to be out of compliance with DIR it is at BCVWD's discretion

- [Activate or renew your contractor registration](#)
 - [Instructions for completing the contractor registration and renewal application](#)
 - [Contractor registration training video](#)

- [Frequently Asked Questions](#)

Who is required to register? Any Contractor or Subcontractor who bids on or performs work that requires the payment of prevailing wages under state law must be registered with DIR. This includes not only work performed by the building and construction trades, but also other types of work, including trucking, surveying, and testing, if that work is subject to prevailing wage requirements.

To be eligible Contractors and Subcontractors must:

- Be in good legal standing with no outstanding judgments or liens owed to workers or to the State of California.
- Not be [debarred from doing public works](#) by the United States Department of Labor or any state that has public works debarment laws.
- Have a California Contractors State License if one is required (non-construction contractors must provide their professional license number if one exists for their profession).
-

To learn more about Public Works Contractor Registration, please read the [Public Works Reforms \(SB 854\) fact sheet](#) and the [frequently asked questions](#). If you have additional questions about contractor registration, please [contact DIR](#) for assistance.

**NOTICE INVITING
PROPOSALS**

NOTICE IS HEREBY GIVEN that proposals will be received from qualified Well Drillers for a New Water Well No. 10.

Responses to this Request for Proposal (RFP) will be accepted until October 10, 2018 at 3:00 p.m. Proposals received after this date/time will not be considered and will be returned unopened. It is the responsibility of the proposer to ensure that any proposals submitted have sufficient time to be received by the Lake Shastina Community Services District (District) prior to this proposal due date and time.

Proposals shall be enclosed in a sealed envelope and marked clearly with following information, formatted as follows:

"SEALED PROPOSAL FOR
WELL DRILLING SERVICES FOR NEW WATER WELL No. 10
DO NOT OPEN WITH REGULAR MAIL."

Lake Shatin Community Services District
Attn: **Robert Moser**
16320 Everhart Drive
Weed CA 96094

Proposals shall be mailed, hand delivered, or sent by courier service.

Proposals shall NOT be sent via telegraphic, electronic or facsimile.

All notifications, updates and addenda will be posted on the District's website <http://www.lakeshastina.com.html>. Proposers shall be responsible for monitoring the site to obtain information regarding this solicitation. Failure to respond to required updates may result in a determination of a nonresponsive proposal.

LETTER OF INTENT: Interested firms shall submit a Letter of Intent of their pending proposal to the noted Project Manager by the required date as shown on the cover page of this RFP. Letters shall be forwarded via certified mail or email. The purpose of the Letter of Intent is to provide point of contact information between the District Project Manager and the proposed bidder.

District's regular office hours are 8 a.m. to 4:30 p.m., Monday – Friday.

LAKE SHASTINA COMMUNITY SERVICES DISTRICT

REQUEST FOR PROPOSAL

WELL DRILLING SERVICES FOR NEW WATER WELL No. 10

NOTICE TO PROPOSERS / PROPOSAL SUBMITTAL INSTRUCTIONS

1. **DUE DATE AND TIME:** Proposals for construction of New Water Well No. 10, as described herein, will be received by the District until date and time shown on "Notice of Inviting Proposals". Any changes to this RFP are invalid unless specifically modified by District and issued as a separate addendum document. Should there be any question as to changes to the content of this document; the District's copy shall prevail. It is the Proposer's sole responsibility to ensure that their proposal, inclusive of any or all addenda, is received by the District at the stated time and place. Any proposal received after the scheduled closing time for receipt of proposals will not be considered and will remain unopened.
2. Proposals must be submitted to the District as set forth in this Request for Proposal document. Unless otherwise specified, proposals submitted by any other method than that set forth herein will be disqualified.

SECTION I – PROJECT INTRODUCTION AND OVERVIEW

A. Purpose of Request for Proposal:

The District is currently seeking proposals from qualified well drillers. The services would include the work described hereafter as: Scope of Work and Technical Specifications.

The District has currently budgeted for up to one (1) new well location for a new municipal well and the intent of this proposal is to provide well drilling services related to one (1) budgeted well. Based upon the District's production wells in the area, District staff identifies that the anticipated well yield could produce sustainable flow rates ranging from 1,000 to 2,000 gallons per minute (GPM). Based upon District production wells in the area, the District staff identifies that the water quality constituent concentrations are typically within the limits of acceptable California Drinking Water Standards.

The proposed one (1) new well identified within this Request for Proposal (RFP) will be designed for use as production well to supplement the District's water supply and said Well location are generally as follows:

1. Proposed Well 10: District property located approximately 65 feet northeast of Big Springs Road 125 feet east of the Lake Shore Drive intersection approximately 5.1 miles north of State Route 97 in Siskiyou County, CA. (See Location Map, Exhibit A, Attachment 2)

The District will select a qualified firm to perform the required services for Well No. 10 generally based upon their qualified expertise, project understanding, and price and in accordance with the requirements set forth within this Request for Proposal.

It is the intent of the District to receive responses to the RFP and, if appropriate, conduct individual

interviews to select a firm which, in the opinion of the District, is best suited to perform the required services. The purpose of this RFP therefore, is to provide the District with the information necessary to select the most qualified firm while obtaining the best price for the requested services.

B. Project Specific Dates:

Table 1 hereafter identifies the project specific estimated dates/time frame for receipt, evaluation, and award of the work specified in this RFP. Please note the following key dates, which are referenced on cover page, when preparing your response to this RFP.

Table 1 – Project Specific Dates

KEY RFP DATES (Subject to change at discretion of the District):

Issue Date:	<u>September 12, 2018</u>
District Project Manager:	<u>Robert Moser, Public Works Supervisor</u>
Letter of Intent:	<u>September 26, 2018</u>
Pre-Proposal Meeting (optional):	<u>Will be notified if applicable.</u>
Deadline for Requests for Information:	<u>October 5, 2018</u>
Proposal Due Date:	<u>October 10, 2018, 3:00 p.m.</u>
Presentation / Interviews (optional):	<u>Will be notified if applicable.</u>
Anticipated Projected Award Date:	<u>October 18, 2018</u>
Anticipated Project Completion:	<u>December 31, 2018</u>

C. Selection Criteria:

The Criteria for firm selection will be based on, but not limited to, the following:

1. Firm’s Qualifications and Experience with Well Drilling Services of municipal production wells of the size and configuration specified herein.
2. Experience and qualifications of personnel assigned to perform the work.
3. Technical approach and understanding, preparation of project specific plans and specifications for construction of municipal production and/or monitoring wells in accordance to State of California Requirements as well as District Standard Specifications.
4. Fee and Payment Terms.
5. Exceptions Taken to RFP and Sample Agreement (attached).
6. Location of Consultant (i.e. proximity to District Sphere of Influence).

D. Evaluation and Selection Process:

1. Submittal Review: A committee will review and evaluate each submittal to determine if it meets the RFP requirements. Failure to meet the requirements set forth in the RFP will be cause for eliminating the proposer from further consideration.
2. The technical proposals will be evaluated and ranked by a selection committee. The selection

committee will establish the ranking order. The District will negotiate with the top ranked firm, if deemed necessary by the selection committee. If agreement cannot be reached with the number one ranked firm, then the negotiations will be terminated, and the firm will be informed in writing. The number two ranked firm will then be invited to enter the negotiations process.

3. The committee may interview the top-ranking proposers. The District reserves the right to begin negotiations and enter into an agreement without interview or further discussions.

Description of Work	Weight of Score
Past performance and qualifications of the team members on similar projects	25%
Familiarity with capacity to handle all aspects of the work	20%
Ability to complete the project within the proposed time frame	15%
The proposed project approach, scope, manner, and thoroughness in which it is presented in the proposal	20%
Firm's experience, staff availability, stability, financial responsibility, and past performance on similar projects	20%

4. Short List: The selected candidates may be short listed to further refine the selection process.
5. The District reserves the right to, at their sole discretion, qualify and select the most qualified firm during the selection process or alternatively through the short list process, conducting interviews to determine the most suitable candidate.

SECTION II – PROPOSAL REQUIREMENTS

The emphasis of the proposal should be on responding to the requirements set forth herein. In addition, proposers need to demonstrate their capabilities, background, expertise, etc. for the District to effectively evaluate the proposals, and award to the company that provides the best value to the District based on the selection criteria in Section I. The Proposal should include, at a minimum, the following information:

A. Cover Letter:

B. **Executive Summary**: to include a brief summary of the firm's origin, background, and size of the company, an organizational chart, the overall capabilities of the organization, appropriate licenses and certifications, and proximity of company's resources to the District's offices and facilities.

C. General Requirements:

The proposal should include the following:

1. An understanding of the project and approach to accomplish the work in a timely and acceptable manner.
2. A detailed description of the services to be provided based on the consultant's understanding of the project scope.
3. A detailed work schedule for all work and time frame for items of work.

4. The individual who will have overall responsibility for the project shall be the Contract Manager.
5. A resume of the key people who will be working on this project, including specifics of experience on similar projects.
6. Three (3) hardcopies of the proposal shall be submitted to the District.

D. Statement of Qualifications:

1. Qualifications and Experience (Firm and Personnel) – a description of the company's expertise related to services requested and a full discussion of the company's recent experience directly related to providing Well Drilling Services. For the size and scope herein provide resumes of key people to address experience and qualifications, educational background, and skills.
2. Knowledge and experience of hydro-geologic conditions within the Shasta Valley Groundwater Basin and nearby groundwater basins.
3. Availability – Briefly describe your firm's and personnel's ability to meet the District's needs in a consistent and timely manner.
4. References (Exhibit A) – list three (3) former municipal (preferred) or private clients for whom comparable services have been performed within the last five years. Include the name, mailing address, telephone number, and email address of each client's principal representative.
5. List of Subcontractors (Exhibit B) – a description of any subcontract arrangements that would be utilized for this discipline of work. Include a full description of the subcontractor's experience and personnel.

E. Vendor Business Information (Exhibit C):

- F. **Additions, Deletions and/or Exceptions (Exhibit E):** compliance with the District's contractual terms and/or RFP requirements. The Proposer shall note any additions, deletions and/or exceptions to the contractual terms and/or RFP requirements. If there are no exceptions taken, please note in the form: "There are none".

- G. **Project Fee Proposal (Included in a separate sealed envelope clearly labeled "Project Fee Proposal"):** said fee schedule shall include hourly rates; rates for all sub-consultants, and percentage markup of reimbursable expenses, if any shall be included. The rates shall be valid for the term of the contract. In the Project Fee Proposal, include the following information:

1. A detailed man-hour estimate by personnel classification for the major portions of the work broken down through each of the task, milestone reports and/or plans.
2. Fees for any subcontractors.
3. A total not-to-exceed fee estimate based on services outlined in Scope of Work.
4. The method of compensation shall be based on a time and expense basis subject to a not-to-exceed amount for the effort to complete the project.

The District reserves the right to withhold award of contract for a period of ninety (90) days following RFP

opening. All proposals received are considered firm for that 90-day period.

A contract incorporating the terms and conditions contained herein will be sent to the successful Proposer. Any additional terms and conditions requested or comments by Proposer must be submitted with the proposal (Section II.A.6.: Additions, Deletions and/or Exceptions) and will be considered as part of the selection/negotiation process.

Any questions as to the meaning of the scope of work and/or technical specifications or other pre-proposal documents must be submitted in writing and shall be directed to Robert Moser at (530) 938-3281, robert@lakeshastina.com, who will provide instructions for submitting requests. All such interpretations and any supplemental instructions will be sent to all prospective Proposers not later than that date set forth on Section I.C. "Project Specific Dates". All addenda so issued shall become part of the contract documents. Under no circumstances may the Proposer contact any other department or individual for clarification or interpretation of any requirements herein.

The District reserves the right to reject any or all proposals, either separately or as a whole and to waive any informality in a proposal or to accept any proposal presented which it deems best suited to the interest of the District and is not to be bound to accept the lowest price.

The cost for developing the proposal is the sole responsibility of the Proposer. All proposals submitted become the property of the District. If any pages are deemed as classified or proprietary those pages should be individually marked confidential or proprietary.

At the time of the opening of proposals each Proposer shall be presumed to have read and be thoroughly familiar with the RFP and proposal requirements (including all Addenda).

Be advised that all information contained in proposals submitted in response to this solicitation may be subject to the California Public Records Act (Government Code Section 6250 et seq.), and information's use and disclosure are governed by this Act.

SECTION III – SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

SCOPE OF WORK

1. Contractor agrees to provide to the Lake Shastina Community Services District (LSCSD) well drilling services as described herein:

Contractor shall provide all materials, labor, equipment, tools, licenses, permits, services, taxes, and fees necessary to install one (1) 14-inch-diameter domestic water production well to an estimated depth of 230 feet which includes a 10-foot sump; to log the well boring; install steel casing including up to 140 feet of slotted casing or well screen in the completed well boring; install a sanitary seal to a minimum depth of 50 feet below the land surface or to greater a depth required by conditions encountered in the well; install a suitable well riser (18-inch above grade minimum) on the completed well; and to adequately disinfect the groundwater in the completed well.

The District will be responsible for pre-marking and notifying Underground Service Alert a minimum of 48 hours prior to any drilling work.

All work must be completed in accordance with the applicable standards of the American Water Works Association (AWWA), California Well Standards Bulletins 74-81 and 74-90, California Division of Drinking Water, and Siskiyou County Health Division.

A yield of thirteen hundred (1,300) gallons per minute is being sought. However, obtaining this quantity is not a condition for acceptance of the work, provided good well construction practices have been followed. The well boring shall be drilled no deeper than the estimated depth specified. If a satisfactory yield is obtained at a lesser depth and upon approval by the LSCSD Contract Manager, the drilling shall be terminated and the well shall be constructed to that depth.

The Contractor must possess a valid and current C-57–Water Well Drilling Contractor license, and any other license approved by the California State Contractor's License Board for work described herein. The Contractor shall obtain all necessary permits to perform the work under this contract.

2. The services shall be performed at the Lake Shastina Community Services District property located approximately 65 feet northeast of Big Springs Road 125 feet east of the Lake Shore Drive intersection approximately 5.1 miles north of State Route 97 in Siskiyou County, CA. (See Location Map, Exhibit A, Attachment 2)
3. The services shall be provided during normal working hours from 8:00 a.m. to 4:30 p.m., Monday through Friday, except state holidays. LSCSD Contract Manager will designate the starting day when Contractor shall immediately begin and Contractor shall diligently execute the work to completion. Services must be completed within 30 days after work commences.
4. Direct all inquiries accordingly as follows:

Contract Manager:	Robert Moser, Public Works Supervisor
Address:	16320 Everhart Drive, Weed, CA 96094
Phone:	530-938-3281
Fax:	530-938-4739
Email:	robert@lakeshastina.com

5. Contractor agrees to provide service in the manner specified herein and as specified in Exhibit A, Attachment 1 "Specifications."

ATTACHMENT 1

EXHIBIT A: SPECIFICATIONS

1. Drilling—The drilling may be accomplished by conventional hydraulic (mud) rotary, or air rotary drilling equipment either with or without hammer. Although the completed well is anticipated to be to a depth of 230 feet, the equipment used shall be in good repair and be capable of drilling as specified herein, up to a depth of 300 feet, including available drill stems and all associated appurtenances. Delays during the drilling operation caused by equipment inadequacies or failures shall be the responsibility of the Contractor.

The well boring shall be drilled at a location determined by the LSCSD Contract Manager to an estimated depth of 230 feet. Drilling will be stopped at a lesser depth and well construction completed when, in the opinion of the LSCSD Contract Manager or the LSCSD Contract Manager's designated representative, water of acceptable quantity and quality has been found. The Contractor must obtain prior approval from the LSCSD Contract Manager before drilling to a depth greater than 230 feet.

2. Well Logs and Records—During the drilling of the well boring, a daily detailed driller's report shall be maintained and shall be made available upon request to the LSCSD Contract Manager or designated representative at the project site. The report shall give a complete description of all formations encountered—number of feet drilled, number of hours on the job, shutdown due to breakdown, feet of casing set, and other such pertinent data as may be requested by the LSCSD Contract Manager. In addition, the Contractor shall prepare and keep a complete log of the following:
 - a. The reference point for all depth measurements
 - b. The depth at which each change of formation occurs
 - c. The depth at which the first water was encountered
 - d. The depth at which each significant fracture or fractured zone was encountered
 - e. The identification of the material of which each stratum is composed, as well as thickness, general characteristics, and drilling characteristics of each material encountered
 - f. The depth to the static water level and changes in the static water level with well depth
 - g. The depth at which each formation sample was taken
 - h. The order, number, size, and length of each individual piece of well casing installed
 - i. An approximate yield of the well in gallons per minute determined during the drilling process using air-lift methods or similar

The log shall be kept carefully and accurately. It shall be brought up to date at the end of each working day and shall be furnished to the LSCSD Contract Manager within one week after performance of all work, whether a well is completed or the hole is abandoned. The driller will submit the final well log to the Department of Water Resources.

3. Electrical Log—NOT USED
4. Reaming the Test Hole—NOT USED.

5. Well Casing–The casing used as a permanent part of the well structure shall be new 14-inch diameter steel pipe of standard brand manufacture used for domestic water supply.

If permanent casing is to be installed by driving methods, the use of drive shoes shall be required. The type and weight of drive shoes used shall be determined by the Contractor and approved by the LSCSD Contract Manager.

A minimum of two centralizers shall be installed on the well casing. The one shall be at the bottom of the casing and one shall be immediately below the bottom of the sanitary seal.

6. Plumbness and Alignment–The completed well shall be sufficiently plumb and straight so that there will be no interference with installation, alignment, operation or future removal of the permanent well pump appurtenances. If a question on well plumbness or alignment is raised because of pump setting interference and the LSCSD Contract Manager determines that tests are to be run, all equipment, labor and materials necessary to conduct a drift survey shall be furnished by the contractor at no extra cost.

The well shall conform to the standards set and shall be able to pass the tests specified in AWWA A100-15.

The LSCSD Contract Manager may waive the plumbness and/or straightness requirements, if, in his opinion, these defects will not affect the serviceability of the well or the pumping equipment. Such waiver will be in writing.

7. Screens or Slotted Casing–The intake section shall consist of 14-inch nominal-diameter steel factory-slotted well casing. The screen or slotted casing shall be installed in locations and lengths as directed by the LSCSD Contract Manager. Slots shall be factory made with a slot width of one-eighth of an inch or as directed by the LSCSD Contract Manager based on field conditions.

The slotted casing or screen shall be installed by the pull back method, the open hole method, or the bail down method. If the screen is installed by lowering it through the casing, the top of the screen shall be provided with a 5-foot riser of steel casing. The top of the screen shall be provided with a lead or rubber type packer, which shall be securely installed in the well casing. A 10-foot tailpiece of steel casing with a closed bottom shall be securely attached at the bottom of the screen. The outside diameters of the tailpiece and riser shall equal the outside diameter of the screen.

At no time during the installation of the screen assembly shall the screen and casing be driven, forced or jerked in the vertical direction. The Contractor shall submit their proposed method of screen installation to the LSCSD Contract Manager, who must approve the method prior to its use.

A minimum of two centralizers shall be installed on the slotted casing or well screen. The first shall be at the bottom of the slotted casing or well screen, and the second shall be at the midway point of the slotted casing or well screen.

8. Filter Pack–a filter pack will be installed if well is installed in alluvial material. The filter pack will be new clean material composed of rounded gravel, free from deleterious materials, and of appropriate size so that it does not enter the well screen yet prevents formation material from entering the well screen. A transition bentonite seal will be placed above the filter pack to prevent the annular seal material from entering the filter pack.
9. Sanitary Seal–The well shall have the annular space between casing and drill hole filled with neat cement or bentonite grout from a minimum depth 50 feet below the surface up to land surface using a tremmie

pipe. At the direction of the LSCSD Contract Manager, this distance may be increased as necessary to provide adequate protection of the water supply based on conditions encountered. Alternate grout materials may be substituted with prior approval of the LSCSD representative and the County Health Department.

Where an open borehole has been drilled below the depth to which the casing is to be grouted, the lower part of the hole shall either be backfilled with bentonite clay or grout as allowed by State and Local jurisdictions.

A minimum grout thickness of 2 inches shall be maintained between the well casing and the drill hole for the entire length of the casing grouted. Sufficient annular opening shall be provided to allow the above. If necessary, a temporary casing shall be installed to insure the minimum specified thickness of grout. This temporary casing shall be withdrawn as the grout is placed.

The grout shall consist of cement or bentonite and the least quantity of water (not over 6 gallons of water per cubic foot of cement or bentonite) required to give a mixture of such consistency that it can be forced through the tremmie pipes. Three (3) to five (5) percent (by weight) of bentonite clay may be added to the cement grout mixture in order to improve its flow properties. The mixture, mixing method, and consistency shall be approved by the LSCSD Contract Manager prior to grouting.

Before proceeding with placing the sanitary seal, the Contractor shall secure the LSCSD Contract Manager's approval of the materials and method for placing the seal. The grouting shall be done continuously and in a manner that will ensure the filling of the entire annular space with grout in a single operation. The grout shall not be placed by free-falling it from the top of the casing.

No drilling, test pumping, or other work in the well will be permitted within 72 hours after completion of placing the sanitary seal. A secure cap will be placed on top of the well.

10. Well Development—If, in the opinion of the LSCSD Contract Manager, the water encountered is of such quality that pumping for two hours or less will produce desired quantity and quality, the process below may not be necessary.

The Contractor shall develop the well by such methods as will effectively extract from the water bearing formation the maximum practical quantity of sand, silt, or other fine materials. Development shall bring the well to a maximum yield per foot of drawdown and the water shall be sand free at the maximum pumping rate, which will be determined by the LSCSD Contract Manager. The development work must be done in such a manner that it does not cause undue settlement of the stratum above the water bearing formation. Neither bailing nor pumping shall be considered to be adequate development methods under this contract.

Development of the well shall be continued until water pumped from the well at a yield rate determined by the LSCSD Contract Manager is clear and free from fines. The water shall be considered sand free when all samples taken at the determined yield rate contain less than 2 parts per million (ppm; by weight) of sand. The LSCSD Contract Manager will determine the length of time required for development based on formation and groundwater conditions. Development will not be considered as test pumping.

11. Test Pumping—The pumping shall be performed and shall comply with the below specification only if the LSCSD Contract Manager decides, in the field, that the performance of the well is questionable, or required by the local oversight agency. Community wells, in most cases, will be test pumped. In some cases air-lift testing at various levels will suffice. Such air-lift testing will be performed at no extra cost.

If the LSCSD Contract Manager determines that test pumping is necessary, the Contractor shall provide all labor, equipment, materials, and power necessary for the test pumping to the satisfaction of the LSCSD

Contract Manager. This shall include all necessary equipment for measuring the water level in the well and the rate of the pump discharge. Equipment considered suitable includes electrical probes for water level measurement and an orifice meter, weir, or calibrated water meter for flow measurement. The Contractor shall further be responsible for furnishing all piping necessary for discharging the water away from the test site to a suitable location.

The actual duration of the pump test and the desired pumping rate shall be determined by the LSCSD Contract Manager. The test pumping equipment shall have the capability of pumping for a minimum duration of 24 hours at a pumping rate equal to the estimated yield.

Discharge shall be maintained within plus or minus 5 percent of the designated rate by means of a gate valve or throttling device. Discharge shall be checked and adjusted, if necessary, every 10 minutes during the first hour of pumping, and at 30-minute intervals thereafter.

Drawdown measurements shall be taken at 30-second intervals for the first 5 minutes, 5-minute intervals for the next 30 minutes, 10-minute intervals for the next 90 minutes, and at 30-minute intervals thereafter. This information shall be recorded in the well log. If the measurement is not taken exactly at the times specified, the actual time of each measurement shall be recorded. The Contractor shall take recovery measurements immediately after test pumping is complete for a minimum of 30 minutes, in the same timeframe as measurements specified for the beginning of the pumping test, or until the water level returns to within 10 feet of its original static level using the above schedule or as directed by the LSCSD Contract Manager.

The test pumping shall be run at least two hours beyond the time the water level stabilizes in the well. If the Contractor's measuring equipment fail so that reliable measurements cannot be taken, the pump shall be stopped, the water allowed to reach its static water level, and the test begun anew in accordance with these specifications. No payment shall be made for partial test pumping.

12. Submersible Pump and Motor–NOT USED.
13. Submersible Cable–NOT USED.
14. Drop Pipe–NOT USED.
15. Safety Cable–NOT USED
16. Well Seal and Vent–The Contractor shall furnish and install an appropriately sized, non-corrosive sanitary well seal with a screened vent at the top of the well casing.
17. Cleaning and Disinfection–Upon completion and acceptance by the LSCSD Contract Manager, the well shall be thoroughly cleaned of foreign substances including but not limited to: cement, oil, grease, joint dope, and scum. The well shall then be disinfected with a chlorine solution. If a pump is to be installed, chlorination shall occur after the pump installation.

The chlorine solution used for disinfecting the well shall be prepared prior to injection into the well and shall be of such volume and strength and so applied that a minimum concentration of 50 ppm of free residual chlorine shall be obtained in all parts of the well for at least 24 hours before removal. The chlorine may be added to the well by either of the following methods:

- a. The chlorine solution may be prepared in a batch having volume at least twice the volume of water contained in the well. This prepared solution should then be rapidly discharged into the well.

- b. Stock solution of chlorine may be added through a pipe discharging at different levels in the well. The well may then be agitated with a bit or bailer to mix the solution.

Dumping of Granular HTH into the top of the well will not be allowed.

18. Abandonment and Destruction of Well—If a new well boring produces insufficient water quality or quantity, the hole shall be abandoned in accordance with current regulations and standard of practice. Abandonment of a hole or well shall include the removal of the existing pump, drop pipe, cables, and appurtenances. The Contractor shall also complete the required notifications for abandonment of this well.

In the event the new well shall not be accepted for completion due to insufficient capacity, unsatisfactory chemical or bacteriological quality, or should it be abandoned because of poor alignment, loss of tools, or for any other cause, the Contractor shall, as directed by the LSCSD Contract Manager, fill the abandoned hole with bentonite clay to within 10 feet of the ground surface and the remainder, with grout. The methods used by the Contractor to introduce the clay and grout into the well shall be approved by the LSCSD Contract Manager prior to their use.

In cases where abandonment of the well is due to causes that are determined not to be the fault of the Contractor as determined by the LSCSD Contract Manager, salvaged casing and other materials furnished by the Contractor shall remain the contractor's property and no payment will be made for such materials. Contractor shall be paid only the unit cost for drilling plus the cost of developing and test pumping, if applicable. Where appropriate for the application (depth and yield), these undamaged salvaged materials may be, at the sole discretion of LSCSD, be reused in the second test hole / well and subject to payment per contract terms. No well shall be abandoned without the written approval of the LSCSD Contract Manager.

Any hole abandoned due to the fault of the Contractor is the responsibility of the Contractor in its entirety, and Contractor shall receive no payment under the contract.

19. Standby Time—Any loss of time due to negligence, labor disputes, or any other delay that is directly related to the Contractor shall not be paid for under this contract. Any delays during the drilling of the well caused by LSCSD will be considered standby time and will be paid in accordance with Exhibit B, Attachment 1.

Any loss of time resulting from failure or malfunction of the Contractor's equipment; the need to lubricate, adjust, or perform other maintenance; or a mistake by the Contractor shall not be chargeable to this contract.

ADDITIONAL REQUIREMENTS

1. Contractor will develop the pit and runoff containment for surface discharge of water, disposal of spent water, or for fluid circulation. No direct discharge is allowed into tributaries or natural drainage.
2. LSCSD Contract Manager will designate a pre-construction meeting at the work site to meet with Contractor prior to commencing any work. There shall be no additional cost to LSCSD for the Contractor to attend the pre-construction meeting.
3. The contractors shall conform to the following mitigation measures to control fugitive dust during construction and to prevent erosion:
 - Limit maximum speed on unpaved roads to 25 miles per hour.

- Apply water every 3 hours to disturbed areas within the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered with a fabric cover (tarp) and maintain a freeboard height of 12 inches.
- Water any storage piles of dirt by hand at a rate of 1.4 gallons/hour/square yard, or apply cover when wind events are declared.
- Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup.
- Water all grading, trenching, or demolition activities sufficiently to prevent visible emissions more than 100 feet off site.
- All construction equipment and vehicles shall be maintained in proper tune according to manufacturer's specifications.

4. Procedures if Human Remains are Inadvertently Discovered.

In accordance with the California Health and Safety Code, if human remains are discovered during ground-disturbing activities, LSCSD and/or the project contractor(s) shall immediately halt potentially damaging excavation in the area of the human remains and notify the Siskiyou County Coroner and a qualified professional archaeologist to determine the nature and significance of the remains. The coroner is required to examine all discoveries of human remains with 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050[c]). Following the coroner's findings, the archaeologist and the Most Likely Descendent (designated by the Native American Heritage Commission) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities of Siskiyou County and LSCSD to act upon notification of a discovery of Native American human remains are identified in the California Public Resources Code Section 5097.

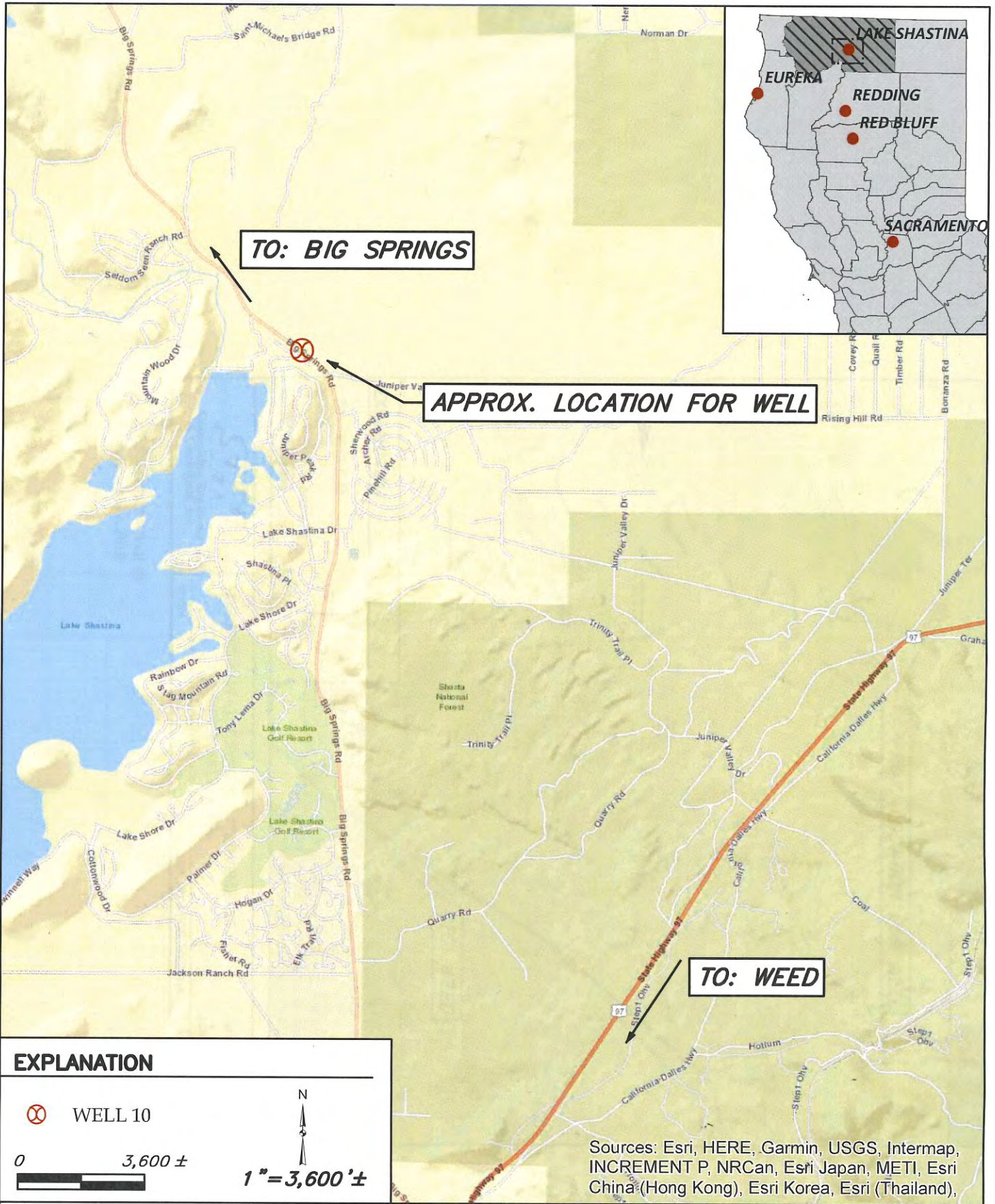
Exhibit B

Cost Sheet, Well 1

	Unit Cost	Estimated Units	Total Cost
Move In/Move Out	\$	Lump Sum	\$
Drilling (14-inch diameter well) up to 230 feet	\$ per foot	230 feet	\$
Casing–furnished & installed (includes 10 feet of blank casing below screen for sump)	\$ per foot	95 feet	\$
Screen/Slotted Casing–furnished & installed	\$ per foot	140 feet	
Casing and Screen/Slotted Casing Centralizers–furnished & installed	\$ each	4	\$
Sanitary Seal–furnished & installed	\$	Lump Sum	\$
Filter Pack–furnished & installed	\$	Lump Sum	\$
Vented Well Seal–furnished & installed	\$	Lump Sum	\$
Well Disinfection	\$	Lump Sum	\$
Test Pumping	\$ per hour	24 hours	\$
Standby Time	\$ per hour	10 hours	\$
Well Development	\$ per hour	8 hours	\$
New Well Abandonment–Grout Fill	\$ per foot	10 feet	\$
New Well Abandonment–Balance of Fill	\$ per foot	190 feet	\$
Total Cost Well			\$

ATTACHMENT 2

EXHIBIT A: LOCATION MAP



EXPLANATION

⊗ WELL 10

0 3,600 ±

N
S
1" = 3,600' ±

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

	BIG SPRING WATER SYSTEM IMPROVEMENTS LAKE SHASTINA, CA	Site Location JOB NO. 518022
	9/2018	WELL_TEN_LOCATION_MAP.mxd