



January 25, 2024

REQUEST FOR PROPOSAL

FOR

INSPECTION SERVICES

CONSTRUCTION OF OCWD-BS29

MONITORING WELL CLUSTER

ORANGE COUNTY WATER DISTRICT

PROPOSALS DUE

February 27, 2024

2:00 P.M.

INTRODUCTION

Orange County Water District (OCWD or District) is seeking proposals from qualified firms that are interested in providing inspection services during the construction of four (4) monitoring wells at a single site. Proposed monitoring well site OCWD-BS29 (BS29) is located on city of Huntington Beach right-of-way and within a residential neighborhood on the north side of Gilroy Drive between Camelot Circle and Pleasant Circle (Figures).

This Request for Proposal (RFP) describes the project, required scope of services, project milestones, consultant selection process, and minimum information that must be included in the proposal. Failure to submit information in accordance with these requirements and procedures may result in disqualification.

BACKGROUND

In the coastal area of Orange County, seawater intrudes into the groundwater basin through permeable aquifer sediments underlying topographic lowlands or gaps between erosional remnants or mesas of the Newport-Inglewood Uplift. The susceptible locations from north to south are the Alamitos, Sunset, Bolsa, and Talbert gaps as shown in Figure 1.

Bolsa Gap is an ancient beheaded stream channel eroded across the Huntington Beach anticline and partially backfilled by basal sand and gravel deposits (Bolsa Aquifer) and by overlying alluvial, lagoonal and tidal marsh deposits. The gap ranges from 1.4 to 2 miles in width. It is bordered by the 25- to 70-foot high stream bluffs of the Bolsa Chica Mesa to the northwest and Huntington Beach Mesa to the southeast (DWR Bulletin No. 63-2).

OCWD has been investigating the nature and extent of seawater intrusion in the Sunset Gap since 2010 and is currently expanding its monitoring well network to the northern part of the Bolsa Gap to fill an important data gap. BS29 will be located where seawater intrusion potentially occurs across the Bolsa-Fairview fault to the north beneath the Bolsa Chica Mesa and into the southeastern portion of the Sunset Gap. Confirmation of this potential intrusion pathway, or lack thereof, will help define the lateral and vertical extent of intrusion and provide added information for subsequent potential mitigative actions in the Sunset Gap.

Due to relatively few well installations in the Bolsa Gap, OCWD has a limited understanding of the geologic conditions at the project location. However, based on the District's recent project experience in the nearby Sunset and Talbert Gaps, **difficult drilling conditions are expected, including saline groundwater conditions, high water table, and flowing/heaving sands.**

Figure 1 Coastal Gaps in Orange County



PROPOSED WELL INSTALLATIONS

The District has obtained approval from the City of Huntington Beach Public Works Department to install the proposed monitoring wells on City right-of-way. Prior to construction, the drilling contractor will obtain an Encroachment Permit to complete the work. Work at the site may be restricted to Monday through Friday during the day only. Saturday work is possible for well construction only. The Project schedule will be finalized after the selection of a drilling contractor.

The proposed boreholes will range in depth from 110 feet bgs for the shallowest well to 400 feet bgs for the deepest well. The estimated casing/screen target depths range from approximately 105 feet bgs for the shallowest casing, to approximately 365 feet bgs for the deepest casing. Actual depths will vary, depending on observed field conditions. The wells will be constructed with 2-inch diameter PVC casings installed in a single borehole drilled using direct mud rotary and rotary sonic drilling equipment. Each casing will have an anticipated 10- or 20-foot long screen installed to monitor water levels and quality at a specific depth. Table 1 below, summarizes the anticipated borehole and

REQUEST FOR PROPOSAL FOR INSPECTION SERVICES

construction depths for these wells. Figures 2 and 3 show the locations of the proposed monitoring wells.

Table 1 Anticipated Well Depths

Proposed Well Number	Drilling Method	Conductor Depth	Borehole Depth	Screen Interval	Casing Depth
OCWD-BS29A	Rotary Sonic	NA	110	80-100	105
OCWD-BS29B	Rotary Sonic	NA	160	120-140	145
OCWD-BS29C	Rotary Sonic	NA	200	150-170	175
OCWD-BS29D	Direct Rotary	50	400	340-360	365

All depths feet below ground surface

Figure 2 OCWD-BS29 Vicinity

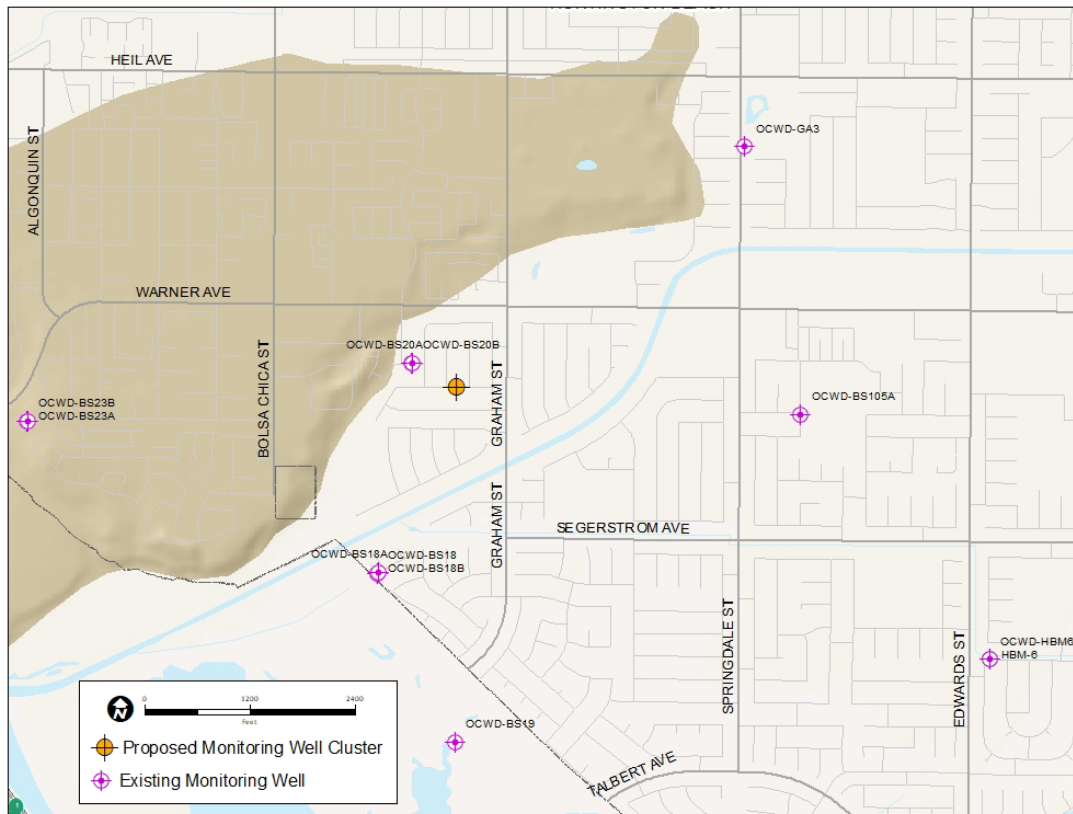


Figure 3 OCWD-BS29 Well Site



SITE RECORDS

Additional Site information and access to the draft technical specifications will be provided at the Pre-Proposal Meeting.

GENERAL INFORMATION

In general, this work shall include full-time inspection of all phases of work at the well sites. Some non-critical phases of work may be inspected on a part-time basis (described below). OCWD anticipates that all work will be conducted during daylight hours, Monday through Friday. Some Saturday work may be necessary to complete important tasks such as well construction.

OCWD is requesting proposals that shall include, at a minimum, the tasks outlined in this RFP. OCWD intends to award a single Agreement.

Subconsultants under direct contract with the consultant may perform required tasks that cannot be performed by the consultant's in-house personnel. All such subconsultants shall be identified in the proposal, and the utilization of subconsultants is subject to approval by OCWD. The consultant shall only

REQUEST FOR PROPOSAL FOR INSPECTION SERVICES

assign personnel and subconsultants whose qualifications and experiences are commensurate with the expertise required to accomplish the assigned tasks.

All work shall comply with the requirements of federal, state, and local laws, OCWD requirements, professional engineering and industry standards, and other regulations related to the services described in this RFP.

SCOPE OF WORK

The proposed scope of services is divided into the following categories:

- Task 1 – Mobilization (including geophysical utility clearance)
- Task 2 – Conductor Casing Installation
- Task 3 – Borehole Drilling (including wiper passes)
- Task 4 – Geophysical Logging
- Task 5 – Well Construction
- Task 6 – Well Development (including well disinfection)
- Task 7 – Site Clean-up, Vault Installation, and Video Survey
- Task 8 – Well Survey
- Task 9 – Prepare Well Construction Report

Task 1 – Mobilization

In general, all phases of work require full-time inspection; however, part-time inspection is allowable during mobilization. Task 1 shall include geophysical utility clearance of the well site. The Consultant shall subcontract a geophysical utility location firm to complete this task. It is recommended that a representative from the drilling contractor be on site during the utility clearance. Consequently, the Inspector shall coordinate the geophysical work with the Drilling Contractor. Additionally, the contractor will perform an air knife utility clearance of each borehole location. The selected consultant shall be on site to witness the utility clearance and to log soils. A City Encroachment Permit must be obtained by the drilling contractor prior to any work on site.

Task 2 – Conductor Casing Installation

The Inspector shall be on site during the drilling and installation of the conductor casing. The Inspector shall ensure that representative formation samples are collected from the conductor borehole at 5-foot intervals. The Inspector shall

also log cuttings from the borehole using the Wentworth soils classification, and other lithologic characteristics as described below under Borehole Drilling. The Inspector shall check and measure all casing on site and ensure that the contractor is using proper installation techniques.

Task 3 –Borehole Drilling

The Inspector shall be on site during drilling of each borehole (including wiper passes). During drilling, the Inspector shall ensure that representative formation samples are collected at minimum 5-foot intervals and at changes in lithology. Other responsibilities shall include, but not limited to:

- Testing of Drilling Fluid Properties – Ensure that the drilling fluid is tested per the Drilling Contractor's approved drilling fluid program for the specified parameters and at the specified intervals.
- Sample Collection – Ensure that samples are collected at the correct depth and are representative of each five-foot interval.
- Lithologic Logging – The Inspector shall develop a lithologic log of each borehole and shall describe the formation samples using the Wentworth Scale for grain size, Munsel soil color, and percentage of components as well as sorting, roundness, and sphericity. Other notable properties such as clay plasticity, shell fragments, wood fragments, etc. Shall be included in the lithologic log.
- Check Contractor's Drill Pipe Tally – The Inspector shall ensure that the contractor is measuring and recording each drill pipe used. In addition, the Inspector shall verify that the contractor's pipe tally is correct.

Per the District's Technical Specifications, the drilling rate for the direct mud rotary drilling method shall be limited to a maximum of 20 feet per hour. Drilling rates for the rotary sonic drilling method are not specified in the Technical Specifications. There will be an approximate 24-hour well design period following borehole drilling and geophysical logging (deep well only).

Task 4 – Geophysical Logging

The Inspector shall be on site to witness geophysical logging of the deep mud rotary borehole. The Inspector shall obtain copies of the logs for OCWD per the driller's contract documents. Geophysical logs will include, spontaneous potential, 16-inch normal resistivity, 64-inch normal resistivity, laterolog 3 (guard resistivity), dual induction, nuclear magnetic resonance, natural gamma, and caliper log.

Task 5 – Well Construction

The Inspector shall be on site during well construction activities including installation of the casing, screen, gravel pack, bentonite-sand seals, and the cement seal. It is the contractor's responsibility to measure each casing and

screen joint. The Inspector shall ensure that the contractor is measuring all casing and is completing the necessary tally. In addition, the Inspector shall verify that the contractor's casing tally is accurate. In addition, the Inspector shall ensure that all screen intervals, gravel pack, and seals are constructed according to the final well design. All back-fill material receipts shall be obtained by the Inspector for OCWD. The Inspector is responsible for, but not limited to:

- Construction Tremie Tally – The Inspector shall take an accurate count of all construction tremie on site prior to gravel and seal placement. The Inspector shall also ensure that the contractor is measuring and recording all tremie pipe installed in the borehole. In addition, the Inspector shall verify that the contractor's pipe tally is correct.
- Back-Fill Volumes – The Inspector shall calculate and record borehole and back-fill volumes to ensure that the gravel and seal material is not bridging during installation.
- Well Diagram – The Inspector shall make a field well diagram that shall include accurate depths for screen, casing, gravel pack, and seals. The diagram shall also include the volumes of back-fill material used per interval.

Task 6 – Well Development

The Inspector shall be on site during well development (including disinfection) and shall ensure that the proper development techniques are employed by the contractor. Through out development, the Inspector shall measure and record the following, but not limited to:

1. Static and Pumping Water Levels
2. Airline and Pump Setting Depths
3. Discharge Rates
4. Field parameters of discharge including pH, TDS, EC, temperature, & settleable solids
5. Installation and operation of equipment

Per the OCWD contract, contractor's billable hours start when equipment is placed in operation and ends when equipment is stopped. OCWD does not consider tripping of pipe and pumps to be billable. Therefore, the Inspector shall record all times of installation and operation so that accurate billable hours can be calculated. For wells installed via the direct mud rotary drilling method, OCWD anticipates approximately 20 hours of actual airlifting and pumping per well casing for development. For wells installed using the rotary sonic method, OCWD anticipates approximately 5 hours of actual airlifting and pumping per well casing for development.

At the completion of development of each well, the Consultant shall collect groundwater samples for analysis at the OCWD laboratory. The Consultant shall transport the groundwater samples to the District's Fountain Valley

laboratory within 24-hours of sample collection. The District will supply the necessary sample containers, coolers and chain of custody forms. The Consultant is responsible for keeping the samples cold via water ice. Ice will not be supplied by the District.

The final step of development will consist of disinfection of the deep mud rotary well. Disinfection will consist of chlorinating the well with a 50 ppm solution of sodium hypochlorite followed by a 12- to 24-hour waiting period. Following the waiting period, the well will be airlifted for approximately 1 hour. Very low chlorine residual in the well is acceptable at completion of disinfection.

Task 7 – Site Clean-up, Vault Installation, and Video Survey

The Inspector shall conduct daily site walks (as needed) during site clean-up and direct the contractor as necessary. The Inspector shall be on site during vault installation to ensure that the surface completion is done per the contract documents. The consultant shall be on site during video surveys and will obtain DVD copies of the survey and report.

Task 8 – Well Survey

The Consultant shall subcontract with a state-licensed surveyor to complete surveying of the monitoring wells. The following is a list of survey requirements:

1. Locate and establish survey control using NAD83 horizontal datum coordinates plus NGVD29 and NAVD88 vertical datum County benchmark elevations.
2. Measure coordinates, to the nearest 0.1 feet, on the center of the well vault lid and mark the location of the measurement with a notch or paint mark.
3. Measure elevations of the ground surface at the northwest corner of the concrete well pad and mark the location of the measurement with a notch or paint mark.
4. Measure elevation, to the nearest 0.01 feet, at the top of the well casing with the cap removed. Mark the location of the measurement with a notch and felt tip marker. Complete measurement and marking on the north edge of the well casing.
5. Final product will be a report stamped with a licensed survey seal listing:
 - Name of well or boring
 - Coordinates in State Plane, NAD83, California 6-0406

- Ground surface and top of well casing elevation in both NGVD29 and NAVD88.
- Date of Survey
- Rough sketch showing locations of survey measurement points including north arrow.

An example survey report is presented in Exhibit A.

Task 9 – Well Construction Report

Upon completion of the project, the Consultant shall prepare a final Well Construction Report. The report shall contain, but not be limited to the following sections.

1. Introduction
2. Construction Activities Description (by task)
3. Figures
 - a. Location Map(s)
 - b. Final As-Built Well Diagrams
 - c. Lithologic Logs
4. Tables
 - a. Well Construction Dates (by task)
 - b. Well Construction Details
 - c. Well Development Details
5. Appendices
 - a. Permits (supplied by OCWD)
 - b. Lithologic Logs
 - c. Geophysical Logs
 - d. Inspector's Field Reports/Notes
 - e. Contractor's Daily Logs
 - f. Development Records
 - g. Survey Report
 - h. Water Quality Sample Results (supplied by OCWD)
 - i. Photo Log

Field Reporting

Upon completion of the project, copies of all field reports and notes shall be included in the final reports. The Inspector shall record and document all important site-specific information for each shift. Important site-specific information shall include, but not limited to:

1. Personnel entering and leaving the site
2. Telephone conversations regarding site activities
3. Start and stop times of major events
4. Depths, volumes, rates, and pressures

PROJECT SCHEDULE

OCWD anticipates that the BS29 well cluster will be constructed between May and June 2024.

Issue RFP for Inspection Services (IS)	January 25, 2024
Issue Notice Inviting Bids for Well Construction	January 31, 2024
IS Pre-proposal Meeting – 10:00 AM	February 6, 2024
Prebid Conference	February 7, 2024
IS Proposals Due – 2:00 PM	February 27, 2024
Bid Opening	February 28, 2024
IS Agreement Award	April 17, 2024
Award Construction Contract	April 17, 2024
Start Construction BS29 Well Site	May 20, 2024

ELEMENTS OF PROPOSAL

Please include the following in your proposal:

1. Cover letter.
2. Project approach/scope of work.
3. Project team description (with resumes of key personnel), briefly emphasizing relevant experience and capabilities of key project members as related to the outlined scope of work. Indicate the estimated percentage of time each member will contribute to the project and their availability. Include the home office and location of each project team member.
4. Representative project experience, including a brief description of the work performed, the period in which the work was performed, the contract value, and client contact information, including name, address, and telephone number.
5. Provide a matrix table of the hours for each project task broken down by staff type. **Do not include any costs information with this matrix table, just level of effort. The fee proposal is discussed below.**
6. Fee proposal - submitted in a separate, sealed envelope. Provide a matrix table of the hours and costs for each project task broken down by individual project staff, labor rates, subconsultants' fees, and equipment costs. The fee proposal shall be based on services provided on an hourly-rate basis, with a total not-to-exceed fee. Provide a rate schedule for proposed services.

SELECTION PROCESS

Selection of the consultant will be based on the proposal contents, prior experience of the firm, specific experience and capabilities of the designated project team members, and fee proposal. The team members should be competent in all areas outlined under the scope of work above.

Based upon this information, OCWD staff will recommend a firm to OCWD's Board of Directors for award. The selected firm must be able to begin work as scheduled, and must be able to maintain the required level of effort to meet the proposed schedule.

The evaluation criteria listed in the OCWD Proposal Evaluation Form (Exhibit B) will be used to evaluate each consultant.

The selected Consultant will be required to sign an Agreement and to provide the Insurance Certificates and all other required documentation within 15 calendar days of notice of award. Any exceptions the Consultant may have to the Agreement and/or insurance provisions must be included in the proposal. However, OCWD is reluctant to modify any terms of the standard Agreement. OCWD reserves the right to reject any and all proposals, waive any proposal formalities and modify or postpone the proposed project at its sole discretion.

PRE-SUBMITTAL ACTIVITIES

1. Questions Concerning Request for Proposals

All questions regarding the RFP should be presented in writing to:

Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708
Phone: (714) 378-3237
Fax: (714) 378-3369
Attn: David Field
dfield@ocwd.com

2. Pre-Proposal Meeting

A Pre-Proposal meeting will be held at the OCWD Fountain Valley office. This meeting will be held at **10:00 AM on February 6, 2024** and is not mandatory.

3. Revision to the Request for Proposals

OCWD reserves the right to revise the RFP prior to the date the Proposals are due. Revisions to the RFP shall be mailed to all potential Proposers. OCWD reserves the right to extend the date by which the Proposals are due.

4. Proposal Due Date

Sealed proposals will be accepted at the office of the Orange County Water District, 18700 Ward Street, Fountain Valley, California 92708, until **2:00 PM local time on February 27, 2024**. The final sealed proposal shall include three (3) hard copies and one CD with the proposal document saved in PDF format. The packaging shall be clearly labeled with the following information:

- Firm Name
- Construction of OCWD-BS29 Monitoring Well Cluster Inspection services Proposal
- Date
- Attention: David Field Hydrogeology Department

Proposals will be reviewed by OCWD staff and recommendations for issuance of an Agreement to the successful proposer are anticipated to be made to the OCWD Board of Directors in April 2024.

SPECIAL CONDITIONS

1. Reservations

This RFP does not commit OCWD to award a contract, to defray any costs incurred in the preparation of a Proposal pursuant to this RFP or to procure or contract for work.

2. Public Records

All Proposals submitted in response to this RFP become the property of OCWD and are public records and as such may be subject to public review.

3. Right to Cancel

OCWD reserves the right to cancel, for any or no reason, in part or in its entirety, this RFP including but not limited to: selection schedule, submittal date, and submittal requirements. If OCWD cancels or revises the RFP, OCWD will notify all the Proposers in writing.

4. Additional Information

OCWD reserves the right to request additional information and/or clarifications from any or all Proposers.

5. Public Information

Release of Public Information selection announcements, contract awards, and all data provided by OCWD shall be protected from public disclosure. Proposers desiring to release information to the public must receive prior written approval from OCWD.

6. Agreement

The selected consultant will be required to sign an Agreement and to provide the Insurance Certificates and all other required documentation within 10 calendar days of notice of award.

7. Insurance Requirements

The minimum insurance requirements are: \$5M for Commercial General Liability insurance, \$1M for Automobile Liability insurance (including Additional Insured endorsement for both General Liability and Automobile Liability insurance) \$1M for Workers' Compensation insurance (including Waiver of Subrogation endorsement for Workers' Comp) and \$2M for Professional Liability (Errors and Omissions) insurance.

8. Equal Employment Opportunity and Affirmative Action Requirements

The Proposers shall provide a Statement of Equal Employment Opportunity/Affirmative Action. The consultant and each subcontractor shall not discriminate in the employment of persons on the work because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, sexual preference or sex of such persons except as permitted by Section 12940 of the California government Code. The consultant is expected to maintain policies similar to those of OCWD regarding equal employment opportunities and Affirmative action as set forth in OCWD's Administrative Policies.

EXHIBIT A
EXAMPLE SURVEY REPORT

Bush & Associates Inc.

Land Surveyors

Monitoring Well OCWD-BS12

Survey Measurements

April 4, 2016

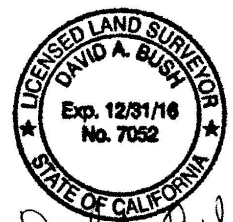
California Coordinates Zone 6
NAD 83 (Feet) Well C/L

Well	North	East
OCWD-BS12	2214181.8	6015660.3

----- ELEVATION -----

Well	NAVD88 Ground	NAVD88 Concrete	NAVD88 Top Pipe
OCWD-BS12/1	13.8	13.87	13.27 2" PVC Casing
OCWD-BS12/2	13.8	13.87	13.04 2" PVC Casing
OCWD-BS12/3	13.8	13.87	12.96 2" PVC Casing
OCWD-BS12/4	13.8	13.87	12.84 2" PVC Casing
OCWD-BS12/5	13.8	13.87	12.63 2" PVC Casing
OCWD-BS12/6	13.8	13.87	12.45 2" PVC Casing

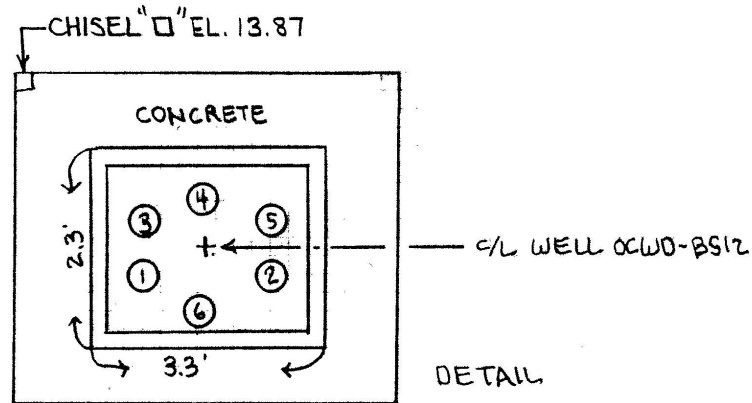
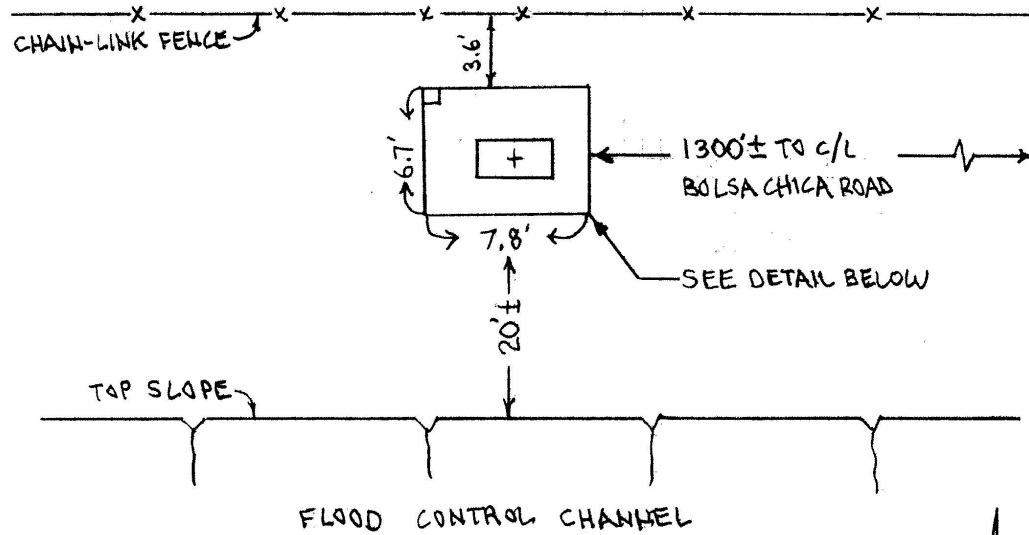
Well	NGVD29 Ground	NGVD29 Concrete	NGVD29 Top Pipe
OCWD-BS12/1	11.4	11.45	10.85 2" PVC Casing
OCWD-BS12/2	11.4	11.45	10.62 2" PVC Casing
OCWD-BS12/3	11.4	11.45	10.54 2" PVC Casing
OCWD-BS12/4	11.4	11.45	10.42 2" PVC Casing
OCWD-BS12/5	11.4	11.45	10.21 2" PVC Casing
OCWD-BS12/6	11.4	11.45	10.03 2" PVC Casing



REQUEST FOR PROPOSAL FOR INSPECTION SERVICES

SURVEY OF WELL OCWD-BS12 INDEX PAGE 1 OF 1
 SURVEYED BY BUSH AND ASSOCIATES, INC. DATE 4-4-16 ORANGE COUNTY SURVEYOR

SEAL BEACH NAVAL WEAPONS STATION



NOT TO SCALE

- ①— 2" PVC CASING
- ②— 2" PVC CASING
- ③— 2" PVC CASING
- ④— 2" PVC CASING
- ⑤— 2" PVC CASING
- ⑥— 2" PVC CASING

BUSH & ASSOCIATES INC.
 18017 Sky Park Cir. Suite Q
 Irvine, CA 92614

REQUEST FOR PROPOSAL FOR INSPECTION SERVICES

Bush & Associates Inc.

Land Surveyors
18017 Sky Park Circle Suite Q
Irvine, California 92614-6520

(949) 752-1888

TO ORANGE COUNTY WATER DISTRICT

LETTER OF TRANSMITTAL

DATE	4-14-16	JOB NO.
ATTENTION	DAVID FIELD	
RE:	MONITORING WELL OCWD-BS12	

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
	4-4-16	1	ORIGINAL, SIGNED WELL REPORT
1	1	1	FIELD SKETCH
		1	RETURN OF YOUR KEY

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐ _____

☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO _____

SIGNED: DAVID BUSH

If enclosures are not as noted, kindly notify us at once.

EXHIBIT B
PROPOSAL EVALUATION FORM

ORANGE COUNTY WATER DISTRICT PROPOSAL EVALUATION FORM

Project: Construction of OCWD-BS29 Monitoring Well Cluster Inspection Services

Proposing Firm: _____ Reviewer: _____ Date: _____

Criteria	Weighting (%)	Score (1-5)	Weighted Score	Comments
1 Project Approach	5			
2 Experience & Qualifications of Project Manager	20			
3 Experience & Qualifications of Firm & Key Team Members	30			
4 Work Plan, Including Number of Hours	15			
5 Record of Success on Similar Projects	15			
6 Time Commitment of Key Staff	15			
Total	100			

Scoring:
5 = Excellent
4 = Above Average
3 = Average
2 = Below Average
1 = Poor