

# INVITATION FOR BIDS



FOR CONSTRUCTING

EGW FREEWAY WELL

CONTRACT NUMBER  
C02204

ISSUED BY  
**CAPITAL PROJECTS ENGINEERING DIVISION**  
**CITY OF SANTA ROSA, CALIFORNIA**

2019

ATTENTION  
Prebid Conference  
See Page 1



STATE OF CALIFORNIA

INVITATION FOR BIDS

CONTAINING:

NOTICE TO BIDDERS

SPECIAL PROVISIONS

BID FORMS

CONTRACT

FOR

EGW FREEWAY WELL

**Contract No. C02204**

# EGW FREEWAY WELL

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CITY OF SANTA ROSA  
STATE OF CALIFORNIA

**NOTICE TO BIDDERS**

➤	For technical questions regarding this project, contact Erich Rauber at (707) 543-3847.
➤	For direct access to specifications and planholders' lists, go to <a href="http://www.srcity.org/bids">www.srcity.org/bids</a> and click on <u>Bid/Proposal Opportunities</u> or call (707) 543-3800.
➤	For direct access to bid results, go to <a href="http://www.srcity.org/bids">www.srcity.org/bids</a> . Under Link to Capital Projects, click on <u>Capital Projects Contracts</u> or call (707) 543-3835.

- IMPORTANT -

**Bid Acceptance Deadline**

Sealed bids will be accepted at the Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, California 95401 until 2:00 p.m., July 16, 2019, for EGW Freeway Well, Contract No. C02204. (Engineer's Estimate: \$230,878.00.)

**Bids tendered after this deadline will not be accepted.** The official time clock for accepting bids will be an electric date and time stamping clock, located in the Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, California. In order to be accepted, bids must be received prior to 2:00 p.m. Therefore, a bid stamped in at 1:59 p.m. will be accepted, but one delivered at or after 2:00 p.m. is late and will not be accepted.

**MANDATORY Pre-Bid Meeting**

Prospective bidders, subcontractors, and material suppliers are invited to attend a Mandatory pre-bid meeting scheduled to be held at 10:00 a.m., July 9, 2019, at the project site, 1304 Cleveland Avenue, Santa Rosa, California.

**MANDATORY Pre-Bid Submittals**

Two (2) pre-bid submittals must accompany your bid. Pre-bid submittals are described in Section 76-1.03A of the Technical Specifications.

**Subcontractor Information; Department of Industrial Relations Registration**

Bidders shall provide the names, business addresses and license numbers of all subcontractors listed on bidder's List of Subcontractors. No contractor or subcontractor may be listed on a bid for this public works project unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code section 1725.5. No contractor or subcontractor may be awarded a contract for this public works project unless registered with the DIR pursuant to Labor Code section 1725.5. This public works project is subject to compliance monitoring and enforcement by the DIR.



**Contract #: C02204**

**Project Title: EGW FREEWAY WELL**

Item No.	Description	Units	Quantity
1	TEMPORARY TRAFFIC CONTROL	LS	1
2	WATER POLLUTION CONTROL	LS	1
3	MOBILIZATION AND DEMOBILIZATION	LS	1
4	CONDUCTOR CASING	LF	100
5	PILOT HOLE DRILLING (8-INCH)	LF	700
6	GEOPHYSICAL LOGGING	LS	1
7	PILOT HOLE REAMING	LF	560
8	CALIPER SURVEY	LS	1
9	MONITORING WELL CASING	LF	1,170
10	MONITORING WELL SCREEN	LF	60
11	MONITORING WELL SUMP	LF	30
12	FILTER PACK: SILICA SAND	LF	210
13	FILTER PACK: PEA GRAVEL	LF	490
14	CEMENT GROUT	LF	100
15	MONITORING WELL DEVELOPMENT-16 HOURS TOTAL	LS	1
16	MONITORING WELL DEVELOPMENT-ADDITIONAL TIME	HR	6
17	MONITORING WELL SURFACE COMPLETION	LS	1
18	SITE CLEANUP	LS	1
19	FLUIDS AND CUTTINGS CONTAINMENT AND DISPOSAL	LS	1
20	STANDBY TIME	HR	1

The foregoing quantities are approximate only, being given as a basis for the comparison of bids, and the City of Santa Rosa does not expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, as may be deemed necessary or expedient by the Engineer.

Bids shall be made in accordance with the prevailing hourly rate of per diem wages for this locality and project as determined by the Director of the DIR pursuant to Labor Code sections 1770 *et seq.*

Contractor shall be responsible for compliance with the Immigration Reform Control Act of 1986.

If the project requires the employment of workers in any apprenticeable craft or trade, once awarded, Contractor and subcontractors must apply to the Joint Apprenticeship Council unless already covered by local apprentice standards (see Labor Code section 1777.5).

All bids are to be compared on the basis of the Engineer's estimate of the quantities of work to be performed. No bid will be awarded to a contractor who is not licensed in accordance with the provisions of Chapter 9 of Division 3 of the Business and Professions Code. Contractor must hold a Class C-57 license for this project.

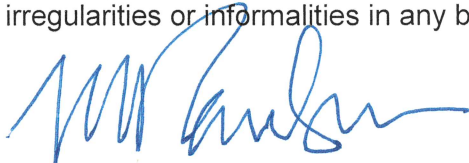
Project bid and contract forms for EGW Freeway Well may be obtained through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids). These documents can no longer be obtained at the Transportation and Public Works Department.

No bid will be accepted unless it is made on the contract bid forms furnished by the Transportation and Public Works Department through PlanetBids. The original of the completed bid forms bearing original signatures must be submitted. A bid will not be accepted unless the bidder registers as a vendor through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids), downloads documents/attachments, and is added to the prospective bidders list for this project. If there is an addendum, bidders must log into PlanetBids and acknowledge the addendum to be eligible for bidding.

The successful bidder will be required to hold a current City of Santa Rosa business tax certificate issued pursuant to Chapter 6.04 of the Santa Rosa City Code before commencing work on this project. For information regarding the business tax, contact Revenue and Collections at (707) 543-3170.

For any moneys earned by Contractor and withheld by the City of Santa Rosa to ensure the performance of the Contract, Contractor may, at its request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Section 22300 of the California Public Contract Code.

The City of Santa Rosa reserves the right to reject any or all bids and the right to waive minor irregularities or informalities in any bid or bonds.



ERICH RAUBER  
Supervising Engineer

6/24/19  
Date

# **SPECIAL PROVISIONS**

## **General Specifications**

### **CITY OF SANTA ROSA, CALIFORNIA**

#### **EGW FREEWAY WELL**

## **1 GENERAL**

The work described herein shall be done in accordance with the "Contract Documents," which are the:

1. Special Provisions
2. City of Santa Rosa Design and Construction Standards (City Standards)
3. City of Santa Rosa Construction Specifications for Public improvements (City Specifications)
4. State of California Department of Transportation Standard Specifications 2010 (Standard Specifications), and

In the event of a conflict in any of these documents, the order of precedence shall be determined by Section 5-1.02 of these Special Provisions.

Whenever the Standard Specifications use the terms State of California, Department of Transportation, Director, Engineer, or Laboratory, the following terms shall be substituted therefor, and any reference to any of the foregoing terms shall be understood and interpreted to mean and refer to such substituted terms as follows:

For State of California - the City of Santa Rosa;

For Department - the City of Santa Rosa Department of Transportation and Public Works or the City of Santa Rosa Water Department;

For Director - the City Engineer of the City of Santa Rosa;

For Engineer - the City Engineer of the City of Santa Rosa or the City Engineer's authorized agents;

For Laboratory – Materials Engineering of the City of Santa Rosa Transportation and Public Works Department, or such other laboratory as may be authorized by the City.

Unless otherwise provided, whenever in these Special Provisions attention is directed to specific provisions in the Standard Specifications, such direction shall not be interpreted as excluding other applicable provisions of the Standard Specifications.

Unless otherwise provided, when sections and subsections of the Standard Specifications are used in these Special Provisions, such use is not exclusive and shall not be interpreted as excluding other applicable provisions of said sections and subsections, but is only intended to add to or modify such sections or subsections.

Unless otherwise provided, full compensation for compliance with these Special Provisions is included in the contract price and no additional allowance will be made to Contractor therefor. The Standard Specifications are hereby modified to delete any reference or incorporation of provisions providing for or requiring arbitration of any and all claims and disputes arising under this contract.

## 2 BIDDING

**2-1.06 Bid Documents:** Prospective bidders will be furnished with an Invitation for Bids which will state the location and description of the contemplated public works project and will show the approximate estimate of the various quantities and kinds of work to be performed and materials to be furnished with a schedule of items for which unit prices are requested.

**2-1.07 Approximate Estimate:** The quantities given in the Contract Documents are approximate only, being given as a basis for the comparison of bids, and the City does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or part of the work or to omit parts of the work, as may be deemed necessary or advisable by the Engineer.

**2-1.31 Examination of Project Specifications, City Standards, Invitation for Bids and Work Site:** Prior to submitting a bid, the bidder shall carefully examine the Project Invitation for Bids, City Standards and the proposed work site. If any person contemplating submitting a bid for this public works project is in doubt as to the meaning of any part of the Contract Documents, or finds discrepancies in or omissions from the Contract Documents, he or she may submit a written request for interpretation or correction to the Engineer. The written request must be received by the Engineer a minimum of 96 hours prior to bid opening. Any interpretation or correction of the Contract Documents prior to bid opening will be made only by written addendum issued by the City. A copy of such addendum will be mailed or faxed to each Planholder. The City will not be bound by any other explanations or interpretations of the Contract Documents.

**2-1.33 Bid Document Completion:** Any references to Opt Out of Payment Adjustments for Price Index Fluctuations in the Standard Specifications are deleted in their entirety.

**2-1.33A Bid Forms:** All bids shall be made on bid forms obtained from PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids). The bidder shall submit its bid on the original bid forms furnished by the City. Bids submitted on forms other than the forms furnished to the bidder by the City will not be considered.

The bid forms to be submitted at the time of and with the bid are:

1. Unit Price Schedule
2. List of Subcontractors
3. List of Previous Similar Jobs
4. Noncollusion Declaration
5. Bid Guaranty Information and Bidder's Information and Signature
6. Bid Guaranty (Bid Bond or alternate security)

All bids shall give the proposed prices and must bear the original signature of the bidder. Bidders shall fill in all blanks on the bid forms where required. A bid will not be accepted unless the bidder registers as a vendor through PlanetBids at [www.srcity.org/bids](http://www.srcity.org/bids), downloads documents/attachments, and is added to the prospective bidders list for this project. If there is an addendum, bidders must log into PlanetBids and acknowledge the addendum to be eligible for bidding.

**2-1.33B Registration with DIR:** No contractor or subcontractor may be listed on a bid for this public works project unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code section 1725.5. No contractor or subcontractor may be awarded a contract for this public works project unless registered with the DIR pursuant to Labor Code section 1725.5. This public works project is subject to compliance monitoring and enforcement by the DIR.

**2-1.33C Subcontractors:** The Subletting and Subcontracting Fair Practices Act, Public Contract Code sections 4100-4113, inclusive (the "Act") shall apply to all subcontracts in excess of one-half of one percent of the total amount of a bid. The Act requires subcontractors, if used for such work, to be listed in the contractor's bid and prohibits the substitution of subcontractors, except as authorized by the Act. Each bidder shall, with respect to the work of any subcontractor in excess of one-half of one percent of the total amount of the bid, include as part of the bid on the bid form provided:

1. The name, business address and DIR registration number of each subcontractor who will perform work or labor or render services to the Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Contract Documents in an amount in excess of one-half of one percent of the Contractor's total bid; and
2. The portion of the work that will be done by each subcontractor. Only one subcontractor shall be listed for each portion.

The purchase of sand, gravel, crushed rock, batched concrete, aggregate, ready-mixed concrete, and/or any other materials produced and furnished by established and recognized commercial plants, together with the delivery of such materials to the work site by the source of the materials or by recognized commercial hauling companies, is not considered as subcontracting under this section.

**2-1.33E Rejection of Bids Containing Alterations, Erasures or Irregularities:** Bids may be rejected if they show any alterations of forms, additions not called for, conditional bids, incomplete bids, erasures or irregularities of any kind.

**2-1.34 Bid Guaranty:** All bids shall be presented under sealed cover and shall be accompanied by cash, cashier's or certified check, or by a bidder's bond made payable to the City of Santa Rosa and executed as surety by a corporate surety authorized and admitted to transact a surety business in the State of California in an amount equal to ten percent of the amount of the bid. No bid shall be considered unless such cash, cashiers or certified check, or bidder's bond is enclosed with the bid. Any bidder's bond shall contain provisions for forfeiture consistent with California Public Contract Code section 20172.

**2-1.40 Withdrawal of Bid:** A bid may be withdrawn prior to, but not after, the hour fixed in the public notice for the opening of bids, provided that a written request to withdraw the bid, executed by the bidder or the bidder's authorized representative, is filed with the Engineer before this deadline. The withdrawal of a bid shall not prejudice the right of a bidder to submit a new bid.

**2-1.43 Public Opening of Bids:** Bids will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.

**2-1.46 Disqualification of Bidders:** Serial bids from the same bidder will not be accepted. This section shall not be interpreted to mean that the same contractor may not be the contractor in one bid and listed as a subcontractor in another bid, provided that no collusion exists.

**2-1.48 Competency of Bidders:** No bid will be accepted from or contract awarded to a contractor that is not licensed in accordance with the law, that does not hold a license qualifying it to perform work under this contract, to whom a bid form has not been issued by the Engineer, or that has not successfully completed projects of similar character, scope and cost to the proposed project. Bidders will be required to provide a list of previous similar jobs with their bids.

### 3 CONTRACT AWARD AND EXECUTION

**3-1.04 Contract Award:** The City reserves the right to reject any or all bids. Bids are required for the entire work described herein. All bids will be compared with the Engineer's estimate of the quantities of work to be completed. Contract award, if any, will be made to the lowest responsible bidder within sixty days from the date bids are opened.

**3-1.05 Contract Bonds:** The successful bidder will NOT be required to furnish a performance bond or material guaranty bond for this project. The successful bidder will be required to provide a payment bond for labor and materials within ten days after receipt of the Notice of Award in accordance with California Civil Code section 9550, executed in a sum of 100% of the Contract price. **A BID BOND IS REQUIRED. REFER TO SECTION 2-1.34 OF THESE SPECIAL PROVISIONS.**

The bond(s) shall be provided in a form acceptable to the City and issued by a corporate surety in good financial standing and authorized and admitted to transact a surety business in the state of California for the purposes and in the amount(s) stated above.

Whenever the financial or legal status of any surety on any such bond(s) is/are unacceptable to the City, it may make a demand to Contractor for further bond(s) or additional surety, not exceeding the sums originally required. Thereafter, no payment shall be made upon the Contract to Contractor or any assignees of Contractor until such bond(s) or additional surety has/have been provided to the City.

**3-1.07 Indemnification and Insurance:** Indemnification: Contractor shall defend, hold harmless and indemnify City, its officers, agents and employees, and each and every one of them, from and against any and all actions, damages, costs, liabilities, claims, demands, losses, judgments, penalties, costs and expenses of every type and description, including, but not limited to, any fees and/or costs reasonably incurred by City's staff attorneys or outside attorneys and any fees and expenses incurred in enforcing this provision (hereafter collectively referred to as "Liabilities"), including but not limited to Liabilities arising from personal injury or death; damage to personal, real or intellectual property or the environment; contractual or other economic damages, or regulatory penalties, arising out of or in any way connected with the performance of or the failure to perform the Contract by Contractor, any subcontractor or agent, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, whether or not such Liabilities are caused in part by a party indemnified hereunder, or such Liabilities are litigated, settled or reduced to judgment; provided, that the foregoing indemnity does not apply to liability for any damage or expense for death or bodily injury to persons or damage to property to the extent arising from (i) the sole negligence, or willful misconduct of, or defects in design furnished by City, its agents, servants, or independent contractors who are directly responsible to City (excluding Contractor), or (ii) the active negligence of City.

The existence of any of the insurance policies or coverages described in this Contract shall not affect or limit any of City's rights hereunder, nor shall the limits of such insurance limit Contractor's liability to the City hereunder. The provisions of this section shall survive any expiration or termination of the Contract.

Insurance: Contractor shall maintain in full force and effect all of the insurance coverage described in and in accordance with the insurance requirements set forth below. Maintenance of such insurance coverage during the entire performance of the Contract is a material element of the Contract. Failure by Contractor to (i) maintain or renew coverage, (ii) provide notice of any changes, modifications, or reductions in coverage, or (iii) provide evidence of renewal, if necessary, may be deemed a material breach of the Contract by Contractor, whereas the City

shall be entitled to all rights and remedies at law or in equity. Notwithstanding the foregoing, any failure by Contractor to maintain required insurance coverage shall not excuse or alleviate Contractor from any of its other duties or obligations under the Contract. In the event Contractor retains or utilizes any subcontractors or sub-consultants in performance of the work, Contractor shall assure that any such subcontractor has first obtained, and shall maintain, all of the insurance coverage requirements herein set forth below.

**Insurance Requirements:**

**A. Insurance Policies:** Contractor shall maintain and keep in full force and effect, the following policies of insurance with minimum coverage as indicated below and issued by insurers with an AM Best rating of no less than A-:VI or a rating otherwise acceptable to the City.

	<b>Insurance</b>	<b>Minimum Coverage Limits</b>	<b>Additional Coverage Requirements</b>
1.	Commercial general liability	\$ 3 million per occurrence \$ 3 million aggregate	Coverage must be at least as broad as ISO CG 00 01 and must include products liability and completed operations coverage which shall continue for a period of 365 days after acceptance of the work by the City. If insurance applies separately to a project/location, aggregate may be equal to per occurrence amount. Coverage may be met by a combination of primary and umbrella or excess insurance but umbrella and excess shall provide coverage at least as broad as specified for underlying coverage. Coverage can be provided in the form of an endorsement to Contractor's insurance (at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 23 37 forms if later revisions used). Coverage shall not exclude subsidence.
2.	Business auto coverage	\$ 1 million	ISO Form Number CA 00 01 covering any auto (Code 1). Insurance shall cover owned, non-owned and hired autos.
3.	Workers' compensation and Employer's Liability	\$ 1 million	As required by the State of California, with Statutory Limits and Employer's Liability Insurance with limit of no less than \$1 million per accident for bodily injury or disease. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

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| 4. Contractor's pollution legal liability and/or asbestos legal liability and/or errors and omission (if the City determines, in its sole discretion, that the project involves environmental hazards) | \$ 1 million per occurrence or claim<br>\$ 1 million aggregate | If the work involves lead-based paint or asbestos identification/remediation, the pollution liability policy must not contain lead-based paint or asbestos exclusions. If the work involves mold identification, the pollution liability policy must not contain a mold exclusion and a definition of "Pollution" in said policy shall include microbial matter including mold. |
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**B. Endorsements:**

1. All policies shall provide or be endorsed to provide that coverage shall not be canceled by either party, except after prior written notice has been provided to the City in accordance with the policy provisions.
2. Liability policies shall provide or be endorsed to provide the following:
  - a. For any claims related to this Contract, Contractor's insurance coverage shall be primary and any insurance or self-insurance maintained by City shall be in excess of Contractor's insurance and shall not contribute with it. Endorsements at least as broad as 20 01 04 13 or evidence of policy language will be required in non ISO CGL policies.
  - b. The City of Santa Rosa, its officers, agents and employees are to be covered as additional insureds on the CGL policy. Additional Insured Endorsements at least as broad as 20 10 04 13 or 20 38 04 13 are required.

**C. Verification of Coverage and Certificates of Insurance:** Contractor shall furnish City with original certificates and endorsements effecting coverage required above. Certificates and endorsements shall make reference to policy numbers. All certificates and endorsements are to be received and approved by the City before work commences and must be in effect for the duration of the Contract. The City reserves the right to require complete copies of all required policies and endorsements during the duration of the Contract and for a period of 365 days following City's acceptance of the work.

**D. Other Insurance Provisions:**

1. No policy required by this Contract shall prohibit Contractor from waiving any right of recovery prior to loss. Contractor hereby waives such right with regard to the indemnitees.
2. All insurance coverage amounts provided by Contractor and available or applicable to this Agreement are intended to apply to the full extent of the policies. Nothing contained in this Agreement limits the application of such insurance coverage. Coverage for an additional insured shall NOT be limited to the insured's vicarious liability. Defense costs must be paid in addition to coverage amounts.
3. Self-insured retentions above \$10,000 must be approved by the City. At the City's option, Contractor may be required to provide financial guarantees.
4. City reserves the right to modify these insurance requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.



**3-1.18 Contract Execution:** The fully executed Contract, original bonds and insurance certificates and endorsements required under the Contract shall be delivered to the City within ten calendar days of Contractor's receipt of the Notice of Award.

The Engineer will supply Contractor with up to ten sets of the Invitation for Bids. At least one complete set of the Invitation for Bids shall be kept at the construction site in good condition and made available to the Engineer at all times. Additional copies of the Invitation for Bids will be provided by the Engineer at Contractor's cost.

**3-1.20 Failure to Execute Contract:** Contractor's failure to deliver to the City the fully executed Contract within ten calendar days of Contractor's receipt of the Notice of Award shall be cause for the cancellation of the award and the forfeiture of the bid guaranty to the City. If the successful bidder refuses or fails to execute the Contract, the City may award the Contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the Contract, the City may award the Contract to the third lowest responsible bidder. The refusal or failure by the second or third lowest responsible bidder to deliver to the City the fully executed Contract within ten calendar days of receipt of the Notice of Award to the respective bidder shall likewise be cause for the cancellation of the award and the forfeiture of the bid guaranty of the respective bidder. In its discretion, the City may then re-advertise the project or construct it by day labor.

**3-1.21 Return of Bid Guarantees:** Within ten days after the opening of bids, the City will return the bid guarantees to all bidders except the three lowest responsible bidders. The bid guarantees of the three lowest responsible bidders will be retained until the Contract has been fully executed. In the event all bids are rejected, all bid guarantees will be returned to the respective bidders.

**3-1.22 Subcontractors:** The successful bidder shall furnish a list of all subcontractors as required under Sections 2-1.33C. The list shall include the name, business address, DIR registration number and the state contractor's license number of each subcontractor on the list and the names of the responsible managing employees whose names appear on the subcontractors' licenses.

## 4 SCOPE OF WORK

**4-1.05 Changes and Extra Work:** All changes to the Contract shall be made by written change order only.

All extra work shall be recorded by Contractor on a daily report signed by both the City and Contractor. The “daily reports” shall thereafter be considered the true record of extra work performed. A copy of the daily reports will be furnished to Contractor. Contractor is directed to Section 9-1.04 of this Invitation for Bids.

**4-1.05C Compensation for Altered Quantities:** Payment and compensation for altered quantities shall conform to the provisions of Section 9-1.06 of the Standard Specifications, except as modified herein.

## 5 CONTROL OF WORK

**5-1.02 Contractor's Copies of Contract Documents:** In the event of a conflict in any of the Contract Documents, the order of precedence from highest to lowest shall be as follows:

1. Special Provisions
2. City Standards
3. City Specifications
4. Standard Specifications

**5-1.05 Order of Work:** The work as specified in the Invitation for Bids shall be constructed in a sequence that is satisfactory to and approved by the Engineer.

Contractor shall prepare a work schedule per Section 8-1.02 of the Standard Specifications.

With the exception of trenching, all existing street, street light base, curb and gutter, storm drain, water line, and sewer line work shall be completed before any existing street paving is removed.

Full compensation for the conformance to the requirements of this section is included in the Contract price and no additional allowance will be made to Contractor for this work.

**5-1.17 Character of Workers:** Contractor is directed to Section 5-1.17 of the Standard Specifications which states:

"If any subcontractor or person employed by the Contractor shall appear to the Engineer to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the request of the Engineer, and such person shall not again be employed on the work."

No additional compensation shall be granted to Contractor in the event City exercises any part of its rights under this section and any and all costs related to such exercise shall be borne by Contractor.

**5-1.20 Cooperation with Other Entities:** Attention is directed to Section 5-1.20 of the Standard Specifications.

Other construction including but not limited to utility, power, and pipe line relocation, may be in progress by other forces within and adjacent to the project area at the same time work is being performed under this Contract by Contractor.

Contractor shall cooperate with the forces performing other work, to the end that such forces may conduct their operations with as little inconvenience and delay as possible. Contractor shall grant such forces access to the project area as is reasonable and necessary to transport materials and equipment to the site of operations by the other forces.

**5-1.20B(4)(a) Offsite Staging Areas and Construction Yards:** Attention is directed to Santa Rosa City Code section 20-52.040, Temporary Use Permit.

A Temporary Use Permit shall be obtained for any offsite construction yard on private property to be used for any of the following:

- a. Stockpiling of equipment and/or materials;
- b. Staging of construction;
- c. Placement of work trailers or mobile offices;
- d. Storage of trench spoils; or
- e. Other construction related activities not specifically enumerated above.

**5-1.26 Lines and Grades:** Contractor shall carefully preserve all bench marks, grade stakes, and all other survey markers. In the case of willful or careless destruction, Contractor shall bear the cost of replacing the markers.

Contractor shall contact the Engineer directly for coordination of survey staking. Written staking requests must be submitted at least two working days in advance of the date and time stakes are needed.

**5-1.27B Examination and Audit:** Pursuant to California Government Code section 8546.7, any contract with the City involving expenditures in excess of \$10,000 shall be subject to the examination and audit of the California State Auditor for a period of three years after final payment is made to Contractor by City under this Contract. Any such examination and audit will be confined to those matters connected with the performance of this Contract.

**5-1.30A Inspection:** Contractor shall bear all costs associated with the re-inspection of any defective, rejected or unauthorized work as determined by the Engineer in Engineer's sole discretion. Such costs of re-inspection, including any costs incurred by the City for additional staff time or fees for third-party consultant inspectors, will be deducted from one or more progress payments hereunder.

**5-1.36A Property and Facility Preservation:** Attention is directed to Section 5-1.36 of the Standard Specifications.

At Contractor's sole expense, all fences, gates, landscaping, drainage ditches, sidewalks, irrigation systems, and any other improvements that are damaged, removed or destroyed because of Contractor's operations, shall be replaced in accordance with City Standards at a minimum and restored to the same or better condition. Concrete surface treatment and score marks shall match adjacent existing concrete improvements.

**5-1.36E Obstructions:** Attention is directed to Section 5-1.36 of the Standard Specifications and to the possible existence of underground gas mains, high voltage lines, telephone ducts, storm drains and water and sewers systems. The determination of the location of these facilities and the cost of repair or replacement in the event of damage to such facilities are the sole responsibility of Contractor.

Should Contractor alter any public utility or private improvements to facilitate its operations or for its sole benefit, which alteration would not be otherwise required, Contractor shall make whatever arrangements are necessary with the owner or controlling authorities and shall bear all expenses in connection therewith. Any damages to any public utility or private improvement caused by Contractor shall be repaired by Contractor at its sole expense and to the full satisfaction of the Engineer or the controlling authority.

Any subsurface information and data furnished under any part of this Contract are not intended as a representation or warranty but are furnished for information only. It is expressly understood that the City will not be responsible for the accuracy thereof or for any deduction, interpretation or conclusion drawn therefrom by Contractor. The information is made available so that Contractor may have ready access to the same information available to the City and is not part of this Contract.

PRIOR TO STARTING ANY EXCAVATION, CONTRACTOR SHALL (AT LEAST TWO WORKING DAYS IN ADVANCE) CALL UNDERGROUND SERVICE ALERT (USA) toll free at (800) 227-2600 and provide USA with all necessary data relative to the proposed excavation. USA will accept calls and process information to participating agencies who have underground facilities in the area between the hours of 7:30 a.m. and 5:00 p.m. daily, except Saturdays, Sundays, and holidays. Between the hours of 5:00 p.m. and 7:30 a.m., calls will be recorded and then processed after

7:30 a.m. For emergency situations, after hours, and on Saturdays, Sundays and holidays, Contractor shall contact the owner of the affected facility.

Contractor shall coordinate all work with the appropriate City field personnel. When City work forces are required at the job site to perform Contract items of work, Contractor shall give a minimum of two working days advanced notification to the appropriate field office:

Water Division:	(707) 543-4200
Sewer Division:	(707) 543-4200
Street Division:	(707) 543-3880
Survey Division:	(707) 543-3834

**5-1.43 Potential Claims and Dispute Resolution:** "Claim" means a separate demand by Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following: (A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by the City under the Contract; (B) Payment by the City of money or damages arising from work done by, or on behalf of, Contractor pursuant to the Contract and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled; or (C) Payment of an amount that is disputed by the City.

Upon receipt of a Claim, the City shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days, shall provide Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed, provided, the parties may extend the 45 day time period by mutual agreement.

If the City needs approval from the City Council to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the Claim, and the Council does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim, the City shall have up to three days following the next duly publicly noticed meeting of the City Council after the 45-day period, or extension expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the City issues its written statement. If the City fails to issue a written statement, the Claim shall be deemed rejected in its entirety.

If a Contractor disputes the City's written response, or if the City fails to respond to a Claim within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the City shall conduct a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the City shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the City issues its written statement. Any disputed portion of the Claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the City and the Contractor sharing the associated costs equally. The City and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.

## 6 CONTROL OF MATERIALS

**6-2.01 Source of Supply and Quality of Materials:** All materials required to complete the work under the Contract shall be furnished by Contractor and shall be free of hazardous substances.

**6-3.01 General:** Statistical means will not be used by the City for determination of Standard Specification compliance. Whenever both operating range test results and Contract compliance requirements are specified in these special provisions, the operating range requirements shall apply to the individual test results.

**6-3.01A Material Submittals:** Upon award of the Contract by City, Contractor shall submit to the Engineer a list of all materials proposed to be used on this project and any supporting documentation and/or samples required and source of supply.

For material listed on the “Engineer’s List of Approved Items” which is located in the Sewer and Water sections only of the City Standards, the Engineer shall be provided with the name of the manufacturer and model/part number for all material proposed for this project, unless that item has been replaced in the Invitation for Bids.

For all other materials used on this project, regardless of the type of work, Contractor shall provide to the Engineer the name of the manufacturer and model/part number along with supporting documentation and/or samples that will allow the Engineer to determine the material’s acceptability.

The Engineer reserves the right to reject any proposed material, whether on the City’s “Engineer’s List of Approved Items” or not. If the City obtains information indicating that a listed item is not performing satisfactorily or is found to be defective, that item will be rejected and Contractor shall submit a replacement for review at no additional cost to the City.

**6-3.01B Material Guarantee:** Before any contract is awarded, the bidder may be required to furnish samples of materials and detailed descriptions of equipment to be used in the construction of the project. The materials samples may be subjected to the tests provided for in the Standard Specifications or in this Invitation for Bids to determine their quality and fitness for the project. The successful bidder shall unconditionally guarantee project materials and workmanship for a period of one year from the date of recording of the Notice of Completion. The guarantee shall cover 100% of all costs of repairs within the one year period, including all costs of labor, materials, equipment, and incidentals. Except as may be otherwise provided in Section 3-1.05, the successful bidder shall provide a surety bond executed by a corporate surety authorized and admitted to transact a surety business in the state of California in the minimum amount of one-half of the Contract price to cover this guarantee.

**6-3.05 Quality Assurance:** California Test 216 (Relative Compaction) testing will be modified as follows: A mechanical compactor (Ploog Engineering Co. Model M 100 or equivalent) with 10-pound hammer and split compaction molds shall be used in lieu of the specified manual compaction equipment.

California Test 231 (Nuclear Gage Determination of In-Place Density) will be modified as follows: In-place density and relative compaction may be determined on the basis of individual test sites in lieu of the area concept, at the discretion of the Engineer.

### **6-4 Water Utility**

**6-4.01A Construction Water:** All water required for the performance of the work shall be provided by Contractor. Prior to obtaining water from the City’s water system, Contractor shall obtain a Water

Use Permit from the City of Santa Rosa Water Department and rent a hydrant or bridge meter. Contractor is responsible for the cost of all water and the cost of all deposits, permits and fees.

Contractor is prohibited from operating gate valves or fire hydrants on the City system.

The acquisition of water from the City's water system through un-metered hydrants or other facilities is a violation of City ordinance and State law. The use of water from sources other than the City's water system must be approved by the Engineer in advance of the use.

Citations and fines will be levied for violation of these and other utility regulations and deductions will be made from payments consistent with Section 7-1.02A(1) of the Standard Specifications.

**6-4.01B Water Utility Notification:** Contractors or parties requiring work of any kind by the City of Santa Rosa Water Department forces shall request such services a minimum of 48 hours in advance of the time such services are desired. Work requests which will involve the City of Santa Rosa Water Department forces for more than eight hours or an extensive number of City parts shall be requested a minimum of seven calendar days in advance.

If it is necessary to terminate or disrupt utility service to any customer, Contractor shall make the request for such work by City forces an additional 72 hours (three additional working days for a total of five working days advance notice) in advance of the time such services are desired to allow affected customers a minimum of 72 hours' notice. Contractors who fail to keep field appointments will be billed for scheduled City of Santa Rosa Water Department crew standby time which was used and the Contractor shall bear the costs incurred by the City of Santa Rosa's Water Department for re-notification of customers.

City of Santa Rosa Water Department crews work a 9/80 schedule. This schedule may prohibit shutdowns for tie-ins on alternating Fridays. After hours work or weekend work may be performed if prior authorization from the Engineer is obtained.

Other than the hours specified in this Invitation for Bids, requests by Contractor for after hours or weekend work is to be avoided whenever possible. Any overtime costs incurred by City for such work shall be borne by Contractor.

Interruption of utilities service to commercial customers shall be coordinated with the customer to minimize disruption to the enterprise to the greatest extent practicable. After notification by the Contractor of the need, the City of Santa Rosa Water Department will contact all commercial customers and inform Contractor accordingly.

**6-4.01C Water Facility Damage:** All damage caused to the City's water system shall be immediately reported to the Engineer.

Damage caused to the City's water system by Contractor's operations shall be repaired by the Contractor at Contractor's sole expense in a manner satisfactory to the City of Santa Rosa Water Department. Such repairs shall not be charged to the City or any City project. All repair work shall be witnessed and approved by the City of Santa Rosa Water Department prior to backfilling the excavation. The City will require re-excavation if backfilling occurs prior to inspection, which costs shall be borne by Contractor.

Contractor is responsible for, at its sole cost and expense, the repair and remediation of damage to property and facilities caused by any of the following circumstances:

- a. Contractor fails to make a written request for a markout or begins excavation without providing the City of Santa Rosa Water Department a reasonable opportunity to mark facilities;

- b. Contractor destroys markouts;
- c. Contractor fails to perform hand digging or probing for utilities near markouts; or
- d. Contractor fails to use reasonable caution, regardless of whether markouts are present or clear. Reasonable caution includes any efforts to avoid damaging existing facilities, such as when excavating in the vicinity of water mains.

City may, in its discretion, opt to make the repairs for which Contractor is responsible with its own forces. In such cases, the repairs will be made at Contractor's expense in accordance with the emergency repair rate schedule of the City of Santa Rosa Water Department. The City may make repairs whenever restoration of service requires extraordinary speed or special equipment. Contractor will be billed accordingly and City shall have the right and option to withhold payment hereunder, or a portion thereof, for any such costs billed but not promptly paid by Contractor.

**6-4.02 Salvage:** All valves, hydrants, and other appurtenances of the water system that are the property of City and removed by Contractor shall be delivered to the City's Municipal Services Center (55 Stony Point Road) unless Contractor has obtained specific written approval from the City of Santa Rosa Water Department to otherwise dispose of the materials.

**6-4.03 Trade Names and Alternatives:** Unless otherwise specified, material and equipment specifications that identify a particular patent, trade name or manufacturer, may be satisfied through substitute materials and equipment accepted by the City. Contractor may offer substitute materials and equipment of equal or better quality to the City. Any such offer shall be made in writing to the Engineer at least four weeks in advance of the time Contractor wishes to order the materials or equipment. Contractor shall include sufficient data which, together with any other information the Engineer may require, will enable the Engineer to determine the acceptability of the materials and equipment. When the substitute materials or equipment necessitate changes to any part of the work, the information shall include drawings and details showing all such changes and Contractor shall perform these changes as a part of any acceptance of substitute materials or equipment. The use of substituted materials and equipment will be permitted only after written acceptance of the materials and equipment by the Engineer. Such acceptance shall not relieve the Contractor from full responsibility for the sufficiency, quality and performance of the substitute materials and equipment.

The City will not, under any circumstances, acknowledge or consider any offers to accept substitute materials or equipment between the dates of public notice of advertisement and the bid opening.



## 7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

**7-1.02A(1) Forfeitures for Health and Safety Violations:** Contractor shall comply with all applicable provisions of the Santa Rosa City Code and any failure to do so shall constitute a breach of the Contract. In the event of any violation of the Santa Rosa City Code that may impact public health and safety, including, but not limited to Chapter 17-12, "Storm Water" and Chapter 13-04, "Street Encroachments," City shall have the right to impose a charge against Contractor in an amount equal to \$500.00 per violation per day. Prior to the imposition of any charge hereunder, City shall first provide a written notice to Contractor of the violation and setting forth a reasonable period of time for Contractor to cure the violation(s). In the event Contractor fails to cure any such violation within the time provided, City shall have the right, in addition to all other rights and remedies available to City, to deduct and withhold as a permanent forfeiture by Contractor the appropriate amounts from any payment otherwise due Contractor under this Contract.

**7-1.02K(2) Wages:** Pursuant to Labor Code sections 1770 *et seq.*, each laborer or mechanic of Contractor or any subcontractor engaged in work on the project under this contract shall be paid not less than the hourly wage rate of per diem wages set forth in the prevailing wage rate schedule published by the Director of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or any subcontractor and such laborers and mechanics. A copy of the schedule of prevailing wage rates can be obtained online at [www.dir.ca.gov](http://www.dir.ca.gov) or from the Department of Transportation and Public Works at 69 Stony Circle, Santa Rosa.

Any laborer or mechanic employed to perform work on the public works project under this Contract, which work is not covered by any of the foregoing classifications, shall be paid not less than the prevailing wage rate of per diem wages specified herein for the classification which most nearly corresponds to the work to be performed by the worker.

The foregoing specified prevailing wage rates are minimum rates only, and Contractor may pay any wage rate in excess of the applicable rate.

Pursuant to Labor Code Section 1775, Contractor as a penalty to the owner shall forfeit not more than \$200.00 for each calendar day, or a portion thereof, for each worker paid less than the prevailing wage rate established by the Department of Industrial Relations for such work or craft in which such worker is employed. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which the worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

Contractor shall only provide prevailing wage reports upon written request from City.

**7-1.02K(4) Apprentices:** Contractor agrees to comply with Chapter 1, Part 7, Division 2, sections 1777.5 *et seq.* of the California Labor Code. These sections require contractors and subcontractors to employ apprentices in apprenticeable occupations in a ratio of not less than one hour of apprentice work for each five hours of journeyman work (unless an exception is granted in accordance with Section 1777.5), and the contractors and subcontractors shall not discriminate among otherwise qualified employees as apprentices solely on the ground of sex, race, religion, creed, national origin, ancestry, or color. Only apprentices as defined in Labor Code section 3077, who are in training under apprenticeship standards and who have written apprentice agreements will be employed on public works in apprenticeable occupations. The responsibility for compliance with these provisions is fixed with the prime contractor for all apprenticeable occupations.

**7-1.02K(6)(a)(1) Notice to Vendors:** Attention is directed to the current OSHA Standards. All equipment, tools and materials which are furnished and/or installed as part of this Contract shall meet or exceed the aforementioned standards in order to be considered acceptable.

**7-1.02K(6)(b) Excavation Safety:** When the digging or excavation occurs during project construction, Contractor shall:

- a. Promptly notify City in writing of the following conditions before any such conditions are disturbed:
  1. Material that the Contractor believes may be hazardous waste as defined in Health and Safety Code section 25117 that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law;
  2. Subsurface or latent physical conditions at the site differing from those indicated in the Invitation for Bids; and
  3. Physical conditions at the site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in the type of work under the Contract.
- b. The City will investigate the conditions and will issue a change order under the terms of the Contract if it finds that the conditions warrant it.
- c. If a dispute arises between City and Contractor as to whether a change order is warranted, Contractor shall not be excused from any scheduled completion date provided for in the Contract, but shall proceed with all work to be performed under the Contract.

**7-1.02K(6)(b)(1) Trench Excavation Safety Plans:** When the estimated cost for the excavation of any trench or trenches five feet or more in depth will exceed \$25,000.00, Contractor shall submit to the Engineer in advance of excavation a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards established by the construction safety orders, or if the trench is anticipated to be greater than 20 feet, the plan shall be prepared by a registered civil or structural engineer.

A permit to do the above described work shall be obtained from the State of California, Division of Industrial Safety. Proof of such permit shall be submitted to the Engineer prior to starting the trench work.

Full compensation for complying with the provisions of this section shall be considered as included in the Contract price and no additional allowance will be made for the work.

**7-1.02K(6)(d) Confined Space Safety:** Any confined space entry for this project, including but not limited to manhole or water storage tank entry, will require a confined space entry permit pursuant to Cal/OSHA regulations as set forth in title 8 California Code of Regulations (CCR) sections 5157 or 5158. Confined space entry shall have the meaning ascribed in title 8 CCR sections 5157 and 5158. For any confined space entry for construction operations regulated by title 8 CCR section 1502, Contractor shall comply with title 8 CCR section 5158, "Other Confined Space Operations." For any other confined space operations, Contractor shall comply with title 8 CCR section 5157, "Permit-Required Confined Spaces."

Attention is directed to the technical specifications in the Special Provisions for information regarding entry to any City maintained confined space. Pursuant to title 8 CCR section 5157, Contractor is required to obtain any available information regarding hazards and operations for any City maintained confined spaces. The City maintained Confined Space Entry Manual is available

for viewing at the City of Santa Rosa Water Department or Transportation and Public Works Department office at 69 Stony Circle, Santa Rosa.

Contractor shall immediately inform the Engineer of any previously unidentified hazards confronted or created during confined space entry.

**7-1.02L(2)(a) Patents and Royalties:** All fees, royalties, or claims for any patented invention, article, process or method that may be used upon or in any manner connected with the work under this Contract shall be paid by Contractor. Contractor and its sureties shall protect and hold harmless City and its officers, agents, and employees from any and all demands made for such fees royalties or claims brought or made by any third party, and before the final payment is made on the account of the Contract, Contractor shall, if requested by City, furnish acceptable proof of a proper release from all such claims and liabilities.

Should Contractor, its officers, agents, or employees, or any one of them be enjoined from furnishing or using any invention, article or material supplied or required to be supplied or used under the Contract, Contractor shall promptly substitute other articles, materials, or appliances in lieu thereof of equal efficiency, quality, finish, suitability, and market value, and satisfactory in all respects to the Engineer. In the event that the Engineer elects, in lieu of such substitution, to have supplied and to retain and use any such invention, article or materials as may be required to be supplied by the Contract, Contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary for City, its officers, agents, and employees, or any one of them to use such invention, article, materials, or appliance without being disturbed or in any way interfered with by any proceeding in law of equity on account thereof. Should Contractor neglect or refuse to make the substitution promptly or to pay such royalties and secure such licenses as may be necessary, then in that event the Engineer shall have the right to make such substitutions or City may pay such royalties and secure such licenses and charge Contractor even though final payment under the Contract may have been made.

**7-1.02M(3) Mined Materials:** California Public Contract Code section 20676 prohibits surface mining operators which are subject to the Surface Mining and Reclamation Act of 1975 (SMARA) from selling California mined construction material to the City unless the operator is identified in a list referred as the **3098 List**. The List, which is maintained by the Department of Conservation's Office of Mine Reclamation (OMR), changes throughout the year and can be viewed at the OMR website: [http://www.consrv.ca.gov/OMR/ab\\_3098\\_list/index.htm](http://www.consrv.ca.gov/OMR/ab_3098_list/index.htm). To confirm whether or not a specific operator is on the List at any given time, Contractor shall call the OMR at (916)323-9198.

**7-1.03A Maintaining Traffic:** Attention is directed to Sections 7-1.04 of the Standard Specifications and to the following modifications thereof.

If construction is within City owned right-of-way, provisions shall be made for the safe passage of public traffic through the work site at all times consistent with the requirements of Santa Rosa City Code Chapter 13-04.

Except for projects to be performed under a minor contract, Contractor shall install and maintain project identification signs at each end of the project or as directed by the Engineer two weeks prior to any construction activity. City shall furnish the appropriate sign panels upon request from Contractor. To mount the sign panels, Contractor shall furnish and install 4" X 4" posts or mount by other appropriate methods as approved by the Engineer. These sign panels shall be returned to the City Corporation Yard at 55 Stony Point Road after completion of the project.

Two weeks prior to any construction activity, advance notice signs for road closures shall be furnished and installed by Contractor at each end of the project and shall remain in place throughout the duration of the subject closure. Details of panel construction and lettering shall be approved by the Engineer.

Contractor shall furnish, install, and maintain at its expense all barricades, signs, lights, and other devices necessary to adequately warn of any obstructions to the traveled and pedestrian way and provide flaggers as necessary for the safety of public traffic and pedestrians and to provide access to property adjacent to the work site and Contractor shall comply with the Americans with Disabilities Act of 1990 (42 U.S.C. 12101, *et seq.*) (ADA) and any regulations and guidelines issued pursuant to the ADA.

Contractor shall comply with the current edition of the California Manual of Uniform Traffic Control Devices (CA MUTCD) for all items related to traffic within the work site.

Rain and other occurrences that may cause the suspension or delay of the work shall in no way relieve Contractor of its responsibility to provide traffic control and public access through the work site as specified herein. At all times, Contractor shall keep at the work site such materials, forces and equipment as may be necessary to keep roads, streets, and driveways within the work site open to traffic and in good repair and shall expedite the passage of such traffic, using such forces and equipment as may be necessary.

Should Contractor fail, in the opinion of the Engineer, to provide all the materials, forces and equipment necessary to maintain traffic through the work site as set forth herein, City may take steps necessary to remedy any such failure, including but not limited to causing such work to be performed and/or suspending any further work under the Contract. Any such remedial cost and expense incurred by the City, plus an administrative charge of 15%, shall be immediately due and payable by Contractor and may be deducted from any amounts owed to Contractor hereunder. In the event there are insufficient sums owed to Contractor hereunder to cover the foregoing costs and charges, City shall have the right to pursue any other remedy to recover the same, including but not limited to, proceeding against any surety or bond in favor of City. City's rights under Section 7-1.02 are intended to be in addition to and not in lieu of any charges imposed by City against Contractor under Section 7-1.02A(1) above for violations of the Santa Rosa City Code.

Contractor shall be responsible for informing emergency response agencies operating within the area of the work of obstructions to either public or private roads caused by reason of Contractor's operations hereunder.

Contractor shall make provisions for the safe passage of pedestrians around the project work site at all times.

## 8 PROSECUTION AND PROGRESS

**8-1.01A Assignments:** Once awarded, this Contract shall not be transferred, assigned, or sub-contracted, except as herein expressly provided without the prior written consent of the City in the City's sole and absolute discretion. See Section 5-1.12 of the Standard Specifications.

**8-1.04B Standard Start:** Contractor shall begin work within twenty-one (21) calendar days after the date authorized in the Notice to Proceed and shall diligently prosecute the Contract to completion before the expiration of:

### 65 WORKING DAYS

**8-1.05 Time:** Working days will be counted beginning with the day the Contractor begins work or with the tenth day after the date authorized in the Notice to Proceed, whichever occurs first.

Unless otherwise put in writing and approved by the Engineer, Contractor shall not conduct any activities that generate noise earlier than 7:00 a.m. or later than 7:00 p.m.

**8-1.10 Liquidated Damages:** Contractor hereby agrees that Contractor shall pay to the City liquidated damages for each and every calendar day delay over and above the number of working days prescribed above for finishing the work in the amount shown in Section 8-1.10 of the Standard Specifications.

## 9 MEASUREMENT AND PAYMENT

**9-1.04 Force Account Work:** All work done on a force account basis shall be recorded daily on report sheets prepared by Contractor and signed by both the Engineer and Contractor. Such reports shall thereafter be considered the true record of force account work performed during the project. Such reports shall be furnished to the Engineer and a copy retained by Contractor.

All extensions of labor, equipment, and material costs shall be completed by Contractor and submitted to the Engineer within 30 days of the completion of the extra work. Completed and extended extra work reports received later than the times herein prescribed may be deemed invalid and rejected without payment at the discretion of the Engineer.

**9-1.07 Payment Adjustments For Price Index Fluctuations:** Any references to Opt Out of Payment Adjustments for Price Index Fluctuations in the Standard Specifications are deleted in their entirety.

**9-1.16 Progress Payments:** Once each month for progress pay purposes, the City will prepare a written estimate of the total amount of completed work and accepted materials purchased by Contractor but not installed. The City shall retain five percent of such estimated value of the completed work and the unused materials and pay Contractor the balance after deducting all previous payments and all sums to be retained under the provisions of the Contract. No such estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the Contract or when, in the Engineer's judgment, the total value of the completed work since the last estimate is less than \$500.00. No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

After Contract acceptance, the Engineer will prepare a written proposed final estimate of the proposed final quantities of work completed under the Contract and the value of such work and will submit such estimate to Contractor. The City shall retain five percent of such estimated value of the work done and shall pay to Contractor the balance after deducting all amounts to be retained under the provisions of the Contract.

The City may, at its option and at any time, retain out of any amounts due Contractor sums sufficient to cover any unpaid claims of City or others, provided that sworn statements of all non-City claims shall have been filed with the Director of Finance.

**9-1.16E(6) Substitution of Securities for Withheld Amounts:** Pursuant to Public Contract Code section 22300, securities may be substituted for any moneys withheld by City to ensure performance under this Contract, provided that substitution of securities provisions shall not be required in contracts in which there will be financing provided by the Farmer's Home Administration of the United States Department of Agriculture pursuant to the Consolidated Farm and Rural Development Act (7 USC sections 1921 *et seq.*), and where federal regulations or policies or both do not allow the substitution of securities. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the City, or with a state or federally chartered bank as the escrow agent, which shall then pay such moneys to Contractor. The Director of Finance is authorized to execute substitution of securities agreements on behalf of the City. The City will return the securities to Contractor upon satisfactory completion of the Contract as determined by City in its sole discretion and the resolution of all outstanding claims against the securities. Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

Securities eligible for investment under this section shall include those listed in Government Code section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit or any other security mutually agreed to by Contractor and the

City, provided that the substituted security is equal to or not less than five percent of the Contract amount.

Security substitutions must be submitted by Contractor and approved by City prior to the time of the first progress payment to be made under the Contract. No other method of substituting securities for retention will be accepted. The security substitution shall be done only upon execution of an agreement satisfactory to City which includes the following provisions:

- a. The amount of securities to be deposited;
- b. The terms and conditions of conversion to cash in case of the default of Contractor;  
and
- c. The procedure for return of securities upon completion of the Contract.

**9-1.17D Final Payment and Claims:** The processing of payment of the final estimate shall not be commenced less than 35 days after the date of recording of the Notice of Completion with the County Recorder's Office. Contractor is advised that it takes approximately ten days for a check to be issued following a request for payment.

Contractor shall submit its written statement of all claims for additional compensation under the Contract to the Engineer within 15 days after submission to Contractor of the proposed final estimate.

If Contractor does not file a claim within the 15 day period, or upon Contractor's approval, the Engineer will issue a final written estimate and the City shall pay to Contractor the entire sum due after deducting all previous payments, if any, and all amounts to be retained under the provisions of the Contract.

If Contractor files a claim within the 15 day period, the Engineer will furnish a semi-final estimate and pay the amount due under the semi-final estimate within 30 days. The semi-final estimate is conclusive as to the amount payable except as may be affected by claims and any amount retained. The Engineer shall then consider and investigate such claim, and shall make such revision in the final quantities as the Engineer may find to be due, and shall then make and issue a final written estimate. The City will pay the amount due, after deducting all previous payments, if any, and amounts to be retained under the provisions of the Contract.

Any and all prior partial estimates and payments shall be subject to correction in the final estimate and payment.

The final estimate shall be conclusive and binding against both parties to the Contract on all questions relating to the performance of the Contract and the amount of work done thereunder and compensation therefor, except in the case of gross error.

**9-1.17D(3) Final Determination of Claims:** Claims filed by Contractor shall be in sufficient detail to enable the Engineer to determine the basis and amount of the Claims. Contractor shall also furnish reasonable documentation to the City to support Claims. If additional information is required by the Engineer, Contractor shall provide such information to the Engineer no later than the 15<sup>th</sup> day after receipt of the written request from the Engineer. If the 15<sup>th</sup> day falls on a weekend, holiday, or day City offices are closed, then the information shall be provided to the Engineer no later than close of the next business day. Failure to submit the requested information to the Engineer within the time specified will be sufficient cause for denying the Claim.

Contractor shall keep full and complete records of the costs and additional time incurred for any work for which a claim for additional compensation is made. The Engineer or any designated Claim investigator or auditor shall have access to those records and any other records as may be reasonably required by the Engineer to determine the facts or contentions in each Claim. Failure to grant access to such records shall be sufficient cause for denying the Claims.

**9-1.22 Arbitration:** Any references to Arbitration in the Standard Specifications are deleted in their entirety.

Claims submitted by Contractor shall be accompanied by a notarized certificate containing the following language:

Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code sections 12650 *et seq.*, the undersigned,

\_\_\_\_\_,  
(Name)

\_\_\_\_\_ of  
(Title)

\_\_\_\_\_  
(Contractor)

hereby certifies that the claim for additional compensation made herein is supported by a true statement of the actual costs incurred and time expended on this project and is fully documented by records maintained by Contractor.

Dated \_\_\_\_\_

/s/ \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ day of

\_\_\_\_\_

\_\_\_\_\_  
Notary Public

My Commission Expires \_\_\_\_\_

Failure to submit the notarized certificate will be sufficient cause for denying the claim.

Any claim for overhead expenses, in addition to being certified as stated above, shall be supported by an audit report of an independent Certified Public Accountant. Any such overhead claim shall also be subject to audit by the City at its discretion.

Any costs or expenses incurred by the City in reviewing or auditing any claims that are not supported by Contractor's cost accounting or other records shall be deemed to be damages incurred by the City within the meaning of the California False Claims Act.





**Technical Specifications**  
**For**  
**Freeway Well Planning Project**  
**Contract No. C02204**  
**June 2019**



## **12 TEMPORARY TRAFFIC CONTROL**

### **12-1 General**

#### **12-1.01 General:**

Construction area traffic control devices shall be installed and maintained in accordance with the applicable sections of these Special Provisions, the Standard Specifications, the current Edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD), the Americans with Disabilities Act (ADA) and as directed by the Engineer.

#### **12-1.03 Flagging Costs:**

The first paragraph of Section 12-1.03, "Flagging Costs" is amended to read:

The cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic through the work under the provisions in Section 7-1.03, "Public Convenience", and Section 7-1.04, "Public Safety", shall be considered as included in the contract lump sum price paid for traffic control and no additional allowance will be made therefor.

### **12-3 Traffic-Handling Equipment and Devices**

#### **12-3.01 General:**

Prior to commencing construction which will affect existing vehicular and pedestrian traffic, the Contractor shall submit for review by the Engineer, Traffic Control Plans on 11" x 17" sheets of paper which contains only information specifically related to work zone vehicular and pedestrian traffic control. If Contractor proposes to use the current edition of the CA MUTCD published by Caltrans in lieu of a traffic control plan, in specific work operations, they shall submit in writing for consideration which Typical Application Diagram will be used and how it will be applied for each work operation. Traffic Control Plans or proposals shall be submitted for review at least two weeks prior to implementation.

Traffic Control Plans shall contain a title block which includes Contractor's name, address, phone number, project superintendent's name, contract name, dates and hours traffic control will be in effect, and a space for review acknowledgment.

The content of the Traffic Control Plan shall include, but is not limited to, the following:

- A. Show location and limits of the work zone.
- B. Give dimensions of lanes affected by traffic control that will be open to traffic.
- C. Indicate signing, cone placement, and other methods of delineation and reference to appropriate City or Caltrans Standards.
- D. Dimension and location of signs and cone tapers.
- E. Identify side streets and driveways affected by construction and show how they will be handled.
- F. Demonstrate how two-way traffic will be maintained.

No work except for installation of project identification signs will be allowed to commence prior to approval of the Traffic Control Plan.

## **12-4 Maintaining Traffic**

### **12-4.01 Maintaining Traffic:**

- A. The full width of the traveled way shall be open for use by public traffic on Saturday, Sundays and designated legal holiday(s), after 4:00 p.m. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress; unless work has specifically been authorized by the Engineer.
- B. The location of traffic control signing, barricades, and other facilities shall be monitored frequently (four to five times per day) by Contractor to verify their proper location. All traffic signal and other traffic control devices shall be maintained at all times.
- C. Contractor shall conduct his operations so as to cause the minimum obstruction and inconvenience to traffic and to places of business, multiple dwelling units and residences adjacent to the work. Contractor shall notify Engineer of its planned work and utility service interruption at least five working days in advance to allow time to notify residents and businesses.
- D. When construction activities will prevent vehicle access to individual driveways Contractor shall notify and receive permission from the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience". Full access shall be provided to all driveways **during non-working hours**.

### **12-4.01A Construction Traffic:**

Contractor shall submit a trucking route along with the traffic controls plans for approval by Engineer. The route must minimize traffic on residential streets that are not part of the project.

Existing pavement damaged by Contractor's operations and not shown to be replaced shall be replaced at Contractor's expense, per City Standards and to the satisfaction of Engineer.

### **12-4.02 Closure Requirements:**

Attention is directed to Section 7-1.03, "Public Convenience", to Section 5-1.05, "Order of Work," of these Special Provisions.

Exact locations of Project Identification signs and Advance Notice signs (7-1.03, "Public Convenience") shall be determined in the field by the Engineer.

Lane closures will be permitted between the hours of 8:30 a.m. and 4:00 p.m. only. Only one lane at a time may be closed and no lanes shall be closed at any other hours unless specifically approved by Engineer. Contractor shall maintain vehicle access to homes and other properties at all times while work is in progress.

The Contractor shall not park construction vehicles, contractor employee vehicles, stage materials or stockpiles in front of any business or residential driveway access and the Contractor shall maintain access to private parking lots within the block where work is in progress. Construction vehicles shall not be left running for any length of time if parked in front of a business or residential unit.

Contractor will be required to keep the southern half of Ridgeway Avenue clear of all construction or Contractor employee vehicles at all times to allow private vehicle access to homes and properties in this area while work is in progress.

Contractor shall keep City of Santa Rosa Fire Department informed regarding the closure of any traveled way. At a minimum, the Contractor shall call the Fire Department at 543-3535 **and** the Communications Center at 543-3666 **daily** to report any traveled way closure. This means immediately upon closure for that day and again immediately after removal of the closure. For closures over multiple days, the daily notification still applies. This requirement does not apply for single lane closures on multiple lane streets.

Where necessary, and only after receiving written approval from Engineer, Contractor may temporarily suspend curb side parking in their immediate work zone. Notification to businesses and residents shall be hand delivered at least 72 hours prior to construction in the affected areas.

Notification shall be as follows:

- A. A notice placed on the front door of each home or business where curb side parking will be suspended and attempt made to notify each business or resident verbally that work will be underway within the block and that curb side parking will be suspended during stated working hours and request that vehicles be parked out of the roadway by 8:00 a.m. Service of notice shall not bar use of cars within the block, as individual plans change and emergencies arise.
- B. Type 1 barricades every 50 feet adjacent to the curb where parking will be suspended with a notice posted on the barricade stating specific dates and times that curb side parking will be temporarily suspended. If work will not take place in the posted area, then Contractor shall remove "No Parking" notices.

Contractor shall maintain vehicle access to all homes and other properties along the work zone.

## **12-7 Temporary Pedestrian Walkways**

### **12-7.01 Pedestrian Traffic Control:**

Contractor is directed to Chapter 6D, Pedestrian and Worker Safety, in the CA MUTCD, the improvement plans and these Special Provisions.

Pedestrians shall be provided with a safe convenient and accessible path that, at a minimum, replicates the most desirable characteristics of the existing sidewalk, path or footpath. At no point along the road shall the sidewalks on both sides of the road be closed at the same time.

Contractor shall construct and maintain temporary pedestrian pathways through the work zone, where required, that shall be in compliance with the requirements of the Americans with Disabilities Act (ADA), and the CA MUTCD.

Pedestrian routes shall not be impacted for the purposes of any non-construction activities such as parking of vehicles or equipment, or stock piling of materials. Pedestrians shall not be led into conflicts with work site vehicles, equipment or operations.

Pedestrian routes shall be open and accessible at the end of the work day unless an alternate ADA compliant route has been approved by the Engineer. The construction of curb ramps and/or long sections of sidewalk do not alleviate the Contractor from this requirement.

## **12-9 Measurement and Payment**

### **12-9.01 Payment:**

**Temporary Traffic Control** shall be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in vehicular and pedestrian control, including but not limited to, providing, placing, maintaining, and removal of temporary paths and/or ramps, temporary relocation of regulatory signs, changeable message boards, project and public notification signs, flagging, excavation, compaction, furnishing, and placement of asphalt concrete and/or PCC, barricades, toe-rails, hand rails, complying with CA MUTCD Standards for Pedestrian Safety, coordination efforts and any other items necessary for vehicle and pedestrian traffic control not specifically enumerated in the plans or these specifications, and no additional allowance will be made therefor.

## **13 WATER POLLUTION CONTROL**

### **13-1-General**

#### **13-1.01A**

Water Pollution Control shall be performed in accordance with Section 13, Water Pollution Control, of the Standard Specifications and these technical specifications. In addition, construction activities shall comply with:

- A. The California Water Quality Control Board, North Coast Region Order No. R1-2009-0050, National Pollutant Discharge Elimination System Municipal Storm Water Permit, Part 8 – Development Construction Program, Sections 1 through 5, commonly referred to as the “Storm Water Permit”. A copy of the Storm Water Permit is available for review at the City of Santa Rosa Transportation and Public Works Department, 69 Stony Circle, Santa Rosa, CA, and at [www.srcity.org/stormwaterpermit](http://www.srcity.org/stormwaterpermit).
- B. The California Stormwater Quality Association Storm Water BMP Handbook for Construction (CASQA Handbook). BMPs shall be selected, installed and maintained in accordance with the latest edition. A copy of the handbook can be viewed at the City of Santa Rosa Department of Transportation and Public Works office at 69 Stony Circle or downloaded from CASQA, <http://www.casqa.org/>.

In this technical specification, the CASQA Handbook BMP numbers are appended to the associated Standard Specification sections. If a conflict occurs, the CASQA Handbook BMP's shall govern.

### **13-2-Water Pollution Control Program**

#### **13-2.01B Submittals**

The Contractor shall submit a water pollution control plan that shall include a spill contingency plan that establishes procedures that will be followed in the event of a spill of potentially hazardous, toxic or polluting materials. The plan must include emergency phone numbers. The water pollution control plan shall briefly describe how the Contractor will comply with all applicable minimum BMPs listed in Sections 13-2.03, 13-2.04 and any additional BMPs shown on the plans and include a copy of the CASQA BMP fact sheet. The water pollution control plan shall be submitted for review at least two weeks prior to implementation and shall be kept on site during construction.

The following contacts shall be listed in the water pollution control plan:

Santa Rosa Police Dept.	(707) 543-3666
REDCOM	(707) 568-9533
Fire, medical and hazardous waste emergencies	
City of Santa Rosa Department of Transportation and Public Works	(707) 543-3800
(after hours 707-543-3805) Spill or discharge of non-storm water.	
Regional Water Quality Control Board	(707) 576-2220
Discharges to storm drains or creeks	

Contractor shall submit a spill contingency plan that establishes clean-up procedures that will be followed in the event of a spill of potentially hazardous, toxic, or polluting materials.

#### **13-2.04 Payment**

The City Pays you to prepare a Water Pollution Control Program at the **lump sum price** for **Water Pollution Control** and as follows:

#### **13-3-Storm Water Pollution Prevention Plan**

##### **13-3.01A Summary**

This project is exempt from the State Water Resources Control Board General NPDES Permit for the Discharge of Storm Water related to Construction Activities (Construction General Permit), and not required to have a Storm Water Pollution Prevention Plan (SWPPP).

#### **13-4-Job Site Management**

##### **13-4.03B: Spill Prevention and Control / CASQA Spill Prevention and Control (BMP WM-4)**

If a spill occurs at the construction site and the contractor does not take immediate and adequate steps to contain and clean up the spill, especially if rain is threatening or if a discharge to a storm drain or creek could occur, the City shall have the right, in its sole and absolute discretion, to clean up the spill using City forces or an independent contractor. The cost of any such cleanup, in addition to recovery of any penalty or fine imposed upon the City, plus an administrative charge of fifteen percent (15%) of the costs incurred by the City, shall be deducted from any amounts owed to Contractor hereunder.

In the event there are insufficient amounts owed to Contractor hereunder to cover the foregoing costs and charges, the City shall have the right to pursue any other remedy to recover same, including, but not limited to, proceeding against any surety or bond in favor of the City. The City's rights under this section are intended to be in addition to and not in lieu of any imposed by the City against Contractor for violations of City Code Chapter 17-12, "Storm Water".

##### **13-4.03C(2): Material Storage / CASQA Material Delivery and Storage (BMP WM-1)**

##### **13-4.03C(3): Stockpile Management / CASQA Stockpile Management (BMP WM-3)**

Do not block storm water flows.

##### **13-4.03D(1): Waste Management / CASQA Solid Waste Management (BMP WM-5)**

The Contractor shall dispose of all trash, rubbish, and waste materials of any kind generated by the contractor, subcontractor, or any company hired by the Contractor on a daily basis.

##### **13-4.03D(3): Concrete Waste / CASQA Concrete Waste Management (BMP WM-8)**

Ensure the containment of concrete washout areas and other washout areas that may contain pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

**13-4.03D(4): Sanitary and Septic Waste / CASQA Sanitary and Septic Waste Management (BMP WM-9)**

Sanitation facilities must be maintained periodically by a licensed service to keep them in good working order and prevent overflows. Portable toilets are required to have secondary containment.

**13-4.03D(5): Liquid Waste**

Liquid waste includes water generated from well construction and development activities. Minimize transfer piping by locating containers near the excavation to be dewatered while protecting the containers from moving vehicles and equipment.

**13-4.03E(4): Vehicle and Equipment Fueling and Maintenance / CASQA Vehicle and Equipment Fueling (BMP NS-9), and CASQA Vehicle and Equipment Maintenance (BMP NS-10)**

All Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

**13-4.03F: Sweeping / CASQA Street Sweeping and Vacuuming (BMP SE-7)**

Contractor shall implement reasonable measures to minimize visible mud or dirt tracked-out onto adjacent public roads. If necessary, Contractor shall remove such visible mud or dirt using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited.

**13-4.04 Payment**

Job Site Management shall be included in the payment for the contract **lump sum** price for **Water Pollution Control**.

**13-6-Temporary Sediment Control (BMP WM-3)**

Contain and securely protect stockpiled trench backfill and waste material from wind and rain at all times unless actively being used. Do not block storm water flows.

**13-6.03C: Temporary Drainage Inlet Protection / CASQA Storm Drain Inlet Protection (BMP SE-10)**

All storm drain inlets shall be protected from non-storm water discharges. Gravel bags shall be placed in gutters adjacent to inlets to capture sediment before entering inlets. All sediment and debris that accumulates behind gravel bags or inlet protection devices shall be removed prior to rain events or as directed by Engineer. All inlet BMPs shall be configured to prevent flooding.

**13-6.04 Payment**

Temporary Sediment Control shall be included in the payment for the contract **lump sum** price for **Water Pollution Control**. The contractor pays all maintenance costs.



### **13-7-Temporary Tracking Control**

#### **13-7.01A: Temporary Tracking Control / Stabilized Construction Entrance and Exit (BMP SE-7, TC-1, TC-3),**

Establish and maintain effective site perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges and tracked materials from leaving the site. At a minimum daily and prior to any rain event, the Contractor shall remove, by vacuuming or sweeping, any sediment or other construction activity related materials that are deposited on roads.

#### **13-7.03 Construction / CASQA Stabilized Construction Site Entrance / Exit (BMP TC-1)**

#### **13-7.04 Payment**

Temporary Tracking Control shall be included in the payment for the **lump sum** price for **Water Pollution Control**. The contractor pays all maintenance costs.

### **13-10-Temporary Linear Sediment Barrier**

#### **13-10 General**

Section 13-10 includes specifications for installing temporary linear sediment barriers

#### **13-10.04 Payment**

Temporary Linear Sediment Barriers shall be included in the payment for the **lump sum** price for **Water Pollution Control**. The contractor pays all maintenance costs.

## **14 ENVIRONMENTAL STEWARDSHIP**

### **14-2 Cultural Resources**

#### **14-2.01 Historical Resource Discovery**

If subsurface historical materials are encountered during construction activities, the piece of equipment that encounters the materials shall be stopped, and the City shall be notified immediately. The Contractor and City will coordinate to have the find inspected by a qualified historian/archaeologist. Project personnel shall not collect historical materials. If the historian/archaeologist determines that the find qualifies as a unique historical resource for purposes of CEQA (CEQA Guidelines Section 15064.5(c)(3)), all work must be stopped in the immediate vicinity to allow the archaeologist to evaluate any materials and recommend appropriate treatment. Such treatment and resolution shall include either modifying the Project to allow the materials to be left in place or undertaking data recovery of the materials in accordance with standard archaeological methods. Construction cannot continue until the treatment plan has been determined and implemented.

#### **14-2.02 Archaeological Resource Discovery**

**If archaeological materials are encountered** during construction activities, construction in the immediate vicinity shall be stopped, and the City shall be notified immediately. The Contractor and City will coordinate to have the find inspected by a qualified archaeologist. Project personnel shall not collect cultural materials. If the archaeologist determines that the find potentially qualifies as a unique archaeological resource for purposes of CEQA (CEQA Guidelines Section 15064.5(c)(3)), all work must remain stopped in the immediate vicinity to allow the archaeologist to evaluate any materials and recommend appropriate treatment. The City shall notify interested Native American tribes of such discoveries and consult with the tribe from which the resources originated, according to the Native American Heritage Commission. Construction cannot continue until the treatment plan has been determined and implemented.

California Health and Safety Code Section 7050.5 states that it is a misdemeanor to knowingly disturb a human grave. If human graves are encountered, the Contractor shall ensure that work shall halt in the vicinity and the City shall be notified immediately. The City will notify the County Coroner. At the same time, the City will contact a qualified archaeologist to evaluate the situation. If human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of identification, pursuant to Public Resources Code 5097.98. The Native American Heritage Commission will identify the person or persons most likely descended from the deceased. The City shall notify the tribe(s) and coordinate with them regarding the Most Likely Descendant and preferred treatment of the remains with appropriate dignity. A Tribal Treatment Plan covering reburial of human remains and disposition of the artifacts and other cultural resources should be agreed to by all parties. Construction cannot continue until the treatment plan has been determined and implemented.

#### **14-2.03 Payment**

Full compensation for conforming to this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

## **14-6 Biological Resources**

### **14-6.03 Bird Protection**

Preconstruction surveys for nesting special-status birds, migratory birds or raptors are conducted for construction commencing between February 1 and August 31. The contractor shall coordinate with City staff to have the bird survey completed within 7 days of construction. Trees within a minimum 300-foot radius of the proposed construction shall be included in the survey.

If the biologist detects no active nesting by special-status or migratory birds or raptors, then work may proceed without restrictions. If migratory bird and/or active raptor nests are identified, the biologist shall determine whether or not construction activities might impact the active nest or disrupt reproductive behavior. If it is determined that construction would not affect an active nest or disrupt breeding behavior, construction may proceed without any restriction.

If the qualified biologist determines that construction activities would likely disrupt special-status birds, migratory birds, or raptor nesting activities, then a no-disturbance buffer around the nesting location shall be established to avoid disturbance or destruction of the nest site until after the breeding season or after a wildlife biologist determines that the young have fledged (usually late June through mid-July). The extent of these buffers would be determined by City staff in consultation with the CDFW and would depend on the species' sensitivity to disturbance (which can vary among species); the level of noise or construction disturbance; line of sight between the nest and the disturbance; ambient levels of noise and other disturbances; and consideration of other topographical or artificial barriers. Typically, a 50-foot buffer shall be required for passerines and a 250-foot buffer for raptors; however, the City staff shall analyze and use the above factors in making an appropriate decision on buffer distances.

#### **14-6.03B Payment**

Full compensation for conforming to this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

## **14-7 Paleontological Resources**

### **14-7.02 Paleontological Resource Discovery**

If a paleontological resource is discovered during construction, all ground disturbing activities within 50 feet of the find shall be temporarily halted but may be diverted to areas beyond 50 feet from the discovery to continue working. The City shall notify a qualified paleontologist, who will document the discovery as needed, evaluate the potential resource, and assess the nature and significance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if the City determines that the find cannot be avoided. The paleontologist shall make recommendations for any necessary treatment that is consistent with currently accepted scientific practices. Construction cannot continue until the treatment plan has been determined and implemented.

#### **14-7.02D Payment**

Full compensation for conforming to this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

## **14-8 Noise and Vibration**

### **14-8.02 General**

These sound attenuation measures shall be implemented as part of the sound attenuation measures listed in Section 76-2.01A of these specifications.

#### **14-8.02A Daytime Noise Control**

Daytime construction activities associated with monitoring well construction occurring within 80 feet of a residential, school, or overnight health care land use shall implement construction noise control measures. Noise control measures may include, but would not be limited to the following:

- A. All equipment driven by internal combustion engines shall be equipped with mufflers which are in good condition and appropriate for the equipment.
- B. The construction contractor shall utilize “quiet” models of air compressors and other stationary noise sources where technology exists.
- C. Unnecessary idling of internal combustion engines shall be prohibited.
- D. All stationary noise-generating equipment shall be located as far as practicable from sensitive receptors.
- E. All stationary construction equipment shall be placed so that the emitted noise is directed away from sensitive receptors nearest the project site.
- F. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- G. Contractor shall designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures as warranted to correct the problem (e.g., to ensure that the measures above are implemented). A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

#### **14-8.02B Nighttime Noise Control**

Nighttime construction activities associated with monitoring well construction occurring within 450 feet of a residential or overnight health care land use shall implement construction noise control measures to further reduce noise.

The Contractor shall provide a minimum 24-hour advance notice to residents within 450 feet of a well site prior to nighttime work. The advance notice shall provide information regarding anticipated schedule, hours of operation and the designated City project contact person (City).

Additional measures to reduce nighttime construction noise shall also be implemented, which may include, but would not be limited to the following:

- A. To the extent consistent with applicable regulations and safety considerations, operation of vehicles requiring use of back-up beepers shall be avoided near sensitive receptors during nighttime hours and/or the work sites shall be arranged in

a way that avoids the need for any reverse motions of large trucks or the sounding of any reverse motion alarms during nighttime work. If these measures are not feasible, trucks operating during the nighttime hours with reverse motion alarms shall be outfitted with SAE J994 Class D alarms (ambient-adjusting, or “smart alarms” that automatically adjust the alarm to 5 dBA above the ambient near the operating equipment).

- B. Maintain orderly conduct among workers, including worker conversation noise during nighttime hours.
- C. Schedule work and deliveries to minimize noise-generating activities during nighttime hours at work sites (e.g., no deliveries or non-essential work).
- D. Maintain the equipment properly to minimize extraneous noise due to squeaking or rubbing machinery parts, damaged mufflers, or misfiring engines.
- E. Locate equipment at the work area to maximize the distance to noise- Stationary noise sources shall be located as far from sensitive noise receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used. Enclosure openings or venting shall face away from sensitive noise receptors. and take advantage of any shielding that may be provided by other on-site equipment.
- F. Utilize sound blankets to reduce noise from the drilling rig.

#### **14-8.03D Payment**

Full compensation for conforming to this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

#### **14-9 Air Quality**

##### **14-9.02 Air Pollution Control**

##### **14-9.02C Construction**

For monitoring well drilling and well development work, where diesel engines will be used, all equipment shall meet the requirements for Tier 2 particulate matter emissions at the Freeway Well Site.

Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear Signage shall be provided for construction workers at all access points.

Avoid the use of on-site generators by connecting to grid electricity or utilizing solar-powered equipment as feasible.

##### **14-9.03 Dust Control**

##### **14-9.03A General**

Sweeping per section 14-9.03C shall also be performed to prevent and alleviate dust.

Sweeping, covering stockpiles, applying water, and/or dust palliative, to control dust caused by public traffic is not change order work.

#### **14-9.03C Construction**

Contractor shall maintain dust control to the satisfaction of Engineer, 7 days a week, 24 hours per day.

#### **14-9.03D Payment**

Full compensation for conforming to this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed.

### **14-10 Solid Waste Disposal and Recycling**

#### **14-10.01 General**

Contractor shall dispose of all Portland cement concrete and asphalt concrete, generated from removal or demolition activities on the project, at a recycler for these materials. Contractor shall provide receipts verifying delivery and approximate quantity (in tons) of the material delivered to a material recycler.

All other excess materials from the project including drill cuttings and other materials associated with the drilling and construction of this multiple completion monitoring well shall become the property of the Contractor and shall be properly and legally disposed of by him, at his expense, including any and all laboratory testing, if necessary. It should be noted that at least some of the groundwater which is anticipated to be intercepted by this monitoring well may contain volatile organic compounds. It is unclear whether the soil associated with these groundwater bearing zones also contain these chemicals. All haul trucks transporting soil, sand and other loose material offsite shall be covered.

#### **14-10.02A (1) Submittals**

Submit a Solid Waste Disposal and Recycling Report prior to final acceptance of work performed under the Contract. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project.

Submit a Solid Waste Disposal and Recycling Report prior to Contract acceptance. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project.

#### **14-10.02D Payment**

Full compensation for material recycling as specified herein shall be considered as included in the contract prices paid for various items of work, and no additional compensation will be allowed therefor.

## **16 CLEARING AND GRUBBING**

### **16-1.01 General**

As defined in this section, Clearing and Grubbing refers to the minimum trimming of limbs of existing onsite trees to allow sufficient work space to execute the work under this Contract. Access shall be confined to the limits shown on the plans.

Any trees, brush, shrubs, or other natural objects not specifically ordered removed by Engineer which have been removed, altered, or damaged shall be replaced in kind by Contractor before completion of the project.

### **16-1.03 Construction**

No trees shall be removed. Contractor shall trim tree limbs for the efficient prosecution of the subject work, as approved by the City. The tree limbs to be trimmed shall be within the boundaries shown on Exhibit 2. All debris and tree materials shall be properly disposed of away from the site by Contractor. Contractor shall make all necessary arrangements for disposal of material.

### **16-1.06 Payment**

Clearing and Grubbing shall be paid for as part of the contract **lump sum** price for **Mobilization and Demobilization**, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved in clearing and grubbing as specified herein, and no additional allowance will be made therefor.

## **76 GROUNDWATER MONITORING WELL INSTALLATION**

### **76-1-General**

#### **76-1.01 Summary**

These Specifications are intended to provide the City of Santa Rosa (City) with an investigative borehole, into which a multiple completion groundwater monitoring well will be constructed.

#### **76-1.01A Well Site Location**

The monitoring well construction site is located at 1304 Cleveland Avenue, in Santa Rosa, California. The site location, known as the Freeway Well, is shown on Exhibit 1. The site layout and proposed well location is shown on Exhibit 2.

#### **76-1.01B Summary of Work Addressed by Technical Specifications**

See Section 76-1.01D for an overview of the work to be performed.

The work to be performed under these Specifications shall consist of furnishing all tools, equipment, materials, supplies, and manufactured articles, and for furnishing all transportation and services, including fuel, power, water, and essential communications, and for the performance of all labor, work, or other operations required for the fulfillment of the Contract in strict accordance with these Specifications.

The work shall be complete, and all work, materials, and services not expressly shown or called for in these Specifications, which may be necessary for the complete and proper construction of the work in good faith shall be completed and performed, furnished, and installed by the Contractor as though originally so specified or shown, at no increase in cost to the City.

#### **76-1.01C Construction Schedule**

The City recognizes that drilling efficiency and rapid advance rates both for the pilot hole and reamed borehole are critical to the successful completion of the wells.

Construction activities shall be limited to 12-hour shifts between 7:00 a.m. and 7:00 p.m., Monday through Friday. 24-hour operations may only be allowed with prior, written approval by the City for specific portions of the drilling and/or monitoring well construction work effort. Possible consideration for 24-hour operations might include during the drilling, reaming, monitoring well construction, filter packing, and sealing of the monitoring well. The Contractor must request in writing and receive approval, in writing, from the City for any requested 24-hour or weekend operations. The Contractor shall notify the City at least 72 hours prior to any work outside the normal working hours defined above, including any proposed work on weekends or holidays.

Site work shall begin within twenty-one (21) calendar days of notice to proceed and all work shall be completed within sixty-five (65) calendar days from the commencement of work activities.



## **76-1.01D Overview of Work to be Performed**

All work shall be performed as specified and in accordance with applicable sections of California Department of Water Resources Bulletin 74-81 "Water Well Standards, State of California" and its Supplement Bulletin 74-90.

The Freeway Well Planning project will include but is not limited to the following items, which are described in detail in these Specifications:

- A. Mobilize to, provide temporary facilities, including sound walls and temporary fencing as shown on Exhibit 2, and demobilize from site.
- B. Prepare a conductor casing borehole; furnish and install conductor casing and place sealing material as required in the annulus.
- C. Drill an 8-inch diameter pilot borehole to an anticipated depth of 800 feet using mud rotary methods, collect samples of the drill cuttings at 10-foot intervals and when changes in sediment type / lithology are detected, and conduct sieve test analyses on samples selected by Engineer.
- D. Conduct geophysical surveys of pilot borehole.
- E. Engineer will prepare the final, written monitoring well completion plan after review of the lithologic and geophysical logs and sieve test results. The final well completion plan will be based on the lithologic log, sieve test results and geophysical logs from the pilot borehole and will be approved by the City for Contractor's use within 72 hours of the Engineer's acceptance of the geophysical logs.
- F. The borehole may be deemed not suitable for a well, contingent upon the hydrogeologic data, in which case Engineer will provide Contractor with written instruction to destroy the borehole by backfilling with grout.
- G. If, in Engineer's opinion, the borehole is suitable for a monitoring well, Contractor shall ream the pilot borehole after approval of the final well completion plan by the City.
- H. Perform a caliper survey of the final reamed borehole.
- I. Furnish and install the following well casing depending on borehole findings:
  - 1. 3-inch diameter (ID) schedule 80 polyvinyl chloride (PVC) blank casing with flush-joint threads.
- J. Furnish and install the following well screen based on borehole findings:
  - 1. 3-inch diameter (ID) Schedule 80 PVC well screen with flush-joint threads.
- K. Furnish and install filter pack envelope in the annular space, as specified by Engineer.
- L. Furnish and install formation stabilizer (pea gravel) in the annular space adjacent to the blank casing, as specified by the Engineer.
- M. Furnish and install bentonite seals at specified intervals.
- N. Install annular seal, including a 2-foot transition seal, from the top of the filter pack to the ground surface.

- O. Provide and install temporary solids settling tanks and discharge piping for conveying settled water produced during development to the City's-sewer system.
- P. Remove heavy fluids from well by airlifting.
- Q. Develop each monitoring well by line swabbing, bailing and air-lifting.
- R. Clean up the site.
- S. Contain and legally dispose of drilling fluids, initial heavy development fluids, and cuttings.
- T. Fulfill all well drilling permit requirements, including the preparation and filing of a Department of Water Resources Well Completion Report.
- U. Obtain a permit for a City water meter to provide construction water supply from a nearby hydrant.
- V. The Contractor complete and submit a Temporary Groundwater Discharge Permit Application for discharge of well development and pump test water to the City of Santa Rosa sanitary sewer.
- W. The Contractor shall be responsible for compliance with the terms of the Discharge Permit Application. (Attachment A).

Contractor is advised that the preliminary designs shown on Exhibits 3 through 5 are based on information available at the time of development of these Specifications. Final design of the well will be revised by Engineer based on conditions at the site as determined following review of the lithologic and geophysical logs, and sieve test results from the pilot borehole.

#### **76-1.01E Other Work Required**

In addition to the work described in Section 76-1.01D, Contractor will be responsible for other work that will be required during construction of the monitoring well.

Prepare site in a manner as to provide adequate work space, safe working conditions, site ingress/egress and sufficient containment and storage of drill cuttings and fluids.

Implement, install, and maintain Best Management Practices (BMPs) for control of nuisance water and storm water, as provided in the Section 13, Water Pollution Control.

- A. BMPs shall be adequate to prevent erosion and runoff of sediment laden water from the work site.
- B. During construction, washing of concrete, equipment, or similar activities shall occur only in areas where wash water can be contained on site.

Provide and emplace sand/cement grout in borehole per applicable State of California regulations and Sonoma County Code, Chapter 25B-7, if deemed not suitable for a monitoring well.

#### **76-1.01F Services Provided by the City**

City will stake the location of the monitoring well during contractor's mobilization to the site.

### **76-1.01G Water Supply for Monitoring Well Construction**

Water supply for pilot hole drilling and reaming operations may be obtained from a temporary connection to the City's potable distribution system at one of the two locations shown on Exhibit 2.

Contractor shall obtain a permit for construction water by contacting the City of Santa Rosa at (707) 543-3917.

Contractor will be responsible for the cost of water and coordinating with the City to have a temporary meter installed to determine the cost of water used. Contractor shall pay all costs associated with the temporary water supply per Section 6-4.01A Construction Water.

Water used for monitoring well construction and human consumption shall be kept free from contamination and shall conform to the requirements of the federal, state and local authorities for potable water and water well drilling.

### **76-1.02 Definitions (Not Used)**

### **76-1.03 Submittals**

Submittals shall be submitted in accordance with the Submittal Procedures section of these Specifications.

#### **A. Pre-Bid Submittals**

1. Description of the drilling method and fluids to be used shall be submitted **concurrent with the bid**. Submittal must include information regarding the types of fluid to be used at each stage of the drilling, proposed additives, if any, intended drilling fluid weights, viscosities, solids and sand content, water loss control, and the product sheets for the proposed drilling fluid additives.
2. A list and schematic diagram of a surface system used **concurrent with the bid** to meet the requirements to maintain the drilling fluid properties. Additionally, provide sizing calculations and configuration of the fluid system and settling tanks.

#### **B. Pre-Construction Submittals**

1. In addition, within seven (7) calendar days following notification and award of the contract, Contractor shall provide a contract schedule showing the dates, durations, and sequence of operations for all tasks, including mobilization, drilling, well construction and development, and demobilization.
2. Within twenty-one (21) calendar days following notification and award of the contract and prior to commencement of work, Contractor shall submit in full compliance with all aspects of this section, including but not limited to:
  - a. Names, titles and contact information (including cell phone numbers) for key staff conducting drilling, monitoring well construction and well development activities.

- b. Sequence of work and construction schedule consistent with the contract time for completion.
- c. Methods of access to the construction site and dust/mud control measures.
- d. Water Pollution Control Program (Section 13).
- e. Evidence that mufflers, silencers, and other noise attenuating devices have been installed on all motorized equipment.
- f. Proposed sound wall layout, design, calculations, exterior color, and installation plan, including Sound Transmission Class rating of sound wall material, and structural plans and calculations signed and sealed by a California Registered Civil or Structural Engineer detailing the installation of the sound wall and demonstrating conformance to seismic and wind load requirements.
- g. Drilling permits (Sonoma County Environmental Health Department).
- h. Drilling water source permit or authorization (City of Santa Rosa Water Department).
- i. Permit from the City for the disposal of settled, non-turbid water from drilling, development, and testing procedures into the City's sanitary sewer system.
- j. Temporary facilities to be established.
- k. A list of equipment/instrumentation proposed to measure the drilling fluid properties including viscosity, sand content, and mud weight measurements.
- l. Methods of sample collection by Contractor, for use by both Contractor and Engineer to describe cuttings.
- m. Mill certification for all casing materials to be used in well construction to Engineer a minimum of five (5) working days prior to borehole drilling.
- n. Affidavit of compliance stating the casing, screen, and end cap comply with the applicable requirements of ASTM Standards.
- o. Hole Stabilization Plan: A description of the materials and process/method to be used in the event of hole stabilizing problems and/or loss of circulation.
- p. Schematic drawing of the filter pack installation system for approval by Engineer prior to placing filter pack.
- q. Description of the positive placement technique that will be employed to place the annular seal for approval. Submittal shall include the equipment, appurtenances, and techniques proposed for placement of the seal under positive pressure.
- r. Monitoring Well Development Plan: A description of the materials and process/method to be used to develop the multiple completion monitoring well.

C. Post Construction Submittals

During performance of the work, and before project completion and final payment, Contractor shall submit in full compliance with all aspects of this section, including but not limited to the following:

- A. Logs recorded during drilling, reaming and monitoring well construction.
  - 1. Drill bit, stabilizer, collar, and drill and tremie pipe lengths (i.e., a “pipe tally”) used.
  - 2. Drilling bit providing types and depths at which drill bit changes are made.
  - 3. Drilling fluid properties.
  - 4. Time, depth, quantity, and description of any additives to the drilling fluid.
  - 5. Difficult or unusual drilling conditions, and time and reason for any interruptions in borehole drilling.
  - 6. Log of the cuttings providing the depths and descriptions of the earth materials encountered during the pilot hole drilling.
- B. Prior to filter packing operations:
  - 1. A sample and recent (less than 1-month) certified sieve analysis of the filter pack material to be used must be submitted to Engineer for approval.
  - 2. Estimated volumes of filter pack and annular sealing materials to be installed based on the results of the caliper log.
- C. Delivery receipts for commercially prepared and supplied sealing material shall be provided to Engineer for approval prior to installation by Contractor.
- D. Submit Weighmaster Certificates for cement grout installed.
- E. Dimensional drawings and specifications for the development tools (line swabbing, air-lift pumping/swabbing) prior to filter pack placement and initial development.
- F. Maintain and submit all well development records, including volume and timing of any well development products used.
- G. Submitted documentation that all subcontractors have been fully paid for all work performed on this project.

**76-1.03A Submittal Procedures**

Contractor shall provide one (1) electronic and one (1) hard copy, unless specified otherwise, of the above data submittal to Engineer for checking and/or approval. Each submittal package shall have a cover page stating the following: Project name, contract number, the sequential submittal number, and a table of contents for the rest of the package. Each attached page shall be sequentially numbered. It is acceptable to provide the submittal data in multiple submittal packages. Submittal package will be completely rejected if cover page and page numbering is not followed.

## **76-1.04 Quality Control and Assurance**

### **76-1.04A Referenced Standards**

- A. American Petroleum Institute (API)
  - 1. RP 13B-1 Recommended Practice for Field Testing Water-Based Drilling Fluids.
- B. American Standard Testing Materials (ASTM)
  - 1. F480, Standard Specification for Thermoplastic Well Casing Pipe and Couplings
  - 2. A778, Standard Specification for Welded, Un-annealed Austenitic Steel Tubular Products
  - 3. A53, Standard Specifications for Pipe, Steel, Black and Hot Dipped, Zinc-Coated Welded and Seamless
  - 4. C150, C31 and C39: Standard Specifications for Portland Cement
  - 5. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
- C. American Water Works Association Standards
  - 1. B100-89 Granular Filter Material
- D. American Welding Society (AWS) D1.1:2000 Structural Steel Welding Code
- E. California Water Quality Control, North Coast Region Order No. R1-2009-0050, National Pollutant Discharge Elimination System Municipal Storm Water Permit, Part 8-Development Construction Program, Sections 1 through 5 (commonly referred to as the "Storm Water Permit")
- F. California Storm Water Quality Association Storm Water BMP Handbook for Construction (CASQA Handbook)
- G. California Health and Safety Code, Section 7050.5
- H. City of Santa Rosa, Public Works Department Standard Specifications 2002
- I. City of Santa Rosa Code Ordinance Chapter 17-16: Noise, Section 14-8
- J. State of California, Water Code Section 13750 thru 13755
- K. State of California, Department of Water Resources (DWR) Bulletin 74-81: Water Well Standards, State of California, December 1981
- L. State of California, Department of Water Resources (DWR) Bulletin 74-90: Water Well Standards, June 1991
- M. Sonoma County Code Ordinance Chapter 25B Water Well Construction Standards
- N. Sonoma County Environmental Health Department
- O. City of Santa Rosa Code of Ordinances, Title 14, Chapter 14-12, Wells, and Chapter 17-16, Noise.

## **76-2-Bore Hole Drilling and Logging**

### **76-2.01 Mobilization and Demobilization**

Mobilization shall consist of all preparatory work, including obtaining all permits, and the transportation of all 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; and all other facilities, including temporary sound walls, 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, and other equipment and experienced personnel necessary to conduct efficient drilling operations. The drilling unit shall be in good condition and of such capacity as to drill the hole and complete a multiple completion monitoring well as required by these Specifications to a depth of 800 feet.

Upon completion of the monitoring well construction and subsequent development and water quality sampling of each monitoring well depth interval, Contractor shall remove all equipment and materials and leave the premises clean and free of debris.

#### **76-2.01A Sound Attenuation**

The work shall be carried out as quietly as possible to prevent possible annoyance to adjacent residents. Unnecessary noise shall be avoided at all times.

Sound attenuation measures will be required due to the proximity of the work area to dwellings, and other potentially sensitive receptors. Sound attenuation measures shall include providing construction equipment and performing construction activities in a manner that minimizes noise generation and conforms to the City of Santa Rosa Code Ordinance Chapter 17-16: Noise, Section 14-8 of these specifications and the instructions of the City/Engineer.

If approved in writing by the City, night-time drilling operations shall be conducted in a manner to reduce noise peaks and avoid rapid changes in noise levels. All drilling personnel shall be advised to avoid noise generation wherever possible. In particular, the clanging of drill pipe shall be avoided, and the throttling of the drill rig shall be done in such a manner that appreciably lessens the noise produced by these activities as compared to the daytime. All deliveries of pipe and other materials and supplies, and all removal of debris, drilling cuttings, drilling fluids, equipment, materials, and supplies from the well site shall take place during day-time hours, unless approved in writing by the City.

Sound attenuation measures shall include all work necessary to design, furnish, install, maintain and remove a temporary sound attenuation wall (sound wall), and conduct a full-scale sound test, to the satisfaction of the City.

Prior to mobilization of drilling equipment to the site, Contractor shall construct an engineered temporary sound wall. The sound wall shall be at least 24 feet high. The total length of the sound barrier shall be approximately 175 feet and generally configured as shown on Exhibit 2, or as approved by Engineer. Contractor shall maintain full egress and ingress to the site for trucks and equipment through the existing driveway on Ridgway Avenue at all times.

The sound wall shall be designed by a qualified, licensed structural or civil engineer and shall bear the stamp of a California Registered Civil or Structural Licensed Engineer who has performed or reviewed the structural aspects of the sound wall design (i.e., UBC seismic and wind load compliance per above).

Sound wall components shall not be driven into the ground by impact. The sound wall shall be engineered to reduce noise levels to the maximum extent possible and shall be designed in accordance with UBC standards to withstand applicable seismic and wind forces and as required by the City Building Department.

The Contractor is responsible for removal of the sound wall upon demobilization from the site. After removal of sound wall support posts, Contractor shall backfill with aggregate base material approved by the City and compact to 95 percent relative compaction per ASTM D 1557. The top 3-inches of the holes in Ridgeway Avenue will be filled with cold patch asphalt, as directed by the City. Jetting shall not be used as a compaction method.

Full Scale Sound Test: Contractor's noise emissions shall be measured by Contractor prior to commencing drilling operations for installation of the conductor casing at the well site. A full-scale drilling noise test simulating drilling activities shall consist of noise level emission measurements taken at the work area boundary, at the nearest sensitive receptor, and at 75 feet and 150 feet from the drilling location. Construction noise levels measured by the Contractor at the nearest sensitive receptor shall not exceed 70 dBA from the hours of 7:00 a.m. to 7:00 p.m., 55 dBA from the hours of 7:00 p.m. to 10:00 p.m. and 50 dBA from the hours of 10:00 p.m. to 7:00 a.m. without prior written approval of the City.

Drilling operations shall not proceed until noise emissions conform to these Specifications. No additional compensation will be made for an additional full-scale drilling test, failed tests, or reengineering or construction modifications of the sound barrier.

Should noise levels exceed the above levels, appropriate noise attenuation measures shall be implemented, at Contractor's cost, prior to resuming work, to reduce the offensive noise levels at the sensitive receptors.

#### **76-2.01B Payment**

Mobilization and Demobilization and Sound Attenuation shall be paid for at the contract lump sum price for Mobilization and Demobilization, which price shall include full compensation for furnishing all labor, materials tools and equipment, and doing all the work involved in Mobilization and Demobilization and sound attenuation as specified herein, and no additional allowance will be made therefor. Payment for lump sum items will be based on the percentage of work completed as approved by the Engineer.

#### **76-2.02 Conductor Casing**

##### **76-2.02A Scope**

Furnish all equipment, material, and work necessary to install a steel conductor casing at the multiple completion monitoring well site as shown on Exhibits 3, 4 and 5, and specified herein. Prior to drilling of the pilot hole, Contractor shall bore a hole with the diameter shown on Exhibit 3 from ground surface to a minimum depth of 100 feet below ground surface (bgs) or as directed by Engineer, into which a conductor casing shall be installed as shown on Exhibit 3.



## **76-2.02B Materials**

- A. Conductor Casing
  - 1. Constructed of steel pipe with an outside-diameter shown on Exhibit 3 and having a wall thickness of not less than 0.375 inch (3/8-inch) and a below ground surface length of not less than 100 feet, or as directed by Engineer.
  - 2. Steel pipe shall be round such that no measured diameter of the casing is more than 1/8 inch larger or smaller than the specified diameter.
  - 3. Manufactured in accordance with ASTM Designation A-53, Grade B. Field joints shall be either collared or plain-end.
- B. Casing Centralizers
  - 1. Made of the same material as the adjacent casing section and welded directly to the casing as illustrated on Exhibit 5.
  - 2. Nominally 3/8-inch thick, 2-inches wide, 36-inches long, bent to have a minimum of 2 linear foot of bearing surface parallel to and at least 2.5 inches away from the casing.
- C. Cement Grout
  - 1. Composed of not more than 3 cubic feet of sand and 1 cubic foot (one sack) of Type I or Type II Portland cement to 5 to 7 gallons (0.67 to 0.90 cubic feet) of potable water.

This is typically considered to be a 10-sack Portland cement sand slurry mix when ordered from batching plants.

Bentonite, to make the mix more fluid and reduce shrinkage, may be used to a total of 5 percent (5%) of the volume of the cement.

If bentonite is used, water content can be increased up to 8.2 gallons per sack of cement.

## **76-2.02C Placement**

Conductor casing shall be plumb and centered in the hole with a minimum of 3 inches of annular space between the conductor casing and the borehole at all points.

All joints in the conductor casing shall be securely lap welded with a minimum of 2 passes per circumference and shall be watertight. All peep holes shall be welded for a watertight seal.

A minimum of two sets of centralizers shall be welded to the conductor casing.

- A. One set of centralizers shall be installed within 5 feet of each end of the conductor casing assembly.
- B. Each set will consist of a minimum of three guides equally spaced circumferentially.
- C. All field welding shall be performed in accordance with American Welding Society Standards by a certified welder.

After the conductor casing has been installed, cement grout shall be installed in the annular space between the conductor casing and the borehole from bottom to top by means of a tremie pipe.

Contractor will be responsible for coordinating and obtaining a permit for the drilling and construction of this multiple completion monitoring well from the Sonoma County Environmental Health Department. The Contractor will be required to comply with all requirements of this Permit, including allowing an inspector on site to witness the placement of the cement grout seal. The seal cannot be placed if a County inspector is not on site to witness this work, unless written authorization is provided by the County prior to seal placement.

- A. Cement grout material shall be placed by the positive displacement pumping method.
- B. The tremie pipe shall be installed within 5 feet of the bottom of the conductor casing borehole before placement of the seal begins.
- C. Tremie pipe shall be withdrawn as the seal is placed to avoid creating excessive pressure.
- D. Tremie pipe shall remain submerged in cement grout throughout the entire seal placement.

#### Cement Pump

- A. Capable of pumping cement grout under pressure to the specified depth.
- B. Equipped with a pressure gage to allow for assessment of the force being exerted by the cement pump.

Upon completion of cement grout shall be visible above the surface of the ground outside the conductor casing.

After cement grouting operations are completed, cement grout shall be left undisturbed for a period of not less than 24 hours before drilling is resumed.

Securely cap the top of the conductor casing at all times when personnel are not on the site.

#### **76-2.02D Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of Installation of **Conductor Casing** shall be on a **linear-foot** basis, complete and in place.

#### **76-2.03 Pilot Hole Drilling**

##### **76-2.03A Scope**

Furnish and provide work, equipment, and materials necessary to complete the drilling of an 8-inch diameter pilot borehole to the depth shown on Exhibit 3.

##### **76-2.03B Materials**

Provide a description of the drilling method and fluids to be used concurrently with the submittal of this bid.

Water-based fluids shall be used.

The proposed drilling fluid program shall include information regarding the types of fluid to be used at each stage of the drilling, proposed additives, if any, intended drilling fluid weights,

viscosities, solids and sand content, water loss control, and the product sheets for the proposed drilling fluid additives.

Potable water shall be used to make up water-based drilling fluids.

The drilling fluid shall possess such characteristics as are required to adequately maintain the walls of the hole to prevent loss of circulation, caving of the hole, damage to the water-producing characteristics of the formation and to permit recovery of representative samples of cuttings as drilling progresses.

The drilling fluid shall possess such characteristics that it can be readily removed from the hole during placement of the filter pack and during development of each monitoring well.

Water-based fluids shall be either a bentonite-based or polymer-based system.

The system may be polymer-based linked with an adequate amount of bentonite to form an engineered fluid system, providing the properties specified below can be maintained during the drilling process.

#### **76-2.03C Method**

Once initiated, pilot hole drilling is preferred to continue on a continuous 24-hour per day, 7 days per week basis without interruption. However, as previously discussed under Section 76-1.01C, the Contractor must request in writing and receive approval, in writing, from the City to work outside normal working hours. Proper control of the drilling fluid must be maintained at all times to prevent loss of circulation and formation damage.

Excavation of pits on-site for drilling fluid containment will not be allowed, and adequately-sized surface containment (i.e., tanks and/or bins) for drilling fluids will be required. Cuttings shall be stored and contained onsite. Contractor may choose to utilize "low-boy" bins for cuttings storage prior to off-site disposal. No fluids, cuttings, muds, or materials shall be allowed to migrate beyond the site limits designated on Exhibit 2. If any materials migrate beyond the drill site, clean up must occur quickly and to the satisfaction of Engineer.

For bentonite-based fluid systems, mechanical separation must be utilized to remove all but the finest of drill cuttings from the drilling fluid. Mechanical separation shall include, at a minimum, a shale shaker and desanders capable of handling a minimum of 125 percent of the circulating capacity of the fluid system. This equipment must be capable of keeping sand content below one percent in the drilling fluid at all times during the drilling process.

For polymer-based fluid systems without mechanical separation, Contractor shall have a minimum of two separate, adequately-sized tanks connected in series and internally baffled to effectively settle and remove solids from the fluid prior to recirculation down the borehole. The tanks shall have a combined capacity to provide adequate retention time of the fluid at the surface to allow effective settling of solids. Contractor shall maintain tank capacity throughout the drilling process by routinely removing cuttings from the settling tanks.

It is Contractor's sole responsibility to ensure that the sizing and configuration of the fluid system and settling tanks are adequate to meet the drilling fluid properties outlined below. If drilling fluid properties as outlined below are not met, Contractor will be issued a warning of noncompliance

by Engineer. Failure to meet the specified conditions may result in the suspension of further drilling until fluid properties are brought within specifications.

If proper control of the drilling fluid is not maintained to the satisfaction of Engineer, Contractor shall be required to retain or employ, at his own expense, an experienced, qualified mud engineer on the job during all operations to design, supervise and maintain drilling fluid characteristics to the satisfaction of Engineer.

The methods and materials that Contractor would utilize in the event of hole stability problems and/or loss of circulation shall be approved by Engineer. Appropriate materials to address such contingencies shall be maintained on-site per recommendations of Contractor's Mud Engineer. In no case shall materials be added to the drilling fluid system or drill hole without prior approval of such materials by Engineer. Addition of unapproved materials to the drill hole or fluid system may be cause for rejection of the borehole or monitoring well.

Contractor shall provide a sample collection splitter box in the discharge pipe to the mud tanks to collect cutting samples representative of 10-foot intervals during the drilling of the pilot boring and at more frequent intervals at distinct formation changes. Samples shall be laid out on filter fabric on a flat, well-drained area. The area shall be out of the way of construction activities and shall not be adjacent to noisy equipment. The samples shall be laid out in a regular pattern so that the depth of each sample is clearly identifiable. The samples shall be adequately preserved at the site to allow for evaluation by Engineer.

Each sample shall consist of two components:

- A. 1 gallon of drained, unwashed formation material. This sample shall be laid directly on the filter fabric.
- B. 1 pint of drained, unwashed formation material. This sample shall be placed inside a quart-sized plastic Ziploc® freezer bag or equal. Contractor shall provide the sample bag. The sample bag shall be labeled with the well name and the date, time, and depth interval of the sample.

Contractor shall retain the formation samples at the site until they are accepted by Engineer. Contractor shall not be required to retain the formation samples after the completion of all work under this Contract.

Contractor shall prepare a "driller's log" of the formation samples. The "driller's log" shall include the depth interval and a description of each distinct formation type encountered in the borehole. The Contractor shall provide the Engineer with the "driller's log" and all bagged samples prior to geophysical logging.

Upon completion of the pilot hole, a geophysical log of the borehole will be conducted. The geophysical log will be used to develop the final design elements of the monitoring well. The geophysical logging is described in Section 76-2.04.

#### **76-2.03D Testing**

Provide, at the drilling site at all times, Standard API measurement devices in proper working order to determine the following drilling fluid properties:

- A. Drilling fluid weight

- B. Drilling fluid viscosity
- C. Drilling fluid sand content
- D. 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 shall be recorded by Contractor at a minimum of 4-hour intervals. Engineer may also periodically measure drilling fluid properties. The drilling fluid shall have the following properties in accordance with API Code RP 13B (or recent modification) "Recommended Practice for Field-Testing Water-Based Drilling Fluids."

For bentonite-based fluid systems, the following properties shall be maintained per API Standards:

- A. Weight: maximum of 9.5 pounds per gallon during all aspects of drilling.

Viscosity: minimum of 32 seconds per quart and a maximum of 50 seconds per quart during all aspects of drilling.

Sand Content: maximum of one percent by volume during all aspects of drilling.

Water Loss: maximum of 20 cc during pilot hole drilling and a maximum of 15 cc during reaming. Wall cake thickness shall be no greater than 3/32 inch at all times.

For polymer-based fluid systems, the following properties shall be maintained:

- A. Weight: maximum of 9.0 pounds per gallon during all aspects of drilling.
- B. Viscosity: minimum of 32 seconds (no maximum).
- C. Sand Content: maximum of one percent by volume during all aspects of drilling.
- D. Water Loss: not applicable.

#### **76-2.03E Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Pilot Hole Drilling (8-inch)** shall be on a **linear-foot** basis, complete and in place.

#### **76-2.04 Geophysical Logging**

##### **76-2.04A Scope**

Furnish all equipment, materials, and work necessary to perform geophysical logs of the pilot bore as specified herein.

##### **76-2.04B Materials (Not applicable)**

##### **76-2.04C Method**

- A. Furnish services to provide a geophysical log of the pilot hole. Contractor shall verify calibration of the draw-works upon request. Calibration shall be to within 0.25 percent.

Borehole geophysical logs, consisting of resistivity (single point, 16-inch normal, and 64-inch normal), spontaneous potential (SP), fluid resistivity, temperature, and natural gamma surveys, all in API format, shall be made of the pilot hole by Contractor as directed by Engineer.

Standby time will not be paid for additional cleaning and conditioning of the hole required to allow logging operations to proceed.

Immediately upon completion of the geophysical surveys, Contractor shall run tremie pipe to the full well depth and begin to circulate drilling fluids.

#### **76-2.04D Testing**

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

Provide four (4) field and four (4) final printed copies of the geophysical logs. In addition, the geophysical logs shall be provided to Engineer via email or portable memory drive in comma delimited (csv) format and a digital image (pdf) format. Printed field copies of the geophysical logs shall be provided to Engineer at the time of logging. Electronic versions of the geophysical logs shall be provided to Engineer within four hours of completing the logging. Final printed copies of the geophysical logs shall be provided to the engineer within one week of logging.

#### **76-2.04E Payment**

**Geophysical Logging** will be paid for by **lump sum**. Payment for lump sum items will be based on the percentage of work completed as approved by Engineer.

### **76-3-MULTIPLE COMPLETION GROUNDWATER MONITORING WELL CONSTRUCTION**

#### **76-3.01 Pilot Hole Reaming**

##### **76-3.01A Scope**

Furnish and provide work, equipment, and materials necessary to complete the reaming of the pilot borehole at the site to the full depth shown on Exhibit 3.

##### **76-3.01B Materials (Not applicable)**

##### **76-3.01C Method**

After completion of the geophysical logging and approval of the final multiple completion monitoring well design by Engineer, the pilot borehole shall be reamed to the depths and diameters shown on the final well completion plan.

Reaming shall be initiated immediately after approval of the final well completion plan by the City and confirmation of the delivery date of the monitoring well casing, screen and filter pack materials. The final well completion plan will be approved by Engineer and provided to Contractor within 72 hours of Engineer's acceptance of the geophysical logging results. No standby time shall be accrued by Contractor during this 72-hour period.

Once initiated, reaming may continue on a 24-hour per day, 7-day per week basis without interruption, if approved in advance by the City as specified in Section 76-1.01C.

All drilling and drilling fluid requirements specified in Section 76-4.09 shall be maintained throughout pilot hole reaming.

Upon completion of the pilot hole reaming, a caliper survey shall be performed by Contractor as specified in Section 76-3.02 Caliper Survey.

#### **76-3.01D Testing**

Test and maintain drilling and drilling fluid requirements throughout reaming operations, as specified in Section 76-2.03.

#### **76-3.01E Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Pilot Hole Reaming** shall be on a **linear-foot** basis.

#### **76-3.02 Caliper Survey**

##### **76-3.02A Scope**

Caliper survey of the well shall be performed after reaming the borehole to the design depth and diameter to assess the condition of the borehole and calculate the volume of annular fill materials required for construction of the multiple completion monitoring well.

##### **76-3.02B Method**

Furnish professional logging services for the caliper survey of the borehole. Contractor shall verify calibration of the draw-works upon request. Calibration shall be to within 0.25 percent.

The caliper tool must be of sufficient arm capacity to have the ability to measure borehole diameters to 20 inches for the entire length of the reamed borehole.

Provide four (4) field and four (4) final printed copies of the caliper log. In addition, the caliper log shall be provided to Engineer via email or portable memory drive in comma delimited (csv) format and a digital image (pdf) format. Printed field copies of the caliper log shall be provided to Engineer at the time of logging. Electronic versions of the caliper log shall be provided to Engineer within four hours of completing the logging. Final printed copies of the caliper log shall be provided to the engineer within one week of logging.

##### **76-3.02C Testing**

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

Engineer may reject the well if the caliper log indicates a zone of over-breakage or sloughing, which would result in placement of filter pack at thicknesses greater than 8 inches within the screened intervals. Engineer may reject the well if the caliper log indicates an undersized borehole, which would result in placement of filter pack at thicknesses less than 2-inches within the screened intervals.

### **76-3.02D Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Caliper Survey** shall be paid by **lump sum**. Payment for lump sum items will be based on the percentage of work completed as approved by the Engineer.

### **76-4.03 Monitoring Well Casings and Screens**

#### **76-4.03A Scope**

Furnish all materials and work necessary to manufacture, deliver, and install the monitoring well blank casing, well screen, and sump pipe sections with end caps for each monitoring well, as shown on Exhibit 3, or as directed by the Engineer on the final well completion plan, and in accordance with these Specifications.

#### **76-4.03B Materials**

- A. 3-Inch-Nominal-Diameter Schedule 80 PVC Blank Well Casing: Schedule 80 PVC blank well casing with flush-joint threads in accordance with ASTM standard F 480.
- B. 3-Inch-Nominal-Diameter Schedule 80 PVC Well Screen: Schedule 80 PVC well screen with machined 0.050-inch slot openings and flush-joint threads in accordance with ASTM standard F-480.
- C. 3-Inch-Nominal-Diameter Schedule 80 PVC Sump and End Cap: Schedule 80 PVC end cap with flush-joint threads in accordance with ASTM standard F-480.
- D. Casing Spacers and Centralizers
  - 1. Casing spacers shall be constructed of two-foot long sections of 1.5-inch Schedule 80 PVC bound together with snap ties as shown on Exhibit 6. The casing spacers shall maintain a minimum 2-inch separation between casing strings.
  - 2. Threaded stainless steel bands shall be used to bind well casings to casing spacers as shown on the Exhibit 6, such that the casing spacers will not slip or rotate during installation of casing string.
  - 3. Stainless steel bow-type centralizers will be used to centralize casing strings in the reamed borehole.
  - 4. Other types of casing spacers and centralizers may be used if approved by Engineer.
  - 5. Centralizers shall be spaced as required to maintain a minimum 2-inch clearance between borehole wall and well casing and screen.
  - 6. Centralizers shall be placed: a) at the top and bottom of the screen interval, b) adjacent to the bentonite seals bounding each filter packed zone, and c) at a minimum frequency of every 60 feet on blank casing.



#### **76-4.03C Method and Placement**

Upon completion of pilot hole reaming and caliper logging, install the well screen and casing at intervals as determined by the Engineer.

The proposed multiple completion monitoring well design for bidding purposes is shown on Exhibit 3.

The final design of the multiple completion monitoring well will be established by Engineer upon review of the pilot hole geophysical log. The final design will then be approved by the City, prior to providing to the Contractor.

Separate construction tremie pipes shall be installed to place the filter pack and the cement grout in the annulus.

Each monitoring well casing, screen and sump shall be plumb in the hole and located as shown in Exhibits 3 through 5.

Spacer and centralizers shall be placed as described above and on Exhibit 6.

Casing shall be suspended in tension from the surface by means of an appropriate hanger or clamp. Bottom of casing shall be at a sufficient distance above bottom of pilot hole to ensure that none of the casing will be supported from the bottom of the hole.

Well casings shall be completed to successively lower heights corresponding to the first (shallowest), second (intermediate depth), and third (deepest) completions, respectively. Each PVC casing shall be clearly and permanently marked with the depth range of the screened interval.

The top of the casing will be securely capped at all times when personnel are not on the site.

If, for any reason, the casing cannot be landed in the correct position or at a depth acceptable to Engineer, or any of the casings should collapse prior to well completion, Contractor shall construct another well immediately adjacent to the original location and complete this well in accordance with the specifications at no additional cost to the City. The abandoned hole shall be sealed in accordance with directions from Engineer and in accordance with any laws pertaining to proper well abandonment.

#### **76-4.03D Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the tasks of constructing and installing the **Monitoring Well Casing, Monitoring Well Screen and Monitoring Well Sump**, shall be on a linear-foot basis.

#### **76-4.04 Filter Pack**

##### **76-4.04A Scope**

Furnish equipment, materials, and work necessary to install two different types of filter pack in the well; Silica Sand as approved by Engineer, around the screen sections; and pea gravel in the area of blank casing, as illustrated on Exhibit 3 and as specified by Engineer and herein. This

item also includes furnishing all equipment, materials and work necessary to install specified transition sand layers and bentonite seals.

#### **76-4.04B Materials**

All gravel or coarse-grained sand to be used for filter pack shall be hard, water worn, well rounded and washed clean of silt, fine sand, clay, and foreign matter. Crushed gravel will not be accepted.

Filter pack materials shall be rounded to well-rounded with a moderate to high sphericity and graded. Not more than three percent, by weight, of the filter pack material shall be flat or elongated. Filter pack material shall be of the type provided by Premier Silica/Colorado Silica Sand, Inc., and subject to the approval of Engineer prior to delivery.

Filter pack materials shall meet AWWA-B100-89 standards, and the following specifications. The final gradation will be determined based on sieve analysis results on samples collected from the pilot hole. An 8 x 16 gradation is anticipated.

The filter pack materials shall have a uniformity coefficient of less than 2 (determined in accordance with AWWA-B100-89 Section 1.2.4), and a specific gravity greater than 2.5. The filter pack material shall have less than a 2 percent acid solubility (in accordance with test method AWWA-B100-89 Section 3.3.1).

The filter pack shall be delivered in “super sacks” or approved equal containment and protection, and shall be kept free of all foreign matter.

Sand for the transition seal shown on Exhibit 3 shall be 30 mesh gradation and consist of sound, non-reactive material. Crushed aggregate will not be accepted. The sand shall be free of vegetative matter. A sample of the sand shall be submitted to Engineer prior to installation for approval.

Zone isolation bentonite seals as shown on Exhibit 3. Bentonite seals shall be created with highly compressed granular pellets of 1/4” to 1/2” size, containing a minimum montmorillonite content of 90%. Acceptable materials are CETCO PureGold, Baroid Holeplug or approved equal bentonite chips (approved by Engineer).

#### **76-4.04C Method and Placement**

Silica Sand filter pack material shall be installed in the annular space between the reamed hole and the well screen as illustrated on Exhibit 3 through a construction tremie pipe. The Pea Gravel filter pack shall be installed in the annular space between the reamed hole and the blank well casing as illustrated on Exhibit 3 through a construction tremie pipe.

- A. A tremie pipe shall be installed within 10 feet of the bottom of the borehole before filter pack placement begins, and above the top of the filter pack during placement.

The use of water and a filter pack pump will be required; however, the filter pack shall be tremmied into place by gravity and shall not be pumped into place under pressure.

During placement of filter pack, disinfectant (e.g., sodium hypochlorite) shall be added to the filter pack material at a uniform rate.

The total amount of chlorine introduced to the well shall be equal to the quantity necessary to achieve a chlorine concentration of 100 ppm in each interval to be treated.

Fluids displaced from each monitoring well casing and annulus during filter packing (and sealing) operations shall be contained and disposed of as provided in Section 76- 4.09.

During placement, Contractor shall verify the depth to the filter pack in the annulus by using a sounding tag line or approved equal.

Contractor shall consolidate the filter pack by working a wire-line swab opposite the screen sections of the monitoring well. Initial consolidation shall continue until no measurable settling of the filter pack occurs.

The volume of the filter pack material placed shall be equal to or greater than the calculated volume of the annular space being filled, based on the actual borehole diameter as measured in the caliper survey.

- A. If the volume of filter pack material placed is less than the calculated volume of the annular space being filled, it shall be considered an indication that voids are present in the filter pack, and the Contractor shall be required to perform additional consolidation of the filter pack, or other remedies. No such remedies shall be performed without the authorization of the Engineer.

#### **76-4.04D Testing**

A sieve analysis of the filter pack material to be delivered to the site shall be performed.

Engineer may elect to have a certified testing laboratory perform a sieve analysis of the material to verify conformance with the approved submittal sample.

Following the Caliper Survey (Section 76-3.02) submit an estimate of the volume of filter pack to be installed. If a greater than 20 percent difference exists between the estimate and the final volume of filter pack material added, the discrepancy may be grounds for rejection of the well by the City.

#### **76-4.04E Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Filter Pack: Silica Sand** (including Silica Sand, transition sand seals, and transition bentonite seals) shall be on a **linear-foot** basis, complete and in place. **Filter Pack: Pea Gravel** shall be on a **linear-foot** basis, complete and in place.

#### **76-4.05 Cement Grout**

##### **76-4.05A Scope**

This item shall consist of providing and installing cement grout annular seal in the monitoring well.

As preliminarily designed, the annular seal will extend from the ground surface to a depth of approximately 100 feet, as shown on Exhibit 3.

The actual depth will be determined by Engineer upon review of the geophysical log.

#### **76-4.05B Materials**

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.

#### **76-4.05C Placement**

After verifying the depth to the top of the filter pack and prior to pumping the cement grout, Contractor shall place approximately 5 linear feet of fine-grained "transition sand" for separation of the cement grout and filter pack.

Cement grout shall be injected in the annular space between the blank casing and the borehole or in the entire borehole in the case of borehole destruction from bottom to top by means of a tremie pipe. Cement grout material shall be placed by the positive displacement pumping method, as described in Section 76-4.05.

A grout pipe shall extend from the surface to the bottom of the zone to be grouted. Grout shall be placed from bottom to top in one continuous operation. The grout pipe may be slowly raised as the grout is placed, but the discharge end of the grout pipe must be submerged in the emplaced grout at all times until grouting is completed. The grout pipe shall be maintained full, to the surface, at all times until completion of the grouting of the entire specified zone. The fluid level in the casing shall be maintained at the ground surface during cementing operations. After cementing, no work will be undertaken for a period of 24 hours.

The Contractor is reminded that fluids and drill cuttings displaced from the well casing and annulus during sealing operations shall be controlled and legally disposed of as provided in Section 76-4.09.

#### **76-4.05D Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Cement Grout** shall be on a **linear-foot** basis, complete and in place.

#### **76-4.06 Monitoring Well Development**

##### **76-4.06A Scope:**

Development of each monitoring well shall be accomplished using both mechanical means combined with chemicals, and by pumping and surging.

Contractor shall notify the Engineer 24 hours prior to well development activities. Contractor shall notify Engineer of anticipated delays whenever they become apparent.

Well development shall commence after the grout seal has been placed in accordance with these Specifications.

Development shall commence not less than 24 hours and no more than 48 hours of placing the grout seal. If development is not commenced within 48 hours of placing the grout seal, then

Contractor shall conduct, without charge, development for the length of time between placing the grout seal and the time that development was initiated, in addition to normal development time.

At any stage of well development, and as directed by Engineer, when fines are drawn into the well screen to a depth of 10 percent of the total screen length, they shall be removed by bailing or other appropriate method before well development continues.

Well development shall continue until the water is essentially free from sand, silt, and turbidity, or as required by Engineer.

**76-4.06B Materials:**

- A. Swab and Bail
  - 1. Surge block swab attached to a wireline with a minimum of 3 feet of vertical throw (up and down).
  - 2. Bailer capable of removing solids from the well.
- B. Airlift Discharge:
  - 1. Contractor shall provide an air compressor, sufficient pipe, and necessary equipment used for pumping that shall be capable of pumping 25 gpm from a static water level of 300 feet during development.
  - 2. The air compressor used during well development shall be fitted with in-line carbon filters to prevent volatile organic compounds from entering the well casings from the compressor. A 0.3-micron pre-filter and a 0.01-micron filter run in series and verified compatible to Contractor's compressor shall be required during all phases of well development. Contractor shall furnish Engineer with the make and model number of the air compressor to be used and the manufacturer and model number of the proposed filters to be used prior to the construction of the wells.
- C. Water Quality Equipment:
  - 1. Imhoff Cone during development to measure amount of sand produced from well.
  - 2. Water quality meter capable of measuring pH, Temperature, Specific Conductance.
  - 3. Turbidimeter calibrated from 1 to 10 NTUs.
- D. Well Development Discharge: Discharge Piping or Hose:
  - 1. Provide of sufficient size and length to pump water to discharge point as approved by Engineer.
  - 2. Contractor shall provide the air compressor, air pipe or hose, swabs, bailers and other necessary equipment necessary to develop the well screen by air lifting, swabbing and bailing. Air lifting, swabbing and bailing operations shall be conducted alternately until the filter pack adjacent to the screen is cleaned. The filter pack shall be considered cleaned when there is no circulation of sand, silt, or mud at the surface.

#### **76-4.06C Methods and Testing**

A. Surging and Bailing Procedure:

1. Following removal of solids from the monitoring well, begin surging with the surge block swab from top of screened interval downward.
2. Periodically, measure and bail sand, silt, and clay that has accumulated at bottom of well.
3. Continue surging and bailing until sand, silt, and clay have been washed through screen to satisfaction of Engineer.
4. Make sand measurements after each screened interval is developed and before development is started on next screened interval.

B. Airlifting Procedure:

1. Following surging, perform air lift development. The air line should not be set within 100 feet of the screen interval of each well. The airlift method shall consist of a system which prevents spraying potential contaminants into the air. The method must be approved by the Engineer.
2. Airlift each well casing until a minimum of ten well casings volumes are removed, discharge is relatively clear and free of sand and mud, with stable water quality parameters (temperature, pH, specific conductance, and turbidity), as assessed by Engineer.

Monitoring well development will continue until water quality parameters have stabilized as determined by the Engineer.

#### **76-4.06D Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Monitoring Well Development – 16 hours total** shall be on a **lump sum** for the anticipated 16 hours total (for all three wells), and on an hourly basis for any requested work authorized by the Engineer beyond the 16 hours, as indicated on Bid Form. Payment for lump sum items will be based on the percentage of work completed as approved by the Engineer.

**Monitoring Well Development – additional time** shall be paid for at the contract price per **hourly**, which price shall include full compensation for labor, tools, equipment and other costs required to complete the task.

#### **76-4.07 Monitoring Well Surface Completion**

##### **76-4.07A Scope**

Each monitoring well shall be completed above grade, and all three monitoring wells shall be enclosed within the conductor casing, equipped with a lockable steel or aluminum security casing. The surface completion shall conform to the standards listed in DWR Bulletin 74-90, Monitoring Well Standards Section 10.E, as illustrated in Exhibits 4 and 5.

The inner PVC well casings shall be fitted with locking interior watertight caps. The PVC well casings will be enclosed in a minimum 18-inch diameter steel casing with locking lid embedded in approximately three feet of neat cement grout. The space above the grout between the inner

PVC casing and the security outer casing will be filled with approximately six inches of dry bentonite pellets to provide a seal. The bentonite pellets will be covered by 10 to 12 inches of coarse sand or pea gravel. A ¼-inch diameter weep hole shall be drilled in the security casing immediately above the final level of the bentonite pellets to allow for water drainage. A 4-foot by 4-foot by 6-inch sloping concrete pad, equipped with four 42-inch tall concrete-filled traffic bollards, situated at the corners of the pad, will be constructed around the monitoring well (Exhibit 4).

Concrete for the pad and traffic bollards shall use Type II Portland cement per ASTM C150. Concrete aggregate shall be a mix of fine and coarse sizes, all less than 0.75 inches. Concrete shall have a minimum compressive strength of 2,500 psi at 28 days per ASTM C31 and C39 and a maximum water-cement ratio of 0.48 by weight.

The Contractor shall furnish and attach a permanent well identification plate to the security casing. The well identification plate shall include the following well construction details:

- A. California State Well Identification Number
- B. City of Santa Rosa Well Identification Name and Number
- C. Date Well Completed

#### **76-4.07B Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Monitoring Well Surface Completion** shall be on a **lump sum** basis. Payment for lump sum items will be based on the percentage of work completed as approved by the Engineer.

#### **76-4.08 Site Cleanup**

##### **76-4.08A Scope**

This item shall consist of doing all work and furnishing all materials necessary to maintain the well site and adjacent drill cuttings disposal site in a professional manner during drilling, construction, and testing and restoring the site grade to predrilling conditions after work is completed.

##### **76-4.08B Methods**

Keep the premises free from accumulations of waste materials, rubbish, and other debris resulting from the work.

At completion of the work remove all waste materials, rubbish and debris from and about the well site, including all tools, construction equipment, fuel tanks, and machinery and surplus materials.

Leave the site clean and ready for use by the City by restoring to their original grade all temporary work areas.

The Contractor is responsible for any damages to properties adjacent to the well caused by drilling, construction, or well development activities associated with the work described herein. This includes the tracking of mud, dirt, and debris from the site onto paved roads.

#### **76-4.08C Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Site Cleanup** shall be by **lump sum**. Payment for lump sum items will be based on the percentage of work completed as approved by the Engineer.

#### **76-4.09 Fluids and Cuttings Containment and Disposal**

##### **76-4.09A Scope**

During drilling, reaming, well construction, and well development, Contractor shall provide for the temporary containment and storage of all drilling fluids and drill cuttings.

Drilling fluids, including the fluids displaced from the hole during casing, filter packing, cementing operations, and initial development shall be contained and legally disposed offsite by the Contractor.

Drill cuttings shall be contained and legally disposed offsite by the Contractor.

##### **76-4.09B Materials and Methods**

Portable, temporary, leak proof containment vessels shall be used to contain drilling fluids and fluids displaced from the hole during casing, filter packing, cementing operations, and initial development.

These fluids shall be removed from containment vessels and legally disposed of offsite by the Contractor prior to initiating well development operations (Section 76-4.06).

Temporary containment of cuttings will be allowed within the work area, provided that there is adequate space available.

Drill cuttings and fluids shall be legally disposed of offsite.

##### **76-4.09C Testing and Measurement**

Provide to Engineer an accounting of all materials removed from the site for disposal, and documentation regarding the disposal of the materials at the various facilities.

Any testing required for the disposal of such materials is the responsibility of Contractor.

##### **76-4.09D Payment**

Full compensation of labor, tools, equipment, and other costs required to complete the task of **Fluid and Cuttings Containment and Disposal** as specified shall be included in the **lump sum** price.

#### **76-4.10 Standby Time**

##### **76-4.10A Scope**

During the progress of drilling operations, it may be necessary for Engineer to perform work that will require the drilling crew and equipment to stand idle. In such event, the Engineer shall request



Contractor in writing to cease operations and shall state the anticipated extent or duration thereof. Contractor shall promptly furnish such assistance and cease operations.

**76-4.10B Measurement and Payment**

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

## **121 NOTIFICATION**

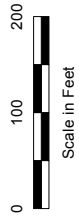
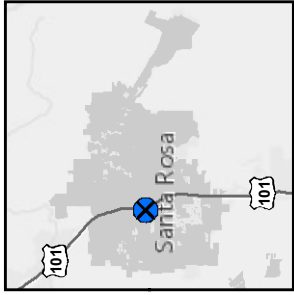
### **121-1.01 General**

Contractor shall notify Engineer of any work to be performed on any given work day either on the afternoon of the prior working day or before 8:30 a.m. on the given working day. Any work completed for which Engineer has not received prior notification of its scheduling MAY NOT BE ACCEPTED FOR PAYMENT.




### **121-3.01 Payment**

Full compensation for conforming to the provisions of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

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**Symbology**

-  Existing Freeway Well
-  Freeway Well Site
-  Approximate Parcel Boundary



**Exhibit 1**

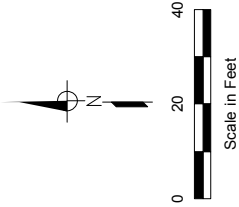
**Freeway Well Location**

City of Santa Rosa  
Freeway Well Planning Project





- Symbology**
- Sewer Manhole
  - Water Hydrant
  - Water Source for Contractor, to be provided by City
  - Freeway Well Site
  - Parcel
  - Existing Gate
  - Soundwall
  - Temporary Construction Fence
  - Sewer Main of 12-inch Diameter or Larger
  - Water Main of 8-inch Diameter or Larger



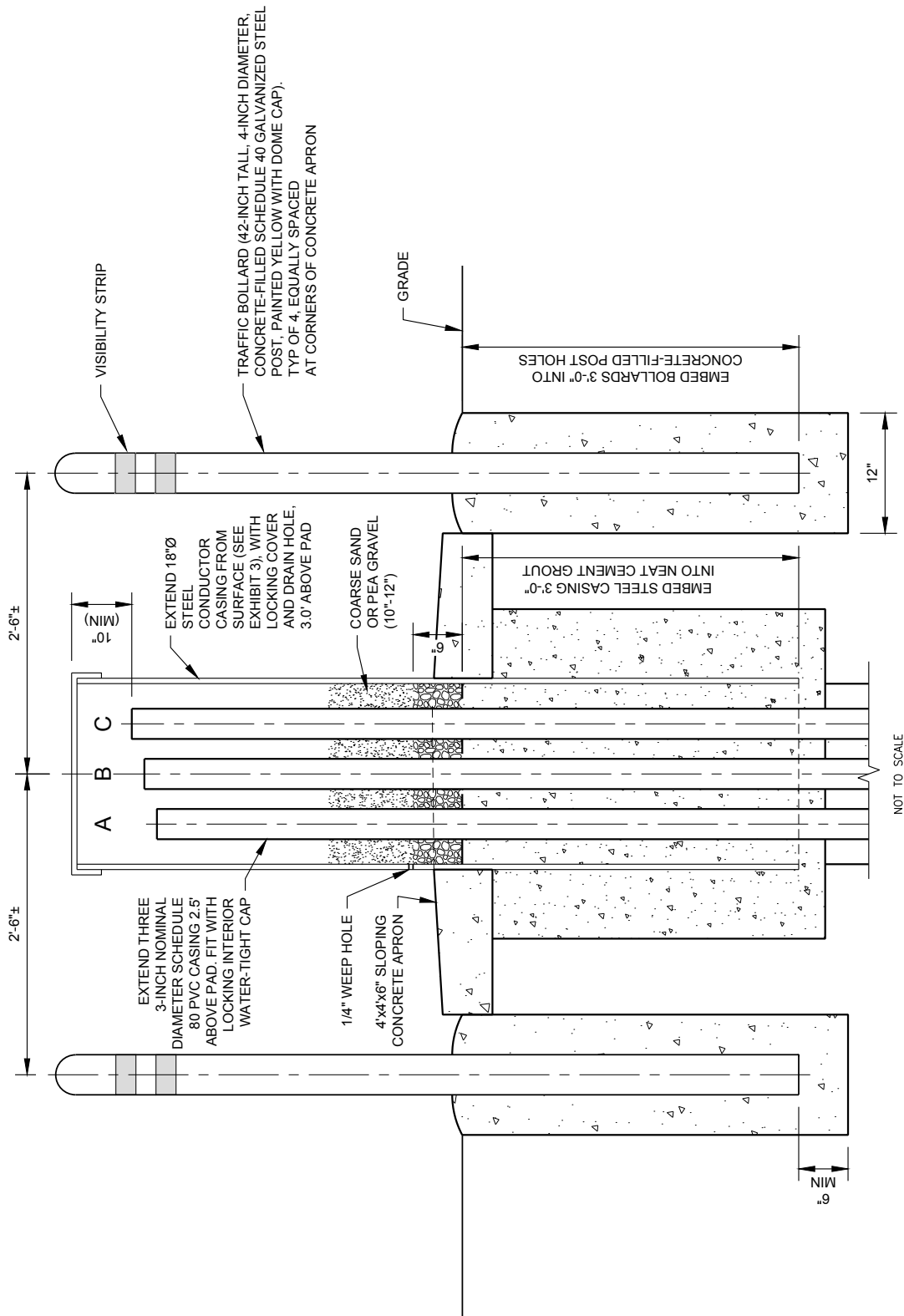
**Exhibit 2**

**Proposed Boring  
and Monitoring Well Map**

City of Santa Rosa  
Freeway Well Planning Project







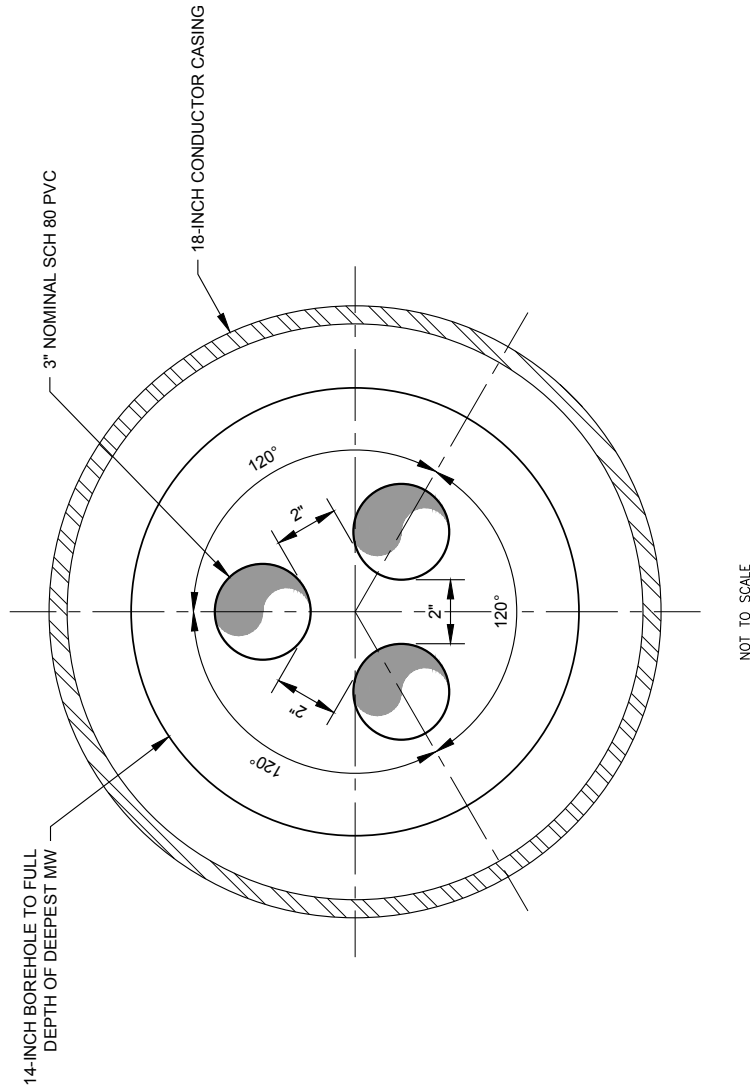
# Exhibit 4

## Multiple Completion Monitoring Well Surface Completion

City of Santa Rosa  
Freeway Well Planning Project



- NOTES:
- CONCRETE FOR THE PAD AND TRAFFIC BOLLARDS SHALL USE TYPE II PORTLAND CEMENT PER ASTM C150. CONCRETE AGGREGATE SHALL BE A MIX OF FINE AND COARSE SIZES, ALL LESS THAN 0.75 INCHES. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS PER ASTM C31 AND C39 AND A MAXIMUM WATER-CEMENT RATIO OF 0.48 BY WEIGHT.



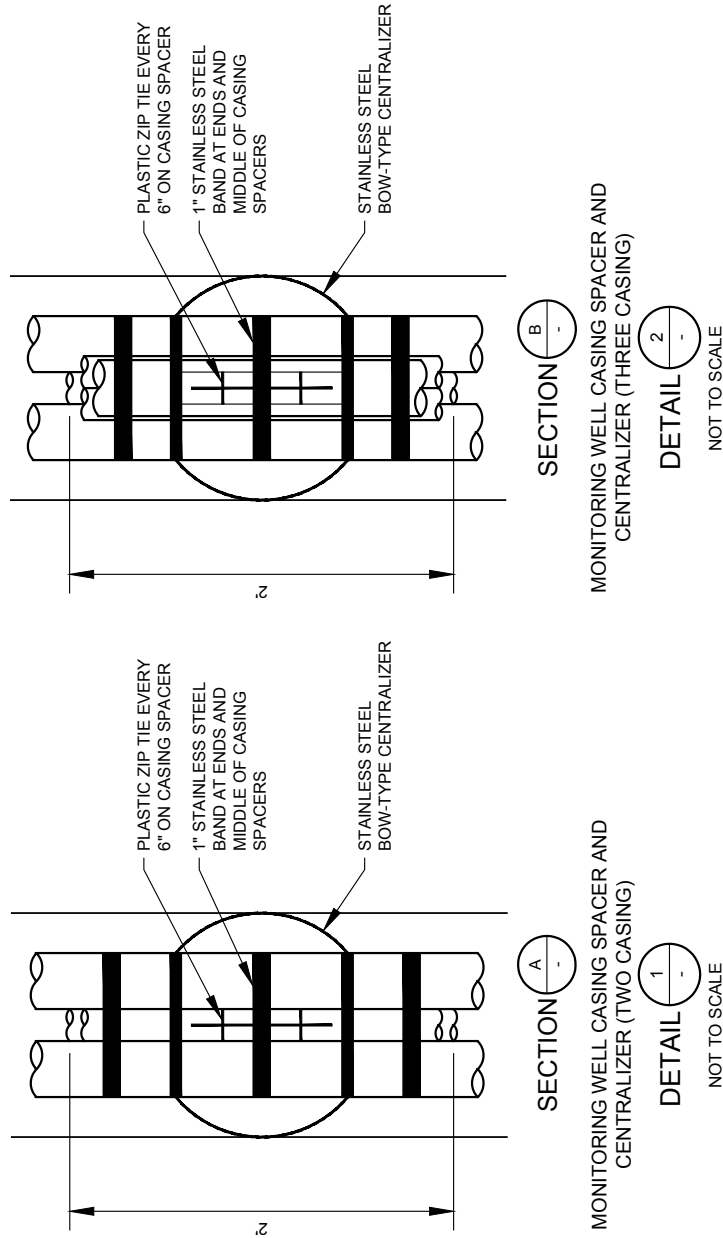
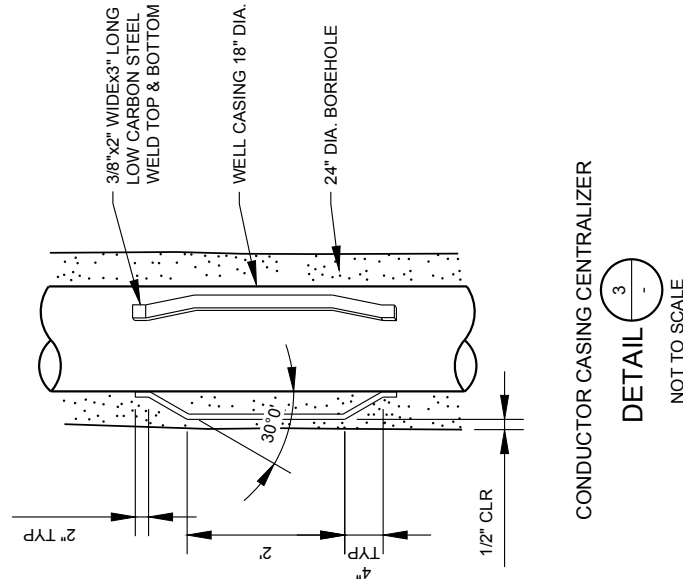
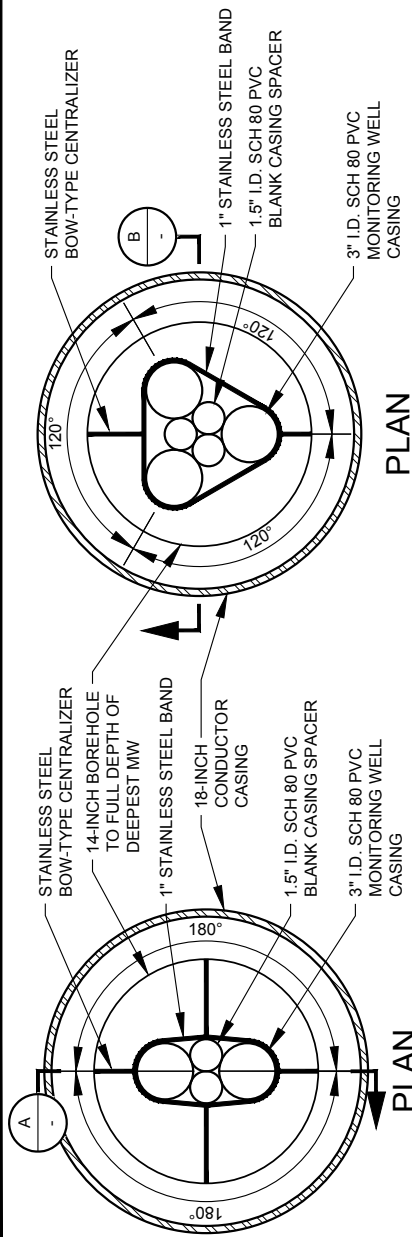
NOT TO SCALE

NOTES:  
1. SEE EXHIBIT 6 FOR DETAILS ON CENTRALIZERS  
AND SPACERS.

## Exhibit 5 Multiple Completion Monitoring Well - Plan



City of Santa Rosa  
Freeway Well Planning Project



- NOTES:
- CASING SPACERS AND CENTRALIZERS SHALL BE PLACED:
    - ABOVE AND BELOW EACH WELL SCREEN;
    - ADJACENT TO THE BENTONITE SEALS BOUNDING EACH FILTER PACKED ZONE;
    - AND AT A MINIMUM FREQUENCY OF EVERY 60' ON BLANK CASING.
  - CONDUCTOR CASING CENTRALIZERS SHALL BE WELDED IN SETS OF 3, AT 120° OF ONE ANOTHER, FIVE FEET FROM TOP AND BOTTOM OF CONDUCTOR CASING.
  - ALL DEPTHS ARE SUBJECT TO CHANGE BASED ON SITE CONDITIONS.

## Exhibit 6

### Multiple Completion

### Monitoring Well - Details



City of Santa Rosa  
Freeway Well Planning Project



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# **ATTACHMENT A**

## Discharge Permit Application

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## WASTEWATER DISCHARGE PERMIT GROUNDWATER

### **1.0 GROUNDWATER**

In order to set forth policies, procedures, and assist applicants in acquiring a Wastewater Permit for Groundwater Cleanup Operations.

### **2.0 POLICIES**

Applicants proposing to discharge treated groundwater to the Subregional Wastewater Collection system will be required to submit the following Wastewater Discharge Permit Application. A filing fee will be assessed and must accompany applications.

Any contaminated groundwater treatment system discharging to the Subregional Wastewater Collection System must make use of the Best Available Technology (BAT) to reduce EPA priority pollutants to meet Technically Based Limits for organics. If all conditions and requirements are satisfied, a Groundwater Discharge Permit will be issued for a period of five (5) calendar years. The submission of a renewal application and payment of an application fee will be required at the end of the five-year permit period.

The cities of Sebastopol, Rohnert Park and Cotati and the Sonoma County South Park Sanitation District own capacity rights in the Subregional Wastewater System. Written approval for discharge must be obtained from these agencies for any projects located within their respective jurisdictions. This approval must be submitted along with the Wastewater Discharge Permit Application and filing fee. Inspectors' approval of any construction involving building, plumbing and electrical codes will be handled by the respective jurisdictions.

EPA Priority Pollutant test results, on the proposed discharge must be submitted as part of the permit application. A water quality lab certified by the State of California must perform all analysis.

### **3.0 PROCEDURES**

Prior to discharge, the applicant may be required to install a Lower Explosive Limit (LEL) device prior to the point of discharge. This device will be able to cease discharge if the LEL is reached. The city will be notified if a shut down occurs and the permittee shall contact the city prior to a restart of the discharge.

Prior to any discharge to the sanitary sewer a City installed flow meter will be required at the point of discharge. Additionally, all appropriate fees associated with the flow meter installation must be paid prior to discharge. The current general commercial sewer fee established by the City of Santa Rosa, or rates as charged by other entities, per one thousand (1,000) gallons will be assessed. This fee may be subject to change during the permitting period.

Waste discharged to the Subregional Wastewater collection System must not exceed the following limits:

<u>PARAMETER</u>	<u>DAILY MAX MG/L</u>	<u>SAMPLE TYPE</u>
BTEX EPA 8260B OR 8021B*	2.0	GRAB
HALOGENATED TTO EPA 8260B	0.02	GRAB
TOTAL PETROLEUM HYDROCARBONS-GAS 8260B**	100.0	GRAB
TOTAL PETROLEUM HYDROCARBONS-DIESEL 8015M**	100.0	GRAB
LEAD, TOTAL	0.3	GRAB

\* Reporting limit 0.5 ug/L

\*\*Summation of TPH-Gas and TPH diesel not to exceed 100mg/L

1. Sample location is the groundwater treatment system effluent.
2. All analysis will be performed by a California State Certified Laboratory and all test procedures must comply with standards set forth in EPA Solid Waste 846 and Title 40 Code of Federal Regulations, Part 136.

BTEX = Benzene, toluene, ethyl-benzene and xylene

T = Total

MG/L = Milligrams per Liter

EPA = Environmental Protection Agency

UG/L = Micrograms per Liter

TTO = Total Toxic Organics

PROHIBITIONS: Perchloroethylene/tetrachlorethylene is prohibited from being discharged to the sanitary sewer.

City of Santa Rosa, Environmental Compliance Section

4300 Llano Road, Santa Rosa CA 95407

Telephone (707) 543-3369 Fax (707) 543-3398

Website: [www.srcity.org/envcompliance](http://www.srcity.org/envcompliance) - Email: [envcompliance@srcity.org](mailto:envcompliance@srcity.org)

Permit applications require approximately 30 days for processing. On completion of processing, the property owner/applicant will be informed of the Proposed Requirements in writing. The owner/applicant will have thirty (30) days to review the permit requirement and respond in writing. At the end of thirty days, if the Subregional Environmental Compliance office has received no written response, the permit will be considered final. The permit will not be issued as final until the facility is ready for discharge and all requirements have been met. A final inspection is required at this point and prior to discharging. A maximum daily average discharge volume limit will be imposed. This limit will be based on calculations submitted in your permit applications.

The applicant will be liable for damages for any discharge of pollutants which cause an increase in priority pollutant concentrations above background levels as measured at the Subregional Reclamation Facility headworks and which cause any violation of the terms of the City's NPDES permit.

The City of Santa Rosa will require a monitoring and reporting program. Modifications to this program may occur at any time during the permitting period.

The applicant will be required to abide by all provisions of the Sewer Codes applicable to the participating Subregional Agencies in which the discharge occurs, i.e., the City of Santa Rosa, City of Rohnert Park, City of Sebastopol, City of Cotati, or the Sonoma County South Park Sanitation District.

The City must be given access, 24-hours per day, and supplied with a key to the treatment facility to enable the taking of flow meter readings and samples.

#### **4.0 APPLICABLE FEE(S)**

The current applicable fee(s) established in the most recent Resolution of Council are outlines as follows:

- A permit fee of \$1,542 for Groundwater – 5-Year Continuous discharge permits will be due every 5 years at the time of application submittal.
- Within the City of Santa Rosa the volumetric quantity charge per 1,000 gallons of wastewater discharged is \$11.76 for treated wastewater.
- The discharge(s) shall be metered by a City approved flow device to determine volume fees, all appropriate fees associated with the flow meter installation must be paid prior to discharge.
- For City of Santa Rosa Discharges: A utility billing account must be opened in the applicant's name prior to the treatment system start-up. Call (707) 543-3150.

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## INSTRUCTIONS FOR WASTEWATER DISCHARGE PERMIT APPLICATION GROUNDWATER

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### PART A - APPLICATION/PERMIT

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- A1. **Applicant Business Name:** Use Corporation or DBA name.
- A2. **Address of Premise Discharging Wastewater:** Include both sanitary and/or service area waste. Indicate building numbers, if any.
- A3. **Mailing address:** Address that you want self-monitoring reports mailed.
- A4. **Chief Executive Officer:**
- a. Name and title of person in charge of total operation (could be owner).
  - b. Mailing address of officer.
- A5. **Environmental Consultant:**
- a. Name and title of person in charge of environmental consulting
  - b. Mailing address of environmental consultant
- A6. **Primary Contact Person:**
- Person to be contacted about application, emergencies, or general business questions. List person who would be easily accessible to our staff.

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CITY OF SANTA ROSA WASTEWATER DISCHARGE PERMIT  
GROUNDWATER

**PART A - APPLICATION / PERMIT**

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- A1. **Applicant Business Name** \_\_\_\_\_
- A2. **Address of Premise Discharging Wastewater** \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_
- A3. **Mailing Address** \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_
- A4. **Chief Executive Officer** \_\_\_\_\_  
Title \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_
- A5. **Environmental Consultant** \_\_\_\_\_  
Title \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_
- A6. **Primary Contact Person** \_\_\_\_\_  
Title \_\_\_\_\_ Day Phone \_\_\_\_\_  
Night Phone \_\_\_\_\_ Emergency Phone \_\_\_\_\_

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CITY OF SANTA ROSA  
WASTEWATER DISCHARGE PERMIT  
**GROUNDWATER**

**PART B - BUSINESS DESCRIPTION**

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**Purpose:** *The Business Description is primarily used to determine the substances that may enter into the wastewater discharge from the Business Activity. The production quantities are necessary for State and Federal Reports.*

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B1. Type of Clean-up:

Gasoline ☐

Diesel ☐

Solvent ☐

Other ☐

B2. Description of **Proposed** Treatment System (include schematic)

B3. Proposed Flow Rate (gallons per day) \_\_\_\_\_

B4. Hours of Operation **Continuous** \_\_\_\_\_ **Intermittent** \_\_\_\_\_

B5. Proposed Duration of Discharge \_\_\_\_\_ Years \_\_\_\_\_ Months

City of Santa Rosa, Environmental Compliance Section  
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CITY OF SANTA ROSA  
WASTEWATER DISCHARGE PERMIT  
GROUNDWATER

**PART C- SITE DIAGRAM**

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**Purpose:** The Site Diagram shows wastewater generating operations.

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**SITE DIAGRAM**

Draw to scale the location of each building on the premises. Show the location of all storm drains, pretreatment facilities, well heads, storage tanks, flow totalizer and sampling location.

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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RESPONSIBLE PERSON

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DATE

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PRINT NAME

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TITLE

**THIS DOCUMENT MUST BE SIGNED BY THE MOST RESPONSIBLE PERSON OF THE ORGANIZATION APPLYING FOR THE DISCHARGE PERMIT. THIS INCLUDES THE OWNER, PRESIDENT, CORPORATE OFFICER, OR ANY OTHER REPRESENTATIVE OF THE ORGANIZATION IN A DECISION MAKING CAPACITY. THE PERSON SIGNING THIS DOCUMENT IS LEGALLY RESPONSIBLE FOR ALL INFORMATION CONTAINED HEREIN, AND BECOMES LIABLE FOR ANY AND ALL FUTURE ENFORCEMENT ACTIONS RELATED TO THIS INFORMATION.**

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BID FORMS

**CITY OF SANTA ROSA**

**STATE OF CALIFORNIA**

EGW FREEWAY WELL

The work to be performed and referred to herein is in the City of Santa Rosa, California and consists of improvements to be constructed in accordance with the provisions of the Invitation for Bids, containing the Notice to Bidders, the Special Provisions, the Project Plan(s), the Bid Forms and the Contract, all of which are by reference incorporated herein, and each Addendum, if any is issued, to any of the above which is also incorporated by reference herein.

TO THE AWARD AUTHORITY OF THE CITY OF SANTA ROSA

The undersigned, as bidder, declares that the only person or parties interested in this bid as principals are those named herein; that this bid is made without collusion with any other person, firm, or corporation; that Contractor has carefully examined the Invitation for Bids and conditions therefor, and is familiar with all bid requirements, that Contractor has examined this Contract and the provisions incorporated by reference herein, and Contractor hereby proposes, and agrees that if its bid is accepted by the City, Contractor will provide all necessary machinery, tools, apparatuses, and other means of construction, and to do all the work and furnish all the materials and services required to complete the construction in accordance with the Contract, the Special Provisions, the Project Plan(s), and Addenda to any of the above as incorporated by reference, in the time stated herein, for the unit prices and/or lump sum prices as follows:

NAME OF BIDDER: \_\_\_\_\_

Contract # **C02204**  
Project Title: **EGW FREEWAY WELL**

Line #	Description	Units	Quantity	Unit Price	Total Price
1	TEMPORARY TRAFFIC CONTROL	LS	1	\$_____	\$_____
2	WATER POLLUTION CONTROL	LS	1	\$_____	\$_____
3	MOBILIZATION AND DEMOBILIZATION	LS	1	\$_____	\$_____
4	CONDUCTOR CASING	LF	100	\$_____	\$_____
5	PILOT HOLE DRILLING (8-INCH)	LF	700	\$_____	\$_____
6	GEOPHYSICAL LOGGING	LS	1	\$_____	\$_____
7	PILOT HOLE REAMING	LF	560	\$_____	\$_____
8	CALIPER SURVEY	LS	1	\$_____	\$_____
9	MONITORING WELL CASING	LF	1170	\$_____	\$_____
10	MONITORING WELL SCREEN	LF	60	\$_____	\$_____
11	MONITORING WELL SUMP	LF	30	\$_____	\$_____
12	FILTER PACK: SILICA SAND	LF	210	\$_____	\$_____
13	FILTER PACK: PEA GRAVEL	LF	490	\$_____	\$_____
14	CEMENT GROUT	LF	100	\$_____	\$_____
15	MONITORING WELL DEVELOPMENT-16 HOURS TOTAL	LS	1	\$_____	\$_____
16	MONITORING WELL DEVELOPMENT-ADDITIONAL TIME	HR	6	\$_____	\$_____
17	MONITORING WELL SURFACE COMPLETION	LS	1	\$_____	\$_____
18	SITE CLEANUP	LS	1	\$_____	\$_____
19	FLUIDS AND CUTTINGS CONTAINMENT AND DISPOSAL	LS	1	\$_____	\$_____
20	STANDBY TIME	HR	1	\$_____	\$_____
				<b>Total:</b>	\$_____

In the case of any discrepancy between the unit price and the total set forth for the item, the unit price shall prevail; provided, however, that if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any reason, or is omitted, or in the case of lump sum items, is not the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

1. As to lump sum items, the amount set forth in the "Total" column shall be the unit price;
2. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

The Total Base Bid shall be the sum of the "Total" column. In case of discrepancy between the sum of the "Total" column and the amount entered as Total Base Bid, the sum of the "Total" column shall prevail. The bid comparison will be based on the sum of the "Total" column for each bidder.

If this Contract Bid is accepted by the City and the undersigned fails to execute the Contract and to give all the bonds required under the Contract, with a surety satisfactory to the Award Authority of the City of Santa Rosa, within ten calendar days after bidder has received the Notice of Award from the Engineer, then the Award Authority may, at its option, determine that the bidder has abandoned the Contract, and thereupon this bid and the acceptance thereof shall be null and void, and the forfeiture of the security accompanying this bid shall be in accordance with California Public Contract Code section 20172.

The undersigned understands and agrees that the City is not responsible for any error or omissions on the part of the undersigned in making this bid.

The bidder to whom the Contract is awarded agrees to execute the Contract in favor of the City, in the form attached, and to deliver any and all required bond(s) and insurance certificates within ten calendar days from the date of Contractor's receipt of the Notice of Award. Following the award of the Contract, Contractor shall commence work within ten calendar days from the day authorized in the Notice to Proceed and diligently prosecute the same to completion in accordance with Section 8-1.04.

## LIST OF SUBCONTRACTORS

**NAME OF BIDDER:** \_\_\_\_\_

The following is a list of each subcontractor who will perform work or labor or render services to the undersigned for the construction of the project in an amount in excess of ½ of 1% of the total amount of this bid.

The undersigned agrees that any portion of the work in excess of ½ of 1% of the total amount of this bid and for which no subcontractor is designated herein will be performed by the undersigned.

SUBCONTRACTOR NAME	SUBCONTRACTOR LICENSE NUMBER	SUBCONTRACTOR DIR REGISTRATION NUMBER	SUBCONTRACTOR BUSINESS ADDRESS	DESCRIPTION OF WORK (ITEM NO.)

### LIST OF PREVIOUS SIMILAR JOBS

**NAME OF BIDDER:** \_\_\_\_\_

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

NONCOLLUSION DECLARATION  
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date], at \_\_\_\_\_ [city], \_\_\_\_\_ [state].

NOTE:           The above Noncollusion Declaration is part of the Contract Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Noncollusion Declaration.

BID BOND AFFIDAVIT AND BIDDER'S SIGNATURE PAGE

Accompanying this bid is a guaranty in the form of (Notice: Insert the words "cash \$," "Cashier's Check," "Certified Check," or "Bidder's Bond" as the case may be):

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in an amount equal to at least ten percent of the total of this bid.

The undersigned further agrees that if Contractor does not execute the Contract and deliver the necessary bonds to the City within the period of time specified in this Invitation for Bids, the proceeds of the security accompanying this bid shall become the property of the City of Santa Rosa, California, and this bid and the acceptance thereof may, at the option of the City, be considered null and void.

The undersigned is licensed in accordance with an act providing for the registration of Contractors, License No. \_\_\_\_\_, Class \_\_\_\_\_, expiration date \_\_\_\_\_.

The undersigned is registered with the Department of Industrial Relations, Registration No. \_\_\_\_\_.

**IMPORTANT NOTICE:** If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager of the corporation; if a partnership, state true name of partnership, also the names of all partners in the partnership; if the bidder is a sole proprietor, state the business name and the proprietor's name in full.

Secretary of State Business Entity Number: \_\_\_\_\_.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Business Address

\_\_\_\_\_

Telephone Number

I declare under penalty of perjury that the foregoing is true and correct.

BIDDER'S SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

# **CONTRACT**

## **CITY OF SANTA ROSA**

### **CALIFORNIA**

**CONTRACT NO. C02204  
EGW FREEWAY WELL**

This Contract is made and entered into as of date to be added upon award at Santa Rosa, California, between the City of Santa Rosa ("City") and \_\_\_\_\_ of \_\_\_\_\_ ("Contractor").

ARTICLE I - For and in consideration of the payment and agreement hereinafter mentioned, to be made and performed by City, and under the conditions expressed in the required bonds hereunto annexed, Contractor agrees that for the benefit of City, at its own cost and expense, to do all the work and furnish all the materials, except such as are mentioned in the Special Provisions to be furnished by City, necessary to construct and complete the work herein described in a good, workmanlike, and substantial manner. The work embraced herein shall be done in accordance with the Standard Specifications of the State of California Department of Transportation, dated 2010, insofar as the same may apply (Standard Specifications); in accordance with the City of Santa Rosa Construction Specifications for Public Improvements (City Specifications); in accordance with the City of Santa Rosa Design and Construction Standards, (City Standards); in accordance with the State of California Department of Transportation Standard Plans, dated 2010 (Standard Plans), (collectively, "Contract Documents") and in accordance with the Special Provisions hereinabove set forth, all of which are hereby incorporated into and made part of this Contract.

ARTICLE II - Contractor agrees to receive and accept the following prices as full compensation for furnishing all materials and doing all the work contemplated and embraced in this Contract; also for all loss or damages arising out of the nature of the work aforesaid, or from the acts of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by City and for all expenses incurred by or in consequence of the suspension or discontinuance of work, and for well and faithfully completing the work, and the whole thereof in the manner and according to the Invitation for Bids therefor, and the requirements of the Engineer under them to wit:



ITEM NUMBER	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
			\$ _____	\$ _____
TOTAL BASE BID (SUM OF "TOTAL" COLUMN)			\$ _____	

**BID ITEMS IN THIS SECTION WILL BE INSERTED  
UPON AWARD OF THE CONTRACT AND SHALL BE  
THE SAME AS THOSE BID UPON.**

ARTICLE III - City and Contractor hereby promise and agree that Contractor shall provide the materials and do the work according to the terms and conditions herein contained and referred to, for the prices aforesaid, and City hereby agrees to pay for the same at the time, in the manner, and upon the conditions set forth; and the parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to full performance of the covenants herein stated.

ARTICLE IV - By execution of this Contract, Contractor hereby represents and certifies that Contractor is aware of the provisions of Labor Code section 3700 which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor hereby agrees to comply with such provisions before commencing the performance of the work of this Contract.

ARTICLE V - It is further expressly agreed by and between the parties hereto that the Invitation for Bids, containing the Notice to Bidders including any required Bonds, the Contract Documents, and any Addenda are all essential parts of this Contract and are specially referred to and by such reference made a part hereof. In the event of any conflict in the provisions thereof, the terms of said documents shall control each over the other, in the following order:

1. Special Provisions
2. City Standards
3. City Specifications
4. Standard Specifications

ARTICLE VI - Contractor agrees to commence work pursuant to this Contract within ten calendar days from the date authorized in the Notice to Proceed and to diligently prosecute the same to completion in accordance with Section 8-1.04C of the Special Provisions.

This Contract shall not be transferred or assigned without the prior written consent of City, which may be withheld by City in its sole and absolute discretion.

If Contractor is a corporation, two corporate officers of Contractor, one from each of the following two groups shall execute this Contract: a) the chairman of the board, president or any vice-president; b) the secretary, any assistant secretary, chief financial officer, or any assistant treasurer. The name and title of the corporate officers shall be printed under the signature.

In witness whereof, the parties hereto have executed this Contract as of the date first written above.

**City:**

City of Santa Rosa,  
a Municipal corporation

By: \_\_\_\_\_

Title: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Title: \_\_\_\_\_

Approved as to form:

By: \_\_\_\_\_

Office of City Attorney

**Contractor:**

Name of Contractor,  
Type of entity

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_