

# **INVITATION FOR BIDS**



## **FOR CONSTRUCTING**

### **WATER PUMP STATION 3 POWER FILTER**

CONTRACT NUMBER

**C02072**

ISSUED BY

**CAPITAL PROJECTS ENGINEERING DIVISION**

**CITY OF SANTA ROSA, CALIFORNIA**

**2016**

ATTENTION  
Prebid Conference  
See Page 1



STATE OF CALIFORNIA

INVITATION FOR BIDS

CONTAINING:

NOTICE TO BIDDERS

SPECIAL PROVISIONS

BID FORMS

CONTRACT

FOR

**WATER PUMP STATION 3 POWER FILTER**

**Contract No. C02072**

# WATER PUMP STATION 3 POWER FILTER

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CITY OF SANTA ROSA  
STATE OF CALIFORNIA

**NOTICE TO BIDDERS**

➤	For technical questions regarding this project, contact Tanya Mokvyts at (707) 543-3958.
➤	For direct access to plans, 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., November 8, 2016, for Water Pump Station 3 Power Filter, Contract No. C02072. (Engineer's Estimate: \$ 30,000.00)

**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.

**Pre-Bid Meeting**

Prospective bidders, subcontractors, and material suppliers are invited to attend a pre-bid meeting scheduled to be held at 9:30 a.m., November 2, 2016, in the Transportation and Public Works Department located at 69 Stony Circle, Santa Rosa, California.

**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.

**CITY OF SANTA ROSA  
ESTIMATED QUANTITIES  
WATER PUMP STATION 3 POWER FILTER**

Item No.	Description	Quantity	Units
1	WATER PUMP STATION 3 POWER FILTER	1	LS

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 A license for this project.

Project plans, bid and contract forms for Water Pump Station 3 Power Filter 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.

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.

TRACY DUENAS  
Supervising Engineer

Date

# **SPECIAL PROVISIONS**

## **General Specifications**

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

### **WATER PUMP STATION 3 POWER FILTER**

## **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
5. State of California Department of Transportation Standard Plans 2010 (Standard Plans).

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 Water 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 Plans, Specifications, City Standards, Invitation for Bids and Work Site:** Prior to submitting a bid, the bidder shall carefully examine the Project Plans, 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.

**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 Project Plans or other 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, cashier's 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 for this project. In the event that the contract award exceeds \$25,000.00, 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>
<b>B.</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.

**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 and Project Plans. At least one complete set of the Invitation for Bids and Project Plans 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 and Project Plans 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 & D. 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. Standard Plans

**5-1.05 Order of Work:** The work as shown on the Project Plans and 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 locations of which are not shown on the Project Plans. 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 Arbitration:** Any references to Arbitration in the Standard Specifications are deleted in their entirety.

## 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 as shown on the Project Plans or 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, material, or plans 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, materials, or plans 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 ten calendar days after the date authorized in the Notice to Proceed and shall diligently prosecute the Contract to completion before the expiration of:

30 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 directed by Engineer, Contractor shall not conduct any activities that generate noise earlier than 7:30 a.m. or later than 6:30 p.m.

City offices are closed every other Friday. However, materials testing, survey, water system and inspection services will be provided on those days (except holidays). Any additional costs that may be associated with office closure on every other Friday shall be the sole responsibility of Contractor and no additional compensation shall be allowed therefor.

**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 – Major Contracts:** Once each month for progress pay purposes for “major contracts” as defined in Santa Rosa City Code section 3.44-020, 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.

Within 15 days after the completion of the work, the Engineer will prepare a written semi-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.

The City shall not make payments under this section for “minor contracts” as defined in Santa Rosa City Code section 3.44-020.

**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 semi-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 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. 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 required by the Engineer to determine the facts or contentions in the claims. Failure to grant access to such records shall be sufficient cause for denying the claims.

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**

**WATER PUMP STATION 3 POWER FILTER**

**CONTRACT NO. C02072**



**2016**

## **SECTION 198**

### **MISCELLANEOUS METAL**

**198-1.01 General:** The work covered by this section of the specifications consists of furnishing all plant, labor, equipment, appliances and materials, and in performing all operations in connection with the installation of miscellaneous metal work, complete in accordance with the attached plans and as specified herein.

Metals shall be free from defects impairing strength, durability and appearance and be of the best commercial quality for the purpose specified.

All exposed fasteners shall be made of the same material, color and finish as the metal to which applied unless otherwise shown.

**198-1.02 Miscellaneous Shapes, Plates and Bars:** The Contractor shall provide and install all miscellaneous shapes, plates, and bars including connections complete as shown on the attached plans and as specified herein.

The Contractor shall fabricate, provide holes for proper installation, and set accurately in place all miscellaneous metal work, complete as shown on the attached plans and as specified herein.

The Contractor shall furnish and install additional miscellaneous braces, clips, connections etc., as may be required to provide a stable, rigid installation.

#### **198-1.03 Bolts, Nuts and Anchors:**

**198-1.03.01 General:** All bolts, nuts and anchors shall be of adequate size and length for their intended use.

All bolts shall be standard Hex head with cold pressed nuts and locking washers or cut washers, unless otherwise indicated on the attached plans.

The length of all bolts and anchors shall be such that after joints are made up, the bolt protrudes through the nut one-eighth (1/8) to one half (1/2) inch. Bolts protruding through the nut more than one-half (1/2) inch shall be cut back (no torches) and ground smooth.

Anchor bolts shall be imbedded to the depth shown on the attached plans, or a minimum of 6-inches if not specifically shown.

**198-1.03.02 Materials:** Carbon steel bolts shall be ASTM A307 Grade B unless otherwise indicated on the attached plans. Nuts shall be ASTM A563 Grade A Hex style, unless otherwise indicated on the attached plans.

Nonheaded anchor bolts, either bent or straight to be used for structural anchorage purposes, unless otherwise indicated on the attached plans, shall conform to the requirements of ASTM Specification A36. Nuts shall be ASTM A563 Grade A.

All carbon steel fasteners shall be zinc coated by the hot dip process in accordance with the requirements of ASTM Specification A153 Class C.

All stainless steel bolts including anchor bolts shall be ASTM A320 Grade B8M (AISI Type 316). Nuts shall be austenitic alloy nuts conforming to ASTM A194 Grade 8M. Stainless steel concrete anchors shall be Hilti drop in anchors or approved equivalent. All bolts, nuts and anchors located below any design water surface level shall be stainless steel.

**198-1.04 Fabrication:** Insofar as possible, the work shall be fitted and shop assembled, ready for erection. Work shall be executed in strict accordance with the attached plans, details, and approved shop drawings.

Shop and field connections shall be bolted or welded, as required. No welding of stainless steel to carbon steel shall be allowed without prior approval from the Engineer.

Jointing and intersection of metals shall be accurately made, tightly fitted and made in true planes, with adequate fastenings.

Holes and connections shall be made for work of other trades and connection shall be made thereto, unless otherwise indicated or directed by the Engineer.

Welding and welding equipment shall conform to the requirements of the American Welding Society's Code of Welding in Building Construction.

Fabricators and welders shall be licensed operators. Welding shall conform to the best modern practice. All welds shall be of adequate strength and durability, with jointing made tight, flush, in true planes with base metals and shall be clean and ground smooth.

All field welding of steel shall be done by an unvarying arc welding process which excludes the atmosphere during the process of deposition and while the metal is in a molten state. The type and size of electrode used, and the current and voltage required shall in all cases be of common acceptable practice. Previously used or otherwise damaged electrodes shall not be used and violation of this provision shall be sufficient cause for rejection of the work. All welds shall be of uniform composition, neat, smooth, full strength, and ductile; shall be free from undercut, porosity and clinker; and shall be made with a technique which will insure uniform distribution of load throughout the welded section with a minimum tendency to produce eccentric stress or distortion of the weld or in the metal adjacent thereto. Welding shall be continuous along the entire line of contact.

**198-1.05 Galvanizing:** All exposed ferrous metal except stainless steel, including supports, clips, braces, hangers, bolts, washers and nuts shall be fabricated as shown on the approved shop drawings and hot dip galvanized after fabrication in accordance with ASTM A 123 "Specification for Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, Forged Steel Shapes, Plates, Bars, and Strips" and ASTM A 153 "Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware."

**198-1.06 Payment:** Full compensation for work in this section shall be considered as included in the prices paid for **various contract items** of work, and no additional compensation will be allowed therefor.



## **SECTION 200-6 PAINT & COATINGS**

**200-6.01 Scope:** The work covered by this section consists of furnishing all materials, equipment, appliances, and labor and performing all operations in connection with coating, recoating, overcoating and touch-up coating on all piping, fittings, bracing, carpentry, structural steel, buildings, building accessories and other items requiring coatings; related preparation and finish work, and; cleanup as specified herein and as shown on the attached plans.

Damage to coatings due to welding or cutting operations associated with other items of work under this contract, shall be fully repaired from bare metal.

All coating materials shall be stored in a safe, secure, and environmentally responsible manner and shall be kept above manufacturer's minimum storage temperature or 35 degrees Fahrenheit, whichever is higher, at all times. Coating materials that are **found or suspected** to have dropped below this temperature shall not be used to fulfill the requirements of this Contract. All empty or discarded coating containers or other surface preparation or coating debris / waste / garbage shall be stored in a covered, watertight dumpster or equivalent container immediately after being generated and shall be disposed of legally. In general, the jobsite shall be maintained free of coating related refuse at all times.

**200-6.02 General:** This section includes the coating and finishing of all surfaces of work in the Contract as specified and as shown on the attached plans.

Colors used shall be selected by the City from the manufacturer's standard and custom color charts.

The following items shall not be coated:

1. Stainless Steel
2. Aluminum
3. Electrical Control Panels\*
4. Buried Pipe
5. Name Plates & Glass Items
6. Grates and Grate Frames
7. Concrete (except as specifically noted herein)
8. Kynar (or similar) factory coated materials

\*Electrical and control panels shall be required to have a shop applied epoxy coating suitable for outdoor installation.

Before start of work the Contractor shall submit to the Engineer the name and manufacturer of coating materials including material descriptions and literature giving instructions for application and suitability of coating materials for the intended use.

Contractor shall apply coatings only when weather conditions are favorable in regards to air temperature and humidity and substrate temperature as per manufacturer's application instructions. At all times coating is in progress, Contractor shall have a psychrometer, satisfactory to the Engineer, available on the job for measuring relative humidity and dew point. Contractor shall also have on site a method to convert temperature readings and variance to dew point such as the US Weather Bureau Psychrometric Tables. A means to measure the temperature of the surface is also necessary.

Coating materials shall be properly stored in accordance with manufacturer's instructions and protected from moisture, direct sunlight and extreme temperature.

Coating material containers shall have labels bearing manufacturer's name, name and type of material, and color name and number. In addition, thinning instructions and application instructions shall be available at the job site.

Coating shall be done at such times that dust-free and neat work can be obtained. All coating shall be done strictly in accordance with the manufacturer's instructions and in a neat workmanlike manner. All surfaces not being coated shall be protected from over-spray, drip and splatter by covering or masking. All drip and spatter marks shall be immediately cleaned from adjacent surfaces to the satisfaction of the Engineer. Contractor shall take care in preventing off-site over-spray as there are numerous private residences adjacent to portions of the work areas. All costs associated with any damage claims by third parties shall be borne by the Contractor.

Except where factory application of finish coatings is permitted elsewhere in these Specifications, all items of equipment shall be finish-coated after installation. Shop priming will be permitted in all cases. Materials and applications as specified herein shall govern regardless of whether coatings are factory-applied or field-applied. After installation, any damaged areas in prime or finish coatings shall be repaired as directed by the Engineer.

### **200-6.03 Surface Preparation:**

**200-6.03.01 General:** All surfaces to be coated shall be prepared in a workmanlike manner with the objective of obtaining a clean and dry surface. No coating shall be applied before the prepared surfaces are inspected by the Engineer. On the first day of any coating, the Contractor shall establish with the inspector a schedule so that all surface preparation may be inspected and approved prior to application of any coating, for the duration of the project.

Surface preparation of steel items shall conform with specifications set forth in the Society for Protective Coatings "SSPC Painting Manual, Volume 2, 2005 Edition", or as specified by the Engineer.

All surfaces to be coated shall be prepared in strict conformance with the coating manufacturer's surface preparation requirements. The Contractor shall submit the surface preparation proposed and product data sheets containing the manufacturer's surface preparation requirements.

All ferrous metal to be primed in the shop shall have all rust, dust, and scale, as well as all other foreign substances removed by sandblasting (SSPC-SP-10 Near White Blast) or pickling. Cleaned metal shall be primed with specified primer immediately after cleaning to prevent new rusting. All ferrous metals not primed in the shop shall have all sharp edges, burrs, and weld spatter ground smooth and shall be sandblasted or otherwise cleaned in the field (as approved by the Engineer) prior to application of the primer.

All shop blasting, shop priming and shop coating shall be made available to be witnessed and inspected by the Engineer or his Inspector. Contractor shall notify Engineer **14 days** in advance of shop blasting, shop priming and shop coating and make the work available for inspection.

The Contractor's shop blasting, shop priming and shop coating equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from air. The contractor shall insure that the shop blasting, shop priming and shop coating equipment has been purged of water, oils, solvents and undesirable coating materials by discharging pressurized air into a white cloth prior to the addition of coating into the spray coating equipment. The contractor shall notify the Engineer with 24 hours advance notice when a "clean air" test is to be performed.

Surfaces not intended to be coated shall be adequately protected from the effects of cleaning and coating. Any such surfaces which have been damaged by the Contractor shall be repaired or replaced to the condition which existed prior to the damage, all at the Contractor's expense.

In case of questions concerning the quality of the blast cleaning provided, SSPC blasting standards for visual comparison (SSPC-Vis 1) and corresponding definitions shall be consulted. The Engineer shall be sole judge as to whether the quality of blast cleaning conforms to visual comparison standards, and his decision as to any allowable deviation there from shall be final.

Slag, weld accumulations and spatters shall be removed by chipping and grinding. All sharp edges shall be peened, ground smooth, or otherwise blunted. All weld repairs will be made and approved by the Engineer prior to any coating application.

The Contractor shall keep the area of his work in a clean condition and shall not permit blasting materials to accumulate as to institute a nuisance or hazard to the performance of the work or the operation of the existing facilities. Blast materials should be disposed of daily and kept separate from other debris. Abrasive blast waste materials containing hazardous substances shall be kept in sealed containers on site until they can be picked up and removed by a licensed transporter.

No coating shall be applied over a damp or moist surface. All surfaces with condensation or other moisture shall be blown or wiped dry. If rust is present, all surfaces shall be re-blasted per specification. Climatic conditions and surface conditions shall be measured, recorded and approved by the Engineer prior to the application of any coatings.

**200-6.03.02 Coating Touch-Up Surface Preparation:** Abrasive blast cleaning (SSPC-SP-7) for the exterior (non-wetted) surfaces requiring minor touch-up shall remove all loose or poorly adhering coatings and provide an adequately scarified surface for touch-

up coating. Where coatings are removed to bare metal, the surface shall receive a Commercial Blast Cleaning (SSPC-SP-6). Approximately 4-inches of the existing coatings adjacent to the bare metal patches shall be tapered and feathered by abrasive blast or mechanical methods. Where zinc based materials are used, overcoating will not be allowed. In order to avoid overcoating, the contractor will either brush apply touch up materials or use spray equipment with spray pattern controls adjusted to avoid overcoating any areas or exceeding maximum DFT. Due care shall be taken to avoid visual accentuation of repaired areas.

#### **200-6.04 Coating:**

**200-6.04.01 General:** All metal surfaces, excluding those materials listed in Section 200-6.02, shall be coated. In no case shall metal be left uncoated, even though not specifically defined herein.

Without limiting the general aspects and other requirements of these Specifications, all surface preparation and coating of surfaces shall conform to the applicable requirements of the National Association of Corrosion Engineers (NACE), the Society for Protective Coatings (SSPC), and the Manufacturer's printed instructions. The Engineer's decision shall be final as to interpretation and/or conflict between any of the reference Specifications and Standards contained herein.

All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be maintained and transfers of key personnel shall be coordinated with the Engineer.

The Contractor shall provide a Supervisor at the work site during cleaning, preparation and coating application operations. The Supervisor shall have the authority to sign change orders, coordinate work and make decisions pertaining to the fulfillment of the Contract.

#### **200-6.04.02 Materials:**

**200-6.04.02.01 General:** All coatings, primers, and paint products shall be as manufactured by Benjamin Moore, Kelly Moore, or approved equivalent, and shall be the system recommended by the manufacturer for the type and exposure of the surface to be coated and that meets the requirements of the performance criteria and systems specified herein. No request for substitution will be considered which decreases the film thickness designated and/or the number of coats specified. Requests for substitution shall contain the full name of each product, descriptive literature, including directions for use, its generic type, performance data and its nonvolatile content by volume. Coating systems that meet the specified performance criteria will be acceptable upon approval by the Engineer. Only integral systems of the same manufacturer shall be used and no deviations will be permitted.

Where thinning is necessary only the products of the manufacturer furnishing the coating, and for the particular purpose, shall be allowed and all such thinning shall be done strictly in accordance with the manufacturer's instructions.

Coating materials specified herein are those which have been evaluated for the specific service. Specific products have been listed to establish a standard of quality. Equivalent coating systems by other manufacturers will be acceptable upon approval by the Engineer.

All material shall be brought to the job site in the original sealed containers. They shall not be used until the Engineer has inspected their contents and obtained data from information on containers or labels. Materials exceeding storage life recommended by the manufacturer, or one year (whichever is shorter) shall be rejected. Materials shall be mixed as full kits.

All coatings shall be stored in enclosed structures and according to manufacturer's recommendations to protect them from weather and excessive heat or cold. Flammable coatings shall be stored in conformance with County, State and/or Local Codes for flammable materials. All materials shall have a batch number and date of manufacture on each container. Coatings in excess of one year old will not be allowed.

Material Safety Data Sheets for all coating materials shall be submitted at least thirty (30) days prior to start of coating operations.

**200-6.04.02.02 Coating Systems:** Coatings applied to all items not specified elsewhere herein shall meet the requirements of the following paint schedule. In some cases the coating specified may have been superseded by the manufacturer, consult with the manufacturer and use their current equivalent product:

SURFACE	TYPE	NO. OF COATS	TRADE NAME***		COVERAGE FT <sup>2</sup> /GAL.	DFT PER COAT
			INTERNATIONAL	TNEMEC		
Wood and Wallboard	Acrylic	3	Intercryl	Series 6	275	2.5
Unprimed Metal	Epoxy	1	Intercure 420	N27L9503	265	4.0
	Acrylic	2	Intercryl 520	Series 29	340	1.75
Immersed Metal *	Epoxy	2	Interseal 670HS	Series 69	180	5.0
Galvanized Metal	Epoxy	1	Intercure 420	N27L9503	265	4.0
	Acrylic	2	Intercryl 520	Series 29	340	1.75
Shop Primed Metal	Acrylic	2	Intercryl 520	Series 29	340	1.75
Fusion-Bonded Epoxy Coated Metal	Acrylic	1	Interthane 990HS	Series 75	225-380	3.0-5.0
Immersed Bituminous Coated Metal **	Epoxy	1	Interseal 670HS	Series 69-WH01	175-275	4.0-6.0
	Epoxy	1	Interseal 850 White	Series 61-5002	210-335	4.0-6.0
	Epoxy	1	Interline 850 Gray	Series 61-5001	215-335	4.0-6.0
Bituminous Coated Metal **	Epoxy	1	Interseal 670	Series 69-WH01	175-280	4.0-6.0
	Epoxy	1	Interseal 670	Series 69-IN01	175-280	4.0-6.0
	Acrylic	1	Interthane 990HS	Series 75	225-380	3.0-5.0

\* The prime coat should be Series 69 or Interseal 670HS or approved equivalent. Shop applied primers may not be compatible with Series 69 or Interseal 670HS or approved equivalent.

\*\* Surface Preparation: Abrasive blast to remove all existing bituminous coating. Provide a minimum anchor pattern of 1.5 mils. It is not the intent to remove the

annealing. Trace amounts of bituminous coating (not a film) may remain in the pores of the metal. First two (2) coats shall be roller applied or if spray applied, shall be immediately backrolled.

\*\*\* Or approved equivalent.

**200-6.04.03 Coating Colors:** The Contractor shall submit color samples for approval by the City from a selection of manufacturer's color chart samples submitted to the Engineer at least thirty (30) days prior to start of operations.

**200-6.05 Coating Application:**

**200-6.05.01 General:** The Contractor shall apply each coat of paint at the rate specified by the manufacturer to achieve the minimum dry mil thickness required. If material has thickened and must be diluted, the coating shall be built up to the same film thickness achieved with undiluted material. In other words, one gallon of coating as originally furnished by the manufacturer must not cover a greater square foot area than when applied unthinned. Deficiencies in film thickness shall be corrected by the application of one or more additional coats of paint. Total DFT exceeding the NSF approved coating thickness of tank interior applied coatings shall be removed and reapplied at the Contractor's expense. On porous surfaces, it shall be the Contractor's responsibility to achieve a uniform, protective finish free of imperfections either by decreasing the coverage rate or by applying additional coats of paint.

Drying time shall be construed to mean "under normal conditions" or as specified by the manufacturer. Where conditions are other than normal because of cold weather or because coating must be done in confined spaces, longer drying times will be necessary. Additional coats of paint shall not be applied, nor shall units be returned to service until coatings are thoroughly dry. See discussion of dehumidification and environmental monitoring requirements found elsewhere in these special provisions.

Each succeeding coat of paint shall have a slightly different color to readily distinguish between coats.

Coatings shall not be applied in extreme heat or cold; in dusty or smoke laden air; windy, foggy, damp, or humid weather.

Particular care must be taken to obtain a uniform, unbroken coating over all bolts, threads, nuts, welds, edges, and corners.

If coating is applied by spray, the air and/or fluid pressure used shall be within the ranges recommended by the coating and spray equipment manufacturers.

Spray coating shall be conducted under controlled conditions, and the Contractor shall be fully responsible for any damage occurring from spray coating.

On the first day of any coating, the Contractor shall establish, with the Engineer, a schedule so that all surface preparation may be inspected and approved prior to the application of any coatings for the duration of this project.

The Contractor is hereby notified that the Engineer will inspect the project prior to the expiration of the warranty period and all defects in workmanship and materials shall be repaired by the Contractor.

**200-6.06 Payment:** Full compensation for work in this section shall be considered as included in the prices paid for the various contract items of work and no additional allowances will be made therefor.

## **SECTION 201-1 HARMONIC FILTER SYSTEM AND MISCELLANEOUS ELECTRICAL WORK**

**201-1.01 Description:** Included in the work is the procurement, mounting, wiring and testing of an active harmonic filter and its associated wiring, switchgear, and raceways.

Incidental parts which are not shown on the attached plans or specified herein and which are necessary to complete the work shall be furnished and installed as though such parts were shown on the plans or specified herein.

The work to be done under this section comprises all materials and labor required for the furnishing and installation of all miscellaneous power and electrical work, including: standby power, distribution, lighting, and instrument circuits.

These specifications shall apply to all items of electrical equipment, whether furnished as a part of other mechanical equipment or by the Contractor directly. All electrical work shall be done in strict conformity with the attached plans and these specifications.

All requirements of the Contract Documents shall apply to all work of this section.

The Contractor shall furnish all transportation, all skilled and common labor, all apparatus and material required for a complete installation in every detail, all as shown on the attached plans and as described in these specifications.

The Contractor shall consult these Special Provisions in regard to structural, civil, mechanical, and equipment requirements in consideration of the electrical installation in order that all details of the installation shall be proper and satisfy the intent of the attached plans and specifications.

The Contractor shall note requirements set forth under other Sections.

**201-1.01.01 Rules and Regulations:** All work and material shall be in full accordance with the latest rules of the UL, National Electric Code (NEC), all local and State ordinances, the State of California Administrative Code, Title 24, Electrical Safety Orders, Title 8, Regulations of the State Fire Marshall, and with any prevailing rules and regulations pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous locations.

Nothing in these attached plans or specifications is to be construed to permit work not conforming to the applicable codes, rules or, ordinances.

**201-1.01.02 Project Plans and Specifications:** The attached plan sheets showing electrical layouts and details are included within these specifications, and any work or material shown there but not mentioned in other sections of the specifications, or vice versa, shall be executed the same as if mentioned or shown on both.

The work shall be installed as indicated on the attached plans. However, minor changes to accommodate the installation of this work with that of others shall be made without



additional cost to City. Minor alterations of equipment location or conduit routing to accommodate site conditions should be considered part of this scope of work.

Civil, structural and mechanical plans, if any, shall be coordinated with the electrical plans to eliminate errors and to facilitate construction.

**201-1.01.03 Cleaning and Protection:** During construction, all work embodied in these specifications shall be properly protected from damage by accident or otherwise; and upon completion, all broken, damaged, or otherwise defective parts shall be repaired or replaced by the Contractor at his expense, and the entire work shall be left in a condition satisfactory to the Engineer.

All equipment, panels and other electrical equipment shall be painted/coated appropriately for marine environment. All proposed painting/coating systems shall be done in accordance with Section 200-6 and submitted to the Engineer for review and approval prior to the application of any paints/coatings.

**201-1.01.04 Shop Drawings:** Five (5) copies each of catalog sheets and/or drawings shall be submitted for cable, panels, control and wiring devices for review and approval by the City. Where multiple type or catalog numbers are shown on the sheets, the proposed equipment shall be underlined or otherwise suitably identified. (Electronic submittals will also be acceptable – refer to section A herein).

Within ample time for approval prior to fabrication and/or installation, the Contractor shall submit to the Engineer the shop drawings and drawings of any other equipment requiring special engineering and fabrication details for review and approval by the City. The drawings shall show the front and side views with the placement of all operating and indicating appurtenances and nameplates and the complete wiring diagrams of each section in its physical location in the unit. Drawings shall be prepared on standard sheets not less than 11" x 17" and shall show in not less than 1-1/4" equals one foot scale the front and side views and the plans of the conduit entrance. Diagrams shall show the complete wiring of all devices including interconnection of all components. Drawings shall be revised if directed and resubmitted for final approval.

All changes to the arrangements, wiring diagrams or materials lists shall be submitted to the Engineer at least fourteen (14) days before final inspection and testing is planned. All equipment and relay terminals shall be indicated on the drawings. All wires shall be identified by number and tagged by Brady, or equal tags.

Prior to acceptance of the job, the Contractor shall supply five (5) copies of As-Built drawings, together with five (5) copies of instruction manuals on all equipment.

**201-1.01.05 List of Materials and Substitutions:** When specific trade names are used in specifying materials and equipment, they are used as a standard of quality, design, size and appearance. All material supplied shall conform to the standards so set. Any substitutions from the materials specified may be made only with the written approval of the Engineer prior to the bid. Decisions of the Engineer shall govern as to what material is equal to the named, but burden of proof as to equality of the proposed material shall be upon the Contractor. If any tests are necessary to determine the equality of the proposed material, such tests shall be made at the expense of the Contractor by an unbiased laboratory satisfactory to the Engineer.

Within thirty (30) days of the award of the contract, the Contractor shall submit five (5) copies of a complete list of materials to be used on the project, specifying the manufacturer, grade, trade name, and catalog number, whether such equipment is as specified or is an approved equivalent for review and approval by the City.

No work involving electrical material may proceed before receipt of written approval by the Engineer. All no-approved material or equipment installed shall be replaced with approved material or equipment at no cost to City.

**201-1.02 Materials:** All materials and equipment delivered to the job shall be new and packed in their original sealed containers. Materials and equipment not otherwise specified shall match those specified.

All equipment or materials for any one system shall be furnished by the same manufacturer. Such items as lamps, conduit fittings, wire, wiring devices, etc., shall be the same throughout the project

**201-1.02.01 Harmonic Filter:** Harmonic Filter shall be Model H5 as manufactured by TCI or an approved equal. Filter shall be housed in a Type I enclosure.

**201-1.02.02 Conduit:** Exposed conduit shall be PVC coated, Galvanized Rigid Steel and shall bear the label of UL. During construction, all conduits shall be kept dry and free from water or debris with approved pipe caps or plugs. Conduit shall not be surface mounted on the floor unless the concrete slab has a recessed trench with covered grate.

**201-1.02.03 Wire and Cable:** All wire shall bear UL label and be stranded copper, Type THHN or THHN-2, 600 Volt. The minimum size permitted for any power circuit shall be No. 12 AWG, unless otherwise noted. All conductors shall be tagged at each point of termination to provide a unique identification for each wire.

All power circuit wire and cable shall be color coded as follows:

Phase	480V System
A	Black
B	Orange
C	Yellow
Ground	Green or Bare
Neutral	White
240/120V-Hot Legs	Black

Cables NO. 6 AWG and larger which are not made with colored jackets shall be painted or taped at terminations or junction points for identification in accordance with the above.

No splicing of feeder cable shall be permitted. Splices in branch circuits shall made only in junction boxes with proper terminal strips. All wires shall be terminated into tubular screw type terminations and/or compression type wire terminals used. All wire and terminal strips shall be identified by a number with a tag. Wire nuts shall not be used.

Transducer cable-runs shall be Belden Catalog No. (Part No.) 3072F, 600V, Data Highway Cable, UL Type, Twisted, shielded pair (TSP), No. 18 stranded copper conductor, or approved substitution.

**201-1.02.04 Utility Service:** The existing service is be 480 Volt, 3-phase, 4-wire. Phase Rotation shall match existing.

**201-1.02.05 Automatic Sequence of Operation:** Harmonic filter shall automatically initiate upon startup of generator, and shall operate automatically thereafter, until the generator operation of the system ends.

**201-1.02.06 Grounding Systems:** All conduit systems, raceways, equipment, and neutral conductors shall be permanently and effectively grounded as shown on the filter documentation. All boxes, disconnects, controllers, etc., shall be grounded in accordance with the appropriate sections of the N.E.C. and E.S.O.

**201-1.03 General Execution:** All work shall be installed to the Engineer's satisfaction. Work not acceptable to him shall be corrected or replaced.

All work shall be installed neatly. Raceways, fittings, and equipment shall be level, straight, and plumb. Connectors, lock nuts, screws, clamps, and joints shall be made up tightly.

Conduit, outlets, and equipment shall be installed to clear beams or obstruction. Cutting into or reducing the size of any load-carrying member without the approval of the Engineer is strictly prohibited.

All empty conduits shall be furnished with nylon pull cord.

Conduits shall be supported within 3 feet of any box and at intervals of not more than 10 feet. Wherever possible, conduits shall be grouped together and be supported commonly. Exposed conduit run along walls shall be supported by galvanized malleable iron one-hole clamps or by galvanized angle, sized to suit the load.

Conduits in horizontal runs located away from walls shall be neatly and uniformly grouped together and supported on properly size Unistrut trapeze hangers. All support channels, rods, and other hardware shall be hot dip galvanized.

Mounting heights, unless otherwise noted, shall be as directed.

The Contractor shall be held liable for any damage caused by his work. All surfaces damaged, disturbed, or displaced by work under this contract, including paved areas, walks, curbs, and structures, shall be replaced or repaired by the Contractor to match the original condition. All surplus excavated earth and debris shall be removed from the job site by the Contractor, unless directed otherwise by the Engineer.

**201-1.03.01 Testing, Inspection, and Start-up:** Contractor shall provide the Engineer one week advance notice of when the station will be ready for witnessing the formal startup.

All preliminary checkout work by the various vendors shall be completed. Prior to the formal witnessing of station operation.

A supply of water will be provided by the City to permit pump operations, verification of all alarms and operation of the pumps on the standby generator.

The work will not be accepted by the City until the equipment is operating to the satisfaction of the City Representatives.

The Contractor shall perform all testing operation with its own personal and vendor personnel and record the various operations and the results for inclusion in a final startup report to the City.

The Contractor shall arrange for a final test and inspection to be observed by the Engineer. Meggering and operating test shall be conducted at the expense of and by the Contractor at a mutually agreed time to demonstrate the following:

1. Spot check verification of wiring color coding, tagging and numbering.
2. Work meets specifications.

All deficiencies found shall be corrected promptly by the Contractor prior to consideration of final acceptance.

**201-1.03.02 Maintenance Materials:** Provide Operations and Maintenance Manuals, two (2) sets hardcopy, bound in 3-ring binders, and two (2) sets on CDROM or DVD.

**201-1.05 Payment:** **Water Pump Station 3 Power Filter** shall be paid at the contract **Lump Sum** price, which shall include full compensation for furnishing all labor, material, tools, equipment, and incidentals, and doing all the work involved in providing complete and working systems, including, but not limited to, harmonic filter, miscellaneous electrical work, miscellaneous enclosures, pull boxes, power feeders, control wire, wiring connections, and all other miscellaneous work, complete and in place as specified herein and in accordance with these Special Provisions, and no additional compensation will be made therefor.

## **SECTION A**

### **SHOP DRAWINGS**

The Contractor shall submit shop drawings and/or manufacturer's specifications for all mechanical and electrical equipment.

The Contractor shall prepare or secure and submit five copies of each submittal for review by the Engineer or one (1) electronic copy. All submittals shall be approved by the Engineer prior to manufacture, fabrication, or shipment.

After approval of the drawings by the Engineer, the Contractor shall submit copies of purchase orders for items of equipment and material to the Engineer as proof of placing the order. Each copy of a purchase order shall be submitted immediately after the order has been placed and will clearly indicate the date the order was placed. Copies of purchase orders shall be submitted on the following items:

- A. Harmonic Filter
- B. Paint and Coatings
- C. All other Electrical, Control and Telemetry Equipment

Full compensation for preparing, submitting and obtaining approval for shop drawings and other submittals shall be considered as included in the contract prices paid for the various items of work and no additional allowance will be made therefor.

## **SECTION B**

### **TESTS AND INSPECTIONS**

All materials, equipment, installation, and workmanship included in this contract, if so required by the Engineer, shall be tested and inspected to prove compliance with the contract requirements.

All electrical equipment shall be tested by the Contractor to the satisfaction of the Engineer before any facility is put into operation. Tests shall be as specified herein and shall be made to determine whether the equipment has been properly assembled, aligned, adjusted, and connected. Any changes, adjustments, or replacements required to make the equipment operate as specified shall be carried out by the Contractor as part of the work.

A summary of the major tests and special inspections that may be required during construction include, but are not limited to the following:

1. Electrical Equipment Testing, Inspection, and Start-up including, but not limited to the following:
  - a. Insulation-Resistance and Polarization Index Testing
  - b. Protective Relay Device Testing
  - c. Phase-Rotation Testing
  - d. Vibration Baseline Testing
  - e. Installation Acceptance Testing
  - f. Operational and Controls Testing

A summary of the warranties required for the project are as follows:

1. Paint and Coating Warranty
2. General Electrical Equipment 1 Year Warranty

At least 10 days before the time allowed in his construction schedule for commencing testing and start-up procedures, the Contractor shall submit to the Engineer, details of the procedures he proposes to adopt for testing and start-up of all electrical equipment to be operated singly and together, excepting when such procedures have been covered in the specifications.

During the testing of instrumentation and electrical equipment, the Contractor shall make available experienced factory trained representatives of the manufacturers of all the various pieces of equipment, or other qualified persons, who shall instruct the City's personnel in the operation and care thereof. Instruction shall include step-by-step troubleshooting procedures with all necessary test equipment.

If, under test, any portion of the work shall fail to fulfill the contract requirements and is altered, renewed, or replaced, tests on that portion when so altered, removed, or replaced, together with all other portions of the work as are affected thereby, shall, if so required by the Engineer, be repeated within reasonable time and in accordance with the specified

conditions, and the Contractor shall pay to the City all reasonable expenses incurred by the City as a result of the carrying out of such tests.

Where, in the case of an otherwise satisfactorily installed test, any doubt, dispute, or difference should arise between the Engineer and the Contractor regarding the test results or the methods or equipment used in the carrying out of the test by the Contractor, then the Engineer may order the test to be repeated. If the repeat test, using such modified methods or equipment as the Engineer may require, substantially confirms the previous test, then all costs in connection with the repeat test will be paid by the City; otherwise the costs shall be borne by the Contractor. Where the results of any installed test fail to comply with the contract requirements for such test, then such repeat tests as may be necessary to achieve the contract requirements shall be made by the Contractor at his own expense.

As soon as possible after each Contractor's submittal for equipment defined herein has been approved by the Engineer, and no later than the time of delivery of that equipment to the job site, a single copy of operating and maintenance instructions and procedures shall be presented to the Engineer for review and acceptance. Since such instructions are considered to be an integral part of the equipment provided, ten percent of the materials and labor costs for each such item of equipment will be withheld from payment to the Contractor until the instructions have been accepted by the Engineer.

Items or assemblies requiring operating and maintenance instructions shall include all electrical and instrumentation equipment, and any other items specifically noted in the specifications.

The operating and maintenance instructions shall include, as a minimum, the following data for each item of equipment.

- A. An itemized list of all data provided.
- B. Name and location of the manufacturer, the manufacturer's local representative, the nearest supplier, and spare parts warehouse.
- C. Approved submittal information applicable to operation and maintenance.
- D. Recommended installation, adjustment, start-up, calibration, and troubleshooting procedures.
- F. Recommended step-by-step procedures for all modes of operation.
- G. Complete internal and connection wiring diagrams.
- H. Recommended preventive maintenance procedures and schedule.
- I. Complete parts lists, by generic title and identification number, with exploded views of each assembly.
- J. Recommended spare parts.
- K. Disassembly, overhaul, and reassembly instructions.

Following completion of installation of an item of equipment, operating and maintenance instructions and procedures shall be modified by the Contractor to reflect field changes and corrections made by the Engineer. After corrections have been made, three (3) complete copies and one digital copy in .pdf format shall be submitted.

Full compensation for complying with testing and inspection requirements shall be considered as included in the contract prices paid for the various items of work and no additional allowance will be made therefor.







## SECTION C








## ABBREVIATIONS

AC	AMPERE	MDR	MANUFACTURERS DESIGNATION FOR SPECIFIC POWER SUPPLY
AC	ALTERNATING CURRENT		
A/C	AIR CONDITIONING	MH	MANHOLE
AF	AMPERE FRAME, CKT. BKR. RATING	MTG	MOUNTING
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM, MINUTES
AH	AMP HOUR	MLO	MAIN LUGS ONLY
AHU	AIR HANDLING UNIT	MOV	MOTOR OPERATED VALVE
AL	ALUMINUM	MS	MOTOR STARTER
AI	ANALOG IN	MMS	MANUAL MOTOR STARTER
AM	CHLORINE RESIDUAL ANALYZER	MTD	MOUNTED
AM	AMMETER	MTR	MOTOR
ANN	ANNUNCIATOR	MTS	MANUAL TRANSFER SWITCH
AMP	AMPERES, AMPERAGE	MUX	MULTIPLEXING PANEL
AO	ANALOG OUT	N	NEUTRAL
APC	AMERICAN POWER CORP.	NA	NON-AUTOMATIC
APPD	APPROVED	NC	NORMALLY CLOSED
AS	AMMETER SWITCH	NO	NORMALLY OPEN
AT	AMPERE TRIP	NO	NUMBER
ATS	AUTOMATIC TRANSFER SWITCH	NOS	NUMBERS
AUTO	AUTOMATIC	NP	NAMEPLATE
AUX	AUXILIARY	(N)	NEW OR PROPOSED
AWG	AMERICAN WIRE GAUGE	NTS	NOT TO SCALE
BATT	BATTERY	O	OPEN
BKR	BREAKER	OC	ON CENTER
BLDG	BUILDING	CC	CENTER TO CENTER
C	CONDUIT	OL	OVERLOAD RELAY
CAB	CABINET	OSC	OSCILLATION
CB	CIRCUIT BREAKER	P	POLE
CKT	CIRCUIT	PB	PUSH BUTTON
CL	CIRCUIT ONLY	PCM	PROCESS CONTROL MODULE
CO	CONDUIT ONLY	PCPN	PROCESS CONTROL PANEL
COM	COMMON	PF	POWER FACTOR
COMPT	COMPARTMENT	PH, Ø	PHASE
COMPR	COMPRESSOR	PI	PULSE IN
COND	CONDUIT	PL	PILOT LIGHT
CP	CONTROL PANEL	PLC	PROGRAMMABLE LOGIC CONTROLLER
CPT	CONTROL POWER TRANSFORMER	PNL	PANEL
CR	CONTROL RELAY	PNLBD	PANELBOARD
CU	CURRENT TRANSFORMER	POS	POSITION
CJ	COPPER	PQM	POWER QUALITY MONITOR
DC	DIRECT CURRENT	POT	POTENTIOMETER
DH	DATA HIGHWAY	PRI	PRIMARY
DI	DIGITAL IN	P/S	POWER SUPPLY
DIO	DIGITAL IN OUTPUT	PS	PRESSURE SWITCH
DISC	DISCONNECT	PT	POTENTIAL TRANSFORMER
DISTR	DISTRIBUTION	PVC	POLYVINYL CHLORIDE
DPDT	DOUBLE POLE DOUBLE THROW	REC	RECEPTACLE
DWG	DRAWING	RECPTS	RECEPTACLES
(E)	EXISTING	REQ'D	REQUIRED
EF	EXHAUST FAN	REV	REVERSE
EHU	ELECTRIC HEATING UNIT	RGS	RIGID GALVANIZED STEEL
ELEV	ELEVATION	RTU	REMOTE TERMINAL UNIT
EMERG	EMERGENCY	RVRN	REDUCED VOLTAGE NON-REVERSING
EMT	ELECTRICAL METALLIC TUBING	RVSS	REDUCED VOLTAGE SOLID STATE
ENCL	ENCLOSURE	SC	SHORT CIRCUIT CURRENT
EQPT	EQUIPMENT	SCH	SCHEDULE
ER	CONDUCTANCE RELAY	SEC	SECONDARY, SECONDS
EP	EXPLOSION PROOF	SECT	SECTION
ETM	ELAPSED TIME METER	SEL	SELECTOR SWITCH
EXH	EXHAUST	SEQ	SEQUENCE
EXIST	EXISTING	SHLD	SHIELDED
FDR	FEEDER	SHT	SHEET
FLEX	FLEXIBLE	SIG	SIGNAL
FLUOR	FLUORESCENT	SP	SPARE
FUT	FUTURE	SPDT	SINGLE POLE DOUBLE THROW
FVR	FULL VOLTAGE REVERSING	SPECS	SPECIFICATIONS
FVNR	FULL VOLTAGE NON-REVERSING	SP HTR	SPACE HEATER
FWD	FORWARD	SPST	SINGLE POLE SINGLE THROW
GALV	GALVANIZED	SS	SOLID STATE
GEN	GENERATOR	ST	SHUNT TRIP
GND	GROUND	STN	STATION
H	HOT CONDUCTOR	STD	STANDARD
HH	HAND HOLE	STL	STEEL
HD	HIGH INTENSITY DISCHARGE	STR	STARTER
HID	HIGH INTENSITY DISCHARGE	SOV	SOLENOID OPERATED VALVE
HG	MERCURY	SW	SWITCH
HGA	HARMONIC GUARD ACTIVE FILTER	SW	SYSTEM
HMI	HUMAN MACHINE INTERFACE	SYM	SYMMETRICAL
HOA	HAND-OFF-AUTOMATIC	TB	TERMINAL BOX
HP	HORSEPOWER	TC	TIME CLOCK
HPS	HIGH PRESSURE SODIUM	TACH	TACHOMETER
HT TR	HEAT TRACED	TEMP	TEMPERATURE
HTR	HEATER	TERM	TERMINAL
HVAC	HEATING, VENTILATING, A/C	T'STAT	THERMOSTAT
HZ	HERTZ CYCLES PER SECOND	TR	TIMING RELAY
IMC	INTERMEDIATE METAL CONDUIT	TD	TIME DELAY
INCAND	INCANDESCENT	TS	TEMPERATURE SWITCH
IND	INDICATION, INDICATING	TSP	TWISTED SHIELDED PAIR
I/O	INPUT/OUTPUT	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
INST	INSTANTANEOUS	TYP	TYPICAL
INSTR	INSTRUMENT	UG	UNDERGROUND
INVT	INVERT	UH	UNIT HEATER
JB	JUNCTION BOX	UI	UNIVERSAL IN
J BOX	JUNCTION BOX	UON	UNLESS OTHERWISE NOTED
KVA	KILO VOLT AMPERES	UPS	UNINTERRUPTIBLE POWER SUPPLY
KW	KILOWATTS	V	VOLTAGE, VOLTS
KWH	KILOWATT HOUR	VAR	VAR METER
KCM	1,000 CIRCULAR MILS	VFD	VARIABLE FREQUENCY DRIVE
L	LINE POWER	VP	VAPOR PROOF
LCB	LIGHTING CONTACTOR	VSV	VOLTMETER SWITCH, VARIABLE SPEED
LCP	LOCAL CONTROL BOARD	W	WATTS, WIRE
LOC	LOCAL	WHD	WATTHOUR DEMAND METER
LO	LOCKOUT	WHM	WATTHOUR METER
LOS	LOCKOUT STOP	WP	WEATHERPROOF
LS	LEVEL SWITCH	X	WIRING TERMINAL
LT	LIGHT		
LTG	LIGHTING		
LTS	LIGHTS		
M	MOTOR CONTACTOR COIL		
mA	MILLIAMPS		
MAN	MANUAL		
MAG	MAGNETIC		
MAX	MAXIMUM		
MCC	MOTOR CONTROL CENTER		
MCB	MAIN CONTROL BOARD		
MCP	MOTOR CIRCUIT PROTECTOR		
MD	MOTORIZED DAMPER		






















## TIME DELAY CONTACTS

	OFF DELAY TIMER	INST. CLOSE TIME OPEN
		INST. OPEN TIME CLOSE
	ON DELAY TIMER	TIME CLOSE INST. OPEN
		TIME OPEN INST. CLOSE

## OPERATORS

	LOCKOUT STOP PUSH BUTTON
	PUSHBUTTON NORMALLY CLOSED
	PUSHBUTTON NORMALLY OPEN
	TWO POSITION SELECTOR SWITCH
	THREE POSITION SELECTOR SWITCH X DENOTES CLOSED CONTACT IN THAT POSITION
	TOGGLE SWITCH
	PILOT LIGHT - PUSH TO TEST, 0 DENOTES COLOR

## DRAWING LEGEND





	EXISTING EQUIPMENT, WIRING, DEVICES
	NEW WORK
	DEMOLISH OR REMOVE
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	EQUIPMENT OR DEVICE TAG
	SHEET NOTE TAG
	HVAC/LIGHTING DEVICE (SEE SCHEDULE)
	DUPLEX RECEPTACLE, 20A, 125V, NEMA 5-20R
	DOUBLE DUPLEX RECEPTACLE, 20A, 125V, NEMA 5-20R
	FLUORESCENT LIGHTING FIXTURE
	JUNCTION BOX, SIZE PER NEC
	WALL MOUNTED LUMINAIRE
	LIGHT SWITCH. SUBSCRIPT "a" INDICATES LUMINAIRE CONTROLLED. MOUNT AT 48".
	3/4" x 10' CU CLAD GROUND ROD.
	UNDERGROUND CONDUIT OR DUCTBANK.
	INSTRUMENTATION DEVICE
	MINI-POWER ZONE (COMBINATION TRANSFORMER PANELBOARD)
	SHORT HASH MARK INDICATES HOT WIRE
	INDICATES GROUND CONDUCTOR
	LONG HASH MARK INDICATES NEUTRAL WIRE

NOTE: NO HASH MARK INDICATES 3/4" C. 2#12+1#12G





## ELECTRICAL COMPONENTS

	EARTH GROUND
	CHASSIS GROUND
	GROUNDING RECEPTACLE
	FUSE
	HORN
	TRANSFORMER
	SOLENOID
	OVERLOAD RELAY
	CIRCUIT BREAKER
	MOTOR (NO. DENOTES HORSEPOWER)
	COIL
	RELAY CONTACT, N.O.
	RELAY CONTACT, N.C.
	SHIELDED CABLE
	DIODE, SURGE SUPPRESSOR
	SURGE SUPPRESSOR
	TERMINAL BLOCK
	SEPARABLE CONNECTOR
	POTENTIOMETER
	CURRENT TRANSFORMER





## PRESSURE SWITCHES

	OPEN - CLOSSES ON RISING PRESSURE
	CLOSED - CLOSSES ON FALLING PRESSURE
	OPEN - OPENS ON RISING PRESSURE
	CLOSED - OPENS ON FALLING PRESSURE

## LIMIT SWITCHES

	NORMALLY OPEN
	HELD OPEN
	NORMALLY CLOSED
	HELD CLOSED

## LEVEL FLOAT SWITCHES

	CLOSES ON RISING LEVEL
	CLOSES ON FALLING LEVEL
	OPENS ON RISING LEVEL
	OPENS ON FALLING LEVEL

## GENERAL ELECTRICAL CONSTRUCTION NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND ROUTE CONDUITS WITHOUT DISTURBING EXISTING UTILITIES. IN ADDITION, CONDUIT ROUTING MUST BE APPROVED BY THE ENGINEER. FEASIBILITY OF THE LOCATION OF THE EQUIPMENT SHALL BE FIELD VERIFIED, COORDINATE WITH ALL TRADES.
2. VERIFY, LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. REPAIR ALL UTILITIES DAMAGED DURING CONSTRUCTION TO OWNER'S SATISFACTION.
3. MINOR CHANGES IN WORK DUE TO EXISTING CONDITIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
4. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND VERIFY EXISTING CONDITIONS BEFORE BIDDING AND SHALL INCLUDE IN HIS BID THE NECESSARY COSTS TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE INTENT OF THE ELECTRICAL DRAWINGS, SPECIFICATIONS, AND ALL APPLICABLE CODES.
5. THE ELECTRICAL INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE, AND NATIONAL CODES, LAWS, AND ORDINANCES APPLICABLE TO ELECTRICAL WORK.
6. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS LABORATORIES.
7. THE WORK PROVIDED AS USED ON THE DRAWINGS SHALL BE DEFINED AS CONTRACTOR FURNISHED AND INSTALLED.
8. AT LEAST TWO WORKING DAYS PRIOR TO ANY EXCAVATION WORK, THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 FOR LOCATING AND MARKING UTILITIES IN THE AREAS OF THE WORK.
9. ALL UNDERGROUND CONDUITS SHALL BE PVC, SCHEDULE 40 OR BETTER UNLESS OTHERWISE NOTED.

## NOTES – RACEWAYS

- CONDUIT ROUTING SHOWN ON DRAWINGS IS DIAGRAMMATIC TO ILLUSTRATE DESIGN INTENT. CONTRACTOR SHALL FIELD DETERMINE THE MOST SUITABLE ROUTING TO FACILITATE INSTALLATION.
2. ALL CONDUIT RUNS SHALL BE INSTALLED WITH A MINIMUM NUMBER OF BENDS AND OFFSETS. GENERALLY, A RUN OF CONDUIT CONTAINING LOW VOLTAGE (800 VOLT MAXIMUM) WILL HAVE A MAXIMUM PULLING DISTANCE OF 300 FEET AND CONTAIN NO MORE THAN THREE AND ONE-HALF QUARTER BENDS (315 DEGREES TOTAL), INCLUDING OFFSETS AND BENDS LOCATED IMMEDIATELY ADJACENT TO THE PULL LOCATION. ON RUNS OVER 300 FEET THIS SHALL BE REDUCED TO TWO QUARTER BENDS (180 DEGREES TOTAL).
3. CONDUIT UNIONS SHALL BE INSTALLED AT REMOVABLE DEVICES SUCH THAT THE DEVICES CAN BE EASILY AND INDEPENDENTLY REMOVED.
4. NOT ALL FITTINGS REQUIRED FOR A COMPLETE CONDUIT SYSTEM ARE SHOWN ON THE DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL THE NUMBER AND TYPE OF FITTINGS REQUIRED FOR A COMPLETE CONDUIT SYSTEM WHICH COMPLIES WITH ALL APPLICABLE CODES AND STANDARDS. THE THREADS OF FITTINGS, INCLUDING COVER SCREWS AND BOLTS, SHALL BE COATED WITH A CONDUCTIVE THREAD LUBRICANT PRIOR TO INSTALLATION TO PROTECT AGAINST CORROSION.
5. ALL CONDUIT FITTINGS AND JUNCTION BOXES SHALL BE INSTALLED SO THAT THEIR COVERS ARE EASILY REMOVED.
6. ALL METALLIC CONDUIT SHALL BE TERMINATED WITH INSULATED BUSHINGS TO PREVENT DAMAGE TO WIRE DURING PULLING OPERATIONS, EXCEPT IN ENCLOSURES WHERE HUB DESIGN IS ADEQUATE TO PREVENT INSULATION DAMAGE. GROUNDING CONNECTIONS SHALL BE PROVIDED ON ALL INSTALLED BUSHINGS FOR GROUND CONTINUITY.
7. CONDUITS SHALL NOT BE SUPPORTED FROM EQUIPMENT OR PIPING. CONDUITS SHALL BE SUPPORTED AT INTERVALS AS REQUIRED BY NEC 344.30, "SECURING AND SUPPORTS" AND TABLE 344.30(B)(2), TO PREVENT NOTICEABLE SAG. NO NOTICEABLE SAG SHALL BE ALLOWED. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL SUPPORT REQUIRED TO PREVENT OBJECTIONABLE SAG. IF RIGID ALUMINUM CONDUIT IS USED, THE SUPPORT SYSTEM SHALL BE OF SUITABLE MATERIAL OR CONSTRUCTION TO PREVENT GALVANIC ACTION.
8. LIQUID-TITE FLEXIBLE CONDUIT WITH PVC JACKET SHALL BE USED WHERE VIBRATION IS PRESENT, WHERE FLEXIBILITY IS REQUIRED, AND AT ALL MOTOR CONDUIT BOXES. TERMINATIONS OF FLEXIBLE METALLIC CONDUIT SHALL BE MADE USING LIQUID-TIGHT CONNECTORS WITH INTEGRAL INSULATED BUSHINGS AND POSITIVE GROUND CONNECTIONS. THE MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 24 INCHES FOR INSTRUMENTS AND EQUIPMENT, 36 INCHES FOR MOTORS, AND 48 INCHES FOR LIGHTING.
9. RUNS OF ABOVE GROUND CONDUIT FOR ANY SERVICE SHALL NOT BE DIRECTLY SUPPORTED FROM OVERHEAD PIPING.
10. ALL ABOVE GROUND, STRAIGHT CONDUIT RUNS OVER 200 FEET LONG SHALL HAVE EXPANSION FITTINGS, WITH PROVISION FOR 4 INCHES TOTAL EXPANSION. BONDING JUMPERS SHALL BE INSTALLED TO ASSURE GROUNDING CONTINUITY.
11. THREADED JOINTS FOR CONDUITS SHALL BE MADE UP WITH A METAL OXIDE PAINT SUCH AS "18&S KOPF-SHIELD, BURNDY PENETROX E OR APPROVED EQUAL.
12. USE CABLE PULLING LUBRICANT, SUCH AS, POLY WATER OR EQUAL FOR CABLE PULLS IN CONDUIT GREATER THAN 10'-FEET.
- ## NOTES – LABELS
1. PROVIDE LAMINATED PLASTIC EQUIPMENT NAMEPLATE LABELS AT ALL FIELD DEVICES, DENOTING EQUIPMENT NAME, VOLTAGE AND FEEDER ORIGIN. PLASTIC NAMEPLATES SHALL BE BLACK WITH WHITE LETTERS. ALL EXISTING PANELBOARD CIRCUIT DIRECTORIES SHALL BE UPDATED DENOTING NEW EQUIPMENT LOADS.
2. ALL JUNCTION BOX COVERPLATES SHALL BE LABELED WITH CIRCUIT NUMBERS IT CONTAINS.
3. NAMEPLATES AND TAGS SHALL BE PROVIDED FOR ELECTRICAL EQUIPMENT AND DEVICES, INCLUDING ALL PUSHBUTTONS, SELECTOR SWITCHES, CIRCUIT BREAKERS AND STARTERS. WHERE EQUIPMENT ALSO CAN BE STARTED FROM ANOTHER LOCATION, OR STARTED AUTOMATICALLY, A CAUTION NAMEPLATE SHALL BE PROVIDED.
4. THE NAMEPLATE DESCRIPTION SHALL SHOW THE EQUIPMENT NUMBER AND SERVICE OF THE CONTROLLED EQUIPMENT. ALL PANELBOARDS SHALL HAVE NAMEPLATES STATING THE APPROPRIATE DESIGNATION, VOLTAGE, CONTINUOUS RATING, AND NUMBER OF PHASES. LIGHTING AND POWER PANELS SHALL BE SUPPLIED WITH COMPLETED CIRCUIT DIRECTORIES.
5. ALL WIRING SHALL BE IDENTIFIED AT EACH TERMINATION WITH PERMANENT, PRINTED, HEAT-SHRINKABLE PLASTIC SLEEVES OR WITH CLEAR, HEAT-SHRINKABLE SLEEVES THAT COVER ADHESIVE WRAP-ON MARKERS. CONTRACTOR SHALL USE A "BRADY" OR EQUAL TYPE WIRE MARKER. THE WIRE IDENTIFICATION NUMBER SHALL INCLUDE THE COMPLETE CIRCUIT OR INSTRUMENT NUMBER, THE WIRE IDENTIFICATION SHALL BE THE IDENTIFICATION SHOWN ON THE WIRING DIAGRAM. IF NONE IS SHOWN ON A WIRING DIAGRAM, THE OWNERS REPRESENTATIVE SHALL BE CONSULTED FOR PROPER IDENTIFICATION. ELECTRICAL CABLES SHALL BE LABELED WITH THE CIRCUIT NUMBER AND PHASE DESIGNATION AT EACH END OF CABLE. IF THE CABLE IS IN CONDUIT, THE CONDUIT TAG MAY SERVE AS AN INDICATION OF THE CIRCUIT NUMBER FOR POWER CIRCUITS.
- ## NOTES – GROUNDING
1. ALL INSULATED GROUNDING CONDUCTORS SHALL BE MADE OF SOFT DRAWN, STRANDED COPPER WIRE, UTILIZING GREEN, FIRE RETARDANT INSULATION. ALL EXPOSED GROUNDING CONDUCTORS SHALL BE MINIMUM #2 AWG, RIGIDLY SUPPORTED, AND PROTECTED FROM MECHANICAL INJURY.
2. ALL UN-INSULATED GROUNDING CONDUCTORS (STRANDED OR SOLID) SHALL BE TINNED COPPER.
3. ALL CONNECTIONS SHALL BE COMPOUND WITH A CONDUCTIVE, CORROSION PREVENTIVE COMPOUND BEFORE JOINING.
4. ALL GROUND CONNECTIONS SHALL BE EXOTHERMIC.

## NOTES – WIRING

1. SINGLE OR MULTICONDUCTOR CABLE MAY BE USED FOR CONTROL, INSTRUMENT, COMMUNICATION AND SIGNAL CIRCUITS. SINGLE-CONDUCTOR SHALL #14 AWG MINIMUM; SINGLE PAIRED CABLES SHALL BE #18 AWG MINIMUM; AND MULTICONDUCTOR CABLE SHALL BE #20 AWG MINIMUM. CIRCUITS CLASSIFIED AS CLASS I CIRCUITS BY NEC ARTICLE 725 SHALL BE #18 AWG MINIMUM, 600 VOLT INSULATION CLASS.
2. ALL FIELD POWER, CONTROL AND LIGHTING CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS UNLESS OTHERWISE SPECIFIED.
  - BLACK - ALL UNGROUNDED CONTROL CIRCUIT CONDUCTORS OPERATING AT THE SUPPLY VOLTAGE.
  - RED - UNGROUNDED AC CONTROL CIRCUITS OPERATING AT A VOLTAGE LESS THAN THE SUPPLY VOLTAGE.
  - BLUE - UNGROUNDED DC CONTROL CIRCUITS.
  - YELLOW OR ORANGE - UNGROUNDED CONTROL CIRCUITS OR OTHER WIRING.
  - WHITE - GROUNDED AC CURRENT-CARRYING CONTROL CIRCUIT CONDUCTOR REGARDLESS OF VOLTAGE.
  - GREY - GROUNDED DC CURRENT-CARRYING CONTROL CIRCUIT CONDUCTOR.

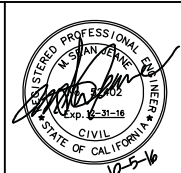
ALL INTERIOR CONTROL PANEL WIRING SHALL BE PER UL 508A, LATEST EDITION.
3. NO MORE THAN TWO CONDUCTORS SHALL BE CONNECTED TO ANY ONE TERMINAL ON A TERMINAL STRIP. IF MORE THAN TWO CONDUCTORS SHALL BE TERMINATED AT THE SAME POINT, THE TERMINATIONS SHALL BE MADE ON AS MANY TERMINALS AS NECESSARY AND THE TERMINALS INTERCONNECTED WITH JUMPERS. THE JUMPERS SHALL BE PHYSICALLY SEPARATED FROM THE CONDUCTORS.
4. FOR POWER AND LIGHTING CIRCUITS, 600 VOLTS AND BELOW, THE SMALLEST WIRE SHALL BE #12 AWG. EXCEPT THAT #14 AWG SHALL BE USED FOR CONTROLS. WIRES SHALL BE SINGLE CONDUCTORS SHALL BE STRANDED, 600 VOLT HEAT AND MOISTURE RESISTANT THERMOPLASTIC INSULATED TYPE "THHN/THWN", UNDERGROUND CONDUCTORS MUST BE RHW, UNLESS OTHERWISE NOTED.
5. #10 AWG OR LARGER SHALL BE XHHW UNLESS NOTED OTHERWISE.
6. MOTOR JUNCTION BOX CONNECTIONS SHALL BE CRIMP LUG/BOLTED CONNECTIONS WITH 3M MOTOR SPUCE KIT 5300 SERIES INSULATORS.

## NOTES – LABELS

1. PROVIDE LAMINATED PLASTIC EQUIPMENT NAMEPLATE LABELS AT ALL FIELD DEVICES, DENOTING EQUIPMENT NAME, VOLTAGE AND FEEDER ORIGIN. PLASTIC NAMEPLATES SHALL BE BLACK WITH WHITE LETTERS. ALL EXISTING RINGBELLARD CIRCUIT DIRECTORIES SHALL BE REPLACED DENOTING NEW EQUIPMENT LOADS.
2. ALL JUNCTION BOX COVERPLATES SHALL BE LABELED WITH CIRCUIT NUMBERS IT CONTAINS.
3. NAMEPLATES AND TAGS SHALL BE PROVIDED FOR ELECTRICAL EQUIPMENT AND DEVICES, INCLUDING ALL PUSHBUTTONS, SELECTED SWITCHES, CIRCUIT BREAKERS, AND STARTERS. WHERE EQUIPMENT ALSO CAN BE STARTED FROM ANOTHER LOCATION, OR STARTED AUTOMATICALLY, A CAUTION NAMEPLATE SHALL BE PROVIDED.
4. THE NAMEPLATE DESCRIPTION SHALL SHOW THE EQUIPMENT NUMBER AND SERVICE OF THE CONTROLLED EQUIPMENT. ALL PANELBOARDS SHALL HAVE NAMEPLATES STATING THE APPROPRIATE DESCRIPTION, VOLTAGE, PHASE, BUS RATING, AND NUMBER OF PHASES, LIGHTING AND POWER PANELS SHALL BE SUPPLIED WITH COMPLETED CIRCUIT DIRECTORIES.
5. ALL WIRING SHALL BE IDENTIFIED AT EACH TERMINATION WITH PERMANENT, PRINTED, HEAT-SHRINKABLE PLASTIC SLEEVES OR WITH CLEAR, HEAT-SHRINKABLE SLEEVES THAT COVER ADHESIVE WRAP-ON MARKERS. CONTRACTOR SHALL USE A "BODY" OR EQUIPMENT TYPE WIRE IDENTIFIER. THE WIRE IDENTIFICATION NUMBER SHALL INCLUDE THE COMPLETE CIRCUIT OR INSTRUMENT NUMBER. THE WIRE IDENTIFICATION SHALL BE THE IDENTIFICATION SHOWN ON THE WIRING DIAGRAM. IF NONE IS SHOWN ON A WIRING DIAGRAM, THE OWNERS REPRESENTATIVE SHALL BE CONSULTED FOR PROPER IDENTIFICATION. ELECTRICAL CABLES SHALL BE LABELED WITH THE CIRCUIT NUMBER AND PHASE DESIGNATION AT EACH END OF CABLE. IF THE CABLE IS IN CONDUIT, THE CONDUIT TAG SHALL BE LABELED AS AN INDICATION OF THE CIRCUIT NUMBER FOR POWER CIRCUITS.

## NOTES – GROUNDING

1. ALL INSULATED GROUNDING CONDUCTORS SHALL BE MADE OF SOFT DRAWN, STRANDED COPPER WIRE, UTILIZING GREEN, FIRE RETARDANT INSULATION. ALL EXPOSED GROUNDING CONDUCTORS SHALL BE MINIMUM #2 AWG, RIGIDLY SUPPORTED, AND PROTECTED FROM MECHANICAL INJURY.
2. ALL UN-INSULATED GROUNDING CONDUCTORS (STRANDED OR SOLID) SHALL BE TINNED COPPER.
3. ALL CONNECTIONS SHALL BE COATED WITH A CONDUCTIVE, CORROSION PREVENTIVE COMPOUND BEFORE JOINING.
4. ALL GROUND CONNECTIONS SHALL BE EXOTHERMIC.



City of  
Santa Rosa

**Brelje & Race**  
CONSULTING CIVIL ENGINEERS  
475 Aviation Blvd. • Suite 120 • Santa Rosa, CA 95403 • 707-576-1322  
www.brce.com

[illegible]

SCALE: AS SHOWN	DATE: OCTOBER 2016
DWN BY: SYK	CHK BY: MSJ

APPROVED: *Deputy Director – Engineering*

By \_\_\_\_\_ Date \_\_\_\_\_  
 Colleen Ferguson

City of Santa Rosa  
**WATER PUMP STATION 3  
POWER FILTER**

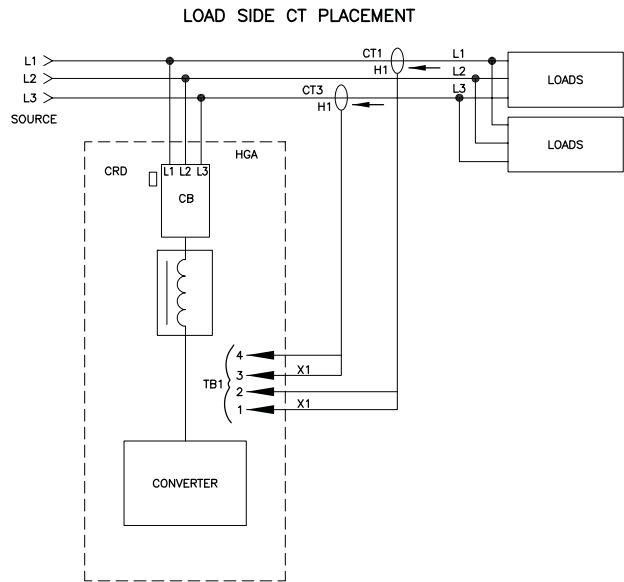
## ABBREVIATIONS, LEGEND & NOTES

CONTRACT NO.  
C02072

SHEET 1 OF 2

FILE NO. 2016-0040

Drawing Reduced To  
**HALF SCALE**



TYPICAL CONFIGURATION OF THE ACTIVE HARMONIC FILTER

NOT TO SCALE

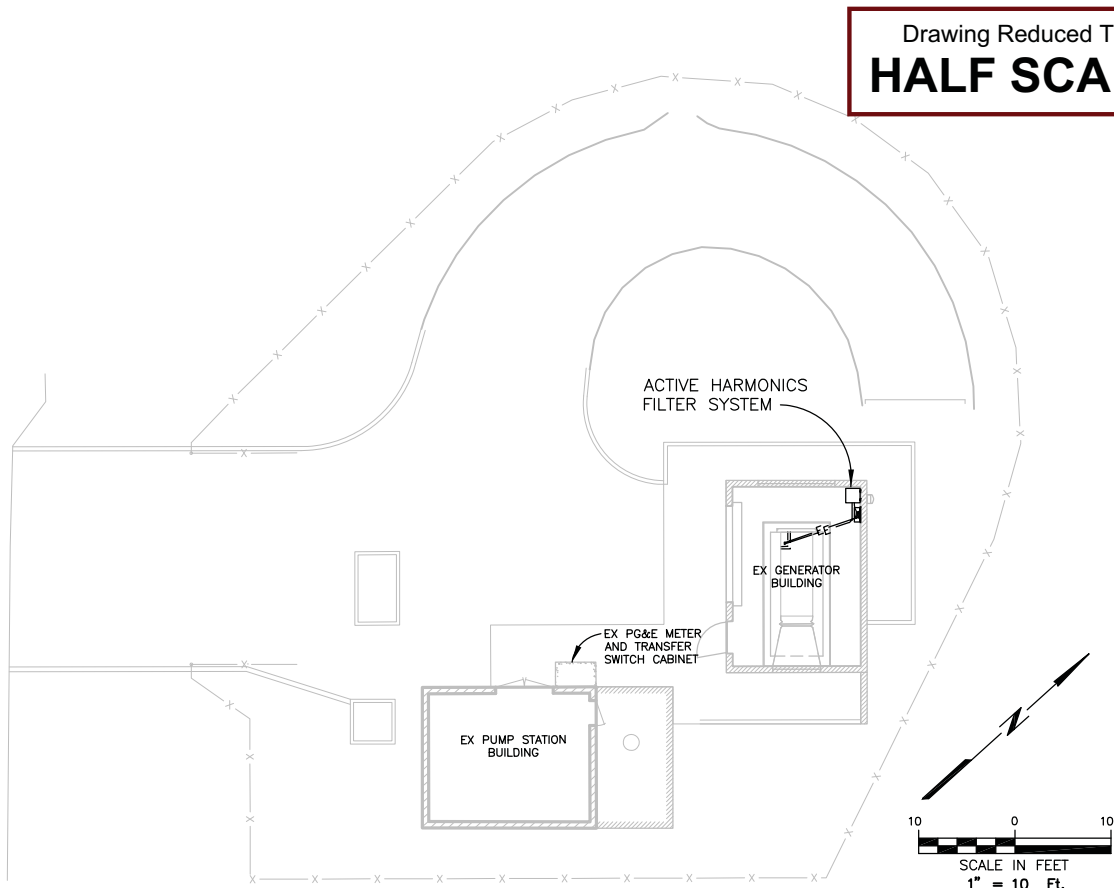
### INSTALLATION NOTES

- HGA FILTER REQUIRES CT'S BE INSTALLED ON GENERATOR SET PHASE LEADS, ON PHASES A AND C, AS SHOWN ON MANUFACTURER'S DOCUMENTATION.
- 1 1/2" CONDUIT #1 (4) #4 AWG THHN BROWN/YELLOW/ORANGE AND GREEN 3/4" CONDUIT #2 (8) #14 AWG THHN (INCLUDES 4 SPARES)
- INSTALL #4 AWG PHASE LEADS ON GENERATOR. SEE INSTRUCTIONS AND SPECIFICATIONS. #4 AWG LEADS SHALL BE CONNECTED TO GENERATOR BUSS RAILS USING RING LUGS AND 5/16" BOLTS EQUIPPED WITH LOCK WASHERS AND HEXAGON NUTS.
- HARMONIC FILTER SHALL BE WALL-MOUNTED, USING 1 5/8" STRUT.
- CT WIRING DETAIL IS FOR BUDGETING AND PLANNING. USE DOCUMENTATION SHIPPED WITH THE FILTER FOR FINAL WIRING ARRANGEMENT.

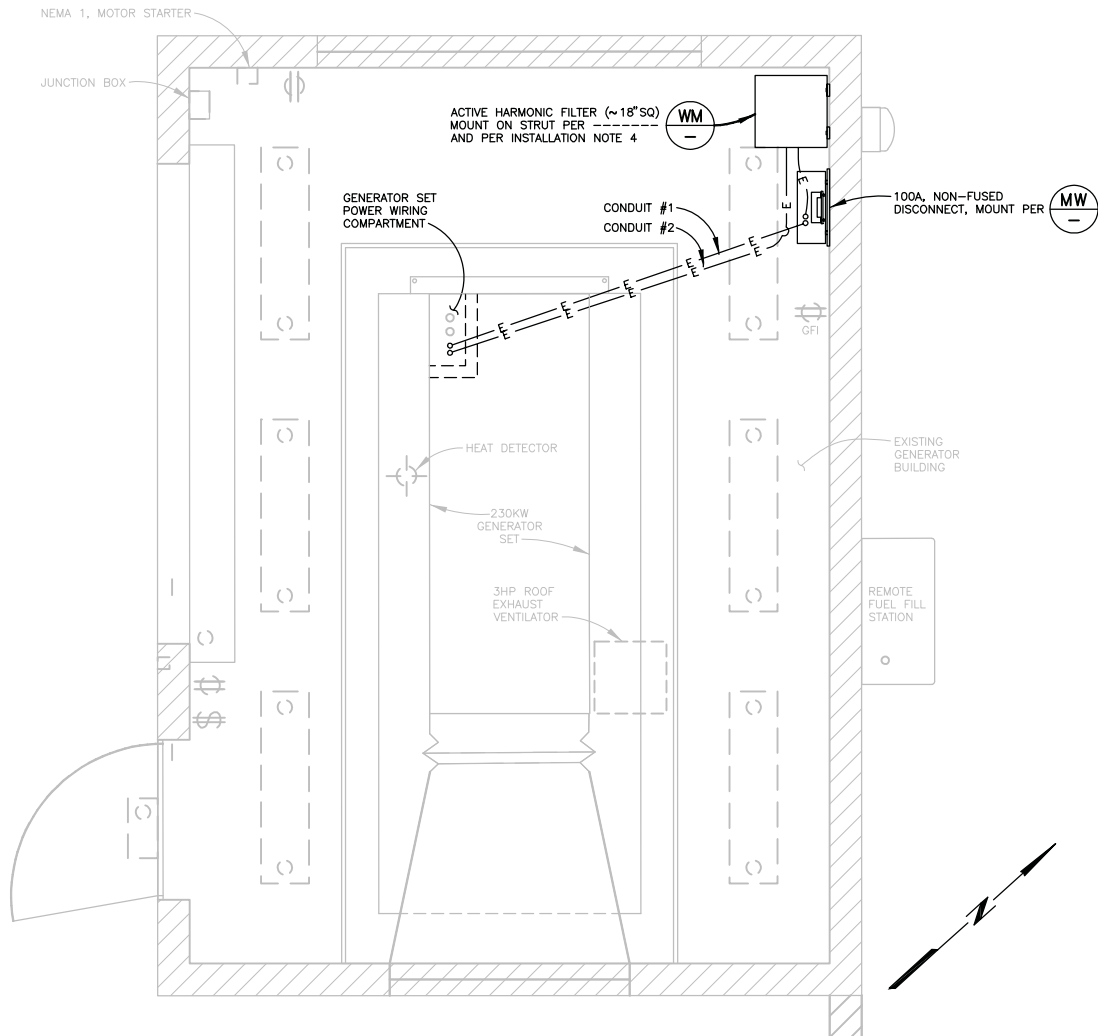
### SCOPE

- INSTALL CABINET (WALL MOUNT) IN NE CORNER OF GENERATOR ROOM.
- INSTALL 100A FUSED DISCONNECT NEXT TO THE FILTER. FUSE FOR 60A, USING J-CLASS FUSES.
- ROUTE (4) #4 AWG THHN FEEDERS IN 1 1/2" OH CONDUIT FROM GENERATOR OUTPUT COMPARTMENT TO NON-FUSED FILTER DISCONNECT. AMPLE SPACE EXISTS ON THE EXISTING OUTPUT BUS BARS IN THE GENERATOR WIRING COMPARTMENT TO TAP THE FILTER FEED CONDUCTORS TO THE BUSES.
- ROUTE (4) #4 AWG THHN FEEDERS FROM LOAD SIDE OF DISCONNECT TO POWER INPUT OF FILTER.
- INSTALL THE FILTER'S TWO CURRENT TRANSFORMERS (CTs) ON PHASES A AND C LEADS FROM THE GENERATOR TO THE TRANSFER SWITCH. ROUTE CONDUCTORS BACK TO THE FILTER FROM THE CTs VIA 3/4" OH RGS CONDUIT. #14 AWG CONDUCTORS SHOULD BE USED.
- CONFIGURE FILTER FOR "LOAD SIDE" CT PLACEMENT CONFIGURATION (REFER TO DIAGRAM). STARTUP AND CONFIGURE FILTER. TEST PRIOR TO ACCEPTANCE. ALL TESTS SHALL BE WITNESSED.

THOMAS LAKE HARRIS DRIVE

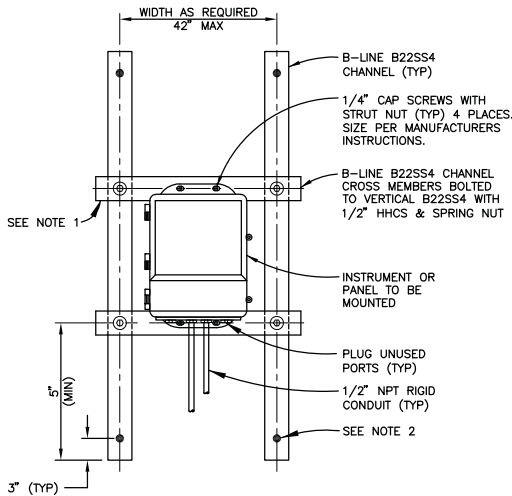


SITE PLAN



TCI ACTIVE HARMONICS FILTER SYSTEM PLAN

SCALE: 1/2" = 1'

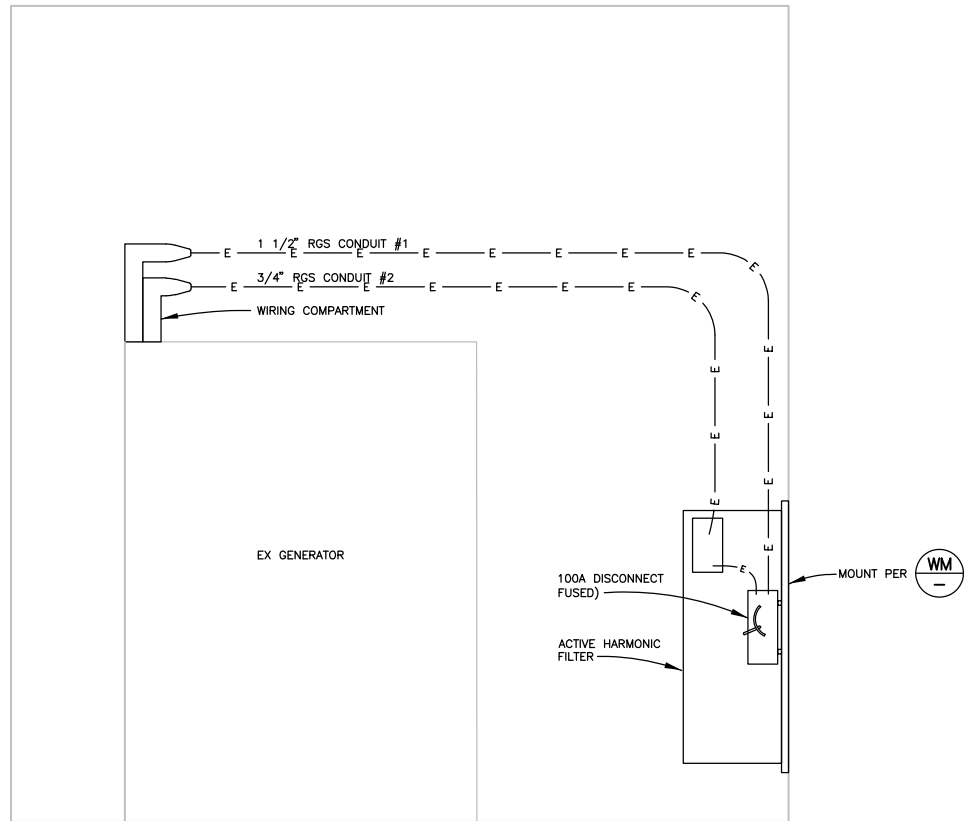


### MOUNT NOTES

- AT PANELS OVER 20 LBS OMIT HORIZONTAL B-LINE CHANNELS AND ANCHOR PANEL WITH 1/2" BOLT, WASHER AND SPRING NUT THROUGH PANEL MOUNTING SLOTS OR HOLES TO VERTICAL CHANNEL (4 TOTAL). MAX PANEL WEIGHT 300 LBS.
- MOUNT VERTICAL STRUT TO WALL AS FOLLOWS:
  - CABINETS 0 TO 200 LBS - 1/4" DIA POWER WEDGE BOLT AND SCREW ANCHOR, ZINC PLATED OR SS, 2" MIN EMBEDMENT (4 TOTAL, 2 EACH STRUT) (MAX PANEL DEPTH 12").
  - CABINETS 200 TO 300 LBS - 3/8" DIA POWERS WEDGE-BOLT AND SCREW ANCHOR, ZINC PLATED OR SS, 3 1/2" MIN EMBEDMENT (6" TOTAL, 3 EACH STRUT) (MAX PANEL DEPTH 18").

TYPICAL CABINET AND CONTROLS WALL MOUNT

NOT TO SCALE



GENERATOR ROOM-SOUTH ELEVATION

NOT TO SCALE

Drawing Reduced To  
**HALF SCALE**



City of  
Santa Rosa  
**Brelje & Race**  
CONSULTING CIVIL ENGINEERS  
1000 E. 10th Street, Suite 100, Santa Rosa, CA 95404  
www.breljeandrace.com

NO.	DATE	REVISION	BY

SCALE: AS SHOWN	DATE: OCTOBER 2016
DWN BY: PIT	CHK BY: MSJ
APPROVED: Deputy Director - Engineering	
By: Colleen Ferguson	Date: _____

City of Santa Rosa  
**WATER PUMP STATION 3  
POWER FILTER**  
**POWER FILTER ELECTRICAL  
PLAN & DETAILS**

CONTRACT NO. C02072
SHEET 2 OF 2
FILE NO. 2016-0040

BID FORMS

**CITY OF SANTA ROSA**

**STATE OF CALIFORNIA**

WATER PUMP STATION 3 POWER FILTER

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 Project Plans, 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:

---

**CITY OF SANTA ROSA  
SCHEDULE OF PRICES  
WATER PUMP STATION 3 POWER FILTER**

Item No.	Description	Quantity	Units	Unit Price	Total Price
1	WATER PUMP STATION 3 POWER FILTER	1	LS	\$_____	\$_____
GRAND TOTAL BID					\$_____

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):

---

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. C02072 WATER PUMP STATION 3 POWER FILTER**

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.

The work to be performed is entitled, Water Pump Station 3 Power Filter, File Number 2016-0040, approved by the Deputy Director of Transportation and Public Works, hereinafter referred to as the Project Plan(s).

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 Project Plans and 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. Project Plans
3. City Standards
4. City Specifications
5. Standard Specifications
6. Standard Plans

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: \_\_\_\_\_