



**CITY OF SAUSALITO
SPECIAL CONDITIONS-SPECIFICATIONS-BID
DOCUMENTS
FOR
Southview Park Improvement Project**

September 2018

CITY OF SAUSALITO
MARIN COUNTY

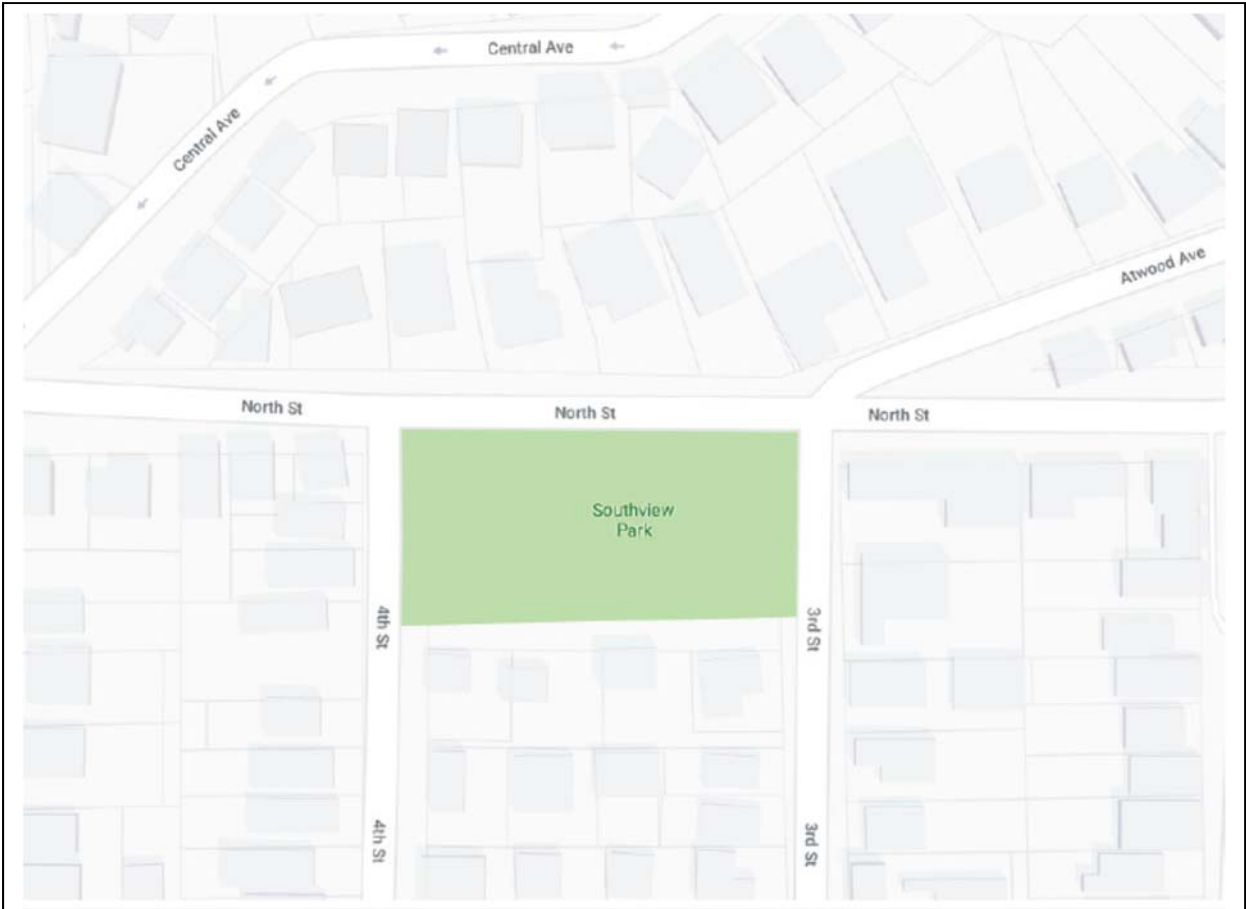
PUBLIC WORKS DEPARTMENT
420 Litho Street
Sausalito, California 94965
(415) 289-4106

**JONATHON GOLDMAN, PE
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER**

Bid Opening: November 13, 2018

Pre-Bid Conference: October 23, 2018

Contract Performance Time: 90 Calendar Days
Liquidated Damages: \$1,500 per Calendar Day



LOCATION MAP

City of Sausalito

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Notice Inviting Bids

1. **Bid Submission.** City of Sausalito (“City”) will accept sealed bids for its Southview Park Improvement Project (“Project”), by or before November 13, 2018, at 2:00 p.m., at its City Hall, located at 420 Litho Street, Sausalito, CA 94965, California, at which time the bids will be publicly opened and read aloud.
2. **Project Information.**
 - 2.1 **Location and Description.** The Project is located on North Street, between 3rd and 4th Streets and the project is described as follows: The project provides for installation of concrete and asphalt ADA path and ramp entryway and walkways, repaving and resurfacing of the tennis courts, upgraded storm drainage systems, repair and replacement of retaining walls, replacement of chain link fencing, earthwork and grading as shown on the project plans including preparation of sub grade improvements for new playground structure that shall be furnished and installed by others.
 - 2.2 **Time for Completion.** The planned timeframe for commencement and completion of construction of the Project is: Ninety (90) Calendar Days.
 - 2.3 **Estimated Cost.** The estimated construction cost is \$One Million, Four Hundred Thousand Dollars (\$1,400,000.00).
3. **License and Registration Requirements.**
 - 3.1 **License.** This Project requires a valid California contractor’s license for the following classification(s): A – General Engineering Contractor.
 - 3.2 **DIR Registration.** City may not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder is registered with the California Department of Industrial Relations (“DIR”) to perform public work under Labor Code section 1725.5, subject to limited legal exceptions.
4. **Contract Documents.** The plans, specifications, bid forms and contract documents for the Project, and any addenda thereto (“Contract Documents”) may be downloaded from City’s website located at: <https://www.sausalito.gov/departments/public-works/bid-notices>. A printed copy of the Contract Documents are not available
5. **Bid Security.** The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier’s or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, and any other submittals required by the Contract Documents and as specified in the Notice of Award.
6. **Prevailing Wage Requirements.**
 - 6.1 **General.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

- 6.2 Rates.** These prevailing rates are on file with the City and are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.
- 6.3 Compliance.** The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code section 1771.4.
- 7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price.
- 8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code section 22300.
- 9. Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the Base Bid) for each Subcontractor that will perform work or service or fabricate or install work for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.
- 10. Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders before submitting a Bid Proposal.
- 11. Bidders' Conference.** A bidders' conference will be held on October 23, 2018 at 10:00 a.m., at the following location: Conference Room, Sausalito City Hall, 420 Litho St. Sausalito, CA 94965 to acquaint all prospective bidders with the Contract Documents and the Worksite. The bidders' conference is ___/ is not _X_ mandatory. A bidder who fails to attend a mandatory bidders' conference may be disqualified from bidding.
- 12. Questions.** All bid questions must be in writing and can be emailed to Loren Umbertis: lumbertis@sausalito.gov.

By: /s/ A. Davidson (for J. Goldman, Director of Public Works, City of Sausalito)

Date:10/12/18

END OF NOTICE INVITING BIDS

Instructions to Bidders

Each Bid Proposal submitted to City of Sausalito ("City") for its Southview Park Improvement Project ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

- 1.1 General.** Each Bid Proposal must be signed, sealed and submitted to City, using the form provided in the Contract Documents, by or before the date and time set forth in the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions will be returned unopened. City reserves the right to postpone the date and time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead.
- 1.2 Bid Envelope.** The envelope containing the sealed Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

BID PROPOSAL:

Southview Park Improvement Project

City Clerk
420 Litho Street
Sausalito, CA 94965
Attn: Debbie Pagliaro

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code sections 1725.5 and 1771.1):

[Contractor company name]
[street address]
[city, state, zip code]
DIR Registration No: _____

- 1.3 DIR Registration.** Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code section 1725.5. If City is unable to confirm that the bidder is currently registered with the DIR, City may disqualify the bidder and return its bid unopened. (Labor Code sections 1725.5 and 1771.1(a).)
- 2. Bid Proposal Form and Enclosures.** Each Bid Proposal must be completed in ink using the Bid Proposal form included in the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder's authorized representative. A Bid Proposal submitted with exceptions or terms such as "negotiable," "will negotiate," or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Subcontractor List and Non-Collusion Declaration using the forms included in the Contract Documents.

3. **Authorization and Execution.** Each Bid Proposal must be signed by the bidder's authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal, under California Corporation Code section 313.
4. **Bid Security.** Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's check, certified check, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California, made payable to City. The bid security must guarantee that, within ten days after issuance of the Notice of Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; and submit the insurance certificates and endorsements and any other submittals, if any, required by the Contract Documents or the Notice of Award.
5. **Pre-Bid Investigation.**
 - 5.1 **General.** Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter City's property or the Project site without prior written authorization from City. Bidders are responsible for reporting any errors or omissions in the Contract Documents to City prior to submitting a Bid Proposal, subject to the limitations of Public Contract Code section 1104. City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.
 - 5.2 **Project Site.** Soil and soil test data, water table elevations, and soil analyses for test holes may be available for inspection in the Public Works Department or as otherwise specified in the Contract Documents. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during Project construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.
 - 5.3 **Utility Company Standards.** The Project must be completed in a manner that satisfies the standards and requirements of the affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the utility owners about their requirements before submitting a Bid Proposal.

6. **Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders, and may also submit a Bid Proposal as a prime contractor.
7. **Requests for Information.** Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to Loren Umbertis Manager, Maintenance Division at lumbertis@sausalito.gov Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five working days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.
8. **Addenda.** Any addenda issued prior to the bid opening are part of the Contract Documents. Subject to the limitations of Public Contract Code section 4104.5, City reserves the right to issue addenda prior to bid time. Each bidder is responsible for ensuring it has received and reviewed all addenda prior to submitting its bid. Bidders should check City's website periodically for any addenda or updates on the Project at: <http://www.sausalito.gov/departments/public-works/bid-notice>.
9. **Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after award of the Contract unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code section 3400(c).
10. **Withdrawal of Bid Proposals.** A Bid Proposal may not be withdrawn for a period of 90 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code section 5100 et seq.
11. **Bid Protest.** Any bid protest must be in writing and received by City at 420 Litho Street, Sausalito, CA 94965 or via email at jgoldman@sausalito.gov before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:
 - 11.1 **General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. If required by City, the protesting bidder must submit a non-refundable fee in the amount specified by City, based upon City's reasonable costs to administer the bid protest. Any such fee must be submitted to City no later than the Bid Protest Deadline, unless otherwise specified. For purposes of this Section 11, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code section 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours.
 - 11.2 **Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name,

address, email address, and telephone number of the protesting bidder and any person representing the protesting bidder.

- 11.3 Copy to Protested Bidder.** Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.
- 11.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.
- 11.5 Copy to Protesting Bidder.** Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 11.6 Exclusive Remedy.** The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- 11.7 Right to Award.** City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.
- 12. Reservation of Rights.** City reserves the right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities, to accept or reject any and all bids, or to abandon the Project entirely. The Contract will be awarded, if at all, within 90 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any specific date given for planned commencement of the Project, if any, in Section 2.2 of the Notice Inviting Bids represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned commencement date, and reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work.
- 13. Bonds.** The successful bidder is required to submit payment and performance bonds as specified in the Contract Documents using the bond forms included in the Contract Documents, within ten days following City's issuance of the Notice of Award. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.
- 14. License(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business license within Fifteen (15) days following City's issuance of the Notice of Award. Each Subcontractor must also obtain a City business license before performing any Work.

15. **Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code sections 1777.1 or 1777.7 is prohibited from performing work on the Project.
16. **Safety Orders.** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code section 6707.
17. **Subcontractor Work Limits.** The prime contractor must perform at least 50% of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).
18. **Additive and Deductive Alternates.** As required by Public Contract Code section 20103.8, if this bid solicitation includes additive or deductive items, the method checked below will be used to determine the lowest bid. If no method is checked, subparagraph (A) will be used to determine the lowest bid. City retains the right to add to or deduct from the Contract any of the additive or deductive alternates included in the Bid Proposal.
- (A) The lowest bid will be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.
19. **Bid Schedule.** Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.
- 19.1 **Incorrect Totals.** In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code section 5100 et seq.
- 19.2 **Estimated Quantities.** The quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price.
20. **Bidder's Questionnaire.** A completed, signed Bidder's Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder's Questionnaire which is subsequently

determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

21. **For Reference Only.** The following documents are provided "For Reference Only," as defined in Section 3.4 of the General Conditions:

END OF INSTRUCTIONS TO BIDDERS

Bid Proposal

Southview Park Improvement Project

_____ (“Bidder”) hereby submits this Bid Proposal to <_____> (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead for the following price (“Base Bid”):
\$_____.

2. **Bid Alternates.** Bidder submits the following prices for the specified bid alternates:

Alternate #1: _____ <title/description>
Add/Deduct: \$_____

Alternate #2: _____ <title/description>
Add/Deduct: \$_____

Alternate #3: _____ <title/description>
Add/Deduct: \$_____

3. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this Bid. Bidder specifically acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

4. **Bidder’s Warranties.** By signing and submitting this Bid Proposal, Bidder warrants the following:

- 4.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder’s knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code section 1104.
- 4.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
- 4.3 **Bidder is Qualified.** Bidder is fully qualified to perform the Work.
- 4.4 **Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed Bid.

5. **Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that if Bidder is awarded the Contract for the Project, within ten days following issuance of the Notice of Award to Bidder, Bidder will do all of the following:
- 5.1 **Execute Contract.** Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;
 - 5.2 **Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents; and
 - 5.3 **Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents.
6. **Bid Security.** As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

_____ A cashier's check or certified check payable to City and issued by _____ [Bank name] in the amount of \$_____.

_____ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on _____, 20__.

s/ _____

Name and Title

s/ _____
[See Section 3 of Instructions to Bidders]

Name and Title

Company Name

License #, Expiration Date, and Classification

Address

DIR Registration #

City, State, Zip

Phone

Contact Name

Contact Email

END OF BID PROPOSAL

Bid Schedule

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal form.

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
 LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs)

BID SCHEDULE					
Base Bid					
				Unit	Item
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	Price (\$)	Total (\$)
100	Mobilization (Allowance)	1	LS		
101	Clearing and Grubbing	1	LS		
102	Earthwork	1	LS		
103	Water Pollution and Erosion Control	1	LS		
104	Demolition	1	LS		
105	Install 12' Height Chain Link Fence w/ Gates	265	LF		
106	Install 4' Chain Link Fence	380	LF		
107	Demolish and Abandon Existing Storm Drain Facilities	1	LS		
108	ADA Parking Stall (Including Striping, signs and ADA Ramp)	1	LS		
109	BasketBall Court Pavement (Digout Repair)	500	SF		
110	ADA Accessible Storm Drain Grates	2	LF		
111	6" PVC Storm Drain Pipe	160	LF		
112	8" PVC Storm Drain Pipe	195	LF		
113	Area/Overflow Drainage Inlets	7	EA		
114	Storm Drain Cleanout	11	EA		
115	Domestic Water System	1	LS		
116	Install Irrigation Pipe Lines	135	LF		
117	Bio Retention Areas	660	SF		
118	Minor Concrete (Pedestrian concrete, walkways, tennis court, rat slab, staircases)	5700	SF		
119	Type "E" Curb per UCS	80	LF		
120	Sidewalk Underdrain w/ Type "A" Curb & Gutter per UCS DWG. 145	1	LS		
121	Hand/Guard Railings	240	LF		
122	Retaining Walls	2335	SF		
123	Tennis Court Pavement	6130	SF		
124	Install New Sign(s) on New Post	1	EA		
125	Basket Ball Court Painting	4500	SF		
126	Tennis Court Painting	6130	SF		
127	Refresh Parking Striping	1	LS		
128	4" PVC Sleeves	28	LF		

TOTAL BASE BID: Items 100 through 128 inclusive: \$ _____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

BIDDER NAME: _____

END OF BID SCHEDULE

Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Contract Price,¹ the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the Base Bid price.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	PERCENT OF WORK

END OF SUBCONTRACTOR LIST

¹ For street or highway construction this requirement applies to any subcontract of \$10,000 or more.

Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ [title] of _____
[business name], 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.

This declaration is intended to comply with California Public Contract Code section 7106 and Title 23 U.S.C section 112.

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].

s/ _____

Name [print]

END OF NONCOLLUSION DECLARATION

Bid Bond

_____ (“Bidder”) has submitted a bid, dated _____, 20____ (“Bid”), to City of Sausalito (“City”) for work on the Southview Park Improvement Project Project (“Project”). Under this duly executed bid bond (“Bid Bond”), Bidder as Principal and _____, its surety (“Surety”), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the “Bond Sum”). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.
2. **Submittals.** Within ten days following issuance of the Notice of Award to Bidder, Bidder must submit to City the following:
 - 2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents (“Contract Documents”);
 - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
 - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents; and
 - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents, and any other documents required under the Instructions to Bidders.
3. **Enforcement.** If Bidder fails to execute the Contract and to submit the bonds and insurance certificates as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

4. **Duration; Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise it will remain in full force and effect for 90 days following award of the Contract or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code sections 2819 and 2845.

[Signatures are on the following page.]

This Bid Bond is entered into and effective on _____, 20_____.

SURETY: _____

Business name

s/ _____

Name/Title

(Acknowledgement with Notary Seal for Surety, and Surety's Power of Attorney-In-Fact Certificate must be attached.)

BIDDER: _____

Business name

s/ _____

Name/Title

END OF BID BOND

Bidder's Questionnaire

SOUTHVIEW PARK IMPROVEMENT PROJECT

Within 48 hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form, including all required attachments, and attaching clearly labeled additional sheets if needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part 1: General Information

Bidder Business Name: _____ ("Bidder")

Check One: Corporation
 Partnership
 Sole Proprietorship
 Joint Venture of: _____
 Other: _____

Address: _____

Phone: _____

Owner of Business: _____

Contact Person: _____

Email: _____

Bidder's California Contractor's License Number(s): _____

Part 2: Bidder Experience

1. How many years has Bidder been in business under its present business name? ____ years
2. Has Bidder completed projects similar in type and size to this Project as a general contractor?
____ Yes ____ No
3. Has Bidder ever been disqualified on grounds that it is not responsible?
____ Yes ____ No

If yes, provide additional information on a separate sheet of paper regarding the disqualification, including the name and address of the agency or owner of the subject project, the type and size of the project, the reasons that Bidder was disqualified as not responsible, and the month and year in which the disqualification occurred.

4. Has Bidder ever been terminated from a construction project, either as a general contractor or as a subcontractor?
____ Yes ____ No

If yes, provide additional information on a separate sheet of paper regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

- 5.1 Six most recently completed public works projects within the last three years;
- 5.2 Three largest completed projects within the last three years; and
- 5.3 Any project which is similar to this Project including magnitude and character of the work.

6. Use separate sheets of paper to provide all of the following information for each project identified in response to the above three categories:

- 6.1 Project name
- 6.2 Location
- 6.3 Owner
- 6.4 Owner contact (name and current phone number)
- 6.5 Architect or engineer name
- 6.6 Architect or engineer contact (name and current phone number)
- 6.7 Project manager (name and current phone number)
- 6.8 Description of project and scope of work performed
- 6.9 Initial contract value (at time of bid award)
- 6.10 Final cost of construction (including change orders)
- 6.11 Original scheduled completion date
- 6.12 Time extensions granted (number of days)
- 6.13 Actual date of completion
- 6.14 Number and amount of stop notices or mechanic's liens filed
- 6.15 Amount of liquidated damages assessed against Bidder
- 6.16 Nature and resolution of any claim, lawsuit, and/or arbitration between Bidder and the owner.

Part 3: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By: _____
Name and Title

END OF BIDDER'S QUESTIONNAIRE

Contract

This public works contract ("Contract") is entered into by and between City of Sausalito ("City") and _____ ("Contractor"), for work on the Southview Park Improvement Project ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On _____, 20____, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below.

2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the following:
 - 2.1 Notice Inviting Bids;
 - 2.2 Instructions to Bidders;
 - 2.3 Addenda, if any;
 - 2.4 Bid Proposal and attachments thereto;
 - 2.5 Contract;
 - 2.6 Payment, Performance and Warranty Bonds;
 - 2.7 General Conditions;
 - 2.8 Special Conditions;
 - 2.9 Project Drawings and Specifications;
 - 2.10 Change Orders, if any;
 - 2.11 Notice of Award;
 - 2.12 Notice to Proceed; and
 - 2.13 The following:

_____. <List additional documents here, if any, including the document date if there are multiple versions. If there are no additional documents, write "No other documents" in the space above.>

3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.

4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \$_____ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.

5. **Time for Completion.** Contractor will fully complete the Work for the Project within Ninety (90) Calendar days from the commencement date given in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.

6. **Liquidated Damages.** If Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of \$1500 per day for each day of unexcused delay in completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.
7. **Labor Code Compliance.**
 - 7.1 **General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance.
 - 7.2 **Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.
 - 7.3 **DIR Registration.** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work under Labor Code section 1725.5, subject to limited legal exceptions.
8. **Workers' Compensation Certification.** Under Labor Code section 1861, by signing this Contract, Contractor certifies as follows: "I am 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 I will comply with such provisions before commencing the performance of the Work on this Contract."
9. **Conflicts of Interest.** Contractor, its employees, Subcontractors and agents, may not have, maintain or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or policy or in violation of any California law, including under Government Code section 1090 et seq. and under the Political Reform Act as set forth in Government Code section 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.
10. **Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.
11. **Notice.** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF (or comparable) file. Notice is deemed effective upon delivery unless otherwise specified. Notice for each party must be given as follows:

City:

Dept: < _____ >
Address: < _____ >
City/State/Zip: < _____ >
Phone: < _____ >
Attn: < _____ >
Email: < _____ >
Copy to: < _____ >

Contractor:

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Attn: _____
Email: _____
Copy to: _____

12. General Provisions.

- 12.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City’s written consent. This Contract is binding on Contractor’s and City’s lawful heirs, successors and permitted assigns.
- 12.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract except as expressly provided in the General Conditions or Special Conditions.
- 12.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the Superior Court of Marin County, and no other place.
- 12.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 12.5 Integration.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.
- 12.6 Severability.** If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.
- 12.7 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporation Code section 313.

[Signatures are on the following page.]

The parties agree to this Contract as witnessed by the signatures below:

CITY:

Approved as to form:

s/ _____

s/ _____

Name/Title

Name/Title

Date: _____

Date: _____

Attest:

s/ _____

Name/Title

Date: _____

CONTRACTOR:

_____ Business Name

s/ _____

Seal:

Name/Title

Date: _____

Second Signature (See Section 12.7):

s/ _____

Name/Title

Date: _____

Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT

Payment Bond

City of Sausalito ("City") and _____ ("Contractor") have entered into a contract, dated _____, 20____ ("Contract") for work on the Southview Park Improvement Project ("Project"). The Contract is incorporated by reference into this Payment Bond ("Bond").

- 1. General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee in an amount not less than \$ _____, under California Civil Code sections 9550, et seq.
- 2. Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code section 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code section 13020 with respect to the work and labor, then Surety will pay the obligation.
- 3. Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code section 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
- 4. Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
- 5. Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code sections 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code section 9550. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

- 6. Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court of Marin County, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

7. **Effective Date; Execution.** This Bond is entered into and is effective on _____, 20___. Three identical counterparts of this Bond, each of which is deemed an original for all purposes, are hereby executed and submitted.

SURETY: _____
Business Name

s/ _____

Name/Title

(Acknowledgment with Surety's Notary Seal and Surety's Power of Attorney must be attached.)

CONTRACTOR: _____
Business Name

s/ _____

Name/Title

s/ _____

Name/Title

APPROVED BY CITY:

s/ _____

Name/Title

END OF PAYMENT BOND

Performance Bond

City of Sausalito ("City") and _____ ("Contractor") have entered into a contract, dated _____, 20____ ("Contract") for work on the Southview Park Improvement Project ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as Principal and _____, its surety ("Surety"), are bound to City as obligee for an amount not less than \$_____. By executing this Bond, Contractor and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, to the provisions of this Bond.
2. **Surety's Obligations.** If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, and Contractor has timely provided a warranty bond as required under the Contract, Surety's obligations under this Bond will become null and void upon City's acceptance of the Project, excluding any exceptions to acceptance, if any. Otherwise, Surety's obligations will remain in full force and effect until expiration of the one year warranty period under the Contract.
3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code sections 2819 and 2845.
4. **Application of Contract Balance.** Upon making a demand on this Bond, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
5. **Contractor Default.** Upon written notification from City that Contractor is in default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
 - 5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
 - 5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or
 - 5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
6. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.

7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

8. **Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court for Marin County, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

9. **Effective Date; Execution.** This Bond is entered into and effective on _____, 20____. Three identical counterparts of this Bond, each of which is deemed an original for all purposes, are hereby executed and submitted.

SURETY: _____
Business Name

s/ _____

Name/Title

(Acknowledgment with Notary Seal for Surety and Surety's Power of Attorney must be attached.)

CONTRACTOR: _____
Business Name

s/ _____

Name/Title

s/ _____

Name/Title

APPROVED BY CITY:

s/ _____

Name/Title

END OF PERFORMANCE BOND

Warranty Bond

City of Sausalito ("City") and _____ ("Contractor") have entered into a contract, dated _____, 20____ ("Contract") for work on the Southview Park Improvement Project ("Project"). The Contract is incorporated by reference into this Warranty Bond ("Bond").

- 1. General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee in the maximum amount of 15% of the final Contract Price, unless otherwise specified in the Contract Documents.
- 2. Warranty Period.** The Contract requires Contractor to guarantee its work and that of its Subcontractors on the Project, against defects in materials or workmanship which are discovered during the one-year period commencing with City's acceptance of the Project ("Warranty Period").
- 3. Surety's Obligations.** If Contractor faithfully carries out and performs its guarantee under the Contract, and, on due notice from City, repairs and remedies, at its sole expense, any and all defects in materials and workmanship in the Project which are discovered during the Warranty Period, or if Contractor promptly reimburses City for all loss and damage that City sustains because of Contractor's failure to make such repairs in accordance with the Contract requirements, then Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
- 4. Waiver.** Surety waives the provisions of Civil Code sections 2819 and 2845.
- 5. Notice.** Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

- 6. Law and Venue.** This Bond will be governed by California law, and any dispute pursuant to this Bond will be venued in the Superior Court for Marin County, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
- 7. Effective Date; Execution.** This Bond is entered into and is effective on _____, 20____. Three identical counterparts of this Bond, each of which is deemed an original for all purposes, are hereby executed and submitted.

[Signatures are on the following page.]

SURETY: _____
Business Name

s/ _____

Name/Title

(Acknowledgment with Notary Seal for Surety and Surety's Power of Attorney must be attached.)

CONTRACTOR: _____
Business Name

s/ _____

Name/Title

s/ _____

Name/Title

APPROVED BY CITY:

s/ _____

Name/Title

END OF WARRANTY BOND

General Conditions

Article 1 - Definitions

Definitions. The following definitions apply to all of the Contract Documents unless otherwise indicated. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day” or “working day.”

Allowance means a specific amount that must be included in the Bid Proposal for a specified purpose.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the City of Sausalito, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s).

Claim means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal, and attachments thereto; the Contract; the Notice of Award and Notice to Proceed; the payment, performance and warranty bonds; the General Conditions; the Special Conditions; the Project Drawings and Specifications; any Change Orders; and any other documents expressly made part of the Contract Documents.

Contract Price means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies or equipment following submission of the Bid Proposal.

Contract Time means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

Contractor means the individual, partnership, corporation, or joint-venture that has signed the Contract with City to perform the Work.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural or engineering services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

DIR means the California Department of Industrial Relations.

Drawings means the City-provided plans and graphical depictions of the Project requirements, and does not include Shop Drawings.

Engineer means the City Engineer for the City of Sausalito and his or her authorized delegates.

Extra Work means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

Final Completion means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the warranty bond, instructions and manuals, product warranties, and as-built drawings.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld pursuant to the Contract Documents, including liquidated damages, up to 125% of the amount of any unreleased stop notice, amounts subject to setoff, up to 150% of any unresolved third-party claim for which Contractor is required to indemnify City, and up to 150% of any amount in dispute as authorized by Public Contract Code section 7107.

Furnish means to purchase and deliver for the Project.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any federal, state, or local law or regulation, or any other substance or material that may be considered hazardous or otherwise subject to statutory or regulatory requirements governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

Inspector means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all applicable codes, regulations, and permits.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Plans has the same meaning as Drawings.

Project means the public works project referenced in the Contract.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Request for Information or RFI means Contractor's written request for information submitted to City, in the manner and format specified by City, about the Contract Documents, the Work or the Project.

Section, as used in these General Conditions, means a numbered Section of the General Conditions, unless otherwise indicated by the context, e.g., statutory references.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Drawings and Specifications.

Specialty Work means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and not by the Contractor.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into this Project by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint-venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors, suppliers, fabricators, and equipment lessors of all tiers, unless otherwise indicated by the context.

Technical Specifications means Specifications.

Work means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Work Day or Working Day, whether or not capitalized, means a weekday when the City is open for business, and does not include holidays observed by the City.

Worksite means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging or fabrication.

Article 2 - Roles and Responsibilities

2.1 City.

(A) **City Council.** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) **Engineer.** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) **Design Professional.** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Contract Documents. The Design Professional's interpretation of the Drawings or Specifications is final and conclusive.

2.2 Contractor.

(A) **General.** Contractor must provide all labor, materials, supplies equipment and services and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economic and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) **Responsibility for the Work and Risk of Loss.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested, but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to the Worksite, by any cause including fire, earthquake, wind, weather, vandalism or theft.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until the approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards; Compliance.** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents and all applicable laws, regulations, codes, standards, and permits, including City's municipal code, rules, and regulations, and any orders of the administrative or judicial bodies with jurisdiction over the Work.

(F) **Meetings.** Contractor, its project manager and superintendent and the Subcontractors requested by City, must attend a Pre-Construction Conference, if requested by City, as well as weekly Project progress meetings with City that City will schedule.

(G) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(H) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way,

including workmanship, materials, parts or equipment. Workmanship, materials, parts or equipment that do not conform to the requirements under the Drawings, Specifications and every other Contract Document, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. However, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor.

(I) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos and electronic records. Project records subject to this provision include, but are not limited to, Project cost records and records relating to preparation of Contractor's bid.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project records in an organized manner for a period of four years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's Project records relating to the Project or to investigate Contractor's plant or equipment during Contractor's normal business hours.

(J) **Copies of Project Documents.** Contractor and its Subcontractors must keep copies, at the Project site, of the Work-related documents, including the Contract, permit(s), Drawings, Specifications, Addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, and any related written interpretations. The Contract Documents, as-built drawings, and all Worksite copies must be available to City for reference at all times.

2.3 Subcontractors.

(A) **General.** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business license before performing any Work.

(B) **Contractual Obligations.** Contractor must require every Subcontractor to be bound to the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, and to likewise bind their subcontractors or suppliers. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if City accepts the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code section 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing.

2.4 Coordination of Work.

(A) **Concurrent Work.** City reserves the right to perform or to have performed other work on or adjacent to the Project site while the Work is being performed. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors and subcontractors. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any utility company or agency or another contractor or subcontractor.

(B) **Defects.** Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work.

2.5 Submittals.

Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance all schedules, Shop Drawings, samples, product data and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents.

(A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.

(C) **Required Contents.** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).

(D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal.

(E) **Effect of Review and Acceptance.** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract

Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

(F) **Enforcement.** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, or Inspector.

(G) **Excessive RFIs.** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

2.6 Shop Drawings. When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.

Article 3 - Contract Documents

3.1 Interpretation of Contract Documents.

(A) **Drawings and Specifications.** The Drawings and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Drawings and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Drawings and Specifications, the Specifications will control. Detailed Drawings take precedence over general Drawings, and large scale Drawings take precedence over smaller scale Drawings. Any arrangement or division of the Drawings and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Drawings or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) **Duty to Notify and Seek Direction.** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy,

omission, or error in the Contract Documents, including under the Drawings or Specifications, Contractor must immediately submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on Contractor. If Contractor proceeds with the related Work before obtaining City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. City will not extend the Contract Time due to Contractor's failure to submit a timely RFI to the Engineer.

(C) **Figures and Dimensions.** Figures control over scaled dimensions.

(D) **Technical or Trade Terms.** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) **Measurements.** Contractor must verify all relevant measurements at the Worksite before ordering any material or performing any Work, and will be responsible for the correctness of those measurements.

3.2 Order of Precedence. Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Notice of Award;
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment, Performance and Warranty Bonds;
- (I) Specifications;
- (J) Drawings;
- (K) Contractor's Bid Proposal and attachments;
- (L) Notice Inviting Bids;
- (M) Instructions to Bidders;
- (N) the City's standard specifications, as applicable; and
- (O) Any documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications or Caltrans Special Provisions.

3.3 Caltrans Standard Specifications. Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the most current edition of Caltrans' Standard Specifications, unless otherwise specified ("Caltrans Standard Specifications"), including the most current amendments as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications or Special Provisions:

(A) **Limitations.** The "General Provisions" of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of

any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

(B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) **Meanings.** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:

(1) Any reference to the "Engineer" is deemed to mean the City Engineer.

(2) Any reference to the "Special Provisions" is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.

(3) Any reference to the "Department" or "State" is deemed to mean City.

3.4 For Reference Only. Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as "For Reference Only." Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.

3.5 Current Versions. Unless otherwise specified by City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code or regulation in effect at the time the Contract is signed.

3.6 Conformed Copies. If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor's responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor's sole expense.

Article 4 - Bonds, Indemnity, and Insurance

4.1 Payment and Performance Bonds. Within ten days following issuance of the Notice of Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, using the bond forms included with the Contract Documents.

(A) **Surety.** Each bond must be issued by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.

(B) **Supplemental Bonds for Increase in Contract Price.** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.

4.2 Indemnity. To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, costs and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code section 9201. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.

4.3 Insurance. No later than ten days following issuance of the Notice of Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract, through the date of City's acceptance of the Project. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance will not be construed to limit Contractor's liability under this Contract or to fulfill Contractor's indemnification obligations under this Contract.

(A) **Policies and Limits.** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) **Commercial General Liability ("CGL") Insurance:** The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protected coverage, blanket contractual, products and completed operations, broad form property damage, vehicle coverage and employer's non-ownership liability coverage, with limits of at least \$2,000,000 per occurrence and at least \$4,000,000 general aggregate. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section.

(2) *Automobile Liability Insurance*: The automobile liability insurance policy must provide coverage of at least \$2,000,000 combined single-limit per accident for bodily injury, death or property damage.

(3) *Workers' Compensation Insurance and Employer's Liability*: The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Workers' Compensation Insurance and Safety Act, providing coverage of at least \$1,000,000 or as otherwise required by the statute. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance*: The pollution liability insurance policy must be issued on an occurrence basis, for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work.

(5) *Builder's Risk Insurance*: The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City.

(B) **Notice**. Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days written notice to City, unless due to non-payment of premiums, in which case ten days written notice must be made to City.

(C) **Waiver of Subrogation**. Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) **Required Endorsements**. The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 or an equivalent form approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided is primary and no insurance held or owned by City may be called upon to contribute to a loss.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Subcontractors**. Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor

is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of \$100,000 are subject to approval by City, acting in its sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If City determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

- 4.4 Warranty Bond.** As a condition precedent to Final Completion, Contractor must submit a warranty bond, using the form included with the Contract Documents, to guarantee its Work as specified in Article 11, Completion and Warranty Procedures. The warranty bond must be issued by a surety admitted in California for 15% of the final Contract Price or as otherwise specified in the Contract Documents. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City.

Article 5 - Contract Time

- 5.1 Time is of the Essence.** Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the Notice to Proceed, and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work on the Project site before the date specified in the Notice to Proceed.

(B) **Authorization.** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

- 5.2 Schedule Requirements.** Contractor must prepare all schedules using standard scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any

scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) **Baseline (As-Planned) Schedule.** Within ten calendar days following City's issuance of the Notice of Award (or as otherwise specified in the Special Conditions), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) **Specialized Materials Ordering.** Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase orders date(s).

(B) **City's Review of Schedules.** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and must, within seven days, correct the schedule to address them.

(C) **Progress Schedules.** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) **Float.** The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) **Failure to Submit Schedule.** Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section, or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to ten percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a waiver of any claims for Excusable Delay or loss of productivity arising when Contractor is out of compliance, subject only to the limits of Public Contract Code section 7102.

(D) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) **Effect of Acceptance.** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed by City. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) **Posting.** Contractor must at all times maintain a copy of the most current City-accepted progress or recovery schedule posted prominently in its on-site office.

(G) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays, during City's normal business hours, except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

5.3 Delay and Extensions of Contract Time.

(A) **Notice of Delay.** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) **Excusable Delay.** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, and diligence. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13.

(C) **Non-Excusable Delay.** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight and diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

- (1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;
- (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for timely completion of the Work;
- (3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for the timely performance and completion of the Work;
- (4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Worksite or review of the Contract Documents or other information provided or available to Contractor; or
- (5) Contractor's financial inability to perform the Work, including insufficient funds to pay its Subcontractors or suppliers.

(D) **Compensable Delay.** Pursuant to Public Contract Code section 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay.

(E) **Recoverable Costs.** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(F) **Request for Extension of Contract Time or Recoverable Costs.** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within ten calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

- (1) **Required Contents.** The request must include a detailed description of the cause(s) of the delay, and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed, or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed, or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that: the delay was an Excusable or Compensable Delay, as defined above; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code section 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop working pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the Dispute Resolution provisions set forth in Article 12 below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code section 7203, if Contractor fails to achieve Final Completion within the Contract Time, City will charge Contractor in the amount specified in the Contract for each day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable or Compensable Delay, as set forth above.

(B) **Milestones.** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) **Other Remedies.** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, or for defective materials or workmanship.

Article 6 - Contract Modification

6.1 Contract Modification and Changes in Work. Modifications to the Contract are valid and legally binding only if duly authorized by a written and signed Change Order. City may also make changes in the Work without invalidating the Contract. City may direct changes in the Work, which may include Extra Work as set forth in subsection (B) below, or deletion or modification of portions of the Work. Any change in the Work, whether directed by City or pursuant to Contractor's request for a Change Order under Section 6.2 below, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, which may include commensurate changes in the Contract Price or Contract Time as applicable. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation pursuant to Public Contract Code section 7101 based on cost reduction changes or "value engineering," unless otherwise specified in the Special Conditions, or unless expressly authorized in advance in writing by City.

(A) **Disputes.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. In the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. Contractor's sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(B) **Extra Work.** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time

for such Extra Work. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit no later than the following Working Day, a daily report of the Extra Work performed that day and the related costs, together with copies of certified payroll, invoices, and other documentation substantiating the costs ("Extra Work Report"). The Engineer will make any adjustments to Contractor's Extra Work Report(s) based on the Engineer's records of the Work. When an Extra Work Report(s) is agreed on and signed by both City and Contractor, the Extra Work Report(s) will become the basis for payment under a duly authorized and signed Change Order. Failure to submit the required documentation by close of business on the next Working Day is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(C) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

6.2 Contractor Change Order Requests. Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within ten calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any costs, expenses, or time extension request not included herein is deemed

waived. Contractor understands that submission of claims which have no basis in fact or which Contractor knows to be false may violate the False Claims Act, as set forth in Government Code sections 12650 et seq.”

6.3 Adjustments to Contract Price. The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods, but in the order provided with unit pricing taking precedence over the other methods:

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or schedule of values, will apply if unit pricing has previously been provided in Contractor’s accepted bid schedule or schedule of values for the affected Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) **Lump Sum.** A mutually agreed upon lump sum for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) **Time and Materials.** On a time and materials basis, including allowed markup for overhead, profit, and all other indirect costs, and which may include a not-to-exceed limit, calculated as the total of the following sums:

- (1) All direct labor costs plus 15% markup;
- (2) All direct material costs, including sales tax, plus 15% markup;
- (3) All direct plant and equipment rental costs, plus 15% markup;
- (4) All direct subcontract costs plus ten percent markup; and
- (5) Increased bond or insurance premium costs computed at 1.5% of total of the previous four sums.

6.4 Unilateral Change Order. If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the amount of compensation or added time that the City believes is merited. Contractor’s sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6.5 Non-Compliance Deemed Waiver. Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

Article 7 - General Construction Provisions

7.1 Permits and Taxes.

(A) **General.** Contractor must obtain and pay for all permits, fees, or licenses required to perform the Work, including a City business license. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all notices, permits, licenses, and renewals required for the Work.

(B) **Federal Excise Tax.** Contractor must pay for all taxes on labor, material and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7.2 Temporary Facilities. Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for material and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation.

(A) **Standards.** Temporary facilities must be safe and adequate for the intended use, and installed and maintained in accordance with all applicable federal, state, and local laws, codes, and regulations.

(B) **Screening.** Contractor must fence and screen the Project site and staging area, and its operation must minimize inconvenience to neighboring properties.

(C) **Utilities.** Contractor must install and maintain the light, power, water and all other utilities required for the Project site, including the piping, wiring, lamps and related equipment necessary to perform the Work.

(D) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

(E) **Additional Requirements.** Additional provisions pertaining to temporary facilities may be included in the Specifications or Special Conditions.

7.3 Noninterference and Additional Work Areas. Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must notify the affected parties of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours.

(A) **Offsite Acquisition.** Unless otherwise provided by City, Contractor must acquire, use and dispose of, at its sole expense, any additional Work areas, easements, and temporary facilities necessary to access and perform the Work.

(B) **Offsite Staging Area and Field Office.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

7.4 Signs. No signs may be displayed on or about City's property, except signage which is required by law or by the Contract Documents, without City's prior written approval as to size, design, and location.

7.5 Worksite and Nearby Property Protections.

(A) **General.** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Drawings. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work, the Project site, City's real or personal property, and the real or personal property of adjacent or nearby property owners.

(2) City's wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(B) **Securing Project Site.** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Drawings or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by law.

7.6 Materials and Equipment.

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation, and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1 below. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must promptly notify City of any defects discovered in City-provided materials or equipment. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright protected materials, equipment, devices or processes that are incorporated into the Work. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights in violation of this provision.

7.7 Substitutions.

(A) **"Or Equal."** Any Specification designating a material, product, or thing (collectively, "item") or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service.

(B) **Request for Substitution.** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval in advance, within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(C) **Substantiation.** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor's failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution at Contractor's sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City's determination is final.

(E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) **Contractor's Obligations.** City's approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7.8 Testing and Inspection.

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and locations during construction and/or fabrication and at any Worksite, including at shops and yards as well as at the Project site. All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for inspection.

(B) **Scheduling and Notification.** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must notify the Engineer no later than noon of the Working Day before any inspection or testing, and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor.

(C) **Responsibility for Costs.** City will bear the initial cost of inspection and testing to be performed by independent testing consultants retained by City, subject to the following exceptions:

- (1) Contractor will be responsible for the costs of any subsequent tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.
- (2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready or Contractor fails to appear for a scheduled inspection.
- (3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.
- (4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.

(5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) **Contractor's Obligations.** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Any Work done without the required inspection(s) will also be subject to rejection by City.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 apply to final inspection under Article 11, Completion and Warranty Provisions.

7.9 Worksite Conditions and Maintenance. Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean and neat condition and in compliance with all regulatory requirements for air quality and dust control. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) **Air Emissions Control.** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any applicable law, regulation or rule.

(B) **Dust and Debris.** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If the Engineer determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Worksite and any dirt deposited on public streets.

(C) **Clean up.** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) **Disposal.** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or

mortar, or any associated washings, to be disposed of onto streets, into manholes or into City's storm drain system.

(E) **Completion.** At the completion of the Work, Contractor must remove from the Worksite all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Worksite, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, signs, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements.

(F) **Non-Compliance.** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and the cost will be deducted from any amounts due or to become due to Contractor.

7.10 Instructions and Manuals. Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** All manufacturers' application or installation instructions must be provided to City at least ten days prior to the first such application. The instructions and manuals, along with any required guarantees, must be delivered to City for review.

(B) **Training.** Contractor or its Subcontractors must instruct City's personnel in the operation and maintenance of any complex equipment as a condition precedent to Final Completion, if required in the Contract Documents.

7.11 As-built Drawings. Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of Drawings which will be used solely for the purpose of recording changes made in any portion of the original Drawings in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. Progress payments may be delayed, in whole or in part, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Drawings must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and approval as a condition precedent to Final Completion and Final Payment.

7.12 Existing Utilities. As required by Government Code section 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Drawings or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

7.13 Notice of Excavation. Contractor must comply with all applicable operator requirements in Government Code sections 4216 through 4216.5. Government Code section 4216.2 requires that, except in an emergency, Contractor must contact the appropriate regional notification center, or Underground Services Alert, at least two working days but not more than 14 calendar days before starting any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations, and, if practical, Contractor must delineate with white paint or other suitable markings the area to be excavated. Contractor may not begin excavation until it has obtained and submitted to Engineer an inquiry identification number from Underground Services Alert.

7.14 Trenching and Excavations of Four Feet or More. As required by Public Contract Code section 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law;

(2) Subsurface or latent physical conditions at the Worksite differing from those indicated by information about the Worksite made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Worksite of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions materially differ or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) **Disputes.** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (A) above, Contractor will not be excused from completing the Work within the Contract Time, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes between Contractor and City.

7.15 Trenching of Five Feet or More. As required by Labor Code section 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it must be prepared by a California registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

7.16 New Utility Connections. Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

7.17 Lines and Grades. Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project. All stakes or marks must be set by a California licensed surveyor or a California registered civil engineer. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans.

7.18 Historic or Archeological Items.

(A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. Any suspension of Work required due to discovery of Historic or Archeological Items will be treated as a suspension for convenience under Article 13.

7.19 Environmental Control. Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater, and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors

must at all times in the performance of the Work comply with all applicable federal, state, and local laws and regulations concerning pollution of waterways.

(A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other applicable state, municipal or regional laws, ordinances, rules or regulations governing discharge of stormwater, including applicable municipal stormwater management programs.

7.20 Noise Control. Contractor must comply with all applicable noise control laws, ordinances, regulations and rules. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

Article 8 - Payment

8.1 Schedule of Values. Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) **Measurements for Unit Price Work.** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods stipulated in the Contract Documents.

(B) **Deleted or Reduced Work.** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

8.2 Progress Payments. Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Worksite, as well as authorized and approved Change Orders. Each pay application must be supported by Contractor's Bid Schedule or

schedule of values and any other substantiating data required by the Contract Documents.

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code section 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may withhold additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work;

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Worksite, City may deduct an amount based on the estimated cost to repair or replace;

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments;

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work;

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed;

(F) For Contractor's failure to submit any required schedule or schedule update in the manner and within the time specified in the Contract Documents, City may withhold or deduct an amount equal to five percent of the total amount requested;

(G) For Contractor's failure to maintain or submit as-built documents in the manner and within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts;

(H) For Work performed without approved Shop Drawings, when approved Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated costs to correct unsatisfactory Work or diminution in value;

(I) For fines assessed under the Labor Code, as required by law; or

(J) For any other costs or charges that may be withheld, deducted from, or offset against payments due, as provided in the Contract Documents, including liquidated damages.

8.4 Early Occupancy. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

- 8.5 Retention.** City will retain five percent of the amount due on each progress payment, or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work.
- (A) **Substitution of Securities.** As provided by Public Contract Code section 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code section 22300, and will be subject to approval as to form by City's legal counsel.
- (B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld under Section 8.3 or Section 8.6, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C) below, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete under Public Contract Code section 7107(c).
- 8.6 Setoff.** City is entitled to set off any amounts due from Contractor against any payments due to Contractor. City's entitlement to setoff includes progress payments as well as Final Payment and unreleased retention.
- 8.7 Payment to Subcontractors and Suppliers.** Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Worksite by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of the law, and those of the Contract Documents and applicable subcontract or supplier contract.
- (A) **Withholding for Stop Notice.** Pursuant to Civil Code section 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.
- (B) **Joint Checks.** City reserves the right to issue joint checks made payable to Contractor and its Subcontractors or suppliers. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by City. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.
- 8.8 Final Payment.** Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. The date of Final Payment is deemed to be effective on the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.
- 8.9 Release of Claims.** City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or

related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code section 7100. Any disputed amounts may be specifically excluded from the release.

- 8.10 Warranty of Title.** Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 - Labor Provisions

- 9.1 Discrimination Prohibited.** Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable federal and California laws, including the California Fair Employment and Housing Act (Government Code sections 12900 et seq.), Government Code section 11135, and Labor Code sections 1735, 1777.5, 1777.6, and 3077.5.

9.2 Labor Code Requirements.

(A) **Eight Hour Day.** Under Labor Code section 1810, eight hours of labor constitute a legal day's work under this Contract.

(B) **Penalty.** Under Labor Code section 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code section 1815.

(C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code section 1777.5, which is fully incorporated by reference.

(D) **Notices.** Under Labor Code section 1771.4, Contractor is required to post all job site notices prescribed by law or regulation.

- 9.3 Prevailing Wages.** Each worker performing Work under this Contract that is covered under Labor Code section 1720 or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in sections 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Worksite.

(A) **Penalties.** Under Labor Code section 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion a day, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the current applicable prevailing wage rates under federal law, available online at <http://www.access.gpo.gov/davisbacon/ca.html>.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code sections 1776 and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for electronic submission of payroll records to the DIR.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

- (1) The information contained in the payroll record is true and correct; and
- (2) Contractor or the Subcontractor has complied with the requirements of Labor Code sections 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) **Enforcement.** Upon notice of noncompliance with Labor Code section 1776, Contractor or Subcontractor has ten days in which to comply with requirements of this section. If Contractor or Subcontractor fails to do so within the ten day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion a day, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from progress payments then due.

9.5 Labor Compliance. Under Labor Code section 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

Article 10 - Safety Provisions

10.1 Safety Precautions and Programs. Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable safety laws, rules and regulations and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at the Worksite, materials and equipment stored on or off site, and property at or adjacent to the Worksite.

(A) **Reporting Requirements.** Contractor must immediately provide a written report to City of all recordable accidents and injuries occurring at the Worksite. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by law or regulation.

(C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Worksite is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

10.2 Hazardous Materials. Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Worksite that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

10.3 Material Safety. Contractor is solely responsible for complying with section 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Material Safety Data Sheets ("MSDS") at the Worksite, as required by law, for materials or substances used or consumed in the performance of the Work. The MSDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Worksite and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Worksite so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

10.4 Hazardous Condition. Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Worksite condition, the method of construction, or the way any Work must be performed.

Article 11 - Completion and Warranty Provisions

11.1 Final Completion.

(A) **Final Inspection and Punch List.** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of items that are incomplete, incorrectly installed, or not operating as required by the Contract Documents. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any such item from this punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. City will deliver the punch list to Contractor and will specify the time by which all of the punch list items must be completed or corrected.

(B) **Requirements for Final Completion.** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including a warranty bond as required under Section 4.4, instructions and manuals as required under Section 7.10, and as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) **Acceptance.** The Project will be considered accepted upon City Council action during a public meeting to accept the Project, or if the Engineer is authorized to accept the Project, the Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. The City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) **Final Payment.** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment.

11.2 Warranty.

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to acceptance, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period.

(F) **City's Remedies.** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) **Emergency Repairs.** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) **Reimbursement.** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand(s) for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein in addition to any and all costs City incurs to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion. City will notify Contractor in writing of its intent to occupy or make use of the Project or any portions of the Project, pursuant to this provision.

(A) **Non-Waiver.** Occupation or use prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

11.4 Substantial Completion. For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

Article 12 - Dispute Resolution

12.1 Claims. This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Definition.** "Claim" means a separate demand by Contractor, submitted in writing by registered or certified mail with return receipt requested, for change in the Contract Time, including a time extension or relief from liquidated damages, or a change in the Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected or disputed by City, in whole or in part.

(B) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(C) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount, and applies in addition to the provisions of Public Contract Code section 9204 and sections 20104 et seq., which are incorporated by reference herein.

(D) **No Work Delay.** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of the Claim or other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

12.2 Claims Submission. The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing, clearly identified as a "Claim" submitted pursuant to this Article 12, and must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) **Claim Format.** A Claim must be submitted in the following format:

(1) General introduction, specifically identifying the submission as a "Claim" submitted under this Article 12.

(2) Relevant background information, including identification of the specific demand at issue, and the date of City's rejection of that demand.

(3) Detailed explanation of the issue(s) in dispute. For multiple issues, separately number and identify each issue and include the following for each separate issue:

- a. The background of the issue, including references to relevant provisions of the Contract Documents;
- b. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
- c. A chronology of relevant events;
- d. The identification and attachment of all supporting documents (see subsection (A), above, on Substantiation); and
- e. Use of a separate page for each issue.

(4) Summary of issues and damages.

(5) The following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim are true and correct. Contractor warrants that this Claim is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay claim not included herein are deemed waived. Contractor understands that submission of a Claim which has no basis in fact or which Contractor knows to be false may violate the False Claims Act (Government Code Section 12650 et seq.)."

(C) **Submission Deadlines.**

(1) A Claim must be submitted within 15 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment, or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 15 days of the effective date of Final Payment, under Section 8.8, above.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. **Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.**

12.3 City's Response. City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code section 9204. However, if City determines that the Claim is not adequately documented, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor.

(B) **Non-Waiver.** Any failure by City to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Meet and Confer. If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response, or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute City's response in writing within the specified time, Contractor's Claim will be deemed waived.

(A) **Schedule Meet and Confer.** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) **Location for Meet and Confer.** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) **Written Statement After Meet and Confer.** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) **Submission to Mediation.** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

12.5 Mediation and Government Code Claims.

(A) **Mediation.** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code section 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of mediation equally, except costs incurred by each party for its representation by legal counsel or any other consultants.

(B) **Government Code Claims.**

(1) Timely presentment of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a

Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

- 12.6 Tort Claims.** This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.
- 12.7 Arbitration.** It is expressly agreed, under California Code of Civil Procedure section 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.
- 12.8 Damages.** Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to consequential damages, including home office overhead or any form of overhead not directly incurred at the Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula may not be used for any recovery under the Contract.
- 12.9 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13 - Suspension and Termination

- 13.1 Suspension for Cause.** In addition to all other remedies available to City, if Contractor fails to perform or correct work in accordance with the Contract Documents, City may immediately order the Work, or any portion of it, suspended until the cause for the suspension has been eliminated to City's satisfaction.
- (A) **Failure to Comply.** Contractor will not be entitled to an increase in Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.
- (B) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.
- 13.2 Suspension for Convenience.** City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience, and not due to any act or omission by Contractor or its Subcontractors. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in progress Work as directed in the suspension notice. The Contract Price and the Contract Time will be equitably adjusted by Change Order to reflect the cost and delay impact occasioned by such suspension for convenience. However, the time for completing the Project will only be extended if the suspension causes or will cause delay in Final Completion.

13.3 Termination for Default. Contractor may be deemed in default for a material breach of or inability to perform the Contract, including Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct rejected work; disregard of laws, regulations, ordinances, rules, or orders of any public agency with jurisdiction over the Project; lack of financial capacity to complete the Work within the Contract Time; or responsibility for any other material breach of the Contract requirements.

(A) **Notice.** Upon City's determination that Contractor is in default, City may provide Contractor and its surety written notice of default and intent to terminate the Contract.

(B) **Termination.** Within seven calendar days after notice of intent to terminate for default has been given, unless the default is cured or arrangements to cure the default have been made and memorialized in writing, to City's satisfaction, City may terminate the Contract by written notice to Contractor with a copy to Contractor's surety.

(C) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond, within seven calendar days from the date of the notice of termination, Contractor's surety will be deemed to have waived its right to complete the Work under the Contract, and City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination. In addition, City will have the right to use any materials, supplies, and equipment belonging to Contractor and located at the Worksite for the purposes of completing the remaining Work.

(D) **Wrongful Termination.** If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including consequential damages, lost opportunity costs or lost profits.

13.4 Termination for Convenience. City reserves the right to terminate all or part of the Contract for convenience upon written notice to Contractor. Upon receipt of such notice, Contractor must: immediately stop the Work, including under any terms or conditions that may be specified in the notice; comply with City's instructions to protect the completed Work and materials; and use its best efforts to minimize further costs. Subject to City's directions in the notice, Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated. Contractor must also promptly cancel all existing subcontracts that relate to performance of the discontinued Work.

(A) **Compensation to Contractor.** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) **Completed Work.** The value of its Work satisfactorily performed to date, based on Contractor's schedule of values and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) **Demobilization.** Actual and substantiated demobilization costs; and

(3) *Markup*. Five percent of the total value of the Work performed as of the date of notice of termination or five percent of the value of the Work yet to be completed, whichever is less, which is deemed to cover all overhead and profit to date.

- 13.5 Effect of Any Contract Termination.** Upon any termination pursuant to this Article, City may enter upon and take possession of the Project and the Work. City may also take possession of, for the sole purpose of completing the Work, all of Contractor's tools, equipment and appliances, and all materials on the Worksite or stored off the Worksite that will be incorporated in the Work. Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, or other such rights and obligations arising prior to the termination date.

Article 14 - Miscellaneous Provisions

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code section 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. section 15) or under the Cartwright Act (Chapter 2 (commencing with section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.
- 14.3 Waiver.** City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that that bids were due.

END OF GENERAL CONDITIONS

Special Conditions

1. Authorized Work Days and Hours.

- 1.1 **Authorized Work Days.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City:
Monday through Saturday
- 1.2 **Authorized Work Hours.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project during the following hours:
Monday through Friday 8:00 a.m. to 6:00 p.m. and Saturdays 9:00 a.m. to 5:00 p.m.

2. **Pre-Construction Conference.** City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed, and Contractor must present City with the following information or documents at the meeting for City's review and acceptance before the Work commences:

- 2.1 Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;
- 2.2 List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;
- 2.3 Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;
- 2.4 If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;
- 2.5 Draft baseline schedule for the Work as required under Section 5.2, to be finalized within ten days after City issues the Notice to Proceed;
- 2.6 Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;
- 2.7 Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;
- 2.8 Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;
- 2.9 Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits;
- 2.10 If requested by City, Contractor's cash flow projections; and
- 2.11 Any other documents specified in the Special Conditions or Notice of Award.

3. Weather Delays. This provision is intended to supplement the requirements of General Conditions Section 5.2 on Schedule Requirements and Section 5.3 on Delays and Extensions of Contract Time.

3.1 “Weather Delay Day.” A “Weather Delay Day” is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Worksite clean up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule.

3.2 Normal Weather Delay Days. Based on historic records for the Project location, Contractor’s schedule should assume the following number of normal Weather Delay Days for each month:

Month	# Normal Weather Delay Days
January	6
February	5
March	2
April	2
May	0
June	0
July	0
August	0
September	0
October	1
November	1
December	5

3.3 Extension of Time. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month, as set forth in Section 3.2 above subject to the following limitations:

- (A) Contractor must fully comply with the applicable procedures in Article 5 and 6 of the General Conditions regarding requests to modify the Contract Time.
- (B) Normal Weather Delay Days which do not occur during a given month do not carry over to another month.
- (C) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

4. Close Out Requirements. Contractor’s close out requirements include the following, if applicable:

4.1 Contractor must replace, with thermoplastic, any existing striping within and adjacent to the Project site that is damaged during the Work. Partially damaged striping must be replaced in its entirety.

- 4.2 Contractor must replace any survey monuments that are damaged or removed during the Work, with a Record of Survey filed by a licensed land surveyor as required by California law.
- 4.3 Before removing any traffic control or street signs on the Project site, Contractor must take photographs showing their original locations. Upon completion of each phase of construction, Contractor must temporarily reset the signs at those locations. Contractor must then replace the signs permanently upon completion of the Work and the cost of their removal and replacement must be included in the Bid Proposal.
- 4.4 Contractor must maintain any rural mail boxes on the Project site and relocate them to their permanent locations as soon as possible in the course of the Work, to the satisfaction of the affected property owners and the postal service.

5. Value Engineering. The Contractor may be entitled to additional compensation for cost reduction changes made pursuant to a value engineering proposal submitted by the Contractor, subject to the limitations of Public Contract Code section 7107, and strict compliance with this section 5. Contractor will not be entitled to any such additional compensation unless all of the following requirements have been met:

- 5.1 The Contractor must submit a written proposal for changes to the Plans or Specifications for the Project, in which it:
 - (A) Identifies the written proposal as a proposal for cost reduction changes with reference to this section;
 - (B) Clearly and specifically identifies the proposed cost reduction changes by describing in detail each of the changes proposed with specific references to each of the Specifications and Drawings involved in the proposed changes, and providing proposed revised Specifications and Drawings as applicable; and
 - (C) Estimates the net amount of the cost reduction and provides the basis for that estimate.
- 5.2 The proposed changes have been identified and developed solely by the Contractor, and not, in whole or in part, by the City.
- 5.3 The City accepts the proposed changes in whole or in part in a writing signed by the Engineer. The Contractor will only be entitled to additional compensation for those changes specifically accepted by the City. The Engineer will determine the net savings in construction costs from any such changes that are both accepted and implemented by the City. Contractor will not be entitled to more than 50% of the net savings as determined by the Engineer, acting in his or her sole discretion.

END OF SPECIAL CONDITIONS

Technical Specifications

SECTION 1 - TECHNICAL SPECIFICATIONS

1-1 MOBILIZATION

Mobilization shall conform to the provisions in Section 11, "Mobilization," of the Standard Specifications, and shall consist of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, supplies incidental to the project site, for the establishment of all offices, buildings and other facilities necessary for work on the project and for all other work and operations which must be performed or for project costs incurred prior to beginning work on the various Contract items.

Temporary utility connections to any of the Contractor's facilities will be the responsibility of the Contractor at no additional cost to the City of Sausalito.

Mobilization shall include the furnishing of and providing regular maintenance for sanitary unit(s) on the job for the duration of the project. Failure to comply with this requirement will result in withholding of mobilization payments in the amount deemed appropriate by the Engineer.

PAYMENT The Contract lump sum price paid for "**Mobilization**" (**Bid Item 100**) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the applicable work specified in Section 11 of the Standard Specifications and no additional compensation shall be allowed.

1-2 CLEARING AND GRUBBING

GENERAL. Clearing and grubbing shall conform to the applicable provisions of Section 16 of the Standard Specifications and these Special Provisions.

Clearing and grubbing shall include, but not be limited to, the removal from the area of work all brush, roots, weeds and all other items conflicting with the work as shown on the plans, including the pruning of trees as necessary to accommodate construction operations, or as directed by the Engineer. Clearing and grubbing shall also include the removal of raised pavement markers on any roads. Such removal of raised pavement markers shall be done by mechanical or hand device in advance of paving operations.

Where grinding is not anticipated, clearing and grubbing shall also include the removal of residue asphalt concrete from the gutter area of existing concrete curb and gutter prior to overlay paving.

All roots within the work zone shall be removed by the Contractor. All roots shall be removed within the Tennis Court Pavement Reconstruct area

All removed material, unless otherwise indicated on the plans specified herein, shall become the property of the Contractor who shall dispose of same outside the road right-of-way at a legal dump site.

PAYMENT - The contract lump sum price paid for “**Clearing and Grubbing**” (**Bid Item 101**) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in earthwork, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-3 EARTHWORK

This work shall be performed in accordance with Section 19, “Earthwork,” of the Standard Specifications, these Special Provisions and as directed by the Engineer. If soft subgrades are encountered after milling operations contractor shall excavate soil as shown on the plans.

Excavation shall be accomplished with properly selected equipment, which has been approved by the Engineer and in such manner that the stability of the subgrade is maintained to the greatest extent possible and to prevent damage to underground utilities. The prepared subgrade shall not be permitted to dry and/or crack prior to placement of the next covering layer.

All surplus and/or unsatisfactory excavated material shall be disposed of outside the roadway right of way in accordance with section **10-13 DISPOSAL OF MATERIALS** of these Special Provisions.

Following the removal of the materials to the selected depth, the subgrade soils shall be scarified in accordance with Section 10-17 SUBGRADE PREPARATION of these Special Provisions. The final subgrade shall be prepared in accordance with Section 19-1.03, “Grade Tolerance” of the Standard Specifications.

Utilities and underground pipelines, which are to remain in place shall be worked around and protected from damage or interruption of service. All improvements damaged by construction shall be replaced at the Contractor’s expense. It shall be the contractor’s responsibility to ascertain the location of all utilities, including manholes and monuments.

The Contractor shall provide no less than 48 hours’ notice to the Engineer, in writing of the need for compaction testing of the subgrade.

PAYMENT - The contract lump sum price paid for “**Earthwork**” (**Bid Item 102**) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in earthwork, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-4 LAYDOWN AREA

The Contractor shall not maintain staging, equipment parking, or materials within the project limits. The Contractor shall obtain a site for use as a Construction Staging Area near the project. This area should be of sufficient size to store the contractor’s equipment, materials and other items necessary for completing the project. The City has made no provision for a Construction Staging Area

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-5 ALTERATIONS

The City reserves the right to increase or decrease the quantity of any item or portion of the Work or omit portions of the Work as may be deemed necessary or advisable by the Engineer; also, to make such alterations or deviations, additions to, or omissions from the Plans and Special Provisions, as may be determined during the progress of the Work to be necessary and advisable for the proper completion thereof. Upon written order of the Engineer, the Contractor shall proceed with the Work as increased, decreased or altered. Increases or Decreases in the Quantity of Work: The Engineer will not adjust the unit price if the total bid item quantity exceeds 125 percent shown on the bid item list. The Engineer will not adjust the unit price if the total bid item quantity is less than 75 percent shown on the bid item list. The Engineer hereby deletes the provisions of Sections 9-1.06B and 9-1.06C of the Standard Specifications.

Revocable Bid Items. Items marked with "Revocable" on the bid schedule, may be deleted entirely or for which the quantity may be decreased, as determined by the City Engineer based on circumstances that may not be known until after Work on the Project has commenced. If any such item is deleted or the quantity decreased, the Contract Price will be adjusted by a Change Order and the Engineer will offer no additional compensation.

PAYMENT - - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-6 TRAFFIC CONTROL SYSTEM

The Contractor shall not implement a traffic control system until public noticing described in these Special Provisions is complete, obtain an encroachment permit from the City of Sausalito, and obtain approval of the traffic control plans from the Engineer. For the purpose of this section, traffic pertains to truck and motor vehicles, pedestrians, bicyclists, and public transit operations.

The Contractor shall implement the traffic control system as approved by the Engineer. If warranted by field conditions, the Contractor shall adjust the system as directed by the Engineer. The Contractor shall provide and implement all traffic handling devices and equipment as described in Sections 12-3 and 12-4 of the Standard Specifications. If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component, and shall restore the component to its original location.

The Contractor shall provide advanced warning signs and changeable message boards as part of the traffic Control plan.

The Contractor shall provide flaggers to control traffic. Section 12-1.03 of the Standard Specifications is deleted; the cost for flaggers is the Contractor's responsibility.

All excavations shall be backfilled or covered with steel trench plates suitable for traffic loading, at the end of each day's work, refer to City of Sausalito Encroachment Permit. Trench plates shall be securely anchored in place. No open excavation of any depth will be permitted to remain overnight.

"Traffic Control System" shall conform to Sections 7-1.03 "Public Convenience," 7-1.04 "Public Safety" and Section 12 "Temporary Traffic Control" of the current State of California Department of Transportation Standard Specifications (Standard Specifications), insofar as they may apply, and the following special provisions.

The Contractor shall be held solely responsible for complying with the listed reference documents and these Special Provisions for the complete duration of project. The Traffic Control Plans shall be prepared by a licensed engineer or otherwise certified individual.

The Standard Specifications Sections 7-1.03, 7-1.04 and Section 12 regarding signs and other traffic control devices are hereby revised to provide that all signs and other warning devices (including construction and warning signs placed beyond the limits of work) shall be provided and maintained by the Contractor at his or her expense, and shall remain his property after the completion of the contract. The applicable sections of Section 7-1.03 "Public Convenience" and Section 12-1.03 "Flagging Costs" are further revised to provide that all flaggers shall be provided by the Contractor at his or her expense. Flaggers shall be properly equipped and trained in accordance with "Instructions to Flaggers," published by the Department of Transportation.

The Contractor shall not implement a traffic control system until public noticing is complete, obtain an encroachment permit from the City of Sausalito, and obtained approval of the traffic control plans from the Engineer. For the purpose of this section, traffic pertains to truck and motor vehicles, pedestrians, bicyclists, and public transit operations on both public streets and private property a may be required..

Traffic Control shall be implemented only during the Working Hours as defined in these Special Provisions.

However, traffic control devices shall remain in place at all times during construction to warn the public of the work zone. The Engineer will make no exceptions to this requirement.

TRAFFIC CONTROL PLAN SUBMITTAL

The Contractor shall submit a detailed plan describing how you propose to manage traffic while performing the work within the City of Sausalito. This Plan shall be coordinated and approved by the City of Sausalito.

The Plan shall detail:

1. Your sequence of work to be performed.
2. Your proposed traffic handling through the work zone.
3. Accessible pedestrian detour plan.
4. Bicycle detour plan

The traffic control plans shall not be general, but specific to the project and of sufficient detail for the Engineer to understand your method of traffic management. Your plans

shall be consistent with the current California edition of the Manual of Uniform Traffic Control Devices.

The Engineer will NOT issue the Notice to Proceed until the traffic control plan is approved.

LANE CLOSURE

All lane closures proposed by the Contractor shall be defined in the Traffic Control Plans described previously in this section. For each closure, the Contractor shall submit an application to the City of Sausalito at least five (5) working days in advance of the closure for review and approval.

If approved by the Engineer, the Contractor shall:

1. At least 72 hours prior to any lane closures, detours or any other alterations that can impact traffic, the Contractor shall place electronic message boards at each end of the project to inform the public of the planned alterations to the normal flow of traffic. The location of the message boards shall be approved by the Engineer prior to their installation.

No work may begin under contract until City Engineer's representative has approved Progress Schedule, General Project Notice, Street Construction Notice, and Traffic Control Plan.

Time required for review and approval of these items shall not constitute a basis for time extension.

City of Sausalito Community Wide Email System shall be used, in a cooperative effort with the City Public Works Department, to inform the public of pending work scheduled. Traffic Control shall be implemented only during the Working Hours as defined in these Special Provisions. The Engineer will make no exceptions to this requirement.

On the day of lane closure, the Contractor shall notify the Police Department (415) 289-4170), Fire Department 415-289-4155, and notify County Dispatch (415)499-7234.

CONSTRUCTION AREA SIGNS

Once construction starts, the Contractor shall furnish and install construction area signs to inform motorists, pedestrians, and bicyclists of work in the streets and sidewalks. These signs may include, but are not limited to, "Road Construction Ahead", "Detour Ahead", "Road Closed". Construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, "Temporary Traffic Control Devices" of the State Standard Specifications and these Special Provisions. Construction area signs shall be metal, with reflective coating, black on orange, and securely mounted. Signs shall be kept clean and in good repair.

The Contractor's traffic control plan shall show the location of the signs.

The Contractor shall be responsible for providing, placing, and installing all construction area signs. The signs shall not be installed on trees, utility poles, private property, traffic signals, or any other appurtenance, unless approved by the Engineer.

CHANGEABLE MESSAGE SIGNS

At the request of the City, up to two (2) changeable message signs shall be made available during the project, as requested by the City and shall remain in service for as

long as construction is in effect. The changeable message sign shall be a pull-type, solar-powered LED sign.

PROJECT INFORMATION SIGN

The Contractor shall install one (1) City supplied Project Sign, to be bolted to 4" x 4" redwood posts at a location to be designated by the Engineer. The sign shall be installed prior to construction and maintained in place for the duration of the project by the Contractor. Sign shall be repaired or replaced at no cost to the City of Sausalito, if damaged or stolen.

The Contractor shall remove the project sign at the end of the contract and return it to the City of Sausalito.

TRAFFIC CONTROL SYSTEM MAINTENANCE

It shall be the responsibility of the Contractor to maintain signs and barricades overnight and on weekends. It shall be the responsibility of the Contractor to make sure that the signs remain posted until no longer required and are protected from vandalism or removal.

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor. Compensation for providing the traffic control, pedestrian path of travel, Traffic Control Plan, Pedestrian Detour Plan, construction area signs, electronic changeable message signs, and any other requirements of this section shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor

1-7 WATER POLLUTION AND EROSION CONTROL

The Contractor shall provide all materials, equipment, and labor necessary to furnish, place, and maintain all water pollution control systems, including construction, maintenance, and inspection of said systems, as required to perform the work in accordance with Section 13, "Water Pollution Control," Section 5-1.36, "Property and Facility Preservation," of the Standard Specifications.

The Contractor shall submit an Erosion and Sedimentation Control Plan (ECP) for work in the public right of way to the Engineer for review and must be accepted prior to beginning of work and submitted through the City of Sausalito Encroachment Permit Process. The Contractor shall be fully responsible for implementing, maintaining, and repairing all storm water pollution controls as described in his approved ECP and as shown and described on the project plans and specifications for the duration of the construction contract. The Contractor shall make any repairs to the storm water pollution controls and amend the ECP if, in the opinion of the Engineer, the Contractor is not in compliance with the ECP.

The Contractor shall be responsible for any fines imposed by the Regional Water Quality Control Board or other agency as a result of noncompliance, negligence, or violation of permit conditions.

Construction vehicles and equipment entering existing paved areas shall be free of mud, silt and other debris during all phases of work. No mud, silt and other debris shall be tracked on paved surfaces. If such materials are tracked on the streets or other paved areas both public and private, the Contractor shall immediately remove these materials prior to these materials entering into the storm drain system.

Stockpiling of materials on the street will not be allowed unless otherwise approved by the Engineer. The Contractor shall cover with secured plastic any construction or excavated materials which may possibly erode and enter the storm drain system of paved streets or other paved areas both public and private. Stockpiling of dirt on paved areas will not be allowed.

The Contractor shall sweep the work area and clean up the work site daily before leaving the site or more frequently as may be directed by the Engineer.

The Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the control measures included in the plans, specifications and ECP and any amendments thereto and for removing and disposing of temporary control measures.

To ensure the proper implementation and functioning of temporary erosion control measures, the Contractor shall regularly inspect and maintain the construction site for the control measures identified in the ECP. The Contractor shall identify corrective actions and time frames to address any damaged measures or reinstate any measures that have been discontinued.

During the length of the project, inspections of the construction site shall be conducted by the Contractor to identify deficient measures. The inspections shall be, but not limited to as follows:

1. Prior to a predicted storm;
2. After all precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24 hours intervals during extended precipitation events; and
4. Routinely, on a minimum daily basis.
5. If the Contractor identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected in a timely manner.
6. If the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the Contractor will be notified and the deficiencies shall be corrected by the Contractor in a timely manner.
7. Failure to make the necessary repairs or other necessary maintenance when directed by the Engineer shall result in the necessary repair work being done by City forces the Contractor will be billed at double the rate of all City expenses.

Records of all inspections and compliance reporting must be retained as part of the ECP for review at any time by the Engineer. Upon completion of the project construction records shall be retained by the City/operator with a copy of the final ECP.

PAYMENT -The contract lump sum price paid for **“Water Pollution and Erosion Control” (Bid Item 103)** shall include full compensation for maintaining and furnishing all labor, materials, tools, equipment, and incidentals, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefore.

1-8 HYDROSEED – EROSION CONTROL (TYPE D)

Work under this section includes erosion control (Type D):

- A. Applying erosion control materials to embankment and excavation slopes and other areas disturbed by construction activities. Erosion control (Type D) must comply with Section 20-3, "Erosion Control," of the Caltrans Standard Specifications and these technical specifications.
- B. Apply erosion control (Type D) when an area is ready to receive erosion control as determined and when required by the Engineer or the Project Manager.
- C. Before applying erosion control materials, prepare soil surface under Section 19-2.05, "Slopes," of the Caltrans Standard Specifications, except that rills and gullies exceeding 2 inches in depth or width must be leveled. Remove vegetative growth, temporary erosion control materials, and other debris from areas to receive erosion control.
- D. Place stakes or other suitable markers at the locations shown in the Contract Drawings. Furnish all tools, labor and materials required to adequately indicate the various locations.

RELATED SECTIONS

- A. Section 31 25 16 Fiber Rolls

REFERENCES

- A. State of California, Department of Transportation (Caltrans), Standard Specifications May 2006
 - 1. Section 19-2.05 Slope
 - 2. Section 20-3 Erosion Control

PRODUCTS

- A. Hydroseed- Erosion Control (Type D) Materials
 - 1. Seed:
 - a. Seed must comply with Section 20-2.10, "Seed," of the Caltrans Standard Specifications. Seed not required to be labeled under the California Food and Agricultural Code shall be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists. Measure and mix individual seed species in the presence of the Engineer. At the time of seed sampling, provide the Engineer a glassine lined bag and custody seal tag for each seed lot sample.

- b. Seed must contain at most 1.0 percent total weed seed by weight.
- c. Deliver seed to the job site in unopened separate containers with the seed tag attached. Containers without a seed tag attached are not accepted.
- d. Seed must comply with the following:

Botanical Name (Common Name)	Pounds Pure Live Seed Per Acre (Slope Measurement)
Native Hydroseed	
<i>Achillea millefolium</i> (yarrow)	0.75
<i>Artemisia douglasiana</i> (mugwort)	2.0
<i>Bromus carinatus</i> (California brome)	8.0
<i>Eschscholzia californica</i> (California poppy)	2.0
<i>Hordeum brachyantherum</i> (meadow barley)	8.0
<i>Leymus triticoides</i> (creeping wild rye)	4.0
<i>Lupinus bicolor</i> (annual lupine)	4.0
<i>Nassella pulchr</i> (purple needle-grass)	8.0
<i>Scrophularia californica</i> (beeplant)	2.0
<i>Sisyrinchium bellum</i> (California blue-eyed grass)	2.0
<i>Trifolium obtusiflorum</i> (creek clover)	6.0
<i>Vulpia microstachys</i> (three-weeks fescue)	6.0
	52.75

- 2. Compost:
 - a. The compost producer must be fully permitted as specified under the California Integrated Waste Management Board, Local Enforcement Agencies and any other State and Local Agencies that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility must certify that it follows guidelines and procedures for production of compost meeting the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.

- b. The compost producer must be a participant in United States Composting Council's Seal of Testing Assurance program.
- c. Compost may be derived from any single, or mixture of any of the following feedstock materials:
 - i. Green material consisting of chipped, shredded, or ground vegetation; or clean processed recycled wood products
 - ii. Biosolids
 - iii. Manure
 - iv. Mixed food waste
- d. Compost feedstock materials to reduce weed seeds, pathogens and deleterious materials as specified under Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7, Section 17868.3
- e. Compost must not be derived from mixed municipal solid waste and must be reasonably free of visible contaminates. Compost must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Compost must not possess objectionable odors.
- f. Metal concentrations in compost must not exceed the maximum metal concentrations listed in Title 14, California Code of Regulations, Division 7, Chapter 3.1, Section 17868.2.
- g. Compost must comply with the following:

Physical/Chemical Requirements

Property	Test Method	Requirement
pH	*TMECC 04.11-A, Elastometric pH 1:5 Slurry Method, pH Units	6.0–8.0
Soluble Salts	TMECC 04.10-A, Electrical Conductivity 1:5 Slurry Method dS/m (mmhos/cm)	0-10.0
Moisture Content	TMECC 03.09-A, Total Solids & Moisture at 70+/- 5 deg C, % Wet Weight Basis	N/A
Organic Matter Content	TMECC 05.07-A, Loss-On-Ignition Organic Matter Method (LOI), % Dry Weight Basis	30–65
Maturity	TMECC 05.05-A, Germination and Vigor Seed Emergence Seedling Vigor % Relative to Positive Control	80 or Above 80 or Above
Stability	TMECC 05.08-B, Carbon Dioxide Evolution Rate mg CO ₂ -C/g OM per day	8 or below
Particle Size	TMECC 02.02-B Sample Sieving for Aggregate Size Classification % Dry Weight Basis	95% Passing 5/8 inch 70% Passing 3/8 inch
Pathogen	TMECC 07.01-B, Fecal Coliform Bacteria < 1000 MPN/gram dry wt.	Pass

Pathogen	TMECC 07.01-B, Salmonella < 3 MPN/4 grams dry wt.	Pass
Physical Contaminants	TMECC 02.02-C, Man Made Inert Removal and Classification: Plastic, Glass and Metal, % > 4mm fraction	Combined Total: < 1.0
Physical Contaminants	TMECC 02.02-C, Man Made Inert Removal and Classification: Sharps (Sewing needles, straight pins and hypodermic needles), % > 4mm fraction	None Detected

* TMECC refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC).

- h. Before compost application, provide the Engineer with a copy of the compost producer's compost technical data sheet and a copy of the compost producers Seal of Testing Assurance certification. The compost technical data sheet includes:
 - i. Laboratory analytical test results
 - ii. Directions for product use
 - iii. List of product ingredients
- i. Before compost application, provide the Engineer with a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Caltrans Standard Specifications May 2006.
- j. Stabilizing emulsion:
 - i. Must be in a dry powder form
 - ii. Must be a processed organic adhesive used as a soil tackifier
 - iii. May be reemulsifiable

EXECUTION

A. Application

- 1. Apply erosion control materials in separate applications in the following sequence:
 - a. Seed shall be applied by hand, and raked into the surface to ensure good soil contact. Hydraulic application of native hydroseed shall be applied by hose, from the ground. Native hydroseed shall be applied onto the surface such that the materials are well integrated. Application shall be perpendicular to the surface such that finished grading and erosion control netting is not damaged.
 - b. Apply the following mixture with hydroseeding equipment at the rates indicated within 60 minutes after the seed has been added to the mixture:

Material	Pounds Per Acre (Slope Measurement)
Native Seed	53 (Pure Live Seed)
Fiber	285

Material	Cubic Yards Per Acre (Slope Measurement)
Compost	1.1

- c. Compost may be dry applied at the total of the rates specified in the preceding table and the following table instead of including it as part of the hydro-seeding operations. In areas where the compost is dry applied, all compost for that area must be applied before the next operation.
- d. Apply the following mixture with hydro-seeding equipment at the corresponding rates:

Material	Pounds Per Acre (Slope Measurement)
Fiber	285
Stabilizing Emulsion (Solids)	125

- e. The ratio of total water to total stabilizing emulsion in the mixture must be as recommended by the manufacturer.
- f. The Engineer or the Project Manager may change the rates of erosion control materials to meet field conditions.

B. Establishment of Seeded Grass

- 1. The work includes a grass-establishment period of 30 calendar days, commencing immediately after completion and acceptance of the initial hydroseeding application.
- 2. If, during the establishment period, areas are lacking in sufficient grass seeding to assure an adequate stand of grass, such areas shall be recultivated and reseeded within 24 hours after written notification from the Engineer.
- 3. The establishment period, in this case, shall be continued until the work meets specified requirements.
- 4. The establishment period shall include continuous operation of watering, weeding, and any other normal operation required to assure proper growth.

MEASUREMENT AND PAYMENT

PAYMENT – Payment for Hydroseed-Erosion Control shall be included in the contract lump sum price paid for “**Water Pollution and Erosion Control**” (**Bid Item 103**) shall include full compensation for furnishing all labor, materials, tools, equipment, and

incidentals, and for doing all the work involved in earthwork, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-9 DEMOLITION

GENERAL:

- A. Specifications for the demolition, removal, and legal disposal of materials at Southview Park, as indicated.
- B. Extent of demolition work shall be as shown on the design plans.
- C. Restoration of existing structures and facilities to remain in place which are damaged by demolition and removal operations.

PERMITS:

- A. Obtain all special permits and licenses and give all notices required for performance and completion of the demolition and removal work, hauling, and disposal of debris.
- B. Submit copies of demolition, hauling, and debris disposal permits and notices for record purposes. Include description of proposed haul routes.

SITE CONDITIONS:

- A. Erect and maintain temporary bracing, shoring, lights, barricades, signs, and other measures as necessary to protect the public, workers, and adjoining property from damage from demolition work, all in accordance with applicable codes and regulations.
- B. Open depressions and excavations occurring as part of this work shall be barricaded and posted with warning lights when accessible through adjacent property or through public access. Open depressions and excavations shall be filled at the end of each working day to the satisfaction of the Engineer.
- C. Protect utilities, pavements, and facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by demolition operations.
- D. Protection of Utilities: Protect active sewer, water, gas, electric, and other utilities; and drainage and irrigation lines indicated or, when not indicated, found or otherwise made known to the Contractor before or during demolition work.
- E. Maintain existing utilities and protect from damage as necessary to satisfy the requirements of jurisdictional utility companies and related codes and regulations.

- F. Make arrangements with affected utility companies and City to provide the information and services necessary to coordinate and complete the Work.
- G. Do not disconnect or shut down any part of the existing utilities and services, except by permission of authorities having jurisdiction. Submit schedule of estimated shut-down time in order to obtain such permission, and notify all interested parties, neighbors, utilities, and municipal and county authorities, as required.
- H. Utilities to be removed shall not be removed until shut-down time can be kept to a minimum. Do not remove an existing utility line or service until the replacement line, crossover, or capping is ready to be performed.
- I. Notify the Engineer and utility owners 72 hours before performing any excavation work. Notify affected utilities by calling Underground Service Alert (USA) at 1-800-227-2600. Contact utility owners not covered by USA, by calling the affected utility owners directly.
- J. Protect active underground utilities from damage. If underground utilities are damaged in any way, notify the Engineer and affected utilities immediately for corrective action.
- K. Noise and Dust Abatement: Provide continuous noise and dust abatement as required to prevent disturbance and nuisance to the public and workers and to the occupants of adjacent premises and surrounding areas. Dampen or cover areas affected by
- L. The Contract Drawings and related documents may not represent all surface conditions at the site and adjoining areas. The known surface conditions are as indicated, and shall be compared with actual conditions before commencement of work.
- M. Existing utilities and drainage systems below grade are located from surface facilities such as manholes, valve boxes, area drains, and other such surface fixtures.
- N. If existing active services encountered are not indicated or otherwise made known to the Contractor and interfere with the permanent facilities under construction, notify the Engineer in writing, requesting instructions on their disposition. Take immediate steps to ensure that the service provided is not interrupted, and do not proceed with the work until written instructions are received from the Engineer.
- O. Thicknesses of existing pavements the total pavement or base material is unknown. Remove pavement (concrete or asphalt concrete) from lip of gutter to lip of gutter up to and includes a depth of 8 inches, including all rebar.
 - P. Existing roadside signs to be relocated as identified in the design plans or as directed by the Engineer shall be protected from damage as necessary and installed to the satisfy of the Engineer per applicable codes and regulations.

MATERIALS, EQUIPMENT, AND FACILITIES:

- A. Furnish all materials, tools, equipment, devices, appurtenances, facilities, and services as required for performing the demolition and removal work.

DEMOLITION

- A. Demolish concrete and masonry in small sections. Perform demolition with small tools as much as possible. Blasting will not be permitted.
- B. Where applicable, cap or plug sanitary sewer in accordance with the utility owner’s standard details and instructions. Cap and plug pipe and other conduits abandoned due to demolition, with approved type caps and plugs as required by the utility owners.
- C. Backfill and compact depressions caused by excavations, demolition, and removal in accordance with the requirements of the contract documents.

RESTORATION OF EXISTING STRUCTURES AND FACILITIES:

- A. All damage to existing structures and facilities, including utilities, which are to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of demolition and removal operations. The cost of repairing existing structures and facilities damaged by the Contractor’s operations shall be at the Contractor’s expense.

CLEANUP:

- A. Provide a clean and orderly site.

Existing curb, gutter, sidewalk, retaining walls, asphalt pathways, tennis court pavement, basketball court pavement, trees, tree roots, concrete pathways, concrete stairs, benches, tables, wood header, fences, gates, concrete driveways, playground equipment, drinking fountains specified on the plans shall be removed and disposed of in accordance with the provisions of Section 7-1.13 of the Standard Specifications, existing concrete removal shall conform to Section 15-3, “Removing Concrete,” of the Standard Specifications.

Concrete curb, gutter, sidewalks and driveways shall be sawcut and removed within existing joints.

Demolition shall also include the removal and disposal of all items as shown on the plans conflicting with the work; removal and disposal of signs and posts to be permanently removed from project limits; saw cutting; removal and disposal of asphalt concrete; removal and disposal of miscellaneous concrete, including median curbs, curb and gutter, and sidewalks; and removal and disposal of bricks and miscellaneous planter material, or work as directed by the Engineer.

REMOVE TRAFFIC STRIPE AND PAVEMENT MARKING

This work includes removing existing traffic stripe and pavement marking at the locations shown on the plans.

Submit a lead compliance plan under Section 7-1.07, "Lead Compliance Plan," of the Standard Specifications.

Waste residue from removal of thermoplastic and painted traffic stripe and pavement marking is a non-hazardous waste residue and contains lead in average concentrations less than 1000 mg/kg total lead and 5 mg/L soluble lead. This waste residue does not contain heavy metals in concentrations that exceed thresholds established by the

Health and Safety Code and 22 CA Code of Regs and is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

PAYMENT – The contract lump sum price paid for “**Demolition**” (**Bid Item 104**) shall include full compensation for furnishing all labor, materials and equipment necessary to perform the removal and disposal of materials, to complete the work as shown on the plans and specified herein, shall be included in the lump sum price paid for under “Demolition”. No additional compensation will be allowed.

1-10 CHAIN LINK FENCES AND GATES

SECTION INCLUDES

- A. Specifications for providing 4’ and 12’ high chain link fencing, including gates, posts, rails, braces, fittings, hardware, anchors, concrete footings as indicated in the contract plans and specifications.

DEFINITIONS

- A. Fence Code
Type of fence, dimensions components, gates, and accessories are indicated on the Contract Drawings.
- B. Fence Types
Chain link fence shall be of the types indicated as follows:
 - Type VCL Polyvinyl chloride (PVC) coated steel fence fabric with vinyl coated and factory painted steel posts, rails, caps, hardware, and fittings in selected color.
- C. Fence Fabric Standard Size
No. 9 gauge chain link steel wire woven into 1-3/4 inch diamond mesh.
- D. Area Fence Standards
Materials, dimensions, and components of fencing are indicated on the Contract Drawings by means of a “Fence Code” or a fence height. If no code is indicated, the fence shall be galvanized chain link fabric, posts, and accessories as follows: fabric shall be 84 inches wide, secured at the top and bottom to a rail, for a total height above ground that varies between 4 feet and 12 feet or as specified on the project plans.

REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - ASTM A53 Specifications for Pipe, Steel, Black and Hot Dipped, Zinc Coated, Welded and Seamless
 - ASTM A121 Specification for Zinc Coated (Galvanized) Coatings on Iron and Steel Products
 - ASTM A123 Specifications for Zinc Coated (Hot Dip Galvanized) Coatings on Iron and Steel Products
 - ASTM A153 Specifications for Zinc Coating (Hot Dip) on Iron and Steel Hardware

- | | |
|-------------------------|--|
| ASTM A392 | Specification for Zinc Coated Steel Chain Link Fence Fabric |
| ASTM A526/
A526M | Specifications for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process Commercial Quality |
| ASTM A569/

A569M | Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality |
| ASTM A752 | Specification for General Requirements for Wire Rods and Coarse Round Wire, Alloy Steel |
| ASTM A824 | Specification for Metallic Coated Steel Marcellled Tension Wire for Use with Chain Link Fence |
| ASTM B117 | Standard Practice for Operating Salt Spray (Fog) Testing Apparatus |
| ASTM F567 | Standard Practice for Installation of Chain Link Fence |
| ASTM F626 | Specification for Fence Fittings |
| ASTM F668 | Specification for Poly (Vinyl Chloride) (PVC) Coated Steel Chain Link Fence Fabric |
| ASTM F900 | Specification for Industrial and Commercial Swing Gates |
| ASTM F934 | Specification for Standard Colors for Polymer Coated Chain Link Fence Materials |
| ASTM F1083 | Specification for Pipe, Steel, Hot-Dipped Zinc Coated (Galvanized) Welded, for Fence Structures |
- B. Chain Link Fence Manufacturers Institute (CLFMI)
CLFMI Publication, "Standards for Chain Link Fence Installation"
- C. Federal Specifications
- | | |
|---------------|---|
| FS RR-F-191/2 | Fencing, Wire and Post, Metal (Chain Link Fence Gates) (Detail Specification) |
| FS RR-F-191/4 | Fencing, Wire and Post, Metal (Chain Link Fence Accessories) (Detail Specification) |

SUBMITTALS

- A. Product Data
Manufacturer's product data and specifications of the specified chain link fencing and gates.
- B. Shop Drawings
Detailed shop drawings of the fences and gates layout, including installation details of the fencing, rails, posts, hardware, structural calculations and accessories for review are required. The 12 foot high

tennis court chain link fence may have wind screens in the future and shall be designed to withstand the wind load.

- C. Samples (Type VCL)
Manufacturer's color chart of available and physical sample of selected color.

**PRODUCTS
MATERIALS**

- A. General
Fencing shall include fabric covering, framework, supporting arms, concrete footings, gates, hardware, and all appurtenances and accessories as required for a complete installation. Heights of fences shall be as indicated.
- B. Line Fencing
If no fence code or height is indicated, the fence shall be galvanized chain link 84 inches wide, secured at the top and bottom to a rail for an overall height of approximately 84 inches.
- C. Fence Fabric
 1. Type CL Fence Fabric
Zinc-coated steel fabric conforming to ASTM A392 with Class 2 coating. Mesh size 1-3/4" inches square fabricated from 9 gauge wire.
 2. Type VCL Fence Fabric
Type CL fence fabric, PVC-coated in accordance with ASTM F668. Class 1, Class 2a, and Class 2b wire and fabric types are acceptable. Mesh size 1-3/4 inches square fabricated from 9 gauge wire. Color shall be as selected by the owner from manufacturer's standards, as specified in ASTM F934.
 3. Selvages
Knuckled at both selvages at both the top and bottom; unless otherwise indicated.
- D. Pipe Framework for Type CL and RP Fencing
 1. Posts and rails shall be standard weight galvanized steel pipe conforming to ASTM F1083. Sizes and weights shall be as follows: Minimum nominal outside diameter of 2.875 inches, weighing not less than 5.79 pounds per linear foot, for end, corner, and gate posts for gates six feet wide and smaller. Gate posts for gate leaves from six feet to 13 feet wide shall have minimum nominal outside diameter of 4.00 inches, weighing 9.11 pounds per linear foot.
 2. Line Posts
Nominal outside diameter of 2.375 inches, weighing not less than 3.65 pounds per linear foot.
 3. Rails and Braces

Nominal outside diameter of 1.660 inches, weighing not less than 2.27 pounds per linear foot. Posts shall include galvanized bolted fittings to properly secure rails and braces to posts.

- E. **Alternate Pipe Framework for Type CL and RP Fencing**
Posts and rails, shall be high-strength pipe manufactured from steel conforming to ASTM A569/A529M, cold formed, high frequency or induction welded, and having a minimum yield strength of 50,000 psi. External surface shall be tripled coated with 1.0 ounce plus or minus 0.1 ounce of zinc per square foot, 30 plus or minus 15 micrograms of chromate per square inch, and a high performance polymer. Pipe shall demonstrate the ability to resist 1,000 hours of exposure to salt spray with a maximum of five percent red rust when tested in accordance with ASTM B117. Internal surface of pipe shall be coated, after welding, with a zinc rich based organic coating having a 91 percent zinc powder loading capable of withstanding 650 hours of exposure to salt fog with a maximum of five percent red rust when tested in accordance with ASTM B117. All coatings shall be applied inside and out after welding. Sizes and weights shall be as follows:
 - 1. **End and Corner Posts**
Minimum nominal outside diameter of 2.875 inches, weighing not less than 4.64 pounds per linear foot, for end, corner, and gate posts for gates six feet and smaller. Gate posts for gate leaves from six feet to 13 feet wide shall have minimum nominal outside diameter of 4.00 inches, weighing 6.56 pounds per linear foot.
 - 2. **Line Posts**
Nominal outside diameter of 2.375 inches, weighing not less than 3.12 pounds per linear foot.
 - 3. **Rails and Braces**
Nominal outside diameter of 1.660 inches, weighing not less than 1.84 pounds per linear foot. Posts shall include galvanized bolted fittings to properly secure rails and braces to posts.
- F. **Pipe Framework for Type VCL Fencing**
Post and rails shall be vinyl clad steel with color coated EMV (epoxy modified polyvinyl chloride) chemically bonded to heated standard weight ASTM F1083 galvanized steel pipe, as specified, by electrostatically applied powder coating process. Protective vinyl coating thickness shall be 10 to 14 mils, according to pipe diameter. Pipe vinyl coating shall have the following properties: specific gravity of 1.32 to 1.37; tensile strength of 2,000 psi; minimum elongation of 180 percent; tear strength at 15 mils -0.36 pounds per mil; hardness of coating of 87 to 92 Shore A Durometer. Color shall match fence fabric color. Sizes and weights shall be as specified for Type CL fence or alternate high strength pipe framework.
- G. **Post Caps and Fittings**

Manufacturer's standard, pressed steel or malleable iron post caps, fittings and accessories, meeting requirements of ASTM F626 and FS RR-F191/4C, galvanized for Type CL and RP fencing, and PVC coating by the thermal-fusion-bond process, in color matching posts, for Type VCL fencing. Post caps shall be designed to fit securely over the posts to exclude water and to carry the top pipe rail and extension arms, where indicated. All other required fittings and hardware shall be provided to fasten to the pipe posts or concrete in the manner indicated.

H. Truss Rods

Alloy steel rods conforming to ASTM A752, with minimum tensile strength of 80,000 psi, and minimum diameter of 5/8 inch. Provide rods with threaded ends and self-tightening galvanized turnbuckles and anchor plates. Secure anchor plates to posts and gate frames by welding.

I. Stretcher Bars

Provide one piece lengths equal to full height of fabric with a minimum cross section of 1/4 inch by 3/4 inch. Provide one stretcher bar for each gate and end post, and two for each corner and pull post.

J. Stretcher Bar Bands

Provide galvanized heavy pressed steel or malleable iron bands with a minimum cross section of 1/8 inch by 3/4 inch, spaced not over 15 inches on center, to secure stretcher bars to end, corner, pull and gate posts.

K. Accessories

Provide miscellaneous materials and accessories, clips, tie wires (9 gauge), anchors, and fasteners as required for a complete installation. All items shall be galvanized in accordance with ASTM A123 or ASTM A153 as applicable. Accessories for Type VCL fencing shall be vinyl coated or painted to match color of fence fabric.

L. Gates

Gates shall be swinging type or sliding type as indicated, furnished complete with all hardware and accessories as required for a complete installation.

1. Gate Frames: Frames shall be fabricated from zinc coated steel pipe members (to match posts in Type CL and RP fencing) having a minimum outside diameter of 1.900 inches and weighing 2.72 pounds per linear foot.
2. Fabrication: Conform to applicable requirements of ASTM F900, FS RR-F-91/2C, and the following:
 - a. Assemble gate frames by welding or with fittings and rivets for rigid connections. Use same fabric as for fence. Install fabric with stretcher bars at vertical edges, and tie wires at top and bottom edges. Attach stretcher bars to gate frame at not more than 15 inches on center. Attach hardware with rivets or by other means which will provide security against removal or breakage.

- b. Provide additional horizontal and vertical members to ensure proper gate operation and for attachment of fabric, hardware, and accessories.
 - c. Provide diagonal cross bracing of minimum 1/2 inch diameter adjustable length truss rods on gates where necessary to provide frame rigidity without sag or twist.
 - d. For type VCL fencing, gate components shall be PVC coated in color matching fence fabric.
3. Gate Hardware
- a. Swinging Gates: Provide gate hinges, latch, stop, and keeper for each gate leaf, conforming to applicable requirements of ASTM F900 and FS RR-F-191/2C. Provide latch with provision for locking gate with padlock.
 - b. Sliding Gates: Provide manufacturer's standard rubber tired rollers and roller track for floor supported sliding gates. Include intermediate rollers or casters where required to prevent gate sag or deflection. Provide locking device and padlock eyes as part of latch for locking gate with padlock.
- M. Pipe Sleeves
- Pipe Sleeves for fence post embedment in concrete curbs, barriers, and walls shall be fabricated from steel pipe conforming to ASTM A53 and galvanized in accordance with ASTM 123, sized to receive and support fence posts.

CONCRETE

Provide concrete footings for fence posts under this Section. Concrete for posts shall have a minimum compressive strength at 28 days of 3,000 psi, using 3/4 inch maximum size aggregate and five sacks of cement minimum per cubic yard, with a maximum slump of 4 inches. Concrete and grout materials, placing, and curbing shall conform to the applicable requirements.

EXECUTION

PREPARATION

- A. Installation of fencing shall not be started until final grading has been completed.
- B. Locate fencing correctly as indicated.
- C. Where posts are indicated or required to be embedded or set in concrete curbs, traffic barriers, or retaining walls, coordinate the installation of fencing closely with the installation of concrete.
- D. Furnish galvanized steel pipe sleeves for fence posts, as applicable, for installation in formwork at time required. Supervise installation of sleeves during formwork and placing of concrete to maintain exact dimensions according to template.

INSTALLATION

- A. Install fencing and gates as indicated, in accordance with approved shop drawings, and applicable requirements of ASTM F567 and CLFMI Standards for Chain Link Fence Installation. Site fabricate as required to complete the fence installation.
- B. Posts shall be plumb and rigid after installation. Rails shall be straight and tight. Chain link fabric shall be smooth and uniformly stretched tight and straight. Tension wires shall be pulled taut. Redwood or vinyl slats in Type RP fence shall be straight and plumb.
- C. Drill holes for post footings in firm, undisturbed or compacted soil. Footing holes shall be not less than 9 inches in diameter and 38 inches in depth. Post embedment in concrete shall be 36 inches. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads.
- D. Where posts are indicated or required to be embedded or set in concrete curbs, traffic barriers, or retaining walls, grout or seal posts in sleeves as indicated.
- E. Gates shall be installed plumb, level, and secure for full opening without interference. Install ground-set items in concrete for anchorage as recommended by the fence manufacturer. Adjust hardware for smooth operation and lubricate. Sliding gates shall operate smoothly and easily under minimum pressure.
- F. Locate and install safety and restriction signs securely as indicated on the Contract Drawings.

CONCRETE

- A. Place concrete around posts in a continuous pour. Check each post for plumb and vertical and top alignment, and hold in position during placement and finishing operations.
- B. Trowel finish tops of footings, and slope or dome to direct water away from posts. Set keepers, stops, sleeves, tracks, eye bolts, and other accessories into concrete as required. Wheel rolling area for sliding gates shall be steel trowel smooth finish concrete.

ELECTRICAL GROUNDING

Where a power line carrying more than 600 volts passes over fence, install ground rod at the nearest point directly below each point of crossing. Ground all fences and gates and perform other electrical grounding as indicated.

PAYMENT -The contract price paid per lineal foot for **“Install 12’ High Chain Link Fence W/Gate(s)” (Bid Item 105)** and the contract unit price per lineal foot for **“Install 4’ High Chain Link Fence” (Bid Item 106)** shall include all gates shown on the plans and include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefore.

1-11 PROTECTION OF EXISTING FACILITIES

Protection of existing facilities shall conform to the provisions in Section 15, "Existing Highway Facilities" of the Standard Specifications and these Special Provisions, except that full compensation for conforming to the requirements of this Section for which payment is not otherwise provided shall be considered as included in the contract prices paid for the various items of work and no separate payment will be made therefor.

Removed materials to be disposed of shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications and **Section 13 DISPOSAL OF MATERIALS** of these Special Provisions.

This project includes work on streets and in Southview Park with mature trees adjacent to the project improvements. In some locations, the tree canopy extends over the improvements. It is the responsibility of the Contractor to conduct construction operations around said tree canopy such that the work is accomplished without damaging or injuring tree or tree limbs in any way. The Contractor shall coordinate with the City prior to trimming trees in order to facilitate construction operations. Any tree trimming must be approved by the City.

This project includes work on streets with overhead utility and service lines. In some locations, these utility and service lines may have minimal vertical clear distance or clearance above the existing elevations within the limits of work. It is the Contractor's responsibility to conduct operations around the facilities such that the work is accomplished without damage to these facilities. The Contractor shall notify each utility City at least two (2) working days prior to the planned work operation around these overhead facilities, and shall satisfy all requirements and safety standards for working in close proximity to these utility and service lines, as required.

The fact that any underground facility is not shown upon the plans shall not relieve the Contractor of his or her responsibility under Section 8-1.10, "Utility and Non-Highway Facilities" of the Standard Specifications. It shall be the Contractor's responsibility, pursuant thereto, to ascertain the location of such underground improvements or facilities, which may be subject to damage because of his or her operations. The Contractor shall determine the location of all utilities as described in Section 12

EXPLORATORY EXCAVATION of these Special Provisions.

Existing traffic stripes, pavement markings and pavement markers that are outside the limits of work that are to remain in place shall be protected from wheel marks and other damage by the Contractor. Existing traffic stripes, pavement markings and pavement markers that have been damaged or tracked with bituminous materials shall be cleaned or replaced as approved by the Engineer. The restoration of such objects will be at the Contractor's expense and in conformance with these Special Provisions.

PAYMENT - Compensation for conforming to this Section shall be included in the various other items of work and no separate payment will be made therefor.

1-12 EXPLORATORY EXCAVATION

The Contractor shall perform exploratory excavations to determine the location and depth of existing utility lines to support all tasks required for the successful completion of this project. Exploratory excavation shall conform to Section 7-1.11, "Preservation of Property" and Section 8-1.10, "Utility and Non-highway Facilities" of the Standard Specifications.

The Contractor shall contact Underground Service Alert to determine the extent of potholing required. Exploratory excavation (potholing) shall be at the Contractor's expense.

Potholes shall be taken as frequently as necessary to define the location of utilities within the work area.

The Contractor shall cut neatly the asphalt or concrete and use a vacuum type excavation device to remove soil to the depth of the utility. The Contractor shall coordinate with the City and outside utility agencies prior to exploratory excavation.

The Contractor shall provide backfill and surface restoration. Backfill shall be per the County of Marin standard drawings. The Contractor shall replace pavement or surfacing material in kind so that no discontinuity between the new and existing surface results.

The minimum thickness of asphalt shall be four inches.

The Contractor shall provide the Engineer a description (material, diameter, etc.) of existing utility exposed by the exploratory excavation prior to commencing construction. The exploratory excavation log shall be a neatly redlined plan that shows the horizontal and vertical location (the depth) of each exploratory excavation. The Contractor shall immediately notify the Engineer of any conflicts that prevent the satisfactory completion of the work.

The Contractor shall take care not to damage any existing facilities during exploratory excavation. Existing facilities damaged by the Contractor's operations, as determined by the Engineer, shall be repaired or replaced to the satisfaction of the Engineer, the City and the owner of the damaged facility, all at the Contractor's expense.

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-13 DISPOSAL OF MATERIALS

The City has not made arrangements for disposal of material, which may include but is not limited to soil, concrete, asphalt, pipe, rock, chain link fence, tree roots and vegetation. All excess and unsuitable material shall be disposed of by the Contractor in a legal manner.

The Contractor shall schedule disposal of materials such that weather does not impair access to the disposal facility.

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-14 REMOVE ASPHALT CONCRETE PAVEMENT

This work consists of removing and disposing existing asphalt concrete (AC) pavement to full depth in the locations shown on the plans, described in these Special Provisions, and directed by the Engineer. This work pertains to removal of the tennis and basketball court pavement.

The Contractor may remove the asphalt using traditional excavation equipment or by cold milling.

The Contractor shall saw cut the pavement shall be required at all edges to be joined. Asphalt Concrete that has been removed shall be disposed of outside the project in a legal manner unless otherwise directed by the Engineer.

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-15 DEMOLISH AND ABANDON EXISTING STORM DRAIN FACILITIES

In the location as shown in the Plans, the Contractor shall remove storm drain lines and structures as well as abandon storm drain lines.

1. All pipelines shown on the plans to be abandoned shall be filled with sand and plugged with concrete.
2. All pipelines shown on the plans to be removed or that are in conflict with improvements shall be removed to the required limits and with approved soil and compacted as detailed in section 1-3 EARTHWORK of these Specifications.

All material removed shall become the property of the Contractor and shall be disposed of as indicated in **section 10-13 DISPOSAL OF MATERIALS** of the Special Provisions section of these Specifications.

PAYMENT - The contract lump sum price paid for **“Demolish and Abandon Existing Storm Drain Facilities” (Bid Item 107)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing and disposing the pipeline as well as backfilling and compacting, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-16 ADA PARKING STALL

ADA Parking Stall shall include asphalt pavement, concrete curb, striping, ADA curb ramp, detectable warning surface, saw cutting and all work associated constructing an ADA parking stall as shown on the plans and in these specifications. Concrete shall be as specified in **Section 10-27 Minor Concrete**, Striping shall conform to Sections 84-1, "General," and 84-2, "Thermoplastic Traffic Stripes and Pavement Markings," of the Standard Specifications. Detectable warning surface shall conform to California Building Code and ADA.

PAYMENT – The contract lump sum price paid for **ADA Parking Stall (Bid Item 108)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing an ADA parking stall,

complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-17 SUBGRADE PREPARATION

This work shall consist of the scarification and re-compaction of native soil underneath the asphalt paving and concrete improvements as shown on the Plans.

Upon excavation to subgrade depth in locations to receive hot mix asphalt or concrete, the soil shall be scarified to a minimum depth of 8 inches or as shown on the plans, moisture conditioned to within 2 to 5 percentage points above optimum moisture content, and compacted to a minimum relative compaction of 95 percent relative compaction to the maximum dry density as determined in the laboratory according to ASTM D1557. The soil subgrade shall be kept moist until it is covered by aggregate base. Aggregate base shall be compacted to 95% relative compaction.

The Contractor shall protect from damage all existing improvements, drainage facilities, sanitary sewage facilities, water facilities, traffic signal facilities, landscaped areas, trees and shrubbery that are not required to be removed during construction. Any existing improvements, drainage facilities, sanitary sewage facilities, water facilities, traffic signal facilities, landscaped areas, etc., damaged as a result of the Contractor's construction activities shall be replaced by the Contractor at no cost to the City.

Shallow utilities are located within the scarification area. New utilities as installed by the Contractor are shallow and located within the scarification area. The Contractor shall identify these utilities as required in Section 0

EXPLORATORY EXCAVATION and protect during scarification. The Contractor may need to use alternative methods to re-compact the soil to protect these shallow utilities.

It is the Contractor's responsibility to plan the preparation of the subgrade with respect to weather conditions. If poor weather creates excessive moisture in the subgrade or the inability to meet minimum compaction standards, the Contractor shall implement alternative methods as approved by the Engineer to continue subgrade preparation in accordance with these Special Provisions.

The Contractor shall saw cut the pavement shall be required at all edges to be joined. Asphalt Concrete that has been removed shall be disposed of outside the project in a legal manner unless otherwise directed by the Engineer.

PAYMENT- Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-18 BASKETBALL COURT PAVEMENT (DIG OUT REPAIR)

Basketball court digout repairs shall consist of grinding/sawcutting and/or excavation and removal of marked areas to the depths indicated on plans. All removed material shall become the property of the Contractor and shall be disposed of outside the right-of-way. The resulting earth or base subgrade shall be scarified to a minimum depth of 8 inches recompacted prior to placing new asphalt concrete and base rock. Compaction shall be not less than 95% density. Soft areas shall be referred to the Engineer for direction. Edges of existing pavement, where not ground, shall be neatly trimmed. All existing pavement surfaces and vertical edges shall have a tack coat of RS-1 emulsion applied.

If portland cement concrete is encountered within the marked asphalt digout depth, the Engineer shall immediately be notified for direction. If ordered, concrete removal will be paid as Extra Work.

Hot mix asphalt used for asphalt concrete pavement paving shall conform to the provisions of in Section 39, "Hot Mix Asphalt," of the 2010 Standard Specifications and these Special Provisions.

Materials used include:

1. Asphalt Concrete for the surface course shall be 1/2" Type A.
2. The asphalt concrete binder shall be PG 64-10.

The quality control measures for the asphalt concrete shall be as outlined in Section 39-1.04 "Contractor Quality Control" of the Standard Specifications.

Certificates of Compliance, in accordance with Section 6-1.07, "Certificates of Compliance" of the Standard Specifications, shall be required from the supplier of the asphalt concrete and submitted to the Engineer not less than 10 working days prior to any scheduled asphalt concrete paving.

The Contractor shall schedule his or her paving operations such that at the end of each working day, the distance between the ends of the layers of asphalt concrete on adjacent lanes shall not be greater than 10 feet nor less than 5 feet. Additional asphalt concrete shall be placed along the transverse edge at the end of each lane and along the exposed longitudinal edges between adjacent lanes, hand raked, and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.

Half-width surfacing operations shall be conducted in such manner that, at the end of each day's work, the distance between the ends of adjacent surfaced lanes shall not be greater than can be completed in the following day of normal surfacing operations. All paving joints shall be on lane lines only.

Prior to placing the surface course, the finished surface of the previous layer shall not vary at any point more than 0.05-foot above or below the grade established by the Engineer. All trimming of the surface shall be completed while the temperature of the mix is above 200° F.

The final lift of asphalt concrete (the top lift) shall be placed in one continuous operation over the entire street.

The Contractor shall not perform paving operations when the weather is rainy or foggy. It shall be the Contractor's responsibility, based on weather predictions, to schedule his paving operations to avoid paving in the rain or fog. If the day's operations are canceled because of predicted rain or fog, a non-working day will be allowed regardless of actual working conditions.

Asphalt concrete shall not be placed on any surface which contains ponded water or excessive moisture in the opinion of the City Engineer.

If paving operations are in progress and rain or fog forces a shutdown, loaded trucks shall return to the plant and no compensation will be allowed therefor.

The Contractor shall furnish and use canvas tarpaulins to cover all loads of asphalt concrete from the time that the mixture is loaded until it is discharged from the delivery vehicle, unless otherwise directed in writing by the Engineer.

Immediately before Asphalt Concrete is placed, a tack coat (asphaltic emulsion) shall be applied to all horizontal and vertical surfaces as specified in Section 39-1.02B "Tack Coat" of the Standard Specifications.

No traffic shall be allowed on the asphalt tack coat with the exception of vehicles unloading asphalt concrete. All vehicles involved with the Contractor's operations shall turn around within the road right-of-way. Driveways and other private property shall not be used without prior written consent of the involved property, a dated copy of which shall be delivered to the Engineer prior to the use thereof.

The area to which the tack coat has been applied shall be closed to public traffic. Care shall be taken to avoid tracking the asphaltic emulsion material onto existing pavement surfaces beyond the limits of construction.

All asphalt concrete spillage and/or tracking of tack coat (asphaltic emulsion) or other materials on public streets shall be removed or cleared within 48 hours of the hot mix asphalt placement. If existing striping is marked by emulsion or other materials, it shall be

repainted/restored. Alternatively, existing striping may be protected by a method approved by the Engineer.

Conform cuts between existing pavement and newly constructed pavement shall be made by cutting the existing pavement to a neat, smooth line at the limit lines and constructing a vertical-face butt joint.

Batch data and load slips shall be presented to the Engineer as asphalt is delivered to the project site. Failure to do so may result in non-payment for questionable quantities or rejection of the load.

The Contractor shall place the asphalt to match the slope and grade of the existing condition unless noted otherwise. If the Contractor does not comply with this condition, the Engineer will order a correction at no additional cost to the City.

All tree roots and organic matter shall be removed. Unsuitable material shall be treated under the provision for "Replace Unsuitable Base Material."

Asphalt concrete shall be placed in lifts not exceeding 4 inches for base courses and in lifts of not less than 1 inch nor greater than 2 1/2 inches for surface courses. Compaction shall be done by vibratory rollers wherever possible and hand operated compaction equipment deemed suitable for the purpose by the Engineer. Finished surfaces shall not be sealed.

Aggregate base shall be Class 2, 1/2-inch maximum, and shall conform to the provisions in Section 26, "Aggregate Bases," of the Standard Specifications.

Spreading and compacting shall be performed by methods that will produce a uniform base, firmly compacted and free from pockets of coarse or fine material.

The Contractor shall submit asphalt concrete mix design.

PAYMENT – The contract unit price per square foot paid for "**Basketball Court Pavement (Dig Out Repair)**" (**Bid Item 109**) shall include all labor, materials (including aggregate base rock) and equipment and incidentals necessary to complete the work (including saw cutting, grinding, excavation, removal and disposal, subgrade preparation, tack coat as shown on the plans and specified herein and specified in the Standard Specifications and these Special Provisions, or as directed by the Engineer and no additional compensation will be allowed therefor.

1-19 LANDSCAPE RESTORATION

Any damaged or disturbed landscaping or irrigation within the project areas shall be restored to their original condition. Landscape restoration shall conform to the provisions of Section 20 "Erosion Control and Highway Planting" Section 57 "Timber Structures" and Section 80 "Fences" of the Standard Specifications.

All landscaping and hardscape removed or damaged during the Contractor's operation shall be replaced in-kind.

The Contractor shall repair any landscaping and irrigation system removed or damaged as a result of the Contractor's operation. Active irrigation lines necessary for landscaping shall be relocated and made operational within 48 hours of their removal.

Topsoil shall conform to the provisions of Section 20-2.01, "Topsoil" of the State Standard Specifications and these Technical Provisions. Topsoil shall be compacted to 90% minimum, and fine graded to leave a neat, smooth finished surface.

Landscape replacement shall be "in-kind" replacement with relatively the same size and dimensions of the plant that was removed or damaged or as directed by the Engineer.

The contractor shall protect all irrigation within the project areas.

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-20 EXCAVATION, BEDDING, PIPE INSTALLATION, AND BACKFILL

The Contractor shall provide all labor, materials, and equipment necessary to perform all excavation, bedding, backfill and grading operations required for construction of underground utilities that may include, but are not limited to storm drain pipelines and related appurtenances.

The Contractor shall perform Excavation, Bedding, Pipe Installation, and Backfill as shown in the Plans. The work shall be completed as detailed in County of Marin Standard Drawings 330, 340 and 350, titled "TRENCH DETAILS," "STANDARD TRENCH BACKFILL & RESURFACING," AND "TRENCH NOTES" respectively.

QUALITY ASSURANCE

- A. The Engineer will provide all compaction testing for the project.
- B. Where soil material is required to be compacted to a percentage of maximum density, the maximum density at optimum moisture content will be determined in accordance with ASTM D 1557. Where cohesionless, free draining soil material is required to be compacted to a percentage of relative density, the calculation of relative density will be determined in accordance with ASTM D 4253 and D 4254. Field density in-place tests will be performed in accordance with ASTM D 1556, ASTM D 6938. At a minimum, compaction tests shall be conducted for each fifty (50) feet of trench and for each two (2) feet of trench depth.
- C. If a first test and a subsequent re-test of the bedding or backfill show non-compliance with the density required under this Section, the Contractor shall remove and re-compact the material represented by the test/retest as necessary to ensure compliance. The Contractor shall pay costs for re-tests.
- D. The Contractor shall provide access in the excavation for the soil compaction testing technician and Engineer. This shall include providing site-specific safety equipment and temporary shoring to enable compaction testing at each required level within the excavation. Should the Contractor have backfilled to an elevation above that required to be tested, he or she shall excavate the backfill down to the necessary level for testing and provide shoring at his or her cost. Subsequent backfilling shall also be at the Contractor's cost.

UNSUITABLE MATERIAL

- A. Unsuitable materials for bedding and backfill shall include soils, which when classified under ASTM D 2487 fall in the classifications of PT, OH, CH, MH, or OL. In addition, any soil that cannot be sufficiently compacted to achieve the percentage of maximum density specified for the intended use shall be considered unsuitable.
- B. Materials which are too wet to be compacted to specified compaction shall not be rejected solely because they are too wet for proper compaction. The Contractor may at its option, dry these materials to the satisfaction of the Engineer prior to compaction.
- C. Backfill placed within six (6) inches of any structure or pipe shall be free of rocks or unbroken clods of earth larger than four (4) inches in any dimension.
- D. All material that is determined to be unsuitable for use as bedding and backfill or that is in excess of the amount required shall be removed immediately and disposed of properly by the Contractor as described in **Section 10-13 DISPOSAL OF MATERIALS** of these Special Provisions.

EXECUTION - GENERAL

- A. There may be underground utilities crossing and parallel to the trench alignment. Not all are shown in the Plans. The Contractor shall contact

- Underground Service Alert, perform a field investigation, and complete potholing as described in Section 0 of these Special Provisions.
- B. There may be parallel utility pipelines and trenches located near the new pipeline. The Contractor shall protect these existing pipelines in place.
 - C. Water to control dust resulting from grading operations, excavation, backfill, and the passage of traffic through the work area shall be applied by means that will ensure a uniform application of water with no runoff.
 - D. Except when specifically provided to the contrary, excavation shall include the removal of all materials of whatever nature encountered, including all obstructions of any nature that would interfere with the proper execution and completion of the work. The removal of these materials shall conform to the lines and grades shown on the plans or as directed by the Engineer. Unless otherwise provided, the entire construction site shall be stripped of all vegetation and debris, and such material shall be removed from the site prior to performing any excavation or placing any fill.
 - E. The Contractor shall remove and dispose of all excess excavated material, pipelines, and related appurtenances as required in **Section 10-13 DISPOSAL OF MATERIALS**.
 - F. The Contractor shall furnish, place, and maintain all supports and shoring that may be required for the sides of the excavations, and all pumping, ditching, or other measures required for the removal or exclusion of water, including storm water, groundwater, and wastewater reaching the site of the work from any source so as to provide dry working conditions and to prevent damage to the work or adjoining property.
 - G. Excavations shall be benched, sloped, shored or otherwise supported in a safe manner in accordance with applicable State safety requirements and the requirements of OSHA Safety and Health Standards for Construction (29CFR1926).
 - H. Excavation under structures, manholes, vaults and others: Except where otherwise specified for a particular structure or directed by the Engineer, excavation shall be carried to the grade of the bottom of the bedding. Where shown on the plans or directed by the Engineer, areas beneath structures shall be over-excavated. The exposed surface shall be scarified to a depth of six (6) inches, brought to optimum moisture content, and compacted to ninety-five percent (95%) Relative Compaction. Where over-excavation is directed by the Engineer to provide for the placement of foundation rock over wet or soft soils, scarification and re-compaction shall not be performed.

TRENCH EXCAVATION

- A. The Contractor shall saw cut asphalt in accordance with **Section 10-15 DEMOLISH AND ABANDON EXITING STORM DRAIN FACILITIES** of these Special Provisions. The Contractor shall remove the pavement as described

in **Section 10-14 REMOVE ASPHALT CONCRETE PAVEMENT** of these Special Provisions.

- B. Excavation for storm drain pipe shall be made only after pipe and other necessary materials are delivered on the site of the work. After such delivery, trench excavation shall proceed as rapidly as possible, and the pipe installed and the trench backfilled without undue delay. In public street areas, excavation and pipe installation shall be coordinated to the end that a minimum of interference with public traffic will result.
- C. The trench shall be excavated to the width and depth shown in the Plans and as described in these Special Provisions.
- D. The Contractor shall dewater the excavation according to **Section 10-21 EXCAVATION DEWATERING** of these Special Provisions.
- E. The pipe bedding shall be given a final trim, using a string line for establishing grade, such that each pipe section when first laid will be continually in contact with the bedding along the bottom of the pipe. The Contractor shall excavate bell holes at pipe joints.
- F. Where the bottom of the trench becomes soft or is unstable due to groundwater and/or movement of construction equipment, the Contractor shall over-excavate unsuitable material to a minimum depth of eighteen (18) inches below the base elevation to establish a stable foundation for the bedding or to a depth as otherwise directed by the Inspector. Geotextile fabric shall be placed on the over-excavated trench bottom and staked to the trench walls, coarse bedding material in conformance with these specifications shall be placed on the fabric, and the fabric shall then be un-staked from the trench wall and wrapped over the coarse bedding material forming a closed envelope with a minimum one (1) foot overlap at the top edges of the fabric.
- G. Any over-excavation carried below the grade ordered, specified, or shown, shall be backfilled and compacted to the required grade with the specified material.

BEDDING AND BACKFILL

- A. Except for required foundation material (in an envelope of geotextile fabric) coarse bedding material being placed in over-excavated areas, where water or soft ground is present, backfill shall not be placed until after all water is removed from the excavation according to **Section 10-21 EXCAVATION DEWATERING**.
- B. Pipe zone bedding and backfill operations shall be performed in accordance with the following requirements:
 - a. Type I Bedding and Backfill Material (Class 2 Aggregate Base) shall be placed and properly compacted in the pipe zone. The pipe zone is defined as that portion of the vertical trench cross-section lying between a plane four (4) to six (6) inches below the bottom surface of the pipe, i.e., the trench sub-grade, and a plane at a point twelve (12) inches above the top outside surface of the pipe. The sub-zones of the pipe zone are defined as follows:

- i. "Bedding is that portion of the Pipe Zone between the bottom of the trench or the top of required foundation material and the lowest point on the outside surface of the pipe barrel excepting bells;
 - ii. "Haunching" is that portion of the Pipe Zone between the top of the Bedding and the horizontal centerline of the pipe;
 - iii. "Shading" is that portion of the Pipe Zone between the top of the Haunching and a horizontal plane from six (6) to twelve (12) inches above the highest point on the outside surface of the pipe barrel excepting bells and as shown in the Plans.
- C. Controlled Low Strength Material (CLSM) can be provided in lieu of Type I Bedding and Backfill Material. Contractor shall provide a method to prevent pipe from floating during backfill. The remaining portions of the trench shall be backfilled as specified elsewhere in this Section.
- D. After compacting the bedding, the Contractor shall perform a final trim using a stringline for establishing grade, such that each pipe section when laid will be continually in contact with the bedding along the bottom of the pipe. The Contractor shall provide bell holes at each pipe joint.
- E. Backfill in trenches shall be placed uniformly on each side of the pipe to prevent displacement. The Contractor shall exercise care to prevent damage to the pipeline coating, cathodic bonds, or the pipe itself during the installation and backfill operations. The Contractor shall hand shovel slice the bedding along the sides of the pipe in order to ensure filling any voids under the pipe haunches.
- F. A colored detectable metallic foil core plastic tape, at least three (3) inches in width, shall be placed on top of the pipe zone backfill wherever sewers are installed. The tape shall have printed on it the words "Caution: Sewer Buried Below" or "Caution: Storm Buried Below" The warning tape shall be utilized for all pipes (mains and laterals).
- G. After the pipe zone backfill has been placed as specified above, and after all excess water has completely drained from the trench, backfilling of the trench zone may proceed. The trench zone is defined as that portion of the trench excavation between the top of the Shading and the ground surface in unpaved areas, and the horizontal plane at lowest point of the pavement structural section in paved areas.
- H. "Final Backfill" is that portion of the Trench Zone in paved areas between the top of the trench backfill and the lowest point of the pavement structural section.

PLACING AND SPREADING OF BACKFILL

- A. Backfill materials shall be placed and spread evenly in layers. The backfill layers shall be evenly spread so that each layer shall not exceed eight (8) inches in uncompacted thickness. Backfill layers greater than eight (8) inches but no more than twenty-four (24) inches may be used after the Contractor demonstrates by compaction testing that required compaction levels will be achieved.

- B. During spreading, each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer. Pipe zone backfill materials shall be manually spread around the pipe so that when compacted, the pipe zone backfill will provide uniform bearing and side support.
- C. Where the backfill material moisture content is below the optimum moisture content, water shall be added before or during spreading until the proper moisture content is within the range where the specified compaction can be achieved.
- D. Where the backfill material moisture content is too high to permit the specified degree of compaction, the material shall be bladed, aerated or dried and/or mixed with dryer material until the moisture content is satisfactory.
- E. Whenever selection is possible, embankment material having a sand equivalent value of less than ten (10) shall be deposited in the lower portions of embankments and no such material shall be placed within three (3) feet of planned finished grade.
- F. When the embankment material consists of large rocky material, or hard lumps such as hardpan or cemented gravel which cannot be broken readily, such material shall be well distributed throughout the embankment, and sufficient earth or other fine material shall be placed around the large material as it is deposited so as to fill the interstices and produce a dense compact embankment, but in no case shall any material exceed twenty-four (24) inches in any dimension.

COMPACTION OF BACKFILL

- A. Each layer of backfill material as defined herein, shall be mechanically compacted to the specified percentage of maximum density. Equipment that is consistently capable of achieving the required degree of compaction shall be used and each layer shall be compacted over its entire area while the material is at the required moisture content. Compaction at the top of the pipe zone shall be done using a plate compactor.
- B. Flooding, ponding, or jetting shall not be used.
- C. Equipment weighing more than ten thousand (10,000) pounds shall not be used within a horizontal distance equal to the depth of the trench. Hand operated power compaction equipment shall be used where use of heavier equipment is impractical or restricted due to weight limitations.
- D. The following compaction requirements shall be in accordance with ASTM D 1557 except for free draining materials (i.e., Coarse Bedding Material/Drain Rock/Foundation Material), which shall be in accordance with ASTM D 4253 and D 4254 for cohesionless free draining type materials.

<u>Location or Use of Fill</u>	<u>Percent (%) Relative Compaction</u>
Pipe zone backfill including bedding excavated foundation zone	90 and over
Final backfill beneath paved areas or structures	95
Trench backfill in unpaved easement or future street areas	90
Trench Zone backfill	90
Backfill under structures	95
Backfill around structures under paved areas	95
Backfill around structures in landscaped areas	90
Embankment material	90

- E. The Contractor shall maintain the indicated trench cross section at a minimum of twelve (12) inches above the top of the pipe (the top of the "Pipe Zone").

PAYMENT -Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor

1-21 EXCAVATION DEWATERING

The Contractor shall be responsible for removing, managing, and disposing of all groundwater encountered during trenching, installing of pipelines, and backfilling. The Contractor shall:

1. Secure and comply with the provisions of permits required for dewatering operations, including permits from the Marin County for exploration, construction and abandonment of dewatering wells. No water shall be discharged into existing sanitary sewers, or new sanitary sewers constructed unless a Special Discharge Permit is obtained from the Sausalito-Marin City Sanitary District.
2. No groundwater may be discharged into the storm drain system, creeks, or on private property.
3. Provide all labor, materials, and equipment necessary to adequately dewater excavations so that pipe and structures that are installed in excavations are free from standing, flowing or boiling groundwater, surface water, storm water, precipitation, or wastewater; filter soil; and prevent loss of ground from dispersion or erosion.
4. Drawdown the groundwater level a minimum of two (2) feet below the trench bottom and beyond excavation sidewalls where shoring is not designed to resist hydrostatic pressures.
5. Control the rate and effect of dewatering so as to avoid settlement, subsidence or damage to structures or facilities adjacent to areas of proposed dewatering.

6. Provide adequate standby equipment to ensure efficient dewatering and maintenance of dewatering operations during power failure.
7. Be fully responsible and liable for all damages that result from failure to adequately keep excavations dewatered, and shall repair, restore and/or replace facilities or structures damaged as a result of dewatering operations.

CONTRACTOR SUBMITTALS

The Contractor shall submit a plan for all excavation dewatering procedures to the Engineer. The dewatering plan shall include the following:

1. Location(s) where water is to be disposed.
2. Scale drawings showing locations of dewatering systems.
3. Details of dewatering systems, such as:
 - a. Drilled hole and well casing diameter, slotted and solid lengths;
 - b. Sand packer gradation;
 - c. Size and capacity of pumps;
 - d. Tanks, settlement, and filter systems.

QUALITY ASSURANCE

Where structures, utilities and/or facilities exist adjacent to areas of proposed dewatering, the Contractor shall establish reference points and shall survey these reference points daily to detect any settlement, subsidence or damage that may develop during or following dewatering operations.

EQUIPMENT

Dewatering, where required, may include the use of wells, well points, sump pumps, temporary pipelines for water disposal, tanks, filters, rock or gravel placement, standby pumps and/or generators, and other means.

EXECUTION

1. The Contractor's dewatering operations shall not interfere with vehicle or pedestrian traffic. Under no circumstances shall dewatering water be allowed to flood streets or cause hazardous conditions for traffic. Dewatering pump noise shall be mitigated.
2. Dewatering for structures and pipelines shall commence when groundwater is first encountered, and shall continue until water can be allowed to rise without affecting structures, piping, and other project features.
3. Site grading shall promote drainage. Surface runoff shall be diverted prior to it entering excavations to maintain the bottom of the excavation free from standing water.
4. Dewatering shall be conducted to preserve the undisturbed bearing capacity of the subgrade soils at the proposed bottom of excavation, filter soil particles and prevent loss of ground due to dispersion and erosion. Dewatering shall lower the water outside the excavation, if necessary to insure that seepage and migration of soil particles does not occur through openings in the shoring.

5. If subgrade soils are disturbed or loosened by the seepage or flow of water, the affected areas shall be excavated and replacement backfill placed in accordance with **Section 10-20 EXCAVATION, BEDDING, PIPE INSTALLATION, AND BACKFILL**.
6. The Contractor shall prevent pipeline and/or structure flotation by maintaining a positive and continuous removal of water.
7. If dewatering wells are used, they shall be adequately spaced to provide the required dewatering, and the Contractor shall use sand packing and/or other means to prevent pumping of soil particles (e.g., fine sand) from the subsurface. The Contractor shall continuously monitor the dewatering water discharge to ensure that subsurface soil is not being removed by the dewatering operation.
 - a. Dewatering wells placed outside of the excavation is prohibited.
8. The demobilization of dewatering operations shall be performed to allow groundwater to rise to its ambient (static) level without disturbing natural foundation soils or compacted backfill, and prevent flotation or movement of structures, pipelines, and sewers.
9. The Contractor is advised that it is possible that sand, silty sand and/or gravel strata inter-bedded with less permeable clay and silty clay materials varying in depth, thickness and location may exist in the project area. These potentially water-bearing strata may represent areas of increased trench dewatering difficulty. The Contractor shall carefully consider the possibility of encountering these strata, and plan dewatering operations accordingly.
10. The Contractor shall properly dispose of water in a legal manner without nuisance or damage to adjacent property. At the Contractor's option, the water may be disposed in the City's sanitary sewer collection system provided all of the following conditions are met:
 - a. The Contractor must acquire, complete, and submit a permit application to the City for approval. An approved permit will provide maximum allowable concentrations of pollutants and flow rate as well as approved time of discharge.
 - b. The Contractor shall provide and operate holding tanks, separators, screens, and/or filters as required to comply with the permit conditions.
 - c. The Contractor shall test all groundwater prior to discharge to the sewer system to the satisfaction of the City. Tests shall be completed by a certified water quality laboratory. All costs shall be paid by the Contractor.
 - d. A permit does not allow the Contractor to discharge water to the sewer system. The Contractor must obtain approval from both the Sausalito-Marín City Sanitary District and the Engineer prior to discharging water.

PAYMENT - Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

1-22 STORM DRAIN PIPE

The Contractor shall provide and place Storm Drain Pipe consistent with the requirements of Section 64 "Plastic Pipe" of the Standard Specifications.

1.01 SECTION INCLUDES

- A. Specifications for site and subdrainage and area runoff collection system and connection to existing storm drainage system as indicated.

1.02 RELATED SECTIONS

- A. Section 10-20 – Excavation, Bedding, Pipe Installation and Backfill
- B. Section 10-23 - Utility Structures
- C. Section 64 "Plastic Pipe" of the Standard Specifications.

1.03 REFERENCES

- A. American Society of State Highway and Transportation Officials (AASHTO)
AASHTO Specification for Corrugated Polyethylene Pipe
M252M
AASHTO Specification for Corrugated Polyethylene Pipe, 300
1200 mm
M294M
- B. American Society for Testing and Materials (ASTM)
ASTM F667 Standard Specification for Large Diameter
Corrugated Polyethylene Pipe and Fittings
ASTM F405 Standard Specification for Corrugated Polyethylene
Pipe and Fittings
ASTM C76 Specification for Reinforced Concrete Culvert,
Storm Drain, and Sewer Pipe
- C. Marin County Uniform Construction Standards - May 2008
- D. Caltrans Standard Specifications - Latest Edition

1.04 SUBMITTALS

- A. Shop Drawings
Detailed drawings that indicate site drainage in plan and section, including relationship to other systems, interfaces, and drainage structures, connections, alignment, grade, bedding and backfill, and other pertinent data.
- B. Product Data
Submit manufacturer's product data for pipe and pipe connection materials.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Pipe Connection Requirements
Ends of pipe shall be bell and spigot, except PVC Perp., to assure continuous alignment of pipe and leakproof joints.
- B. PVC Pipe (PVC)

Pipe: PVC Pipe shall conform to ASTM D-3034, SDR 26, Bell and Spigot rubber joints for pipe sizes 4" through 8". The fittings shall meet ASTM F 1336 and the Joint Gaskets shall be an Elastomeric seal meeting ASTM F 477.

C. PVC Perforated Pipe (PVC Perp)

Pipe: PVC Perforated Pipe shall conform to ASTM D-3034, SDR 26, solvent weld joints for pipe sizes 4", 6" and 8". Perforations shall be 2 rows of ½" holes on 5" centers, 120° apart.

PART 3 - EXECUTION

3.01 INSTALLATION OF PIPE

A. Laying Pipe

1. Lay pipe to line and grade indicated. Bell and spigot type, lay bells in cross-cuts cut in trench. Lay pipe with the bell or grooved end uphill.
2. Prevent dirt from getting into pipe joints.
3. Remove pipe which is cracked, checked, spalled, or damaged from the work.
4. Clean interior of pipe of cement, dirt, and extraneous matter as the work progresses.

B. Pipe Joints

1. Pipe joints shall be made secure and watertight.
2. Employ appropriate equipment to draw the sections of the pipe tightly together.

C. Visual Test Method

1. Slowly pull a television camera through storm drain and inspect for visual leaks, separated joints and cracks in pipe and manholes. Repair leaks and joints. Replace cracked pipe. Re-inspect pipe. Submit tape of entire length of system to owner for approval.

D. Backfilling

1. Piping shall not be covered with backfill material, until inspected, and approved by the Engineer.
2. After making up pipe joints, fill space between pipe and sides of trench with backfill material half-way up the pipe. Both sides shall be filled for full width of trench at same time and carefully compacted so as to hold the pipe in its proper position.
3. After pipe has been installed, inspected, and approved, place and compact backfill as specified in Section 31 23 33 - Trenching and Backfilling.

PAYMENT – The contract price paid per linear foot for **“6” PVC Storm Drain Pipe” (Bid Item 111) and “8” PVC Storm Drain Pipe (Bid Item 112)”** includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in saw cutting, pavement removal, excavation, disposal of

unsuitable materials, bedding, placing pipe, backfilling, and restoring the surface complete and in place as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-23 UTILITY STRUCTURES

1.01 SECTION INCLUDES

- A. Specifications for the furnishing and installing of cast-in-place concrete and precast concrete structures for utilities as indicated.
- B. The work includes: Catch basins, manholes, valve boxes, handholes, clean outs, pull boxes, vaults, covers and the related cast iron, aluminum and steel products required for gratings, ADA accessible rates, covers, and manhole steps and ladders, channel inserts, pulling eyes, and electrical grounding. Contractor to provide submittals for all products.

1.02 RELATED SECTIONS

- A. Section 10-3 – Earthwork
- B. Section 10-25 - De-watering
- C. Section 10-31 - Aggregate Base

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - ASTM A36/
A36M Specification for Carbon Structural Steel
 - ASTM A48 Specification for Gray Iron Castings
 - ASTM A108 Specifications for Steel Bars, Carbon, Cold Finished, Standard Quality
 - ASTM A123 Specifications for Zinc Coated (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 - ASTM A153 Specifications for Zinc Coating (Hot Dip) on Iron and Steel Hardware
 - ASTM A536 Specifications for Ductile Iron Castings
 - ASTM A563 Specification for Carbon and Alloy Steel Nuts
 - ASTM B3 Specification for Soft or Annealed Copper Wire
 - ASTM B26/
B26M Specification for Aluminum-Alloy Sand Castings
 - ASTM C33 Specification for Concrete Aggregates
 - ASTM C150 Specification for Portland Cement
 - ASTM C260 Specification for Air Entraining Admixtures for Concrete
 - ASTM C270 Specification for Mortar for Unit Masonry
 - ASTM C478 Specification for Precast Reinforced Concrete Manhole Sections
 - ASTM C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete

- ASTM C789 Specification for Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers
- ASTM C850 Specification for Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 2 Feet of Cover Subjected to Highway Loadings
- ASTM C858 Specification for Underground Precast Concrete Utility Structures
- ASTM C891 Standard Practice for Installation of Underground Precast Concrete Utility Structures
- ASTM F 436 Specification for Hardened Steel Washers
- B. Underwriters Laboratories Inc. (UL)
 - UL 467 Grounding and Bonding Equipment
- C. Marin Municipal Water District Standard Specifications - Latest Edition
- D. North Marin Water District Standard Specifications - Latest Edition
- E. PG&E Standard Specifications - Latest Edition
- F. SBC Standard Specifications - Latest Edition
- G. Marin County Uniform Construction Standards – May 2008
- H. California Uniform Plumbing Code - Latest Edition
- I. Caltrans Standard Specifications and Drawings - Latest Edition

1.04 SUBMITTALS

- A. Shop Drawings

When not indicated on the Contract Drawings in sufficient detail or definition, submit detailed drawings of cast-in-place and precast concrete utility structures and related metal work.
- B. Product Data

Submit manufacturer’s product data for standard manufactured precast concrete utility boxes and structures and for metal gratings and covers and other related miscellaneous metal items.
- C. Certification

Submit certification or other acceptable evidence that covers and grates to be provided for roadways and parking areas meet proof testing requirements for H2O loadings in accordance with Caltrans Bridge Design Specifications Manual, Section 3.

PART 2 - PRODUCTS

2.01 CAST-IN-PLACE CONCRETE STRUCTURES

- A. Materials
 - 1. Portland Cement
 - ASTM C150, Type II, low alkali.
 - 2. Admixtures
 - a. Air Entrainment: ASTM C260. Provide six percent air entrainment, plus or minus one percent.
 - b. Pozzolan: ASTM C618, Class N. Provide pozzolan of 10 percent by weight of the cement content.

3. Aggregates
ASTM C33, fine aggregate and Size No. 67 (3/4 inch maximum size) coarse aggregate.
- B. Mix Design
Incorporate the following requirements:
 1. Concrete Strength: Class 4000 minimum
 2. Maximum water-cement plus pozzolan ratio : 0.45.
 3. Maximum slump: Four inches.

2.02 PRECAST CONCRETE STRUCTURES

- A. General
The Contractor may provide precast concrete structures which conform to the general configuration, capacities, and inverts indicated.
- B. Materials
Provide fine and coarse aggregates conforming to ASTM C33, in size commensurate with structure and reinforcement clearances.
- C. Portland Cement Concrete
Class 4000 minimum Concrete may be polymer or latex modified to achieve higher strengths and denser concrete. Concrete shall not deteriorate from chemical attack of sanitary waste.
- D. Precast Covers
Precast covers shall have the utility identification, such as "PG&E Gas Valve," stamped into the cover.
- E. Quality Control
 1. Quality Assurance and Control: The Engineer shall perform such inspections and tests as required to verify compliance with these Specifications.
 2. Furnish samples of materials and their handling as needed by the Engineer for analyses of materials.

2.03 METAL COVERS, GRATES, AND INLETS

- A. Ferrous Castings
 1. Metal used in manufacture of castings shall conform to ASTM A48, Class 35B for Gray Iron, or ASTM A536, Grade 65-45-12 for Ductile Iron.
 2. Castings shall be of uniform quality, free from blowholes, shrinkage, distortion or other defects. Castings shall be smooth and cleaned by shot blasting.
 3. Minimum tensile strength shall be 35,000 psi.
 4. Castings shall be manufactured true to pattern; component parts shall fit together in a satisfactory manner. Round frames and covers shall have continuously machined bearing surfaces to prevent rocking and rattling. Covers shall be of a type that overlaps box edges.
 5. Where castings will be subjected to loads of H2O or greater, as indicated, provide ductile iron castings.

- B. Aluminum Castings
Where required to reduce weights of larger covers for ease of handling, such covers may be manufactured of aluminum castings conforming to ASTM B26/B26M, Alloy No. 713.0. Minimum tensile strength shall be 32,000 psi. All covers with an opening four feet or larger shall be Bilco Type JAL-H20 or equivalent and shall have slip resistant surface (course) that meets ADA, NFPA, ASTM D-2047, F-1679 and C-1028. Coatings shall be Traxplate by Jensen or equivalent.
- C. Manhole Covers
Provide cast, manufactured manhole covers and frames with heavy duty solid cover (lid) or vented cover (lid) as indicated. Covers shall be embossed or engraved with nonslip diamond or square cross-hatched pattern. Provide covers with embossed or engraved word identification, as indicated or appropriate, for the enclosed or underground utility.
- D. Grates
Cast Ferrous Grates: Grates for area drains and catch basins shall be heavy duty, bicycle and high heel safe inlet grates and frames of size and configuration indicated. Grates in roadways and parking areas shall withstand H20 loadings when proof-tested in accordance with Caltrans Bridge Design Specifications Manual, Section 3.
- E. Cast Iron Manhole Steps
Provide cast, manufactured manhole steps with cross-hatched treads and with anchor configuration appropriate for cast-in-place concrete or precast concrete as indicated. Provide steps for installation 16 inches on center in vertical alignment.

2.04 MISCELLANEOUS METAL

- A. Requirements
Provide channel inserts, pulling eyes, ladders, and electrical grounding rods for electrical manholes and pull boxes as indicated.
- B. Steel Materials
Standard structural sections, shapes, plates, bars, and rods, as indicated, conforming with ASTM A36/A36M. Bars conforming with ASTM 108 will be acceptable.
- C. Anchors and Bolts
ASTM A 307, A449, A563, and F436, as applicable. Bolts and studs, nuts, and washers shall be hot-dip galvanized in accordance with ASTM A153.
- D. Ladders
Provide standard manufactured or custom fabricated steel ladders as required to meet the conditions indicated. Steel ladders shall be hot-dip galvanized after fabrication.
- E. Grounding and Bonding Materials
Conform with UL 467 and the following requirements:

1. Grounding Rods: Medium carbon steel core, copper-clad by the molten weld casting process, 3/4 inch diameter by 10 feet long size.
 2. Bare Conductors: ASTM B3, No. 1/0 AWG, Class B stranded, annealed copper conductor.
- F. Fabrication
Form and fabricate the work as indicated. Include anchors, fasteners, and accessories to anchor and secure the work in place.
- G. Galvanizing
All items shall be galvanized after fabrication by the hot-dip process in accordance with ASTM A123. Weight of the zinc coating shall conform with the requirements specified under "Weight of Coating" in ASTM A123.

2.05 MORTAR

- A. Cement mortar for the sealing of openings for pipe penetrations, for cementing of joints of component parts of precast structures, for providing of flow characteristics for the bottoms of drainage structures, and other features as indicated shall conform with the California Building Code, Chapter 21, Type S (without Lime), with a minimum compressive strength at 28 days of 1,800 psi.
- B. Mortar shall comply with applicable requirements of ASTM C270, including measurement, mixing, proportioning and water retention. Ten percent by volume of the cement content of the mortar shall be fly ash or pozzolanic material confirming with ASTM C618.
- C. Use mortar within 90 minutes after mixing. Discard mortar which has been mixed longer or which has begun to set. Retempering of mortar will not be permitted.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Requirements
Construct manholes, junction chambers, catch basins, curb and gutter inlets, trench drains, culverts, headwalls, wingwalls, pull boxes, utility boxes and vaults, and related utility structures in connection with the installation of pipe, conduits, ductbanks, and utility trenches, as indicated.
- B. Excavation and Backfill
Provide excavation, prepared subgrade and aggregate base, and backfill as specified in Section 10-20 Excavation, Bedding, Pipe Installation, and Backfill.
- C. Cast-In-Place Concrete Structures
Provide formwork, steel reinforcement, and concrete in accordance with applicable requirements of Section 10-28 - Cast-In-Place Concrete.

- D. Precast Concrete Structures
Install as indicated. Comply with applicable requirements of ASTM C891. Provide such appurtenances and installation accessories, including cement mortar and sealants, as required for a complete installation.
- E. Metal Components
Install manhole covers, grates and frames, curb and gutter inlets, metal steps, ladders, channel inserts, pulling eyes, and electrical grounding rods as indicated and in accordance with the respective manufacturer's instructions. Covers and grates in roadways, parking areas, and concrete walks shall be installed flush with adjacent, abutting pavement.

PAYMENT – The contract price paid per each for **“Area/Overflow Drainage Inlets” (Bid Item 113)** and **“Storm Drain Clean Outs” (Bid Item 114)** **“ADA Accessible Storm Drain Grates” (Bid Item 110)**, includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in installing drainage inlets and clean outs including saw cutting, pavement removal, excavation, disposal of unsuitable materials, bedding, backfilling, and restoring the surface complete and in place as shown as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-24 SITE WATER DISTRIBUTION SYSTEM

1.01 RELATED SECTIONS

- A. Section 10-20 – Excavation, Bedding, Pipe Installation and Backfill
- B. Section 10-25 – Irrigation Pipe Lines

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - ASTM A36/ A36M Specifications for Carbon Structural Steel
 - ASTM A126 Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
 - ASTM A123 Specifications for Zinc Coated (Hot Dip Galvanized) Coatings on Iron and Steel Products
 - ASTM A197 Specifications for Cupola Malleable Iron
 - ASTM A307 Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
 - ASTM C33 Specifications for Concrete Aggregates
 - ASTM D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
 - ASTM D1785 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Schedules 40, 80, and 120
 - ASTM D2564 Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping System
 - ASTM D3139 Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals

- ASTM F439 Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
- B. American Water Works Association (AWWA)
 - AWWA C104 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
 - AWWA C105 Polyethylene Encasement for Ductile-Iron Pipe Systems
 - AWWA C110 Ductile-Iron and Gray-Iron Fittings, three inches through 48 inches (75mm Through 1200mm), for Water and Other Liquids
 - AWWA C111 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
 - AWWA C151 Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids
 - AWWA C503 Wet-Barrel Fire Hydrants
 - AWWA C651 Disinfecting Water Mains
 - AWWA C900 Polyvinyl Chloride (PVC) Pressure Pipe, four inches-12 inches
 - AWWA C905 Polyvinyl Chloride (PVC) Pressure Pipe, 14 inches-48 inches
- C. Manufacturer's Standardization Society of the Valve and Fittings Industry, Inc. (MSS)
 - MSS SP-80 Bronze Gate, Globe, Angle and Check Valves
- D. Water Utility District Standards
 - The jurisdictional water utility district's standard drawings and specifications.
 - 1. Marin Municipal Water District

1.03 SUBMITTALS

- A. Shop Drawings, Product Data, and Samples
- B. Manufacturer's product data for manufactured materials and equipment, including all valves and drinking fountains.
- C. Shop drawings showing piping layout and pipe, valves, hydrants, and locations of tie-ins, buttresses, and thrust blocks.
- D. Manufacturer's product data for manufactured materials and equipment, including all valves and drinking fountains.

1.04 SITE CONDITIONS

- A. Excavations in which products will be buried shall be dry.
- B. Coordinate the installation of water supply system with the jurisdictional water utility owner.

PART 2 - PRODUCTS

2.01 BURIED PIPE AND FITTINGS

- A. Requirements

Provide the types, sizes, and configurations of pipe, fittings, and miscellaneous materials and installation accessories as indicated.

- B. PVC Pipe and Fittings, Three Inches and Smaller
 - 1. Pipe: Polyvinyl chloride (PVC), ASTM D1785, Schedule 80, Type 1, Grade 1.
 - 2. Fittings: ASTM D1784, socket weld, same material and schedule as pipe, or meeting requirements of ASTM F439, as applicable.
 - 3. Joints: Socket welded with PVC solvent cement conforming to ASTM D564.
- C. PVC Pipe and Fittings, Four Inches and Larger
 - 1. Pipe: AWWA C900, SDR 18, Class 235 (AWWA C905, Class 235 for 14" and Larger) polyvinyl chloride (PVC) water pipe with bell and spigot ends and flexible ring joints.
 - 2. Fittings: ASTM D1784, Type 1, Grade 1, polyvinyl chloride (PVC) fittings, Class 305, or meeting requirements or ASTM F439, as applicable.
 - 3. Joints: ASTM D3139, gasketed bell joints with ASTM F477 gaskets.
- D. Ductile Iron Pipe (DIP)
 - 1. Piping: AWWA C151, thickness Class 50.
 - 2. Fittings: AWWA C110.
 - 3. Joints: Field Lok gaskets as manufactured by US Pipe, or equal, with copper jumper to provide electrical continuity. Mechanical, where indicated, in accordance with AWWA C111, with copper jumper to provide electrical continuity.
 - 4. Polyethylene encasement for protection of pipes, valves, and fittings shall be furnished and installed in accordance with AWWA C105.
 - 5. Provide inside pipe and fittings with 1/16 inch thick cement-mortar lining and an asphaltic seal coat in accordance with AWWA C104.

2.02 VALVES

- A. Gate Valves
150 pound bronze, non-rising stem, wedge disc, threaded connection, conforming with MSS SP-80. (AWWA C509 and AWWA C550)

2.03 CONCRETE FOR THRUST BLOCKS

- A. Provide Class 3000, 3/4 inch aggregate, concrete for all thrust blocks, with reinforcement where indicated or required.

2.04 MISCELLANEOUS METAL

- A. Tie Rods
Stainless Steel, Type 316, threaded ANSI standard bolt thread both ends, diameter as required.
- B. Rod Couplings

Malleable iron, ASTM A197, turnbuckle design, female threaded to mate with tie rods, 5/8 inch sizes to mate with both rods and mechanical joint bolts.

- C. Pipe Clamps
For sizes 4 inches and larger, provide with malleable iron rod sockets. Provide washers in lieu of rod sockets where authorized conforming with ASTM A126, Class A, cast iron. Bolts and bolting shall conform with ASTM A307.
- D. Exposed Metal
All exposed metal (bends, bolts, glands, rings) shall be wrapped with six inch pipe wrap (tape coat HD 30).
- E. Bolt and Nuts
All bolt and nuts shall be Stainless Steel, Type 316, unless noted otherwise.

2.05 DRINKING FOUNTAINS

Drinking fountains shall be MDF Bottle Filler and Drinking Fountain Model 10150SM or equal as specified on the plans.

PART 3 - EXECUTION

3.01 MAINTAINING WATER SERVICES

- A. Maintain water service and conduct operations at times selected to minimize duration and inconvenience of service interruption.
- B. Water valves in service owned by the jurisdictional water utility Owner shall be operated only by personnel of that jurisdictional water utility district.
- C. Except as specified otherwise herein, and where applicable, materials and construction methods shall be in accordance with the provisions of the jurisdictional water utility district standard drawings and specifications.

3.02 INSTALLATION

- A. Installation Requirements
 - 1. Excavating and backfilling, including bedding and compacting requirements, shall conform to Section 10-20 – Excavation, Bedding, Pipe Installation and Backfill.
 - 2. Provide concrete thrust blocks for elbows, tees, valves, and appurtenances of buried piping. Thrust blocks shall be constructed as indicated.
 - 3. Install piping true to line and grade, supported and guided to assure alignment under all conditions.
 - 4. Install unions at each connection to valves.
 - 5. Make change in line with fittings. Do not spring joints to effect change of direction.
 - 6. Do not field cut pipe unless necessary. Make such necessary cuts by means of equipment designed for the purpose, ensuring a smooth square end.

7. For connection to existing pipe, provide pipe with suitable ends or adapters, after verification of size and type of existing pipe.
- B. Valves
1. Install valves in accordance with the valve manufacturer's installation instructions.
 2. Where valves are provided by the jurisdictional water utility Owner, provide suitable access for operation of valves.
 3. If directed by Owner, alter typical valve manhole to suit actual conditions. Any alterations in valve manholes shall be operable from the street level. All operator nuts shall be plumb to the valve manholes.
- C. Thrust Blocks and Harnessing
1. Provide for counteracting thrust caused by static and dynamic forces, including water hammer at bends, tees, reducers, valves, and dead-ends by installing harnessing as indicated or required. For other methods, submit details for approval of the Owner prior to use.
 2. Provide concrete thrust blocks as indicated where harnessing is not practicable.
- D. Water Service Connectors
- Make water service connections, as indicated, in accordance with California Plumbing Code and the installation instructions of the service pipe and fittings manufacturer.
- E. Acceptance Requirements
- After installation of pipes, ends of pipes shall be either capped or plugged. No piping shall be buried before being inspected and tested.

3.03 TESTS

- A. Protection from Flooding
- Provide positive measures to protect exposed, installed pipe and compacted pipe bedding from flooding during testing.
- B. Notice of Testing
1. Give two days' notice of intention of testing to the City. The Contractor will furnish, install, and operate pumps, gages, meters, and individual pipe connections to test openings.
 2. Designate largest sections feasible for testing and sterilizing.
- C. Testing Requirements
1. Prior to backfilling, isolate system by use of approved valves, caps and plugs, or other means.
 2. Maintain such isolation throughout the performance of leakage and pressure testing.
 3. Where valves are used for isolation, eliminate leakage through such valves if it occurs. Maintain new work isolated from existing water mains, except for test connections, until testing and sterilization have been completed.

4. For hydrostatic tests, provide approved caps and plugs in sections to be tested and remove them after testing.
 5. Prevent leakage in pipes and fittings at openings. Temporarily block plugged and capped ends to prevent displacement.
 6. Install water source connection for testing and isolated section.
 7. Provide labor and materials required for leakage testing, including excavation for installation and removal of pumps, gages, meters, and water source connections.
 8. Where leakage exceeds the city's standards, perform necessary corrective measures.
 9. Remove and replace defective pipes, joints, fittings, valves and appurtenances. Reset such items if displaced.
- D. Hydrostatic Tests
1. Perform hydrostatic tests in accordance with the city's requirements. All such tests shall be witnessed by the representative. The Contractor shall be responsible for making all such arrangements.
 2. Test the potable water system hydrostatically in sections to a pressure of at least 225 psi for not less than 15 minutes. Pressure test pipe before backfilling. Repair leaks and retest the system until the system is leak free. Use instruments calibrated by a quality laboratory. Test sequence shall be as follows:
 - a. Lines shall be fully flushed.
 - b. Lines shall be hydrostatically tested.
 - c. Lines shall be fully flushed.
 - d. Lines shall be fully disinfected.

3.04 SYSTEM DISINFECTION

- A. Before final acceptance of the water supply system, each section of the new line shall be disinfected in accordance with AWWA C651. One of the following sources of disinfection shall be used:
 1. Mixture of water and chlorine gas
 2. Direct application of chlorine
 3. Mixture of water and calcium hypochlorite or
 4. Mixture of water and calcium chloride
- B. Before disinfecting, flush the line thoroughly to remove dirt and extraneous material. Clean each section of the line between valves independently.
- C. Retain the disinfectant solution in the pipe for at least 24 hours. Following this sterilization period, the residual chlorine content at the ends of the section and at other representative points shall be not less than five parts per million. Then, the line shall be drained and thoroughly flushed with water until the residual chlorine content is similar to that obtained from the existing water distribution system.
- D. Take water samples and test in accordance with AWWA C651.

PAYMENT – The contract lump sum price paid for “**Domestic Water System**” (Bid Item 115) shall include water lines, all water valves, fittings, drinking fountains, and full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing Domestic Water System, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-25 IRRIGATION PIPE LINES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Specifications for all labor, materials, equipment and services necessary to complete the irrigation pipe lines as shown on the drawings and herein specified.

1.02 QUALITY ASSURANCE

- A. Qualifications
 - 1. Provide sufficient experienced workmen and supervisors who shall be present at all times during the execution of this portion of the work and who shall be thoroughly familiar with the materials and methods involved. In the acceptance or rejection of the work, no allowance will be made by the City for lack of skill on the part of workmen.
- B. Requirements of Regulatory Agencies
 - 1. Obtain and pay for all licenses, permits, inspections and other fees connected with the work. Certificates of all inspections shall be delivered to the City.
 - 2. All work shall conform to the requirements of the National Electric Code, Uniform Plumbing Code and other applicable state and local codes and ordinances. Nothing in the drawings or specifications shall be construed to permit work not conforming to these requirements.
 - 3. Where conflict exists between the requirement of the above agencies and/or these specifications, the more restrictive shall govern.

1.03 SUBMITTALS

- A. Materials List
 - 1. Within fourteen (14) days after award of contract, submit to the Owner three (3) copies of a complete material list (partial list not acceptable) of all materials to be used on the project, specifying the manufacturer, grade, trade name, catalog number, and size. This shall in no way be construed as allowing the substitution of any items specified herein.

2. Materials other than those that meet the specification, provide complete manufacturer's descriptive literature, brochures or cut sheets.

It is Contractor's responsibility to provide sufficient information on the substitute materials in order to allow for an objective comparison with the specified materials.

1.04 PRODUCT HANDLING

- A. Use all means necessary to protect the materials in this section before, during and after installation and to protect the installed work of other trades. In the event of damage, immediately make all repairs and replacements necessary to the approval of the City and at no additional cost to City.

1.05 JOB CONDITIONS

- A. Documents
Thoroughly examine all Contract Documents. Discrepancies, omissions or conflicts in the Contract Documents, or doubt as to the meaning thereof, shall be brought to the attention of the City prior to the bid opening. Addenda will be issued to clarify the discrepancies, omissions, conflicts or meaning and shall become a part of the contract. Oral instructions are not valid under this section of the specifications.
- B. Drawings
The drawings show the general arrangement of all work under this section. Any work indicated on the drawings, but not specifically mentioned in the specifications, or vice versa, shall be furnished and installed. As it is not within the scope of the drawings to show all necessary off-sets, obstructions, or structural conditions, it shall be the responsibility of the Contractor to install his work in such a manner that it will conform to the structure.
- C. Visiting the Premises
Before submitting his bid, Contractor shall visit the premises and become familiar with all existing conditions pertaining to the execution of the work contemplated under this section. No request for additional payment due to the Contractor's failure to allow for working conditions will be valid.
- D. Water
Water will be provided at the job site by the Contractor at no cost to the subcontractor. Make and remove temporary lines and connections as necessary for the proper execution of the work.

PART 2 - MATERIALS

2.01 MAIN LINES

- A. Main lines (constant pressure) ½ inch to 2½ inches shall be PVC 1120 Schedule 40, NSF approved Type 1 Grade 1, purple colored conforming to ASTM D1785.

2.02 LATERAL LINES

- A. Lateral lines (non-pressure) shall be 1120 - 200 psi PVC plastic pipe, NSF approved Type 1 Grade 1, with Schedule 40 Type 1 Grade 1 PVC solvent welded fittings.
- B. Risers shall be as shown in the construction details.

2.03 BOXES

- A. Boxes for valves shall be Carson/Brooks or equivalent.

2.04 MISCELLANEOUS INSTALLATION MATERIALS

- A. Solvent cement for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.
- B. Pipe joint compound shall be Permatex 51.

2.05 MISCELLANEOUS EQUIPMENT

- A. Provide all equipment called for by the drawings.

PART 3 - EXECUTION

3.01 EXISTING SITE UTILITIES

- A. Verify the location of existing utilities in all areas where excavation is to be performed. Extreme caution shall be exercised during all excavation to prevent interruption or severance of existing utilities. Do not break into any pipe, conduit or concrete encasement except as shown. When such obstructions prevent the installation of this work, the City shall be notified.

3.02 COOPERATION WITH OTHER TRADES

- A. Plans and specifications for the entire project are available at the job site. Examine thoroughly these plans and specifications prior to the installation of the work. Arrange and coordinate the work of this section with the work of the other trades to the extent that the installation is accomplished without undue delay. Call to the attention of the City any points of conflict between the work of this section and that of the other trades.

3.03 PREPARATION

- A. Schedule and coordinate placement of materials and equipment in a manner to effect earlier completion of work in conformance with construction and progress schedule.

3.04 HANDLING AND STORAGE

- A. Protect work and materials from damage during construction and storage.
- B. Handle plastic pipe carefully; especially protect it from prolonged exposure to sunlight.

3.05 LAYOUT

- A. Layout work as accurately as possible in accordance with diagrammatic drawings.
- B. Where site conditions do not permit locating piping, valves and heads where shown, notify Town immediately and determine relocation in joint conference.

- C. Run mainline pipe lines and automatic control wiring in common trenches wherever practical.

3.06 EXCAVATING AND TRENCHING

- A. Excavation shall be open vertical construction ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.
- B. Trenches for pipe shall be cut to required grade lines and compacted to provide an accurate grade and uniform bearing for the full length of the line.
- C. Make trenches for pipe lines deep enough to provide minimum cover from finish grade as follows:
 - 1. 24-inch maximum cover over main lines to control valves and backflow prevention devices.
 - 2. 24-inch maximum cover over control wires from controller to valves.
 - 3. 24-inch maximum cover over RCV controlled lines in plant areas to sprinklers.
- D. Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstruction. Remove caps or plugs only when necessary to continue assembly.
- E. Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of earth.

3.07 JOINING OF PIPE

- A. The Contractor is responsible to be familiar with any and all methods of assembling, joining and installation of the various types of pipe to be used. He will adhere in strict accordance with manufacturer's recommended guide. If during any phase of work the City's representative finds that the Contractor or any of his workmen are not familiar with the recommended procedures, the Contractor shall arrange with the manufacturer of the particular product for the services of a qualified manufacturer's representative to instruct workmen in the proper recommended procedures.
- B. All pipe shall be assembled free of dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.
- C. All changes in the direction of pipe shall be made with fittings.
- D. Reducer tees shall be used at all sprinkler risers where a pipe size changes. Bushings shall not be allowed where reducer tees may be used. PVC saddles shall not be allowed.
- E. Solvent-welded Joints
 - 1. Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning pipe and fitting of dirt, dust and moisture.

2. Dry-insert pipe into fitting to check for mis-sizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
 3. Coat the inside socket surface of the fitting and the external surface of the male end of the pipe with P-70 primer (manufactured by Weld-On). Then, without delay, apply Weld-On 711 cement liberally to the male end of the pipe and also apply Weld-On 711 cement lightly to the inside of the socket. At this time, apply a second coat of cement to the pipe end.
 4. Insert the pipe immediately into fitting and turn 1/4 turn to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
 5. Hold joint still for approximately thirty (30) seconds and then wipe excess cement from the pipe and fitting.
 6. Cure joint a minimum of thirty (30) minutes before handling, and at least six (6) hours before allowing water in the pipe.
- F. Threaded Joint
1. Field threading of plastic pipe or fittings is not permitted. Factory formed threads only will be permitted.
 2. Factory made nipples shall be used wherever possible. Field cut threads in metallic pipe will be permitted only where absolutely necessary. When field threading, cut threads accurately on axis with sharp dies.
 3. All threaded joints shall be made up with pipe joint compound. Apply compound to the threads only.
 4. Where assembling metallic pipe to metallic fitting or valve, no more than three (3) full threads shall show when joint is made up.
 5. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond handtight.
 6. Where assembling soft metal (brass or copper) or plastic pipe, use strap type friction wrench only; do not use metal jawed wrench.

3.08 FIELD QUALITY CONTROL

- A. Record Drawings
1. The Contractor shall maintain in good order in the field office one (1) complete set of blue line prints of all drawings which form a part of the Contract, showing all water lines, valves and stub-outs. In the event any work is not installed as indicated on the drawings, such work shall be corrected and dimensioned accurately from the building walls on these record drawings.
 2. All underground stub-outs for future connections shall be located and dimensioned accurately from building walls on all record drawings.

3. Upon completion of the work, obtain reproducible tracings from the City and neatly correct the tracings to show the as-built conditions. Provide the City with one (1) print of As-Built Plan. Provide City with original As-Built Plan.

PAYMENT – The contract price paid per lineal foot for **“Install Irrigation Pipe lines” (Bid Item 116) and 4” PVC Sleeves” (Bid Item 128)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing irrigation pipe lines, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-26 BIORETENTION SOIL

1.01 SECTION INCLUDES

- A. Specifications for furnishing, placing, and compacting bioretention soils as indicated.
- B. Related Sections:
 1. Section 10-3 – Earthwork

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - ASTM D422 – Standard Test Method for Particle-Size Analysis of Soils
 - ASTM D1557 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - ASTM D2434 – Standard Test Method for Permeability of Granular Soils (Constant Head)
 - ASTM D5268 – Standard Specification for Topsoil Used for Landscaping Purposes

1.03 GENERAL REQUIREMENTS

- A. Bioretention soil shall achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Bioretention soil shall also support vigorous plant growth.
Bioretention Soil shall be a mixture of topsoil or fine sand, and compost, measured on a volume basis.

Mix A – Topsoil Blend

10%-20% Topsoil

50%-60% Fine Sand

30%-40% Compost

Mix B – Fine Sand Blend

60%-70% Fine Sand

30%-40% Compost

1.04 SUBMITTALS

The contractor must submit to the City for approval:

- A. A sample of mixed bioretention soil.
- B. Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.
- C. Grain size analysis results of the fine sand component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
- D. Quality analysis results for compost performed in accordance with Seal of Testing Assurance (STA) standards, as specified in Section 1.4.
- E. Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On-Ignition Organic Matter Method".
- F. A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.
- G. Provide the following information about the testing laboratory(ies) name of laboratory(ies) including:
 - 1. Contact person(s)
 - 2. Address(es)
 - 3. Phone contact(s)
 - 4. E-mail address(es)
 - 5. Qualifications of laboratory(ies), and personnel including date of current certification by STA, ASTM, or approved equal

PART 2 - PRODUCTS

2.01 SAND FOR BIORETENTION SOIL

- A. General.
 - 1. Sand shall be free of wood, waste, coating such as clay, stone dust, carbonate, etc., or any other deleterious material. All aggregate passing the No. 200 sieve size shall be non-plastic.
- B. Sand for Bioretention Soil Texture.
 - 1. Sand for Bioretention Soils shall be analyzed by an accredited lab using #200, #100, #40, #30, #16, #8, #4, and 3/8 inch sieves (ASTM D 422 or as approved by City), and meet the following gradation:

Sieve Size	Percentage Passing (by weight)	
	Min	Max
3/8 Inch	100	100
No. 4	90	100
No. 8	70	100

No. 16	40	95
No. 30	15	70
No. 40	5	55
No. 100	0	15
No. 200	0	5

Note all sands complying with ASTM C33 for fine aggregate comply with the above gradation requirements.

2.02 TOPSOIL FOR BIORETENTION SOIL

- A. General
Topsoil shall be free of wood, waste, or any other deleterious material.
- B. Topsoil for Bioretention Soil Texture
The overall topsoil texture shall be loamy sand as analyzed by an accredited laboratory. The overall dry weight percentages shall be 60-90% sand, with less than 20% passing than the #200 sieve and less than 5% clay of the total weight with no gravel.

2.03 COMPOSTED MATERIAL

Compost shall be a well decomposed, stable, weed free organic matter source meeting the standards developed by the US Composting Council (USCC). The product shall be certified through the USCC Seal of Testing Assurance (STA) Program (a compost testing and information disclosure program).

- A. Compost Quality Analysis Before delivery of the soil, the Contractor shall submit a copy of lab analysis performed by a laboratory that is enrolled in the US Composting Council’s Compost Analysis Proficiency (CAP) program and using approved Test Methods for the Evaluation of Composting and Compost (TMECC). The lab report shall verify:
 - 1. Feedstock Materials shall be specified and include one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
 - 2. Organic Matter Content: 35% - 75% by dry wt.
 - 3. Carbon and Nitrogen Ratio: C:N < 25:1.
 - 4. Maturity/Stability: shall have a dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120F) upon delivery or rewetting is not acceptable. In addition, any one of the following is required to indicate stability:
 - a. Oxygen Test < 1.3 O₂ /unit TS /hr
 - b. Specific oxy. Test < 1.5 O₂ / unit BVS

- c. Respiration test < 8 C / unit VS / day
 - d. Dewar test < 20 Temp. rise (°C)
 - e. Solvita® > 5 Index value
5. Toxicity: any one of the following measures is sufficient to indicate non-toxicity.
- a. NH4- : NO3-N < 3
 - b. Ammonium < 500 ppm, dry basis
 - c. Seed Germination > 80 % of control
 - d. Plant Trials > 80% of control
 - e. Solvita® > 5 Index value
6. Nutrient Content: provide analysis detailing nutrient content including N-P-K, Ca, Na, Mg, S, and B.
- a. Total Nitrogen content 0.9% or above preferred.
 - b. Boron: Total shall be <80 ppm; Soluble shall be <2.5 ppm
7. Salinity: Must be reported; < 6.0 mmhos/cm
8. pH shall be between 6.5 and 8. May vary with plant species.
- B. Particle size: 95% passing a 1/2" screen
- C. Bulk density: shall be between 500 and 1100 dry lbs/cubic yard
- D. Moisture Content shall be between 30% - 55% of dry solids
- E. Inerts: compost shall be relatively free of inert ingredients, including glass, plastic and paper, < 1 % by weight or volume
- F. Weed seed/pathogen destruction: provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.
- G. Select Pathogens: Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <10000 MPN/gram
- H. Trace Contaminants Metals (Lead, Mercury, Etc.) Product must meet US EPA, 40 CFR 503 regulations
- I. Compost Testing. The Contractor will test all compost products within 120 calendar days prior to application. Samples will be taken using the STA sample collection protocol. (The sample collection protocol can be obtained from the U.S. Composting Council, 4250 Veterans Memorial Highway, Suite 275, Holbrook, NY 11741 Phone: 631-737-4931, www.compostingcouncil.org). The sample shall be sent to an independent STA Program approved lab. The Contractor will pay for the test.

PART 3 - EXECUTION

3.01 PLACEMENT AND COMPACTION OF BIORETENTION SOILS

Place the bioretention soil in 8" to 12" lifts. Lifts are not to be compacted but are placed to reduce the possibility of excessive settlement. Allow time for natural compaction and

settlement prior to planting. Bioretention soil may be watered to encourage compaction.

PAYMENT – The contract unit price per square foot paid for **“Bioretention Areas” (Bid Item 117)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing a Bioretention Areas, including class 2 permeable and cobblestone complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-27 MINOR CONCRETE (CURBS, RAMPS, PEDESTRIAN CONCRETE AND WALKWAYS, TENNIS COURT PAVEMENT, STAIRS CASES)

Minor Concrete (Minor Concrete Structures) shall conform to the provisions of Sections 51-1.02 and 90-10, the Amendments to May 2006 Standard Specifications, Section 73, “Concrete Curbs and Sidewalks,” Section 52, “Reinforcement,” and applicable portions of the Uniform Construction Standards (May 2008) approved and adopted by the County of Marin and these Special Provisions. Removing existing concrete shall conform to Section 15-3, “Removing Concrete” of the Standard Specifications.

Minor concrete structures shall include curbs, ramps, pedestrian concrete, walkways, play equipment rat slab and stair cases and as shown on the plans. Structure excavation and structure backfill incidental to minor concrete work shall be included in the price paid for minor concrete. Structure excavation and backfill shall comply with Section 19-3 of the Standard Specifications.

Concrete used for curbs, ramps, pedestrian concrete, walkways, and stair cases shall be Class “B” concrete (except where otherwise indicated on the plans), shall contain a minimum of five (5) sacks of Portland Cement per cubic yard and shall have a 28-day compressive strength of at least 2,500 psi. The aggregate grading shall be the local standard ¾-inch maximum plant mix as approved by the Engineer.

In lieu of the provisions in Section 73-1.04, “Fixed Forms,” of the Standard Specifications, surfaced lumber of nominal dimension may be used for forming the back of the curb and gutter and the front face of the gutter, provided the complete curb and gutter are constructed to the full concrete dimensions shown on the plan.

All concrete shall receive a light broom finish.

New work adjacent to existing shall match the existing as closely as possible, except where shown on the plans.

Any damage caused by the Contractor to existing improvements shall be repaired or replaced by the Contractor at his expense.

Concrete shall be cured in accordance with applicable provisions of Section 90-7 of the Standard Specifications. Minor concrete which will be exposed to vehicular traffic shall be protected from bearing the traffic load for a minimum of seven (7) days after placement, unless stated otherwise herein. Traffic plates shall be of sufficient thickness so as not to deflect to or in any way mar the protected concrete.

Curing compound shall be used on all minor concrete surfaces. Application of curing compound shall be made in accordance with Section 90-7.01B, "Curing Compound Method," of the Standard Specifications. The quality and quantity to be used shall be approved by the Engineer. The liquid compound shall contain a coloring matter which does not permanently alter the natural color of the concrete, but which will color sufficiently at the time of application to indicate readily the areas covered. Where colored concrete is shown on the plans the color shall be determined by the City. The use of any membrane material which would impart a slippery surface to the concrete will not be permitted. The liquid shall be applied under pressure with a spray nozzle at the rate recommended by the manufacturer, unless otherwise directed by the Engineer, and in such manner as to cover the surface thoroughly. Care shall be exercised to avoid damage to the seal before the expiration of the curing period. Seal damage shall be immediately repaired by the application of additional membrane material over the damaged portion.

Stairways shall conform to California Building Code and have a walking-surface that provides a coefficient of friction of 1.02 dry and 0.98 wet that will comply with ADA, OSHA, and CBC. Stair tread shall have stair nosing. Stair tread nosing projection past vertical riser below (3/4" to 1 1/2") required on stairs with solid risers. Tread nose projection uniformity ($\leq 3/8$ " variation). Stair tread nosing curve radius ($= < 9/16$ ").

The greatest stair tread nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings.

PAYMENT – The contract unit price per square foot paid for "**Minor Concrete (Pedestrian concrete, walkways, tennis court, rat slab, staircases)**" (**Bid Item 118**), and **Tennis Court Pavement (Bid Item No. 123)** the lineal foot price paid for "**Type E Curb**" (**Bid Item 119**), and the lump sum price paid for "**Sidewalk Underdrain W/Type A Curb and Gutter Per UCS DWG 145**" (**Bid Item 120**) shall include all minor concrete used for curbs, ramps, pedestrian (colored) concrete, walkways, the tennis court, play equipment rat slab and stair cases and shall include full compensation for all the provisions of this section and for furnishing all labor, materials (including aggregate base rock), tools, coordinating with utility companies and working around their facilities, equipment, and incidentals necessary to complete the work (including structure excavation and backfill, furnishing and placing and removing formwork and falsework, reinforcing steel, curing, and water testing) as shown on the plans and specified herein, for completing in place all the work involved in constructing these items, as shown on the plans and specified in the Standard

Specifications and these Special Provisions, or as directed by the Engineer and no additional compensation will be allowed therefor.

1-28 CAST IN PLACE CONCRETE

This work pertains to furnishing and installing cast in place concrete and formwork for the retaining walls as shown in the Contract in accordance with the Drawings and this specification.

SUBMITTALS

- 1. Product Data
 - a. Curing / Sealing Compounds
 - b. Admixtures
 - c. Source of Concrete and Aggregates
- 2. Shop Drawings
 - a. Reinforcing Diagrams
 - b. Bar Schedules
- 3. Curing
 - a. Curing Method
- 4. Test Reports
 - a. Mill Test Reports
 - i. Reinforcing Steel
 - ii. Cement
 - b. Concrete Mix Designs - Trial mixes including water-cement-fly ash ratio curves, concrete mix ingredients and proportions, and admixtures.
 - c. Grout Mix - To include mix ingredients, strength and shrinkage data
- 5. Delivery - With each batch of concrete, furnish certified delivery tickets listing information in Paragraphs 13.1 and 13.2 of ASTM C94. Maximum delivery temperature of concrete is 100 degrees Fahrenheit (F). Minimum delivery temperature as follows:

Atomospheric Temperature	Minimum Concrete Temperature
30 degrees to 40 degrees F	60 degrees F
0 degrees to 30 degrees F	70 degrees F

MATERIALS

- 1. Portland Cement - Clean, fresh, Type II, low alkali, Portland cement conforming with ASTM C150.
- 2. Pozzolan Fly-ash to be in conformance with ASTM C618.
- 3. Aggregates:
 - a. Aggregates to be uniformly graded with a one inch maximum size for all concrete mixes.

- b. Natural aggregates to be free from deleterious materials, conforming to ASTM C33. Aggregate is not to be potentially reactive as defined in Appendix XI of ASTM C33. Aggregates to be thoroughly and uniformly washed before use.
- 4. Mixing Water - Fresh, clean, potable and free from oil, acid, alkali, organic matter or other deleterious substances.
- 5. Admixtures - Admixtures, if used to be of a type conforming to ASTM C494 that increases the workability of the concrete, will not impair the strength of the concrete, and is not used to reduce the cement content of the mix. Do not use Calcium Chloride.
- 6. Liquid Membrane-Forming Curing Compound - Is to be clear or translucent, suitable for spray application and is to conform to ASTM C309, Type 1.
- 7. Cement Grout - Non-shrink type composed of one part cement, two parts sand and the minimum amount of water necessary to obtain the desired consistency.
- 8. Properties:
 - a. 28 day strength of concrete in place to be a minimum of:
 - i. 3,000 psi for walls and foundation
 - ii. 4,000 psi for precast slabs
 - b. The maximum water/cement ratio shall be:
 - i. 0.46 or less for 4,000 psi
 - ii. 0.55 or less for 3,000 psi
 - c. Slump of concrete and not to exceed four (4) inches unless otherwise authorized by Owner.
 - d. 20-30% of cement weight may be Pozzolan Fly-ash or 50% slag replacement . Pozzolan Fly-Ash to be in conformance with ASTM C618.
- 9. Reinforcing Steel - Bar reinforcement to be ASTM A615, Grade 60.

EXECUTION

- 1. Formwork - Lumber and plywood shall conform to the dimensions of the concrete surfaces shown on the plans, shall be sufficiently tight to prevent leakage, and shall be sufficiently strong and braced to maintain their proper shape and alignment.

Earth cuts shall not be used as forms for vertical surfaces other than foundations below grade. Where permitted, the cut shall be neat, straight, and must stand vertical.

All outside vertical surfaces above grade shall be smooth and free of fins. Forms shall be made of large panels of plywood.

2. Concrete Placement - The General Contractor shall notify the project engineer at least 24 hours before concrete is placed. No concrete shall be placed until all excavations, forms, reinforcing, and inserts have been constructed and inspected by the project engineer.

All concrete shall be thoroughly vibrated during the placing operations by a mechanical vibrator. There shall be one extra working vibrator onsite during placement of concrete to be used if the primary vibrator should fail.

3. Finished on Concrete - All surfaces shall be finished to flat true planes or smooth surfaces. Edges shall be straight or uniformly formed as shown on drawings. Flat surfaces shall be accurate to within 1/8-inch in ten feet.

Walking surfaces shall receive a fine broom finish.

All tie holes and bug holes shall be filled with non-metallic, non-shrink grout per ACI 350R-89.

All exposed vertical and horizontal edges of new concrete shall be chamfered 3/4" unless banded with an embedded angle.

4. Alterations to Concrete Structures

- a. General:

- i. All alterations, chipping, drilling, or cutting of concrete shall be approved by the City of Sausalito.
- ii. Where the General Contractor is required to cut openings through existing concrete, the holes shall be cut with a proper concrete saw. After removal of the concrete, all surfaces shall be roughened to a 1/4 inch amplitude and repaired in accordance with the drawings.
- iii. Openings for installation of pipes up to 12 inches diameter shall be machine cored or sleeved with schedule 40 PVC pipe.
- iv. Form liners shall be employed on the face of the walls as shown on the drawings.

- b. Grout for Pipes and Anchors:

- i. Pipes or other embeddings installed in existing concrete shall be grouted using quick-setting, non-metallic, hydraulic cement. The cement shall be "Waterplug" as manufactured by Standard Dry Wall Products, Inc., or "Sika Plug W/C" as manufactured by Sika Corporation, Lyndhurst, New Jersey, or equivalent. The installation shall be made in accordance with the recommendation of the manufacturer.

- ii. Where leaks occur in concrete walls, the concrete shall be chipped around the leak and sealed with cement grout above specified, in strict accordance with the manufacturer's instructions.
5. Tests of Concrete - Slump tests shall be performed by the General Contractor in the presence of the City of Sausalito at the beginning of each day's pour and at such additional times as required by the City of Sausalito. Slump tests shall be made in accordance with current ASTM Designation C-143.

Where there are adverse or difficult conditions which affect the placing of concrete, the General Contractor may request permission of the City of Sausalito to increase the slump by increasing both the water and cement content. The cost of additional water and cement shall be at the General Contractor's expense.

6. Inspection - The City of Sausalito shall inspect and approve formwork and reinforcing steel placement prior to concrete pours. The General Contractor shall provide at least 24 hours' notice that inspections are required.

Retaining walls shall be as specified on the civil and Structural plans S-000 – S-311 and these specifications. Contractor is responsible for testing and special inspection as noted on sheet S-001.

PAYMENT – Full compensation for furnishing all requirements, work and provisions of this section shall be considered as included in the contract unit price per square foot, as measured from exposed face of retaining wall from finished grade, paid for **“Retaining Walls” (Bid Item 122)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing retaining walls, including retaining wall footing, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-29 CONCRETE FORMWORK

SECTION INCLUDES

- A. Forms
 - 1. Metal forms
 - 2. Plywood forms
 - 3. Plywood forms
 - 4. Steel ties and or spreaders
- B. Wall Forms
 - 1. Exposed concrete surfaces
 - 2. Unexposed concrete surfaces
 - 3. Sealant

REFERENCES

- A. ACI 301 Standard Specifications for Structural Concrete
- B. ACI 347 Guide to Formwork for Concrete
- C. APA PS-1 American Plywood Association Standard for Construction and Industrial Plywood

SUBMITTALS

- A. Product Data
 - 1. Form release agent.

PRODUCTS MATERIALS

- A. Except for metal forms, use new materials conforming to ACI 347.
- B. Materials may be reused during progress of work, provided they are completely cleaned and reconditioned, recoated for each use, and capable of producing formwork of required quality.
- C. For footings and foundations use Douglas fir boards or planks secured to wood or steel stakes, substantially constructed to shapes as indicated and to support required loads.
- D. For studs, walers and supports, use standard grade or better Douglas fir, dimensions as required to support loads but not less than two-inches x four-inches.
- E. Exposed Concrete Surfaces
 - 1. Use 3/4-inch minimum thickness Douglas fir plywood, grade B/B, Class I or II, exterior, sanded both sides, complying with National Standard PS-1.
 - 2. Seal edges and coat both faces with colorless coating that will not affect application of applied finishes.
- F. Unexposed Concrete Surfaces
 - 1. Use one-inch x six-inch minimum Douglas fir boards, surfaced one side and two edges, or 3/4-inch minimum thickness Douglas fir plywood, grade B/B plyform Class I or II, sanded both sides.

DESIGN FORMWORK

- A. Design, erect, support, brace and maintain formwork so that it will safely support vertical and lateral loads that might be applied, until such loads can be supported by concrete structure.
- B. Carry vertical and lateral loads to ground by formwork system and in-place construction that has attained strength for that purpose.
- C. Construct formwork so concrete members and structures are of correct size, shape alignment, elevation and position.
- D. Design forms and falsework to include assumed values of load, dead load, weight of moving equipment operated on formwork, concrete mix, height of concrete drop, vibrator frequency, ambient temperature, foundation pressures, stresses, lateral stability, and other factors pertinent to safety of structure during construction.
- E. Provide shores and struts during concrete operations, using wedges or jacks, or a combination thereof.
- F. Support form materials by structural members spaced sufficiently close to prevent objectionable deflection.
- G. Fit forms placed in successive units for continuous surfaces to accurate alignment, free from irregularities, and within allowable tolerances.

- H. Provide formwork, sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt joints and provide backup material at joints as required to prevent leakage and prevent fins.

EXECUTION FORMS

- A. Construct forms complying with ACI 347 to exact sizes, shapes, lines and dimensions shown on the drawings, and as required to obtain accurate alignment, location, grades, and level and plumb Work in finished structure.
- B. Provide for offsets, recesses, chamfers, anchorages, inserts and other features as required.
- C. All reinforcing steel, anchor bolts, dowels, and inserts to be accurately placed and securely held in place prior to placing of concrete or grout.

FABRICATION

- A. Fabricate forms for easy removal without hammering or prying against concrete surfaces.
- B. Provide crush plates where stripping may damage cast concrete surfaces.
- C. Hold inner and outer forms for vertical concrete together with combination steel ties and spreaders.
- D. Space ties symmetrically in tiers and rows, each tier plum from top to bottom and each row level.
- E. For exposed concrete surfaces, provide form ties of removable type with she-bolts equipped with permanent plugs.

FORMS FOR EXPOSED CONCRETE

- A. Drill forms to suit ties being used, and to prevent leakage of cement paste around tie holes
- B. Do not splinter forms by driving ties through improperly prepared holes.
- C. Provide sharp, clean corners at intersecting planes, without visible edges or offsets.
- D. Back joints with extra studs or girts to maintain true, square intersections.
- E. Use extra studs, wales and bracing to prevent objectionable bowing of forms between studs, and to avoid bowed appearance in concrete.
- F. Do not use narrow strips of form material which will produce bow.

CORNER TREATMENT

- A. Unless shown otherwise, form chamfers with ½ inch x ½ inch strips, accurately formed and surfaced to produce uniformly straight lines and tight edges.
- B. Extend terminal edges to required limit, and miter chamfer strips at changes in direction.

FORM RELEASE AGENT

- A. Coat form contact surfaces with form release agent compound before reinforcement is placed.
- B. Do not allow excess form release agent material to accumulate in forms or to come in contact with surfaces which will bond to fresh concrete.
- C. Apply form release agent material in strict accordance with its manufacturer's recommendations.

FORM REMOVAL

- A. Do not disturb or remove forms until concrete has hardened sufficiently to permit form removal with complete safety.
- B. Do not strip abutment forms in less than seven days.
- C. Do not remove shoring until member has acquired sufficient strength to support its own weight, load upon it, and added load of construction.

FINISHED SURFACES

- A. Exercise care in removing forms from finished concrete surfaces so that surfaces are not marred or gouged.
- B. Release sleeve nuts or clamps, and pull form ties neatly.
- C. Do not permit steel spreaders, form ties, or other metal to project from, or be visible on, any concrete surface except where indicated.
- D. Solidly pack form tie holes, rod holes, and similar holes in the concrete with approved grout.

PAYMENT – - Full compensation for furnishing all requirements, work and provisions of this section shall be considered as included in the contract unit price per square foot paid, as measured from exposed face of retaining wall from finished grade, for **“Retaining Walls” (Bid Item No. 122)** and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing retaining walls, including geotextile fabric, crushed rock backfill, perforated pipe and retaining wall footing, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-30 CLASS 2 AGGREGATE BASE

Class 2 Aggregate Base (Class 2 AB) shall conform to Section 26 of the Standard Specifications for $\frac{3}{4}$ " Maximum Class 2 AB.

Spreading and compacting of a minimum 4 inches of Class 2 AB subgrade material shall be performed by methods that will produce a uniform base, firmly compacted, and free from pockets of coarse or fine material. Subgrade material shall be Class 2 AB in accordance with Section 26-1.02A of the Standard Specifications for $\frac{3}{4}$ " maximum gradation (except where otherwise indicated on the plans) and compaction shall be moisture conditioned (if necessary) to above optimum moisture content and compacted to at least 95 percent relative compaction. The subgrade should not be allowed to dry out prior to pavement construction.

PAYMENT - Full compensation for all labor, materials, tools, equipment and doing all work involved as described for class 2 aggregate base shall be considered included in the contract prices paid for various other items of work and no additional compensation will be allowed therefor.

1-31 METAL HAND RAILS

Hand rails for stairways shall be as shown on the plans and conform to Section 83 of the state standard specifications and the California Building Code. Railings for retaining walls shall be as shown on the plans.

GENERAL

- A. Section Includes:
 - 1. Metal Work/Fabrications
- B. References:
 - 1. ANSI/AWS D1.1 Structural Welding Code
 - 2. ASTM A36 Specification for Carbon Structural Steel
 - 3. ASTM A53 Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless
 - 4. ASTM A123 Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products
 - 5. ASTM A307 Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
 - 6. ASTM A500 Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
 - 7. ASTM A276 Specification for Stainless Steel
- C. Submittals
 - 1. Submit to Owner shop drawings of all metal fabrications that will be installed.
 - 2. No assemblies to be fabricated or placed until shop drawings have been reviewed favorably by Owner.

PRODUCTS

- A. Anchors, Bolts, Nuts and Washers:
 - 1. All anchor bolts, bolts and nuts on all connections to be ASTM A276, Stainless Steel, Grade "A" unless noted otherwise.
 - 2. Washers to be of the same material and finish as the bolt used. Beveled washers to be used with structural members.
 - 3. All plates and brackets to be ASTM A36 steel.

EXECUTION

- A. Preparation
 - 1. Galvanizing: All structural steel plates, shapes and fabricated assemblies to be galvanized, after the steel has been thoroughly cleaned of rust and scale, in accordance with ASTM 123. Any galvanized part that becomes warped during the galvanizing operation to be straightened.
- B. Installation
 - 1. Contractor to verify field measurements for the installation of metal fabrications.
 - 2. All metal work specified herein to be installed in a neat and workmanlike manner and in true alignment.

3. All steel work to conform to the AISC "Manual of Steel Construction," Ninth Edition.
4. All metal parts to be galvanized and any part threaded, bent or otherwise deformed to be galvanized after working.
5. Welding to conform to the latest edition of ANSI/AWS D1.1 and to be performed by certified welders qualified under the procedures contained therein.

PAYMENT – The contract unit price per lineal foot paid for **“Hand/Guard Railings” (Bid Item 121)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing hand and guard railings, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor

1-32 SIGNS

Roadside signs shall be furnished and installed at the locations shown on the plans or where designated by the Engineer and in conformance with the provisions in Section 56-2, "Roadside Signs," of the Standard Specifications and these special provisions.

Use when sign panels are contractor-furnished.

The Contractor shall furnish roadside sign panels in conformance with the provisions in "Furnish Sign" of these special provisions.

Delete "removable sign panel frame" if not applicable.

PAYMENT - The contract price paid per each **“Install New Signs” (Bid Item 124)** of the types specified in the Engineer's estimate for “Signage” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and install the signs.

1-33 BASKETBALL COURT SURFACE PAINTING

I. PART 1 - GENERAL

1.1 SUMMARY

- A. This section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 1. STANDARDS

All work shall be done in accordance with American Sports Builders Association (A.S.B.A.).

1.2 SCOPE OF WORK

- A. This specification covers the surfacing for the Basketball court at Southview Park, Sausalito, California.
- B. Existing paint shall be removed by grinding, grinding milling, sand buffing or pressure washing. Court shall be cleaned using a stiff bristle broom and gas powered blower or water based pressure spray unit capable of generating 2500 psi at the nozzle tip, to remove all dirt and debris.
- C. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the tennis courts included in this contract.

II. PART 2 - PRODUCTS

2.1 COURT SURFACE MATERIAL

- A. Court Surfacing Materials shall be:
 - 1. Novacrylic, as manufactured by Nova Sports U.S.A., 6 Industrial Rd., Bldg. #2., Milford, MA 01757. 800-USA-NOVA.
 - 2. Approved equal
- B. All coatings shall be pure acrylic, containing no asphaltic or tar emulsions, nor any vinyl, alkyd or non-acrylic resins.

The color system shall be factory-mixed compounds requiring only the addition of water at the jobsite except for the addition of sand to Novasurface. All materials shall be delivered to the jobsite in sealed containers with the manufacturer's label affixed.

III. PART 3 - EXECUTION

3.1 APPLICATION

- A. New asphalt pavement shall cure for 14 days prior to application of any surfacing materials.
- B. Contractors must notify the Engineer of all applications, 48 hours prior to installation.
- C. The surface to be coated shall be inspected and made sure to be free of grease, oil, dust, dirt and other foreign matter before starting work.
- D. The surface shall be flooded. Any ponding water remaining that is deep enough to cover the thickness of a five-cent piece shall be corrected using a patch mix consisting of Novabond, 50-mesh sand and Portland cement, as per manufacturers directions. Depressions must be primed with a 50% dilution of Novabond and water prior to patching.
- E. Application shall proceed only if the surface is dry and clean and the temperature is at least fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F). Do not apply coatings when rain is imminent.
- F. Each coat in this system must dry completely before next application. Between each coat, inspect entire surface. Any defects should be repaired. Scrape surface to remove any lumps, and broom or blow off all loose matter.
- G. Using a neoprene rubber squeegee, apply one (1) coat of Novasurface acrylic resurfacer, diluted with one (1) part clean water, to two (2) parts Novasurface. Clean, bagged sand shall be incorporated into the diluted Novasurface at the rate of five (5) to ten (10) Lbs. per gallon. Sand gradation shall be 50 to 60-mesh. Allow application to dry thoroughly.

- H. Using a neoprene rubber squeegee, apply two (2) coats of Novaplay (colors to be designated by owner). Allow each application to dry thoroughly. A small (not to exceed 8 fl. oz per gal.) quantity of water may be used in diluting these coatings, only if coatings are drying too rapidly. Permission of the owner shall be obtained before adding additional water.

3.2 LINE MARKINGS

- A. Upon completion and acceptance of the basketball court surface, this Contractor shall prepare and paint lines for Basketball court in kind.
- B. All lines are to be applied by painting between masking tape with a paintbrush or roller, according to U.S.T.A specifications.
- C. Prime masked lines with Seal-A-Line. Allow application to dry.
- D. Paint lines with Novatex textured line paint. Allow application to dry.
- E. Remove masking tape immediately after lines are dry.
- F. Protect adjacent areas and structures (fences, posts, sidewalks, buildings, etc.), which are not to be coated. In the event that coatings are applied to above, remove immediately before drying is complete.

3.3 COMPLETION

- A. Upon completion, the contractor shall insure proper removal of all construction debris, surplus materials, empty containers and wash water, and shall leave the site in a condition acceptable to the owner. The court is to be left secure so as to prevent vandalism.

3.4 LIMITATIONS

- A. Apply coatings only when ambient temperature is fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F).
- B. All NOVACRYLIC coatings are waterborne and cannot cure in cold temperatures or when subject to moisture. Care should be taken not to apply coatings when rain is forecast or sudden drop of temperature is expected. Climatic conditions such as very cool evenings and high dew points dictate that work should be completed early in the day so the coatings can be exposed to enough warm sunlight to form a film before sunset. The opposite applies during times of high heat, low humidity and drying breezes: under these conditions, work very early in the morning or very late in the day. If the product seems to be drying too fast in hot weather, mist the pavement with water to make the application easier. Care must be taken to allow each application to dry thoroughly prior to recoating.

PAYMENT – The contract unit price per square foot paid for **“Basketball Court Painting” (Bid Item No. 125)** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing basketball court surfacing, including removing existing paint, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-34 TENNIS COURT SURFACE PAINTING

I. PART 1 - GENERAL

1.1 SUMMARY

A. Related Sections:

1. STANDARDS

All work shall be done in accordance with American Sports Builders Association (A.S.B.A.).

1.2 SCOPE OF WORK

- A. This specification covers the construction and installation for: (#) Tennis courts at Southview Park, Sausalito, CA.
- B. Tennis courts shall be cleaned using a stiff bristle broom and gas powered blower or water based pressure spray unit capable of generating 2500 psi at the nozzle tip, to remove all dirt and debris.
- C. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the tennis courts included in this contract.

II. PART 2 - PRODUCTS

2.1 TENNIS COURT SURFACE MATERIAL

- A. Tennis Court Surfacing Materials shall be:
 - 1. Novacrylic, as manufactured by Nova Sports U.S.A., 6 Industrial Rd., Bldg. #2., Milford, MA 01757. 800-USA-NOVA or approved equal.
- B. All coatings shall be pure acrylic, containing no asphaltic or tar emulsions, nor any vinyl, alkyd or non-acrylic resins.

The color system shall be factory-mixed compounds requiring only the addition of water at the jobsite except for the addition of sand to Novasurface. All materials shall be delivered to the jobsite in sealed containers with the manufacturer's label affixed.

III. PART 3 - EXECUTION

3.1 APPLICATION

- A. Vapor barrier must be installed prior to pouring concrete, minimum 15-mil thick polyolefin geo membrane. Concrete shall be as specified in Section 10-27 Minor Concrete.
- B. No wax or curing agents that are not certified as coatable shall be used.
- C. New concrete shall cure for twenty-eight days prior to application of any surfacing materials.
- D. Concrete shall have a medium broom finish.
- E. Contractors must notify the Landscape Architect of all applications, 48 hours prior to installation.

- F. Etch concrete with a Phosphoric Acid solution; allow to set and flush completely with water.
- G. The surface to be coated shall be inspected and made sure to be free of grease, oil, dust, dirt and other foreign matter before starting work.
- H. The surface shall be flooded. Any ponding water remaining that is deep enough to cover the thickness of a five-cent piece shall be corrected using a patch mix consisting of Novabond, 50-mesh sand and Portland cement, as per manufacturers directions. Depressions must be primed with a 50% dilution of Novabond and water prior to patching.
- I. Application shall proceed only if the surface is dry and clean and the temperature is at least fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F). Do not apply coatings when rain is imminent.
- J. Each coat in this system must dry completely before next application. Between each coat, inspect entire surface. Any defects should be repaired. Scrape surface to remove any lumps, and broom or blow off all loose matter.
- K. Apply one (1) coat of CP761 Concrete Primer, diluted one (1) part CP761 to one part clean water. Application may be with squeegee, broom or roller. Allow CP761 to dry thoroughly.
- L. Using a neoprene rubber squeegee, apply one (1) coat of Novasurface acrylic resurfacer, diluted with one (1) part clean water, to two (2) parts Novasurface. Clean, bagged sand shall be incorporated into the diluted Novasurface at the rate of five (5) to ten (10) Lbs. per gallon. Sand gradation shall be 50 to 60-mesh. Allow application to dry thoroughly.
- M. Using a neoprene rubber squeegee, apply two (2) coats of Novacrylic Combination Surface diluted two (2) parts concentrated material to one (1) clean part water (colors to be designated by owner). Allow each application to dry thoroughly. The quantity of water used in diluting these coatings may exceed the quantity specified by only a small amount and only if coatings are drying too rapidly. Permission of the owner shall be obtained before adding additional water.

3.2 LINE MARKINGS

- A. Upon completion and acceptance of the tennis surface, this Contractor shall prepare and paint lines for tennis court.
- B. All lines are to be applied by painting between masking tape with a paintbrush or roller, according to U.S.T.A specifications.
- C. Prime masked lines with Seal-A-Line. Allow application to dry.
- D. Paint lines with Novatex textured line paint. Allow application to dry.
- E. Remove masking tape immediately after lines are dry.
- F. Protect adjacent areas and structures (fences, posts, sidewalks, buildings, etc.), which are not to be coated. In the event that coatings are applied to above, remove immediately before drying is complete.

3.3 COMPLETION

- A. Upon completion, the contractor shall insure proper removal of all construction debris, surplus materials, empty containers and wash water, and shall leave the site

in a condition acceptable to the owner. The court is to be left secure so as to prevent vandalism.

3.4 LIMITATIONS

- A.** Apply coatings only when ambient temperature is fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F).

- B.** All NOVACRYLIC coatings are waterborne and cannot cure in cold temperatures or when subject to moisture. Care should be taken not to apply coatings when rain is forecast or sudden drop of temperature is expected. Climatic conditions such as very cool evenings and high dew points dictate that work should be completed early in the day so the coatings can be exposed to enough warm sunlight to form a film before sunset. The opposite applies during times of high heat, low humidity and drying breezes: under these conditions, work very early in the morning or very late in the day. If the product seems to be drying too fast in hot weather, mist the pavement with water to make the application easier. Care must be taken to allow each application to dry thoroughly prior to recoating.

PAYMENT – The contract unit price per square foot paid for “**Tennis Court Painting**” (**Bid Item 126**) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing tennis court surfacing, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

1-35 THERMOPLASTIC PAVEMENT MARKING

Thermoplastic traffic stripes (traffic lines) and pavement markings shall conform to the provisions in Sections 84-1, "General," and 84-2, "Thermoplastic Traffic Stripes and Pavement Markings," of the Standard Specifications and these special provisions.

Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.070-inch for application on fine graded surface and 0.080-inch for application on open graded surface.

The State Specification No. for glass beads in Section 84-2.02, "Materials," of the Standard Specifications, is amended to read "8010-21C-22 (Type II)."

PAYMENT The Contract lump sum price paid for “**Refresh Parking Striping**” (**Bid Item 127**) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the applicable work specified in Section 11 of the Standard Specifications and no additional compensation shall be allowed.

1-36 AS-BUILT DRAWINGS

The Contractor shall be responsible for maintaining a set of as built improvement plans with any field changes or deviations made by the contractor or his/her subcontractors. The Contractor shall make annotations with erasable colored pencil conforming to the following color code:

- Additions: Red
- Deletions: Green
- Comments: Blue

- Dimensions: Graphite

This set of as built drawings shall be submitted to the Engineer at the conclusion of construction. Each sheet in the plan set shall be no less than 24 inches tall by 36 inches wide. All markings shall be legible and the plan set shall be clean and free from tears or other damage.

PAYMENT- Full compensation for as built drawings shall be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefor.

1-37 SITE CLEAN-UP

On completion of the work, the Contractor shall clean all portions of the project area. This work includes removing all debris, street sweeping, power washing, and removing paint marks within the work zone.

PAYMENT- Full compensation for site clean-up shall be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefor.

*****END OF SECTION*****