

**CONTRACT DOCUMENTS
FOR THE
WHARVES 3 & 4 FENDER REPLACEMENT PROJECT**

**PORT OF REDWOOD CITY
REDWOOD CITY, CALIFORNIA**

PREPARED BY

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MARCH 8, 2017

A086704

CONTRACT DOCUMENTS
FOR THE
WHARVES 3 & 4 FENDER REPLACEMENT PROJECT

PORT OF REDWOOD CITY
REDWOOD CITY, CALIFORNIA

Engineer's Attest:

The following plans and details have been prepared under the supervision of the undersigned, who hereby certifies that he is a Registered Engineer in the State of California.

Prepared by:

COWI North America



Jack Gerwick, P.E.



3/8/17

DATE

Approved by:

PORT OF REDWOOD CITY



MICHAEL J. GIARI
EXECUTIVE DIRECTOR

3/8/17

DATE

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SECTION 00100

CITY OF REDWOOD CITY, CALIFORNIA

BID SOLICITATION

Notice is hereby given that the Port of Redwood City, California, will receive bids for furnishing all labor, materials, transportation and services for the project known as:

Wharves 3 & 4 Fender Replacement Project

Port of Redwood City

located at Redwood City, California, each bid to be in accordance with the plans, specifications and other contract documents now on file with the Port's Executive Director's Office at 675 Seaport Boulevard, Redwood City, California, where they may be examined. You may contact the Port Executive Director's office by telephone at (650) 306-4150. Plans, Specifications and Contract Documents are available on line at www.redwoodcityport.com.

- A.** General Scope of Work: At Wharf 3, the scope of work includes construction of nine large diameter steel monopile supported breasting dolphins. Seven of these dolphins are located within the footprint of the existing Wharf. To construct these dolphins, a portion of the concrete deck must first be removed, dolphin constructed, and then a new deck installed. Two of the dolphins are located adjacent to the Wharf. As the existing fender system will be rendered obsolete, it will be demolished.

At Wharf 4, repairs to the decks of six existing concrete breasting dolphins are necessary. New fenders will be installed on these existing dolphins. The existing fender systems, both on the dolphins as well as the adjacent structures, will be demolished. The steel truss walkways that currently provide access between the dolphins of Wharf 4 and Wharf 3 will be replaced with a steel pile supported access pier to facilitate ship-to-shore access.

- B.** Each bid shall be made out on the Bid Forms and Supplements in the Contract Documents obtained on line; shall be accompanied by a certified or cashier's check or bid bond for ten percent (10%) of the amount of the bid made payable to the order of the Port of Redwood City, California; shall be sealed and filed with the Port Executive Director at the Offices of the Port of Redwood City, 675 Seaport Blvd., Redwood City, California, on or before April 12, 2017 at 11:00 AM, and will be opened and publicly read aloud shortly thereafter of that day in the Office of the Port Executive Director, at 675 Seaport Boulevard, Redwood City, California.
- C.** In accordance with the provisions of California Public Contract Code Section 3300, the Port has determined that the Contractor shall possess a valid Class A Contractors license at the time that the contract is awarded. Failure to possess the specified license shall render the bid as non-responsive and shall act as a bar to award of the contract to any bidder not possessing said license at the time of award.

- D. Under California Laws and Regulations the Port shall inform all prime contractors of public works, to the extent feasible of relevant public work requirements. Therefore, the Port hereby advises all bidders that the successful bidder shall:
1. Employ the appropriate number of apprentices on the job site as set forth in California Labor Code 1777.5;
 2. Provide worker's compensation coverage, as set forth in California Labor Code Sections 1860 and 1861;
 3. Keep and maintain the records of work performed on the public works project, as set forth in California Labor Code Section 1812; and
 4. Keep and maintain the records required under California Labor Code Section 1776 which shall be subject to inspection pursuant to California Labor Code Section 1776 and California Administrative Code, Title 8, Group 3, Section 16400 (e); and
 5. Be subject to other requirements imposed by law.
- E. Bidders are hereby notified that, pursuant to the provisions of California Labor Code, Sections 1770 et seq., the Port has obtained from the Director of the Department of Industrial Relations, the general prevailing rate of per diem wages and a general prevailing rate for holidays, Saturdays and Sundays, and overtime work in the locality in which the work is to be performed for each craft, classification, or type of worker required to execute the contract. A copy of said prevailing rate of the per diem wage is on file in the Office of the Port Executive Director, Port of Redwood City, to which copy reference is hereby made for further particulars. Said prevailing rate of per diem wages will be made available to any interested party upon request, and a copy thereof shall be posted at the job site.
- F. The Port will not recognize any claim for additional compensation because of the payment by the contractor of any wage rate in excess of the prevailing wage rates on file as aforesaid. The possibility of a wage increase is one of the elements to be considered by the contractor in determining his/her or its bid and will not, under any circumstances, be considered as the basis of a claim against the Port on the contract.
- G. Bidders are hereby notified that if the contract will be entered into or financed by or with the assistance of agencies of the United States, the Port must comply with federal prevailing wage requirements.
- H. Notice is also hereby given that all bidders may be required to furnish a sworn statement of their financial responsibility, technical ability, and experience before award is made to any particular bidder.
- I. The above mentioned check or bond shall be given as a guarantee that the bidder will enter into the contract if awarded to him, and will be declared forfeited if the successful bidder refuses to enter into said contract within ten (10) days, excluding Saturdays, Sundays, and legal holidays, after being requested to do so by the Port of Redwood City, California.

- J. The Contractor may substitute securities for the amounts retained by the Port to ensure performance of the contract in accordance with the provisions of Section 22300 of the Public Contract Code.
- K. The Port reserves the right to reject any or all bids or waive any informality in a bid.
- L. No bidder may withdraw his bid for a period of thirty (30) days after the date set for the opening thereof.
- M. You should be aware that all contractors performing the **Wharves 3 & 4 Fender Replacement Project**, for Port of Redwood City are required to present evidence of Workers' Compensation and Employers' Liability Insurance coverages; a certificate of insurance and copies of the information or declaration page(s) for Broad Form Comprehensive General Liability or Commercial/Marine General Liability, and Business Automobile Liability Insurance policies as follows:

<u>Insurance Category</u>	<u>Minimum Limits</u>
Workers' Compensation	Statutory minimum.
Employer's Liability	\$2,000,000.00 per accident for bodily injury or disease;
Commercial/Marine General Liability	\$2,000,000.00 per occurrence, \$4,000,000.00 aggregate for bodily injury, personal injury and property damage;
Automobile Liability	\$1,000,000.00 per occurrence, (coverage required to the extent applicable to Contractor's vehicle usage in performing work hereunder), as well as copies for said General Liability and Business Auto Liability Insurance Policies of an endorsement (1) naming The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof are named as additional insureds; (2) providing for a standard cross-liability endorsement; (3) precluding cancellation or reduction in coverage before the expiration of thirty (30) days after Port has received written notification from the insurance carrier of such cancellation or reduction; and (4) stating that the insurance afforded thereby to The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof shall be primary insurance to the full limits of the policy, (5) containing a waiver of subrogation endorsement waiving all rights against Port, its officers, agents and employees and (6) stating that if Port or its officers and employees have other insurance against a loss covered by such a policy, such other insurance shall be excess insurance only. The certificates of insurance and copies of information or declaration page(s) and of endorsements are to be reviewed and approved as to form by the Port Attorney before work commences.

- N. Any question pertaining to the plans, specifications, or any of the Contract Documents shall be submitted in writing, to the attention of Donald Snaman

on or before 5:00 PM, March 29, 2017; if by mail, addressed to the Port of Redwood City, 675 Seaport Boulevard, Redwood City, California 94063; if by facsimile, at (650) 369-7636; or, if by email, addressed to dsnaman@redwoodcityport.com.

- O. The successful bidder shall provide proof of a current business license issued by the City of Redwood City upon award of the Contract.
- P. A **mandatory pre-bid conference** will be conducted by the Engineer on March 22, 2017 at 10:00 AM, at the Port Administration Building, 675 Seaport Boulevard, Redwood City, California 94063. The purpose of the pre-bid conference is to acquaint bidders with the existing facility and site and the required work. The conditions and requirements of the plans and specifications shall govern over any information presented at the pre-bid conference, unless amended by written Addendum from the Engineer.
- R. Contractor shall complete the work described in the Bid Documents no later than January 31, 2018. However, all pile driving and pile removal may only be performed between June 1 and November 30. As of the date of execution of this Bid Solicitation by the Port Executive Director, the Port has not received all the necessary permits to proceed with the work of improvement. Port reserves the right to cancel the Project at no cost and/or liability to the Port (or, upon mutual written agreement with the lowest responsible bidder, extend the deadline for the issuance of a Notice to Proceed) if the Port does not issue the Notice to Proceed on or before May 31, 2017.

Dated: _____

3/8/17



MICHAEL J. GIARI
Executive Director
Port of Redwood City

SECTION 00200

INSTRUCTIONS TO BIDDERS

1.01 SECURING DOCUMENTS

- A. The contract documents, including Bid Forms and Supplements, Issue for Bid Plans, Agreement, Faithful Performance and Payment Bond forms, General Conditions, Special Conditions, Technical Specifications, Attachments, and Reference and Regulatory Documents are on file in the Office of the Port Executive Director, Port of Redwood City, 675 Seaport Boulevard, Redwood City, California and available on line at www.redwoodcityport.com.

1.02 BID REQUIREMENTS

- A. In order to receive consideration, bids shall be prepared and submitted in conformance with the requirements and instructions:
1. Bidders shall carefully examine the site of the contemplated work and the contract documents therefore, including the Bid Forms and Supplements, Issue for Bid Plans, Agreement, Faithful Performance and Payment Bond forms, General Conditions, Special Conditions, Technical Specifications, Attachments, and Reference and Regulatory Documents. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, and as to the character, quality and quantities of work to be performed, and materials to be furnished, and as to the requirements of these contract documents.
 2. Specific data required in regard to the location of existing public utility companies' pipes, conduits and structures shall be obtained by the Contractor from the respective public utility companies.
 3. Bids shall be prepared and submitted only on the forms supplied by the Port and shall be signed by the bidder. Contractors must complete all bid items, no incomplete bids will be accepted. If the unit price and the total amount named by the bidder for any item do not agree, the unit price shall govern.
 4. If the bid is by an individual, his name and address shall be shown; if by a firm, the firm or partnership name shall be shown; or if by a corporation, the bid shall show the name and the State under the laws of which the corporation is chartered, and addresses of the President and of the Secretary and/or Treasurer. All bids shall be signed in long-hand and executed by a principal duly authorized to make contracts. Oral, telegraphic, or telephonic bids or modifications will not be considered.
 5. Bids shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered, unless called for. The completed form shall be without interlineations or alterations.
 6. All bids shall be presented to the Executive Director of the Port under sealed cover, and plainly marked on the outside with the title of the work being bid and the name of the bidder. It is the sole responsibility of the bidder to ensure that his bid is received by the Port Executive Director prior to the time specified for receipt of bids. Any bid received after the

scheduled closing time for receipt of bids shall be returned to the bidder unopened.

1.03 BIDDER'S GUARANTY

- A.** Each bid must be accompanied by cash, cashier's check, or check certified by a responsible bank, or by a bid bond, in a sum not less than 10% of the total amount of the bid, payable to the Port of Redwood City as liquidated damages in the case that the bidder is awarded the contract and fails, within ten days, exclusive of Saturdays, Sundays, and Legal Holidays after date of mailing to him by the Port Executive Director of a Notice of Award of the Contract and that the contract is ready for signature, to execute the above mentioned written contract and file with the Port Executive Director satisfactory insurance certificates as required by the contract documents and satisfactory bonds as required by law for the faithful performance of said contract and for the protection of materialmen and laborers. Special reference is hereby made to Section 4200, et. seq., of the Government Code of the State of California.

1.04 BID QUANTITIES

- A.** Quantities specified in these documents and entered on the Bid Schedule are estimated only. The Port does not, expressly nor by implication, agree that the actual amount of work will correspond therewith and reserves the right to increase or decrease the quantity of any class or portion of the work, or to omit such portions of the work as may be deemed necessary or expedient by the Engineer as further provided in the General Conditions.

1.05 CONTRACTOR'S LICENSE

- A.** Prior to submitting bids, bidders shall be licensed as contractors under the laws of the State of California to perform the type and class of work contemplated by the Contract Documents.
- B.** Subcontractors of bidding general contractors shall be licensed under the laws of the State of California to perform the type and class of work contemplated by the Contract Documents.

1.06 WITHDRAWAL OF BID

- A.** Any bid may be withdrawn by the bidder prior to, but not after, the time fixed for the opening of bids, either personally or by telegraphic or written request. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid. No bid may be withdrawn for a period of thirty (30) calendar days after the bid opening. Any withdrawal after that time shall be in writing and shall not be effective until received by Port.

1.07 INTERPRETATION OF DOCUMENTS AND PLANS

- A.** If any person contemplating submitting a bid for the proposed contract is in doubt as the true meaning of any part of the plans, specifications or other contract documents, or finds discrepancies in, or omissions from the drawings or specifications, he may submit to the Engineer a written request for an interpretation or corrections thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or corrections of the

proposed documents will be made only by addendum duly issued and a copy of such addendum will be mailed or delivered to all persons known by Port to have received a set of contract documents. Neither The Port nor the Engineer will be responsible for any other explanations or interpretations of the proposed contract documents.

1.08 ADDENDA

- A. The contract documents are subject to revision prior to the time fixed for opening bids by submitting the revision, in writing, to all persons who are known by Port to have secured such documents for purposes of submitting bids. All addenda issued shall become an integral part of the contract documents and shall be included in any bid submitted.

1.09 OPENING OF BIDS

- A. Bids will be opened and publicly read aloud at the time and place set forth in the Bid Solicitation.

1.10 AWARD OF CONTRACT OR REJECTION OF BIDS

- A. The Contract, if it be awarded, will be awarded to the lowest responsible bidder complying with these instructions, and with Section 00100, Bid Solicitation.
- B. Bids may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. The Port reserves the right to waive any irregularities in the bids as received.
- C. The Port reserves the right to reject any or all bids. More than one bid from an individual, firm or partnership, corporation or association, under the same or different name, will not be considered. Reasonable grounds for believing that a bidder is interested in more than one bid for work contemplated, will cause the rejection of all bids in which said bidder is interested. Bids in which prices are obviously unbalanced may be rejected by the Board of Port Commissioners.

1.11 COMPETENCY OF BIDDERS

- A. Bidders may be required to furnish evidence of financial competency, organizational ability and experience to enable him to undertake and successfully complete the work to be performed.

1.12 BONDS AND INSURANCE

- A. Bidder's attention is directed to the provisions of the contract documents relating to the requirements of contract bonds. The successful bidder, simultaneously with execution of the Agreement, will be required to furnish a faithful performance bond in an amount equal to at least one hundred percent (100%) of the contract price, and a labor and material bond in an amount equal to at least one hundred percent (100%) of the contract price; both said bonds to be secured from a corporate surety satisfactory to the Port of Redwood City.
- B. Bidder shall submit with their bonds, evidence satisfactory to the Engineer, that the corporate surety is an admitted surety in the State of California, and that their bond rating A.M. Best is "A-:V" or better.

- C. The company issuing liability insurance must be admitted in the State of California and be rated by A.M. Best as "A-V" or better.
- D. Bidder's attention is further directed to the provisions relating to the Contractor's insurance requirements, and the prescribed form of Bidder's Bond, Agreement, Contract Bonds and insurance documentation.

1.13 CONTRACT PROGRESS SCHEDULE

- A. Bidder's attention is directed to the provisions of the contract documents relating to the requirement for the submission of a contract progress schedule within ten (10) calendar days after date of Notice to Proceed.

1.14 LEGAL RELATIONS AND RESPONSIBILITIES

- A. Bidder's attention is specifically directed to the provisions of Parts 1-7 of the General Conditions concerning laws to be observed, hours of labor, minimum wages, employment of labor, safety codes, patents, taxes, and other matters of concern to the bidder.

1.15 SUBCONTRACTORS

- A. Pursuant to the requirements of the Government Code of the State of California, Section 4102, each bidder must state in his bid the subcontractors he intends to employ to perform any work or labor, or render service to the Contractor for the construction of the work or improvement in an amount in excess of one half of one percent of the Contractor's bid. This statement shall include the name of each subcontractor, the location of his place of business, and the nature of the work to be performed by him.

1.16 RETURN OF BIDDER'S GUARANTEES

- A. Within ten calendar days after the award of the Contract, the Port will return the bid guarantees accompanying the bids of the unsuccessful bidders. All other bid guarantees will be held until the Contract has been finally executed, after which they will be returned to the respective bidders whose bids they accompanied.

* * *

SECTION 00300
INFORMATION AVAILABLE TO BIDDERS

1.01 ATTACHMENTS

COWI Issue For Bid Drawings (2-22-17)

Langan Geotechnical, Investigation Port of Redwood City Wharves 3 and 4 (12-22-16)

COWI Basis for Design (12-22-16)

PLS Surveys INC, Survey (8-10-16)

1.02 REFERENCE DOCUMENTS

Vickerman Zachary Miller Wharf 3 Drawing Set. (1984)*

Vickerman Zachary Miller Wharf 4 Drawing Set. (1983)*

URS Consultants Drawing Set. (1994)*

GKO Messinger & Associates Drawing Set. (1997)*

Wharf 3 Pile Driving Records (1977)

COWI Wharf 3, 4, and 5 Condition Survey (2015)

*All existing drawing have been combined into a Wharf 3 and Wharf 4 drawing set

1.03 REGULATORY DOCUMENTS

CDFW Application

CEQA Document

NMFS Biological Assessment

NMFS Marine Mammal Assessment

RWQCB Application

USACE Application

USACE Section 106

USACE Biological Assessment

SECTION 00400
BID FORMS AND SUPPLEMENTS
FOR THE
WHARVES 3 & 4 FENDER REPLACEMENT PROJECT

To the Board of Port Commissioners
City of Redwood City
675 Seaport, Boulevard
Redwood City, California

Dear Commission Members:

The undersigned, as a bidder, declares that he has carefully examined the location of the proposed work, the annexed proposed form of Agreement, the Plans, the General Conditions, the Special Conditions and the Technical Specifications, and he proposes and agrees that, if this proposal is accepted, he will contract with the Port of Redwood City to provide all necessary machinery, tools, apparatus, and other means of construction, to do all the work and furnish all the materials specified in the contract in the manner and time therein set forth required to complete the **Wharves 3 & 4 Fender Replacement Project**.

Construction shall be in strict conformity with the Plans and Specifications prepared therefor by the Engineer, copies of which are on file in the office of the Port Executive Director, which Plans and Specifications are hereby made a part thereof.

The bidder proposes and agrees to contract with said Port of Redwood City to furnish and perform all of the above described work, including subsidiary obligations as defined in said specifications for the following prices, to wit:

In accordance with the provisions of Section 6707 of the California Labor Code, whenever the Port issues a call for bids for the construction of a pipeline, sewer, sewage disposal system, boring or jacking pits, or similar trenches or open excavations, which are five feet deep or deeper, such call shall specify that each bid submitted in response thereto shall contain, as a bid item, adequate sheeting, shoring, and bracing or equipment method, for the protection of life or limb, which shall conform to applicable safety orders.

Bidder shall compute the item cost by multiplying the estimated quantity by the unit price and shall enter the resulting figures in the "Item Cost" column to the nearest cent. In the event of any discrepancy between the Item Cost as computed by bidder and the result of multiplying the estimated quantity by the unit price, the result of multiplying the estimated quantity by the unit price shall control.

It is understood by bidder that the quantities stated below are estimated quantities and are to be used as a basis for comparing bids only.

Item No.	EST. Qty.	Unit	Description of Item	Unit Price	Item Cost
1.	1	LS	Mobilization and Demobilization	_____	_____
2.	1	LS	Demolish Existing Water Line and Install New Water Line, Vault, and Fittings	_____	_____
3.	1	LS	All other work including but not limited to Concrete Curb Repair, Concrete Cap Beam Repair, Handrail Modifications, and Concrete Curb Demo	_____	_____
4.	455	LF	Demolition and Disposal of Wharf 3 Fender System	_____	_____
5.	450	LF	Demolition and Disposal of Wharf 4 Fender System	_____	_____
6.	1,040	SF	Demolition and Disposal of Wharf 3 Concrete Deck	_____	_____
7.	750	SF	Existing Wharf 4 Dolphin Concrete Repair without Steel Replacement Required	_____	_____
8.	375	SF	Existing Wharf 4 Dolphin Concrete Repair with Steel Replacement Required	_____	_____
9.	2,290	SF	Furnish and Install Access Pier Deck and Handrail	_____	_____
10.	2	EA	Demolition and Disposal of Steel Truss Walkways	_____	_____
11.	9	EA	Furnish and Install Large Diameter Pipe Piles at Wharf 3	_____	_____
12.	9	EA	Furnish and Install Pipe Stub Head Pieces on Wharf 3 Dolphins	_____	_____
13.	9	EA	Furnish Install New Fenders, Panels, and Chains at Wharf 3	_____	_____
14.	9	EA	Furnish and Install Single Bit Bollards at Wharf 3	_____	_____
15.	7	EA	Construct Replacement Concrete Decks for Interior Dolphins at Wharf 3	_____	_____
16.	2	EA	Construct New Steel Decks for Exterior Dolphins at Wharf 3	_____	_____
17.	10	EA	Furnish and Install Pipe Piles for Access Pier	_____	_____

18.	10	EA	Furnish and Install Cap Beams for Access Pier	_____	_____
19.	8	EA	Demolish and Dispose of Existing Mooring Hardware at Wharf 3	_____	_____
20.	12	EA	Furnish and Install Fenders, Panels, and Chains on Wharf 4	_____	_____
21.	1	EA	Repair Pile with Sleeve	_____	_____
22.	3	EA	Furnish and Install New Lights with Associated Electrical Work	_____	_____
23.	6	EA	Bollard Repairs and Replacement at Wharf 4	_____	_____

TOTAL BID AMOUNT IN NUMBERS \$ _____

TOTAL BID AMOUNT IN WORDS: _____

Notes:

1. _____

2. _____

SPECIAL INSTRUCTIONS TO BIDDERS

Bidders must satisfy themselves by personal examination of the location of the proposed work, and by such other measures as they may prefer, as to the actual conditions and requirements of the work, and shall not, after submission of the bid, dispute, complain or assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

LIST OF SUB-CONTRACTORS

As required under the provisions of Section 4104 et seq of the California Public Contract Code, any person making a bid or offer to perform the work, shall in his or her bid or offer, set forth: (a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the primary contractor specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid; (b) The portion of the work which will be done by each such subcontractor under this act. The prime contractor shall list only one subcontractor for each such portion as defined by the prime contractor in his or her bid.

As required under the provisions of Section 4104 et seq of the California Public Contract Code, the following sets forth the Sub-Contractors we propose to engage on the following items of work.

Any item of work which does not set forth a designated Sub-Contractor will be done by the Prime Contractor.

Name & Address

Type of Work

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(Prime Contractor)

Signed by: _____
Title : _____

**"NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND
SUBMITTED WITH BID**

State of California)
)ss
County of _____)

_____, being first duly sworn, deposes and says that
he or she is _____ of
_____ the party making the foregoing bid that the bid is not made in
the interest of, or on behalf of, any undisclosed person, partnership, company, association,
organization, or corporation, that the bid is genuine and not collusive or sham; that the bidder
has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid,
and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or
anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage
against the public body awarding the contract of anyone interested in the proposed contract;
that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any
corporation, partnership, company association, organization, bid depository, or to any member
or agent thereof to effectuate a collusive or sham bid.

Signature

BIDDER CERTIFICATIONS

[Wharves 3 & 4 Fender Replacement Project at the Port of Redwood City]

1.01 GENERAL

- A.** The undersigned Bidder certifies to the Port of Redwood City, as set forth in sections 1 through 5 below.

1. Certificate of Non-Discrimination

By my signature hereunder, on behalf of the Bidder making this Bid, the undersigned certifies that there will be no discrimination in employment with regard to race, color, religion, gender, sexual orientation, or national origin; that all federal, state, and local directives and executive orders regarding non-discrimination in employment will be complied with; and that the principle of equal opportunity in employment will be demonstrated positively and aggressively.

2. State of Convictions

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, unappealable finding of contempt of court by a Federal Court has been issued against Bidder within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

3. Previous Disqualifications

By my signature hereunder, I hereby swear, under penalty of perjury, that the below indicated Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If such exceptions are attached, please explain the circumstances.

4. Certification of Workers Compensation Insurance

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's 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 of this Contract.

5. Certification of Prevailing Wage Rates and Records

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with Section 1776, regarding

wage records, and with Section 1777.5, regarding the employment and training of apprentices of the Labor Code. It is the Contractor's responsibility to ensure compliance by any and all subcontractors performing Work under this Contract.

2.01

INSURANCE AND BOND VERIFICATION

- A. The undersigned Bidder Certifies that he has the following insurance coverage:

Workers' Compensation:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

General Liability:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

Automotive Liability:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

All-risk Course of Construction:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

Excess Liability (if applicable):

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

- B.** The following additional endorsements and/or copies of information to insurance are required for the General Liability and Business Auto Liability coverages. The certificates of insurance and copies of information or declaration page(s) and of endorsements are to be reviewed and approved as to form by the Port Attorney before work commences.

1. Additional Insured:

The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof are named as additional insureds as respects to work done by Named Insured.

2. Cross Liability/Severability of Interest:

Providing for a standard cross-liability endorsement.

3. Notice of Cancellation:

Precluding cancellation or reduction in coverage before the expiration of thirty (30) days after Port has received written notification from the insurance carrier of such cancellation or reduction.

4. Primary Coverage

With respect to claims arising out of the operations of the Name Insured, stating

that the insurance afforded thereby to The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof shall be primary insurance to the full limits of the policy, and stating that if Port or its officers, agents and employees have other insurance against a loss covered by such a policy, such other insurance shall be excess insurance only.

5. Waiver of Subrogation

Containing a waiver of subrogation endorsement waiving all rights against Port, its offices, agents and employees.

- C.** The name of the Bidder's Bonding Company is as follows:

Carrier/Surety: _____

Address: _____

Phone and Fax: _____

A.M. Best Rating: _____

3.01 MINIMUM QUALIFICATIONS AND RELEVANT EXPERIENCE

- A.** To meet minimum qualifications, list a minimum of three comparable projects completed by Bidder in the last five years, with Owner contact information. Comparable projects must include projects where large diameter (greater than or equal to 48") steel pipe piles were driven in compliance with regulatory requirements similar to typical San Francisco Bay Area requirements (Attach separate sheets if necessary).

- B.** List any projects where Bidder has been default terminated by an Owner and/or has been involved in arbitration/litigation with an Owner on a construction project. Provide Owner contact information:

4.01 SAFETY & EXPERIENCE RECORD

- A. The following statements as to safety and experience of Bidder are submitted, and Bidder guarantees the truthfulness and accuracy of the information:

1. **Safety**

- a. List Bidder's Interstate Experience Modification Rate for the last three years.

2013 _____
2014 _____
2015 _____

- b. Use Bidder's last year's Cal/OSHA 200 log to fill in the following:

Number of lost workday cases _____
Number of medical treatment cases _____
Number of fatalities _____

- c. Employee hours worked last year _____

- d. State the name of Bidder's safety engineer/manager or Site Safety Officer:

5.01 CONTRACTOR EXPLANATION OR NOTES ON ANY OF THE ABOVE:

6.01 **BIDDER CERTIFIES, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND AUTHORIZES CITY AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.**

BIDDER: _____
(COMPANY NAME)

BY: _____
NAME TITLE

BY: _____
SIGNATURE DATE

SECTION 00490
BIDDING ADDENDA

SECTION 00500

AGREEMENT

THE CITY OF REDWOOD CITY, acting by and through its Board of Port Commissioners, hereinafter referred to as "Port", and _____ hereinafter referred to as "Contractor", for the consideration hereinafter stated, hereby agree as follows:

1. Contractor shall perform everything required to be performed, shall provide and furnish all of the labor, equipment, materials, and tools to perform, on or before January 31, 2018, for the following work:

WHARVES 3 & 4 FENDER REPLACEMENT PROJECT

in strict accordance with the Contract Documents, including Bid Forms and Supplements, Issue for Bid Plans, General Conditions, Special Conditions, Technical Specifications, Attachments, and Reference and Regulatory Documents pertaining thereto and signed by Jack Gerwick, Engineer, which Bid Forms and Supplements, Issue for Bid Plans, General Conditions, Special Conditions, Technical Specifications, Attachments, and Reference and Regulatory Documents pertaining are incorporated herein and made a part of this Agreement as if herein fully set forth. All pile driving and pile removal may only be performed between June 1 and November 30. As of the date of execution of this Bid Solicitation by the Port Executive Director, the Port has not received all the necessary permits to proceed with the work of improvement. Port reserves the right to cancel the Project at no cost and/or liability to the Port (or, upon mutual written agreement with the lowest responsible bidder, extend the deadline for the issuance of a Notice to Proceed) if the Port does not issue the Notice to Proceed on or before May 31, 2017.

2. Port shall pay to Contractor, as full consideration for the faithful performance by Contractor of the aforementioned work, the amount of _____ and No/100 dollars (\$_____) computed in accordance with Contractor's accepted Proposal dated _____ which accepted Proposal is incorporated herein by reference thereto as if herein fully set forth.
3. All of the work to be done shall be done under the direction and supervision of, and to the approval of, Port or its authorized representative, and the work shall be done in the best workmanlike manner, conforming strictly to the provisions of the specifications and plans made thereof.
4. (a) Contractor shall comply with all applicable provisions of Section 1810 to 1815, inclusive, of the California Labor Code relating to working hours. Contractor shall, as a penalty to Port, forfeit Twenty five and No/100 Dollars (\$25.00) for each worker employed in the execution of the Contract by Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one (1) calendar day and 40 hours in any one (1) calendar week, unless such worker receives

compensation for all hours worked in excess of eight (8) hours at not less than 1-1/2 times the basic rate of pay.

- (b) Pursuant to the provision of California Labor Code, Sections 1770 et seq. Contractor and any subcontractor under him shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Pursuant to the provisions of California Labor Code Section 1773.2, Contractor is hereby advised that copies of the prevailing rate of per diem wages and a general prevailing rate for holidays, Saturdays and Sundays and overtime work in the locality in which the work is to be performed for each craft, classification, or type of worker required to execute the Contract, are on file in the office of the Port Executive Director, which copies shall be made available to any interested party on request. Contractor shall post a copy of said prevailing rate of per diem wages at each job site.
- (c) As required by Section 1773.8 of the California Labor Code, Contractor shall pay travel and subsistence payments to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with this Section.
- (d) To establish such travel and subsistence payments, the representative of any craft, classification, or type of workman needed to execute the contracts shall file with the Department of Industrial Relations fully executed copies of collective bargaining agreements for the particular craft, classification or type of work involved. Such agreements shall be filed within 10 days after their execution and thereafter shall establish such travel and subsistence payments whenever filed 30 days prior to the call for bids.
- (e) Contractor shall comply with the provisions of Section 1775 of the California Labor Code and shall, as a penalty to Port, forfeit Twenty Five and No/100 Dollars (\$25.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of per diem wages for each craft, classification, or type of worker needed to execute the Contract.
- (f) As required under the provisions of Section 1776 of the California Labor Code, Contractor and each subcontractor shall keep an accurate payroll record, 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 employees employed by him or her in connection with the public work. Said payroll shall be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor on the following basis:
 - (1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
 - (2) A certified copy of all payroll records enumerated in Paragraph 4(f), herein, shall be made available for inspection or furnished upon request to the Port, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

- (3) A certified copy of all payroll records enumerated in Paragraph 4(f), herein, shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the Port, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Subparagraph 4(f)(2) herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal offices of the Contractor.

Contractor and each subcontractor shall file a certified copy of the records, enumerated in Paragraph 4(f) with the entity that requested the records within 10 days after receipt of a written request. Any copy of records made available for inspection and copies furnished upon request to the public or Port, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Contractor awarded the Contract or performing the Contract shall not be marked or obliterated. Contractor shall inform Port of the location of the records enumerated under Paragraph 4(f) including the street address, City and county, and shall, within 5 working days, provide a notice of change of location and address. In the event of noncompliance with the requirements of Paragraph 4(f), Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects Contractor must comply with said paragraph. Should non-compliance still be evident after the 10-day period, Contractor shall, as a penalty to the State or Port, forfeit Twenty-five Dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Responsibility for compliance with Paragraph 4(f) lies with Contractor.

- (g) Contractor and any subcontractors shall, when they employ any person in any apprenticeable craft or trade, apply to the joint apprenticeship committee administering the apprenticeship standards of the craft or trade in the area of the construction site for a certificate approving Contractor or subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected; and shall comply with all other requirements of Section 1777.5 of the California Labor Code. The responsibility of compliance with California Labor Code Section 1777.5 during the performance of this Contract rests with Contractor. Pursuant to California Labor Code Section 1777.7, in the event Contractor willfully fails to comply with the provisions of California Labor Code Section 1777.5, Contractor shall be denied the right to bid on any public works contract for one year from the date noncompliance is determined and be assessed civil penalties.
- (h) In accordance with the provisions of Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860), and Chapter 4, Part 1, Division 4 (commencing with Section 3700) of the California Labor Code, Contractor is required to secure the payment of compensation to his employees and for that purpose obtain and keep in effect adequate Worker's Compensation insurance. If Contractor, in the

sole discretion of Port satisfies Port of the responsibility and capacity under the applicable Workers' Compensation laws, if any, to act as self-insurer, he may so act, and in such case, the insurance required by this paragraph need not be provided.

Contractor is advised of the provisions of Section 3700 of the California Labor Code, which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and shall comply with such provisions before commencing the performance of the work of this Contract.

Before the Agreement between Port and Contractor is entered into, Contractor shall submit written evidence that it and any subcontractors have obtained for the period of the Contract full Workers' Compensation insurance coverage for all persons whom they employ or may employ in carrying out the work under this Contract. This insurance shall be in accordance with the requirements of the most current and applicable state Workers' Compensation insurance laws. In accordance with the provisions of Section 1861 of the California Labor Code, the Contractor in signing this Agreement certifies to Port as true the following statement:

I am aware of the provisions of Section 3700 of the Labor Code which requires 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 of this Contract.

- (i) In accordance with the provisions of Section 1727 of the California Labor Code, Port, before making payment to Contractor of money due under a contract for public works, shall withhold and retain there from all amounts which have been forfeited pursuant to any stipulation in the Contract, and the terms of Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). But no sum shall be withheld, retained or forfeited, except from the final payment, without a full investigation by either the Division of Labor Law Enforcement or by Port.
5. It is hereby agreed by the parties to the Agreement that in case all work called for under the Agreement is not finished or completed on or before the time set forth in this Agreement, damage will be sustained by Port, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the Port will sustain in event of and by reason of such delay; it is therefore agreed Contractor will pay to Port the sum calculated at the rate of One Thousand and No/100 Dollars (\$1,000.00) per day as liquidated damages for each and every calendar day's delay in finishing the work in excess of the number of days prescribed, and Contractor agrees to pay said liquidated damages as herein provided, and in case the same are not paid, agrees that Port may deduct the amount thereof from any monies due or that may become due under this Agreement.

It is further agreed that in case the work called for under this Agreement is not completed in all of its parts and requirements within the number of calendar days specified, Port shall have the right to increase the number of calendar days or not,

as may seem best to serve the interest of Port; and if it is decided to increase the said number of calendar days, Port shall further have the right to charge to Contractor, and deduct from the final payment for the work, all or any part, as Port may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses of Port which are directly chargeable to this Agreement, except that the cost of final surveys and the preparation of the final estimate shall not be included in such charges to be paid by Contractor.

6. Except as otherwise may be provided herein, Contractor hereby expressly guarantees for one (1) full year from the date of the final completion of the work under this Agreement and acceptance thereof by Board of Port Commissioners, to repair or replace any part of the work performed hereunder which constitutes a defect resulting from the use of inferior or defective materials, equipment or workmanship. If, within said period, any repairs or replacements in connection with the work are, in the opinion of the Port, rendered necessary as a result of the use of inferior or defective materials, equipment or workmanship, Contractor agrees, upon receipt of notice from Port, and without expense to Port, to promptly repair or replace such material or workmanship and/or correct any and all defects therein. If Contractor, after such notice, fails to proceed promptly to comply with the terms of this guarantee, Port may perform the work necessary to effectuate such correction and recover the cost thereof from Contractor or his sureties.

Any and all other special guarantees which may be applicable to definite parts of the work under this Agreement shall be considered as an additional guarantee and shall not reduce or limit the guarantee as provided by Contractor pursuant to this paragraph during the first year of the life of such guarantee.

7. Contractor hereby agrees to indemnify and save harmless The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof; of and from any and all claims, suits or actions of every name, kind and description which may be brought against The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof; by reason of any injury to or death of any person or damage suffered or sustained by any person or corporation, or damage to the environment caused by, or alleged to have been caused by, any act or omission to act, negligent or otherwise, of Contractor, its officers, agents or employees in the performance of any work required of Contractor by this Agreement.

The duty to indemnify, hold harmless and defend set forth in this paragraph shall survive the acceptance of the work of improvement and the final payment to contractor.

The duty of Contractor to indemnify and save harmless, as set forth herein, shall include a duty to defend as set forth in Section 2778 of the California Civil Code; provided, however, that nothing herein shall be construed to require Contractor to indemnify The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof against any responsibility or liability in contravention of Section 2782 of the California Civil Code.

8. Contractor, at its sole cost and expense, shall acquire and maintain in full force and effect throughout the term of this Agreement Workers' Compensation,

employer's liability, commercial/marine general liability, and owned, non-owned and hired automobile liability insurance coverage relating to Contractor's Work to be performed hereunder covering Port's risks in form subject to the approval of the Port Attorney. The minimum amounts of coverage corresponding to the aforesaid categories of insurance per insurable event shall be as follows:

<u>Insurance Category</u>	<u>Minimum Limits</u>
Workers' Compensation	Statutory minimum.
Employer's Liability	\$2,000,000.00 per accident for bodily injury or disease.
Commercial/Marine General Liability	\$2,000,000.00 per occurrence, \$4,000,000.00 aggregate for bodily injury, personal injury and property damage.
Automobile Liability	\$1,000,000.00 per occurrence, (coverage required to the extent applicable to Contractor's vehicle usage in performing work hereunder).

Any deductibles or self-insured retentions must be declared to, and approved by Port. At the option of Port either Contractor's insurer shall reduce or eliminate the deductibles or self-insured retentions with respect to Port, its Board, commissions, boards, committees, officers, employees and agents or Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Concurrently with the execution of this Agreement, Contractor shall furnish Port with certificates and copies of information or declaration pages of the insurance required hereunder and, with respect to evidence of commercial/marine general liability and automobile liability insurance coverage, original endorsements:

- (a) Naming The City of Redwood City, the Port of Redwood City, Council of Redwood City, the Board of Port Commissioners, the and all officers, agents, and employees of each thereof as additional insureds;
- (b) Providing for a standard cross-liability endorsement;
- (c) Precluding cancellation or reduction in coverage before the expiration of thirty (30) days after Port has received written notification of cancellation or reduction in coverage;
- (d) Stating that the insurance afforded thereby to The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof shall be primary insurance to the full limits of the policy, and stating that if Port or its officers and employees have other insurance against a loss covered by such a policy, such other insurance shall be excess insurance only;
- (e) Containing a waiver of subrogation endorsement waiving all rights against Port, its officers, agents and employees.
- (f) The certificates of insurance and copies of information or declaration page(s) and of endorsements are to be reviewed and approved as to form by the

Port Attorney before work commences.

9. Contractor shall provide, on the execution of this Agreement, a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of amount bid, which bond shall be conditioned upon the faithful performance of all work required to be performed by Contractor under this Agreement. Said bond shall be liable for any and all penalties and obligations which may be incurred by Contractor under this Agreement. Acceptance of the bond by the Port is subject to the review and approval of the bond by the Port Attorney's office.
10. In addition to the bond required under Paragraph 9 hereof, Contractor shall furnish a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of amount of bid, which bond shall conform strictly with the provisions of Chapter 7, Title 15, Part 4, Division 3, of the Civil Code of the State of California, and all amendments thereto. Acceptance of the bond by the Port is subject to the review and approval of the bond by the Port Attorney's office.
11. Pursuant to California Public Contract Code Section 7100, the acceptance by Contractor of an undisputed payment made under the terms of the Contract shall operate as, and shall be, a release to Port, and their duly authorized agents, from all claim of and/or liability to Contractor arising by virtue of the Contract related to those amounts. Disputed contract claims in stated amounts may be specifically excluded by Contractor from the operation of the release.
12. The Contractor may substitute securities for the amounts retained by the Port to ensure performance of the Contract in accordance with the provisions of Section 22300 of the Public Contract Code.
13. The representations made herein, including the bidder's licensing information hereinafter furnished, are made under penalty of perjury. The undersigned understands that any bid not containing said licensing information, or containing any information which is subsequently proven false, shall be considered non-responsive, and shall be rejected by Port.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement
this _____ day of _____, 2017

**CITY OF REDWOOD CITY, a municipal
corporation, acting by and through its
BOARD OF PORT COMMISSIONERS**

By _____
Chairman of Port Commissioners

ATTEST:

Secretary of Port Commissioners

CONTRACTOR

By _____

(Title)

SECTION 00610

FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that, WHEREAS, the Port of Redwood City ("Port"), San Mateo County, State of California, has awarded to _____, hereinafter designated as the "Principal", a Contract, the terms and provisions of which Contract are incorporated herein by reference, for constructing the following project: **Wharves 3 & 4 Fender Replacement Project**, and

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract;

NOW, THEREFORE, we, the Principal, and _____, as surety, are held and firmly bound unto Port, San Mateo County, California, in the penal sum of _____ Dollars (\$ _____), lawful money of the United States, being one hundred percent (100%) of the Contract amount, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and will truly keep and faithfully perform the covenants, conditions, and agreements in the said Contract and any alterations made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof, as therein stipulated, then this obligation shall be null and void; otherwise it shall be and remain in full force and virtue.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation shall hold good for a period of one (1) year after the completion and acceptance of the said work, during which time if the above bounden Principal, his or its heirs, executors, administrators, successors or assigns shall fail to make full, complete and satisfactory repair and replacements or totally protect the said Port from loss or damage made evident during said period of one (1) year from the date of acceptance of said work, and resulting from or caused by defective materials or faulty workmanship, in the prosecution of the work done, the above obligation shall be and remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees to waive the provisions of California Civil Code Section 2819 regarding consent to change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

In the event Port, or its successors or assigns, shall be the prevailing party in an action brought upon this bond, then, in addition to the penal sum hereinabove specified, we agree to pay to the said Port, or its successors or assigns, a reasonable sum on account of attorney's fees in such action, which sum shall be fixed by the court.

IN WITNESS THEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____ 2017 the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

ATTEST:

Principal

(SEAL)

By _____ **(s)**

(Witness as to Principal)

(Address)

(Address)

Surety

ATTEST:

Witness to Surety

Attorney-in-Fact

(Address)

If **CONTRACTOR** is partnership, all partners must execute **BOND**.

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____

as Principal, and, _____ organized
and existing under the laws of the State of California and authorized to execute bonds
and undertaking as sole surety, as Surety, are held and firmly bound unto any and all
persons named in California Civil Code Section 3181 whose claim has not been paid by
the Contractor, company or corporation in the aggregate total of
_____ Dollars (\$_____) (being 100% of the Contract amount) for the payment whereof, well and truly to be
made, said Principal and Surety bond themselves, their heirs, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, whereas the
above with the Port of Redwood City ("Port") to do the following work, to-wit:

WHARVES 3 & 4 FENDER REPLACEMENT PROJECT

NOW, THEREFORE, if the above-bounden Principal or his subcontractors fail to pay
any of the persons named in Section 3181 of the Civil Code of the State of California, or
amounts due under the Unemployment Insurance Code with respect to work or labor
performed under the Contract, or for any amounts required to be deducted, withheld,
and paid over to the Employment Development Department from the wages of
employees of the Contractor and his subcontractor pursuant to Section 13020 of the
Unemployment Insurance Code of the State of California, with respect to such work and
labor, the surety will pay for the same, in the amount not exceeding the sum specified in
this bond, and also, in case suit is brought upon this bond, a reasonable attorney's fee,
to be fixed by the Court.

This bond shall inure to the benefit of any person named in Section 3181 of the Civil
Code of the State of California so as to give a right of action to them or their assignees
in suit brought upon this bond.

This bond is executed and filed to comply with the provisions of the act of the
Legislature of the State of California as designated in Civil Code Sections 3247-3252,
inclusive, and all amendments thereto.

And the said Surety, for value received, hereby stipulates and agrees to waive the
provisions of California Civil Code Section 2819 regarding consent to change, extension
of time alteration, or addition to the terms of the Contract, or to the work to be performed
thereunder, or the Specifications accompanying the same, shall in any way affect its
obligations on this bond; and it does hereby waive notice of any such change, extension
of time, alteration, or addition to the terms of the Contract, or to the work, or to the
Specifications.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument
under their seals this ____ day of _____, 2017 the name and

corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

ATTEST:

Principal

(SEAL)

By _____(s)

(Witness as to Principal)

(Address)

(Address)

Surety

ATTEST:

Witness to Surety

Attorney-in-Fact

(Address)

If **CONTRACTOR** is partnership, all partners must execute **BOND**.

SECTION 00700

GENERAL CONDITIONS

1.00 DEFINITIONS

1.01 DEFINITION OF TERMS

Whenever in these documents consisting of these General Conditions, and Special Conditions and the Technical Specifications, or in any other documents or instruments where these General Conditions govern, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

- A. **PORT** - The Port of Redwood City, County of San Mateo, State of California.
- B. **COMMISSION or BOARD OF PORT COMMISSIONERS** - The Board of Port Commissioners of the Port of Redwood City.
- C. **DESIGNER** - The "Designer" is the engineer or architect and his consultants, firm or individual who designed the project.
- D. **CITY**- The City of Redwood City, a charter city located in the County of San Mateo, State of California.
- E. **ENGINEER** -The term "Engineer" refers to the consultant retained by the Port.
- F. **BIDDER** - Any individual, firm, co-partnership or corporation submitting a proposal for the work contemplated, acting directly or through duly authorized agents or representative.
- G. **ADVERTISEMENT** - The published notice inviting sealed proposals for the construction of the work contemplated.
- H. **PROPOSAL FORM** - The prescribed form on which the Port requires formal bids be prepared and submitted for the work.
- I. **PROPOSAL** - The offer of the bidder for the work prepared and submitted on the prescribed proposal form, properly signed and guaranteed.
- J. **PROPOSAL GUARANTY** - The cash or check or bidder's bond accompanying the proposal submitted by the bidders, as a guaranty that the bidder will enter into a contract with the Port for the construction of the work, if it is awarded to him.
- K. **CONTRACTOR** - The person, or persons, co-partnership, or corporation who have been awarded the contract and who have entered into a contract with the Port to perform the work provided for in the Contract Documents. The word "Contractor", although used herein as terming an individual, shall be taken to mean the Contractor, his agents, employees and officials.

- L. **CONTRACT** - The written agreement in the prescribed form covering the performance of the work and the furnishing of labor and materials in the construction of the work. The Contract shall include the written agreement, notice inviting sealed proposals, instruction and information to bidders, accepted proposal, faithful performance bond, labor and material bond, the General Conditions, Special Conditions, General Requirements, Technical Specifications, the complete plans, profiles and detailed drawings, all addenda and any and all change orders amending or deleting the work contemplated, which may be required to complete the work in a substantial and acceptable manner.
- M. **CONTRACT DOCUMENTS** - The Contract together with all supporting documents required to adequately and completely describe and provide for the work.
- N. **THE WORK** - All of the work called for in the proposal and the Contract as specified herein or shown, noted, or called for on the detail drawings.
- O. **NOTICE TO PROCEED** - The notice by which the Port directs the successful bidder as Contractor to proceed with the work. The date of said notice commences the running of the Time for Completion.
- P. **SPECIFICATIONS** - The directions, provisions, and requirements contained in these General Conditions and any Special Conditions and such Technical Specifications as may be necessary, pertaining to either the materials and/or the work to be furnished under the Contract.
- Q. **PLANS** - The official plans, profiles, typical cross sections, general cross sections, working drawings, standard detail drawings and supplementary drawings, or exact reproductions thereof, approved by the Engineer, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as a part of the Contract, supplementary to these Specifications.
- R. **ACCEPTANCE** - The formal acceptance by the Port of the entire work contracted for which has been completed in all respects in accordance with Plans, Specifications, and Contract Documents and any modifications thereof previously approved.

1.02 DEFINITION OF WORDS

Whenever in these documents the following words or pronouns in place of them are used, they shall be understood to mean as follows:

- A. The words **directed**, **required**, **permitted**, **ordered**, **designated**, or words of the like import, shall be understood to mean the direction, requirement, permission, order, or designation of the Engineer.
- B. The words **approved**, **acceptable**, or **satisfactory**, shall be understood to mean approved by, acceptable to, or satisfactory to the Engineer.
- C. The words shown, **indicated**, **noted**, or **called for**, shall be understood to mean shown, indicated, noted, or called for on the drawings for the work referred to.

- D. The word **equal** shall be understood to mean equal in the opinion of and approved in writing by the Engineer.

1.03 STANDARD SPECIFICATIONS AND PLANS

- A. Whenever in these documents reference is made to the provisions or requirements of the "Standard Specifications or Standard Plans", the reference shall be understood to refer to the latest issue of the Standard Specifications and Plans, State of California Business and Transportation Agency, Department of Transportation, available as the date of the Advertisement for Bids.

1.04 OTHER STANDARDS

- A. Whenever in these documents reference is made to the standard methods or specifications of national organizations or societies by basic name or designation, the reference shall be understood to refer to the latest issue thereof including all amendments available as of the date of Advertisement for Bids. Acronyms commonly used herein represent the following organizations:

ASTM	The American Society for Testing and Materials
ANSI	American National Standard Institute
AWWA	American Water Works Association

2.00 PROPOSAL REQUIREMENTS AND CONDITIONS

2.01 OBTAINING TENDER DOCUMENTS

- A. Contract documents including the plans, specifications and detail drawings are on file at the office of the Port Executive Director located at 675 Seaport Boulevard, Redwood City, California, and copies may be obtained on line at www.redwoodcityport.com.

2.02 APPROXIMATE ESTIMATE

- A. Quantities of work or materials called for in the Contract Documents and entered on the Bid Schedule are approximate only, being given as a basis for the comparison of bids. The Port does not, expressly nor by implication, agree that the actual amount of the work will correspond therewith, but reserves the right to increase or decrease the quantity of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or expedient by the Engineer.

2.03 EXAMINATION OF WORK SITE AND CONTRACT DOCUMENTS

- A. Bidders shall carefully examine the site of the work contemplated and the proposal, documents, plans, specifications and contract forms therefor. It will be assumed that each bidder has investigated and is satisfied as to the conditions to be encountered, and the character, quality and quantities of the work to be performed and materials to be furnished, and as to the requirements of the Contract Documents. The Contractor shall perform no portion of the work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the work.

- B.** It is mutually agreed that the submission of a proposal for the work shall be considered as prima facie evidence that the bidder has made such investigation.

2.04 PREPARATION OF PROPOSALS

- A.** In order to receive consideration, proposals (bids) shall be prepared and submitted in accordance with the following Instructions:

1. Proposals shall be prepared upon the forms supplied with the Contract Documents.
2. Proposals shall indicate price bid in figures. If the total amount stated by the bidder for any item does not agree with the extension of the unit price indicated, the extension of the unit price shall govern.
3. Proposals shall be signed by the bidder. If the proposal is made by an individual, his name and address shall be shown; if made by a firm, the firm or partnership name and address shall be shown; if made by a corporation, the corporate name and the State under the laws of which the corporation is chartered shall be shown, together with the names and addresses of the President and Secretary and/or Treasurer thereof. Proposals shall be signed in longhand and executed by a principal duly authorized to make contracts.
4. Oral, telegraphic or telephonic proposals or modifications will not be considered. Proposals shall not contain any modification of the work called for and the proposal form shall be completed without interlineations or alterations.
5. Bidders are required to be contractors licensed under the laws and regulations of the State of California for the type of work contemplated by the Contract Documents.
6. Pursuant to the requirements of the State of California Public Contract Code Section 4104, bidders shall state in their proposals the name and principal location of any subcontractors they intend to employ to perform work or labor, or render service, in or about the construction of the work or improvement in an amount in excess of one half of one percent (1/2 of 1%) of the bidders proposal. The statement shall include the name of each such subcontractor to be employed, the location of his place of business, and the nature of the work or service to be performed.
7. Bidders shall submit such evidence of financial competency, organizational ability and experience to enable successful completion of the work as may be required by the proposal documents.
8. Proposals shall be presented to the Port Executive Director under sealed cover, and plainly marked on the outside with the title of work being bid and the name of the bidder. It is the sole responsibility of the bidder to assure that his bid is received at the proper time. Proposals submitted after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

2.05 PROPOSAL GUARANTY

- A.** Proposals shall be accompanied by cash, a cashier's check or a check certified by a responsible bank, or by a bid bond, in the sum of not less than ten (10) percent of the total amount bid, payable to the Port of Redwood City as liquidated damages in the case that the bidder is awarded the contract and fails, within ten (10) days exclusive of Saturdays, Sundays, and legal holidays after date of mailing to him by the Port Executive Director a notice of award of the contract and that the contract is ready for signature, to execute the said written contract and file with the Port Executive Director insurance certificates and bonds as required by law in the form contained in these Contract Documents for the faithful performance of said contract and for the protection of material, men and laborers.
- B.** Special reference is hereby made to Section 5100, et. seq., of the Public Contract Code of the State of California, and to the forms of said required bonds, certificates and documents all as contained in the Contract Documents.
- C.** Within ten (10) calendar days after award of the contract, if the contract be awarded, the Port will return the proposal guaranties accompanying the proposals of the unsuccessful bidders. All other proposal guaranties will be held until the contract has been finally executed, after which such guaranties will be returned to the respective bidders whose proposal they accompanied.

2.06 WITHDRAWAL OF PROPOSALS

- A.** Proposals may be withdrawn by the person making same at any time prior to, but not after, the time fixed for the opening of bids, either personally or by written request.
- B.** Withdrawal of a proposal shall not prejudice the right of the bidder to submit a new proposal.
- C.** After the bids have been opened, no proposal may be withdrawn for a period of thirty (30) calendar days. Any withdrawal after expiration of that period shall be in writing and shall not be effective until received by the Port Executive Director.

2.07 INTERPRETATION OF PLANS AND DOCUMENTS

- A.** Any person contemplating making a proposal for the work who is in doubt as to the true meaning of any part of the plans, specifications, or other contract documents, or who finds discrepancies in, or omissions from the drawings or specifications, may submit to the Engineer a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the plans or documents will be made only by addendum duly issued, and a copy of such addendum will be mailed or delivered to all persons known by the Engineer to have received a set of such documents.
- B.** Neither the Port nor the Engineer will be responsible for any explanations or interpretations of the plans, specifications and other contract documents not made by means of an addendum.

2.08 ADDENDA

- A.** The Contract Documents are subject to revision prior to the time fixed for opening bids by submitting the revision, in writing, to all persons who are known by the Engineer to have secured such documents for purposes of submitting bids.
- B.** Addenda shall become an integral part of the contract and shall be reflected in the bidder's proposal. Any bidder who does not withdraw his bid upon receipt of such addenda shall be bound by same.

2.09 OPENING OF PROPOSALS

- A.** Proposals will be opened in the office of the Port Executive Director at, or shortly after, the time indicated in the Bid Solicitation and will thereafter refer to the Engineer for report and recommendation. Bidders or their representatives are invited to be present.

2.10 REJECTION OF PROPOSALS

- A.** Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. The Port reserves the right to waive any irregularities in the bids as received.
- B.** The Port reserves the right to reject any or all proposals.
- C.** More than one proposal from an individual, firm or partnership, corporation or association, under the same or different names, will not be considered. Reasonable grounds for believing that a bidder is interested in more than one proposal for the work contemplated, will cause the rejection of all proposals in which said bidder is interested.
- D.** Proposals in which prices are obviously unbalanced may be rejected by the Port.

3.00 AWARD AND EXECUTION OF CONTRACT

3.01 AWARD OF CONTRACT

- A.** Award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all of the prescribed requirements and the Bid Solicitation, subject to the provisions of the Charter of the City of Redwood City and of Article VII commencing at Section 2.63 of Chapter 2, of the City Code, provided his bid is reasonable, and it is in the interest of the Port to accept it.

3.02 EXECUTION OF CONTRACT

- A.** The Contract shall be deemed executed when the agreement form incorporated in these Contract Documents is executed by the successful bidder and returned to the Port together with necessary contract bonds, insurance information or declaration pages, endorsements and certificates within ten (10) days, excluding Saturdays, Sundays, and legal holidays, after the date of award of Contract.

The Agreement shall be executed in triplicate, one copy of which shall be returned to Contractor by Port after execution by Port.

- B. In the event of any failure or discrepancy between any portion of the Agreement and any portion of the other contract documents, the Agreement shall prevail. No proposal shall be considered binding upon the Port until the execution of the Contract. Failure to execute the Contract and file acceptable bonds and insurance policies or certificates as provided herein, within such ten (10) calendar day period, shall constitute just cause for the annulment of the award, and forfeit of proposal guarantee to the Port as liquidated damages.

3.03 CONTRACT SECURITY

- A. All bonds shall be in form as contained herein, or as approved by Port. The Contractor shall furnish a corporate surety bond in an amount equal to one hundred percent (100%) of the contract price. Contractor shall also furnish a separate surety bond in an amount equal to one hundred percent (100%) of the contract price as security for the payment of all persons performing labor and furnishing materials in connection with this Contract. Sureties of each of said bonds shall be satisfactory to the Port. Said bonds shall be furnished concurrently with, or before submission of, the executed Agreement to the Port.
- B. No payment or delay in payment, and no change, extension, addition or alteration of any provision of said Contract, or in said plans and profiles, detail drawings, and specifications, and forbearance on the part of the Port, shall operate to relieve any surety or sureties from liability on the bond, and consent thereto without notice to or consent by such surety, is hereby given.

3.04 HOLD HARMLESS AGREEMENT

- A. Contractor hereby agrees to indemnify and save harmless The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof, of and from any liability for damages or claims for damages and for any liability or claims resulting from personal injury, including death, as well as liability or claims for property damage, which may arise from Contractor's operations, or his subcontractor's, agent's or employee's under this Agreement, whether such operations be by Contractor or his subcontractor, or by any one or more persons directly or indirectly employed by, retained by, or acting as agent for Contractor. Contractor agrees to and shall defend The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof from any suits or actions by law or in equity for damages caused, or alleged to have been caused, by reason of any of the aforesaid operations provided further:
 - 1. Port shall not be deemed to have waived rights it may have against Contractor because of the acceptance by Port of any of the insurance policies described herein.
 - 2. Contractor's hold-harmless agreement shall apply to all damages and claims for damages or every kind suffered, or alleged to have been suffered, by reason of any of the aforesaid operations referred to in this paragraph, regardless of whether or not Port has prepared, supplied, or

approved of Plans and/or Specifications for the work and regardless of whether or not such insurance policies shall have been determined to be applicable to any of such damages or claims for damage.

3. The duty to indemnify, hold harmless and defend set forth in this paragraph shall survive the acceptance of the work of improvement and the final payment to contractor.

3.05 CONTRACTOR'S INSURANCE

- A. Contractor shall obtain and maintain in full force and effect, during the life of this Contract, Workers' Compensation Insurance and Employers' Liability Insurance covering all employees employed in performance of work under this Contract. The Contractor shall make this same requirement of any of his subcontractors. Contractor shall indemnify and save the Port and the Engineer harmless for any damage resulting to them from failure of either Contractor or any sub-contractor to take out or maintain each insurance.
- B. The Contractor and all subcontractors shall take out and maintain during the life of this Contract, a Broad Form Commercial General Liability or Commercial/Marine General Liability, and Business Automobile Liability Insurance policy, naming as insured or as additional insured, The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof. This policy shall include, but not be limited to, all of the following coverage:
 1. Owners and contractors protective.
 2. Broad form property damage liability including occurrence at full policy limit.
 3. Blanket explosion, collapse and underground coverage.
 4. Personal injury coverages at full policy limits for the following:
 - a. False arrest, malicious prosecution, willful detention or imprisonment.
 - b. Libel, slander, defamation of character.
 - c. Invasion of privacy, wrongful eviction or wrongful entry.
 5. Products and completed operations coverage.
 6. Blanket written contractual liability.
 7. Employees' non-ownership liability.
 8. The policy shall include a cross liability or severability of interest clause.
 9. The limits of liability shall be in the following minimum amounts:

<u>Insurance Category</u>	<u>Minimum Limits</u>
a. Workers' Compensation	Statutory minimum.
b. Employer's Liability	\$2,000,000.00 per accident for bodily injury or disease;
c. Commercial/Marine General Liability	\$2,000,000.00 per occurrence, \$4,000,000.00 aggregate for bodily injury, personal injury and property damage;
d. Automobile Liability	\$1,000,000.00 per occurrence, (coverage required to the extent applicable to Contractor's vehicle usage in performing work hereunder),

- C. Neither the Contractor nor any subcontractor shall commence work under this contract until they have obtained all insurance required under this Section, and have supplied the Port with evidence of such coverage as required by paragraph 8 of the Agreement. The policy or policies obtained by the Contractor and any subcontractor shall be primary coverage, and any other insurance carried by the Port, its consultants, or the Engineer or the property owner of soil treatment site shall not be excess of Contractor's insurance and not be contributory with it.
- D. The Contractor shall be responsible for, and shall obtain and file evidence of coverage on behalf of all his subcontractors. All such evidence shall be acceptable to the Port Attorney.
- E. Should any such policy be canceled before final completion of the work herein contemplated, and should the Contractor fail to immediately procure other insurance as herein required, then the Port may procure such insurance and deduct the cost thereof from the amount due the Contractor.
- F. Each policy for General Liability and Business Auto Insurance shall bear an endorsement (1) naming The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof are named as additional insureds; (2) providing for a standard cross-liability endorsement; (3) precluding cancellation or reduction in coverage before the expiration of thirty (30) days after Port has received written notification from the insurance carrier of such cancellation or reduction; and (4) stating that the insurance afforded thereby to The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof shall be primary insurance to the full limits of the policy, and (5) containing a waiver of subrogation endorsement waiving all rights against Port, its officers, agents and employees and (6) stating that if Port or its officers and employees have other insurance against a loss covered by such a policy, such other insurance shall be excess insurance only. The certificates of insurance and copies of information or declaration page(s) and of endorsements are to be reviewed and approved as to form by the Port Attorney before work commences.

3.06 PREVAILING RATES OF WAGES

- A. Bidders are hereby notified that, pursuant to the provisions of Division 2, Part 7, Chapter 1, Article 2, (commencing with Section 1770) of the Labor Code of the State of California, the Director of the Department of Industrial Relations has ascertained the general prevailing rate of per diem wages in this locality for each craft or type of workman needed to execute the contract for said work and improvements, and also the general prevailing rate of per diem wages for each such craft or type of work for holiday and for overtime work. Copies of said prevailing rate of per diem wages are on file in the Office of the Port Executive Director of the Port of Redwood City, which copies are available to any interested party upon request, and to which copies reference is hereby made for the particulars thereof. Contractor shall post a copy of this prevailing wage schedule at the job site.

3.07 NOTICE TO PROCEED

- A. Upon award and execution of the Agreement for the work, the Port will issue the formal Notice to Proceed, and the date and the day of such notice shall provide the starting date for the running of the Time of Completion of the Contract as set forth in the contract document for the work.
- B. The Notice to Proceed will be considered to have been delivered to the Contractor when deposited in the United States Mail registered, return receipt requested, with first class postage pre-paid, addressed to the Contractor at the address specified in his proposal, or hand delivered to Contractor.

4.00 SCOPE OF THE WORK

4.01 WORK TO BE DONE

- A. The work to be done consists of the furnishing of all necessary tools, equipment, apparatus, facilities, labor and materials required to perform and complete, in good, sound and workmanlike manner, the work of installing and constructing the project contemplated as herein described and called for, and in the manner designated, and in strict conformance with the plans, specifications, and these contract documents.

4.02 ADJUSTMENT OF QUANTITIES

- A. The Port reserves the right to increase or decrease the quantity of any item or portion of the work, or completely delete any item or items by issuing Change Orders therefore, and in connection therewith to make such alterations, changes or additions to, or deviations or omissions from the plans and specifications for the work as may be necessary or advisable to accomplish the object and purpose thereof; and the same shall in no way offset or make void the contract nor release the surety or sureties of any bond or bonds given to ensure the performance thereof; and the cost of such changes, additions or deletions, based on the contract unit prices for the item or portion of work involved shall be added to or deducted from the contract price, as the case may be.

4.03 CHANGE ORDERS

- A.** All contract change orders shall be in writing, prepared and signed by the Engineer, and approved by the Port. Change orders for adjustment of bid quantities shall not require the consent of the Contractor, and the Contractor shall proceed with the work as increased, decreased, or altered upon receipt of such change order.
- B.** Change orders for extra work shall specify the compensation to be paid therefore. Such compensation shall, at the option of the Port, be either on the basis of previously submitted and accepted quotation, or by means of force account as elsewhere herein provided. Extra work shall be authorized only by change order and in the absence of a duly executed change order for any extra work the Port shall not be liable for nor shall the Contractor be entitled to compensation for such extra work. Change orders for extra work where compensation is based on either submitted quotation or force account shall not require the consent of the Contractor, and the Contractor shall proceed with the extra work directed upon receipt of such change order.

4.04 EXTRA WORK

- A.** New and unforeseen items of work will be classed as extra work when the item or items cannot be covered by any of the various items, or combination of items, for which there is a bid price. Extra work shall be authorized only by change order prepared and signed by the Engineer, and approved by the Port. The Contractor shall do such extra work and furnish such materials and equipment as may be required by Change Order, but shall do no extra work except upon receipt of a change order; and in the absence of such change order, the Port shall not be liable for nor shall the Contractor be entitled to payment for such extra work.
- B.** For duly authorized extra work the Contractor shall receive compensation at prices previously agreed upon in writing, unless the change order directs that the work be done under force account.

4.05 CHANGED CONDITIONS

- A.** If, during the prosecution of the work, conditions are encountered which were not evident, or reasonably inferred or to be expected, from evidence and data available to the Contractor at the time of bidding; and which the Contractor claims will require labor and/or materials not reasonably inferred or expected from a complete and careful search of the evidence and data available at the time of bidding, the Contractor shall immediately notify the Engineer in writing stating the conditions encountered and the additional labor and/or materials to be required.
- B.** During the pendency of his claim, the Contractor shall proceed with and diligently prosecute the work involved unless otherwise directed in writing by the Engineer.
- C.** Upon receipt of the Contractor's claim, the Engineer shall forth with investigate the circumstances and render his decision as to the facts pertaining. Should the Engineer find that the Contractor's claim is valid, he shall prepare a change

order for the extra work involved for approval by the Port. Should he find the claim invalid he shall so notify the Contractor in writing giving his reasons therefore.

- D. Should the Contractor disagree with the decision of the Engineer either as to the compensation allowed for extra work or materials, or as to the validity of his claim, he may, within ten (10) calendar days after receipt of the written decision of the Engineer, file with the Port Executive Director a written protest setting forth in detail his disagreement with such decision. The decision of the Engineer shall be final and conclusive upon the parties unless the Contractor files such a protest within the ten (10) calendar day period.

4.06 ALTERED WORK

- A. When the Contractor is directed by change order to make adjustments in the contract quantities involving either an increase or a decrease in the quantity of any item or portion of the work, or to omit portions of the work, no consideration will be given to adjustment of the unit price bid for the item or items of work involved.
- B. Upon receipt of a change order involving adjustment to the contract quantities, the Contractor shall forthwith proceed with the work as altered; and should the Contractor claim that such adjustment to the contract quantities results in extra work due to the alteration he may, within ten (10) calendar days after receipt of such change order, file a written protest with the Port Executive Director setting forth in detail in what particulars the character of the work was altered, and by what amount the unit cost thereof was increased.
- C. The Contractor shall have no claim for additional compensation for altered work unless he files such a protest within the ten (10) calendar day period.

5.00 CONTROL OF THE WORK

5.01 AUTHORITY OF THE ENGINEER

- A. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of the work performed, as to the quality and acceptability of materials furnished, and as to the manner of performance and rate of progress of the work; and the Engineer shall decide all questions which may arise as to the interpretations of the Plans and Specifications, and all questions as to the acceptable performance of the Contract on the part of the Contractor, and all questions as to compensation and progress payments, and as to the value of extra work. His decisions shall be final, and he shall have authority to enforce and make effective such decisions and orders if the Contractor fails to promptly carry out.
- B. The Engineer shall also decide any and all questions which may arise as to the validity of claims for changed conditions, and as to allowable compensation therefore, except that the Contractor may protest his decision to the Port as herein provided.

- C. The Engineer may, at any time, stop the work, or any part thereof, should he deem it necessary for the proper construction of said work, and no work so stopped shall be resumed without the approval of the Engineer.
- D. All work done and all materials furnished shall be subject to the inspection of the Engineer and duly authorized representatives of the Port. The Engineer and his authorized assistants and duly authorized representatives of the Port shall have access to the work at all times during its construction.

5.02 INSPECTION OF THE WORK

- A. The Port shall at all times have access to the work during its construction and shall be furnished with every reasonable facility to ascertain that the stock and materials used and employed, and workmanship, are in accordance with the requirements and intent of these specifications. All work done and all materials used will be subject to the inspection and approval of the Engineer and duly authorized representatives of the Port.
- B. The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract as prescribed; and defective work or unsuitable materials shall be removed and made good, notwithstanding that such defective work and materials have been previously accepted or estimated for payment.

5.03 SUPERINTENDENCE BY CONTRACTOR

- A. The Contractor shall be constantly on the work during its progress, and shall be represented by a Superintendent or Foreman, who is competent to receive and carry out instruction which may be given by the Engineer and to act in full representative capacity on behalf of the Contractor. The Contractor shall be held liable for faithful observance of any authorized instruction of the Engineer which may be delivered to said party, or his Representative on the work. Contractor shall keep the Engineer and the Port advised at all times as to the name and identity of his Superintendent or Foreman, and shall not change his Superintendent or Foreman without prior approval of the Port.

5.04 INTERPRETATION OF PLANS AND SPECIFICATIONS

- A. Should it appear to the Contractor that the work to be done, or any of the matters relative thereto, are not sufficiently detailed or explained on the Plans or in the Specifications, he shall apply to the Engineer for clarification necessary for him to proceed, and the Contractor shall conform to the same as part of the Contract, as long as the same may be consistent with the original Specifications. In the event of any doubt or question regarding such matters, the decision of the Engineer shall be final.
- B. In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.
- C. Reprint or repetition of any clause in the Specifications, or in any other specification to which reference is made, does not signify more importance for that clause, but is made for convenience of reference.

5.05 COORDINATION OF PLANS AND SPECIFICATIONS

- A.** The Plans and the Specifications, consisting of these General Conditions, the Special Conditions, the General Requirements, and the Technical Specifications, and Supplementary Documents, are essential parts of the Contract for the work and requirements occurring in one is as binding as though it occurred in all. They are intended to be cooperative, to describe and provide for a complete work.
- B.** Special Conditions shall govern over General Conditions, General Requirements and Technical Specifications; General Conditions shall govern over General Requirements and Technical Specifications, General Requirements shall govern over Technical Specifications; Technical Specifications shall govern over detailed plans; and detailed plans shall govern over general plans.

5.06 CONFORMITY WITH THE PLANS AND SPECIFICATIONS

- A.** Finish surfaces for all work shall in all cases conform to the lines, grades, cross sections, dimensions or elevations shown or called for on the plans within the tolerances, if any, specified therefore on the plans or in the Technical Specifications.
- B.** Deviations as may be necessitated by the exigencies of construction shall in all cases be determined by and authorized in writing by the Engineer.

5.07 WORKING DRAWINGS

- A.** The Engineer will provide such supplementary working drawings as may be deemed necessary to adequately control the work. All such drawings shall be in conformity with the plans, and although issued and approved by the Engineer, such approval shall not relieve the Contractor of his responsibility for accuracy of dimensions and details.
- B.** Changes to the plans shall be made only by means of duly authorized Change Order, and the Contractor shall make no change, alteration, or modification to any working drawing issued by the Engineer.

5.08 CONSTRUCTION SURVEYING

- A.** The Contractor will furnish all construction surveying and survey control required for the work unless otherwise specified in these bid documents.

5.09 CONSTRUCTION EQUIPMENT

- A.** Equipment not suitable to produce the quality of work required by these Contract Documents will not be permitted to operate on the project. The Contractor shall provide and maintain adequate and suitable equipment to meet the requirements of the Contract Documents within the time specified, and when so ordered by the Engineer, the Contractor shall discontinue the use of equipment found to be inadequate or unsuitable and shall remove the same from the project, all at no cost to the Port or the Engineer.

5.10 INTERFERENCE WITH THE WORK

- A.** Should the Contractor or any subcontractor be served with an injunction or any other legal order or proceeding affecting the work or the progress of the work, or be affected by any strike or boycott, or be involved in any lockout or other situation which would result in interference with or delay to the work, he shall immediately notify the Engineer of the situation giving all pertinent details and copies of all pertinent documents.

5.11 DEFECTIVE OR UNAUTHORIZED WORK

- A.** Any work or material which has been rejected by the Engineer shall be corrected or replaced to the satisfaction of the Engineer by the Contractor, and no compensation will be allowed for such correction or replacement.
- B.** Work done beyond the lines and grades as shown on the Plans, or established by the Engineer, or any extra work done without written authority, will be considered as unauthorized, and no compensation will be allowed therefore. Work so done may be ordered removed at the Contractor's expense.
- C.** Upon failure on the part of the Contractor to comply with any order of the Engineer made under the provisions of this paragraph, the Engineer shall have the authority to cause defective work to be remedied or removed and replaced, and unauthorized work to be removed, with the cost thereof to be borne by the Contractor. In such case, the Port shall deduct the cost of such renovation, removal or replacement from any monies due or to become due the Contractor.

5.12 DAMAGED WORK OR MATERIAL

- A.** Work or materials of any nature, whether existing or to be provided or installed as a part of the present project, which becomes damaged during the progress of the work and before final acceptance thereof from any cause whatsoever, shall be repaired or replaced insofar as such work or material shall be deemed by the Engineer to be defective, in kind by materials and workmanship conforming to the Plans and Specifications therefore and satisfactory to the Engineer, with the cost thereof to be borne by the Contractor.

6.00 CONTROL OF MATERIALS AND PRODUCTS

6.01 SAMPLES AND TESTS

- A.** Before installation, representative samples, together with manufacturer's test certificates pertaining thereto in accordance with the applicable requirements hereof, shall be submitted to the Engineer by the Contractor for approval for all products and materials proposed to be used in or incorporated into the work. Tests of products and/or materials shall be made in accordance with commonly recognized standards of national organizations in accordance with the provisions of the applicable Technical Specifications. Approval of any product or material on the basis of sample tests and/or manufacturer's certificates of compliance will constitute general approval only, and shall not constitute a waiver of the rights of the Port to demand full compliance with the provisions of the Contract Documents.

- B. An exception to the foregoing paragraph is the reservation that, in the case of materials produced or products manufactured outside the borders of the United States of America, the Engineer may, at his option or the direction of the Port, witness the sampling and testing of such materials or products at their source or place of manufacture of materials or products produced outside the borders of the United States of America, the entire cost of such inspection and testing including salaries and expenses of Inspectors as well as testing fees shall be borne by the Contractor, and the Port shall deduct any such costs and expenses from monies due or to become due the Contractor.
- C. After delivery of products or materials to the Job Site, the Engineer will make such further check tests and inspections as may be deemed necessary to certify compliance with the requirements of the Contract Documents. Products or materials may be rejected as a result of on-site testing or inspection even though the same have been previously given general approval, and such rejected products or materials shall be removed from the project by, and at the expense of, the Contractor and be replaced with materials or products complying with the requirements of the Contract Documents.
- D. Except as otherwise provided in these Contract Documents, all necessary materials and product testing and inspection will be provided by the Engineer and/or the Port. However, in the following instances, the Contractor shall be assessed for the costs of testing and inspection:
 - 1. Re-testing of products or materials which have failed to meet specification.
 - 2. Testing and inspection of products or materials offered in substitution for those found to be deficient.
 - 3. Testing and inspection of product or materials offered in lieu of these specified in order to approve their equivalence of quality.
 - 4. Source or site of manufacturer inspection and testing of materials or products produced or manufactured outside the borders of the United States of America.

6.02 DEFECTIVE MATERIALS

- A. Materials not conforming to the requirements of these Contract Documents shall be considered to be defective, and all such materials, whether in place or not, will be rejected, and shall be immediately removed from the site of the work. Rejected materials, the defects of which have been subsequently corrected, shall not be used until approval in writing has been obtained from the Engineer. Upon failure of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this paragraph, the Engineer shall have the authority to cause removal and replacement of defective materials, and the Port shall deduct the cost of same from monies due or to become due the Contractor.

6.03 STORAGE OF MATERIALS OR PRODUCTS

- A. Materials, equipment or products shall at all times be stored in a suitable manner to ensure the preservation of their quality and fitness for inclusion of the work. The Contractor shall be responsible for all materials of every description

and all products or equipment delivered to the job site; and, when considered necessary by the Engineer, shall provide and maintain suitable enclosures or other special protection from weather or other potential damage without additional cost to the Port.

- B. Inclusion of products, equipment or materials on estimates for progress payments shall not relieve the Contractor of his responsibility in this regard.

6.04 SHOP DRAWINGS

- A. Shop drawings or equipment details as required to be furnished by the Contractor shall be furnished to the Engineer for review and approval. Such drawings or details shall be prepared by competent personnel, and shall have been checked for completeness and accuracy prior to submission. Drawings or details which have not been properly prepared and checked will be returned to the Contractor for resubmission.
- B. Approval of drawings and details by the Engineer shall constitute a general check only for compliance with the requirements of the Contract Documents, and neither the Engineer nor the Port shall be responsible in any way for any errors or omissions by reason of such approval.
- C. Contractor shall check and verify all field measurements and shall submit for review, with such promptness as to cause no delay in his own work or in that of any other contractor or subcontractor, all shop or setting drawings and schedules required for the work of the various trades. Shop drawings shall be prepared at the Contractor's expense and shall be sent to the office of the Port, carriage prepaid.
- D. The term "shop drawings" as used herein includes fabrication, erection and installation, layout, and setting drawings, lists or schedules of materials and equipment; manufacturers' standard drawings, descriptive literature, catalogues and brochures, performance and test data; and all other drawings and descriptive data pertaining to materials, equipment, and methods of construction as may be required to show that the materials, equipment, or systems, and the positions thereof, conform to the Contract requirements.
- E. As used herein, the term "manufactured" applies to standard units usually mass produced; and "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements.
- F. Shop drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation of adjoining work, amplify design details, and incorporate minor changes of design or construction to suit actual conditions. Shop drawings shall be drawn to scale and shall be completely dimensioned.
- G. Sheet sizes of shop drawings shall be in multiples of 8-1/2 by 11 inches, preferably not exceeding 22 by 34 inches unless there is a special requirement for larger size sheets.
- H. Shop drawings shall be submitted to the Engineer in form of six (6) sets of blackline or blueline prints. Manufacturers' literature, brochures, catalog cuts,

design calculations, and other pertinent printed matter or data shall be submitted in six (6) copies.

- I. When shop drawings and/or other submittals are required to be revised or corrected and resubmitted, as directed, Contractor shall make such revisions and/or corrections and resubmit the drawings or other material in the same manner as specified in Paragraph "H" above.
 1. Make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and re-submittal, and for placing orders and securing delivery.
 2. In scheduling, allow at least ten (10) working days for each of all the design professionals.

6.05 TRADE NAMES AND ALTERNATIVES

- A. Whenever the Trade Name of a product, or the name of a Manufacturer appears in these Contract Documents or on the Plans, it shall be understood to specify the product so identified or its approved equal. The words "or equal" or "approved equal" shall mean equal in the opinion of and approved by the Engineer in writing. For convenience in designation, certain equipment or articles or materials may be designated under trade name or the name of a manufacturer or product and his catalogue information. The use of alternative equipment or an article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the written approval of the Engineer, in accordance with the following requirements:
 1. The burden of proof as to the comparative quality and suitability of alternative equipment or articles or materials shall be upon the Contractor and he shall furnish, at his own expense, all information necessary or related thereto as required by the Engineer. The Engineer shall be the sole judge as to the comparative quality and suitability of alternative equipment or articles or materials and the decision of the Engineer shall be final.
 2. The above provisions shall not be construed as permitting the use of alternative equipment or articles or materials for equipment or articles or materials which are not designated under a Trade Name or the name of a manufacturer or producer and his catalogue information, and for which detail specifications are set forth.
 3. In accordance with the provisions of Section 3400 of the California Public Contract Code, a contractor shall be provided a period of not less than thirty calendar days after award of the contract for submission of data substantiating a request for a substitution of "an equal" item.

7.00 LEGAL RELATIONS AND RESPONSIBILITY

7.01 LAWS TO BE OBSERVED

- A. The Contractor and any subcontractors, shall be and keep fully informed of all existing and future legislated federal, state and local laws including Port, City, and County ordinances and regulations which in any manner affect those engaged or employed in the work, or the materials and equipment used in the work, or which in any way affect the conduct of the work, and all such orders

and decrees of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in this contract in relation to any such law, ordinance, regulation, order or decree the Contractor shall forthwith report the same to the Port in writing. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees; and shall defend and indemnify The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each thereof against any claim or liability arising from or based upon the violation of any such law, ordinance, regulation, order, or decree, whether by the contractor or by the contractor's employees. Particular attention is called to the following:

1. **Prevailing Wages:** Pursuant to the statutes of the State of California, the Port has ascertained and determined the general prevailing rate of per diem wages, and rates for holidays, Saturdays and Sundays and overtime work in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract. Copies of the prevailing rates so determined shall be made available for inspection at the Port Executive Director's office and form a part of the contract documents. The Contractor shall post a copy of said prevailing rate of per diem wages at each job site.

The Contractor shall forfeit as penalty to the Port Twenty-Five Dollars and No/100 Cents (\$25.00) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing rates for any work done under the contract by the Contractor or by any subcontractor in violation of the provisions of the California Labor Code and, in particular, Section 1770 to Section 1781 thereof, inclusive.

A copy of all payrolls shall be submitted to the Engineer along with the Contractor's request for monthly progress payments. Payrolls shall contain the full name, address and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid. They shall also indicate apprentices and ratio of apprentices to journeymen. The employee's address and social security number need only appear on the first payroll on which his name appears. The payroll shall be accompanied by a "Statement of Compliance" signed by the employer or his agent indicating that the payrolls are correct and complete and that the wage rates contained therein are not less than those required by the contract. The "Statement of Compliance" shall be on CALTRANS Form HC-347 or on such applicable forms as may be approved by the Engineer. The Contractor shall be responsible for the submission of copies of payrolls of all subcontractors.

2. **Eight Hour Day Limitation:** In accordance with the provisions of Article 3, Chapter 1, Part 7, Division 2 of the California Labor Code, and in particular Sections 1810 to 1817 legal day's work and no laborer, worker, or mechanic in the employ of said Contractor, or any subcontractor doing or contracting to do any part of the work contemplated by this contract shall be required or permitted to work more than eight (8) hours in any one calendar day, and forty (40) hours in any one calendar week unless compensated at not less than time and a half as set forth in California Labor Code Section 1815.

However, if the prevailing wage determination requires a higher rate of pay for overtime than is required under said Section 1815, then the overtime rate must

be paid, as specified in California Administrative Code Title 8, Group 3, Section 16200 (a) (3) (F). The Contractor and each subcontractor shall also keep an accurate record showing the names and actual hours worked of all workers employed by them in connection with the work contemplated by this contract, which record shall be open at all reasonable hours for inspection by the Port or its officers or agents and by the Chief of the Division of Labor Statistics and Law Enforcement of the Department of Industrial Relations, their deputies or agents; and it is hereby further agreed that the Contractor shall forfeit as a penalty to the Port, the sum of Twenty-Five and No/100 Dollars (\$25.00) for each laborer, worker or mechanic employed in the execution of this contract by the Contractor or by any subcontractor for each calendar day during which such laborer, worker or mechanic is required or permitted to labor more than eight (8) hours in any one calendar day and forty (40) hours in one calendar week in violation of this stipulation.

3. **Apprentices:** Attention is directed to the provisions in Sections 1777.5 and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any subcontractor.

(a). Section 1777.5 reads, in part, as follows:

"The Contractor or subcontractor, if he is covered by this section, upon the issuance of the approval certificate, or if he has been previously approved in such craft or trade, shall employ the number of apprentices of the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Contractor that he employs apprentices in such craft or trade in the state of all of his contracts on an annual average of not less than one apprentice to each five journeymen, the Division of Apprenticeships Standards may grant a certificate exempting the Contractor from the 1-to-5 ratio as set forth in this section. This section shall not apply to contracts of general contractors involving less than Thirty Thousand and No/100 Dollars (\$30,000.00) or twenty (20) working days or to contracts of specialty contractors not bidding for work through a general or prime contractor, involving less than Two Thousand and No/100 Dollars (\$2,000.00) or fewer than five (5) working days."

"Apprenticeship craft or trade,' as used in this section shall mean a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council. The joint apprenticeship committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting a Contractor from the 1-to-5 ratio set forth in this section when it finds that any one of the following conditions is met:"

- (1) "In the event unemployment for the previous three-month period exceeds an average of fifteen percent (15%)," or
- (2) "In the event the number of apprentices in training in such area exceeds a ratio of 1-to-5," or

(3) "If there is a showing that the apprenticeable craft or trade is replacing at least one -thirtieth of its journeymen annually through apprenticeship training, either (1) on statewide basis, or (2) on a local basis."

(4) "If assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman."

"When such exemptions are granted to an organization which represents contractors in a specific trade from the 1-to-5 ratio on a local or statewide basis the member contractors will not be required to submit individual applications for approval to local joint apprenticeship committees, provided they are already covered by the local apprenticeships standards."

- (b) The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if registered apprentices or journeymen in any apprenticeable trade are employed hereunder and if other contractors on the construction site are making such contributions.
- (c) The Contractor and any subcontractor shall comply with the requirements of Sections 1777.5 and 1777.6 of the California Labor Code in the employment of apprentices.
- (d) Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the California Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.
- (e) In accordance with the provision of California Labor Code Section 1777.7, if the Contractor willfully fails to comply with the provisions of Section 1777.5 of said Code, the Contractor shall be denied the right to bid on any public works contract for a period of one (1) year from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and forfeit as a civil penalty sum of Fifty Dollars and No/100 Cents (\$50.00) for each calendar day of non-compliance. Notwithstanding the provisions of Section 1727 of the California Labor Code, upon receipt of such a determination the Port shall withhold from contract progress payments such sum then due or to become due. Any funds withheld by the Port pursuant to Section 1777.7 shall be deposited in the general funds of the Port.

7.02 TRAVEL AND SUBSISTENCE PAY

- A.** The Contractor and any subcontractor, in performing any of the work under the contract or subcontract shall, pursuant to California Labor Code Section 1773.8, pay travel and subsistence payments to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable

collective bargaining agreements filed in accordance with the provisions of Article 2, Chapter 1, Part 7, Division 2 of the California Labor Code.

7.03 RECEIPT OF WORKERS, WAGES, FEE FOR REGISTERING OR PLACING PERSONS IN PUBLIC WORKS.

A. Attention is directed to the provisions of Sections 1778 and 1779 of the California Labor Code, which read as follows:

1. **"Section 1778:** Every person, who individually or as a representative of an awarding or public body or officer, or as a contractor or subcontractor doing public work, or agent or officer thereof, who takes, receives or conspires with another to take or receive, for his own use or the use of any other person any portion of the wages of any workman or working subcontractor, in connection with services rendered upon any public work is guilty of a felony."
2. **"Section 1779:** Any person or agent or officer thereof who charges, collects, or attempts to charge or collect, directly or indirectly, a fee or valuable consideration for registering any person for public work, or for giving information as to where such employment may be procured, or for placing, assisting in placing, or attempting to place, any person in public work, whether the person is to work directly for the state, or any political subdivision or for a contractor or subcontractor doing public work is guilty of a misdemeanor."

7.04 SUBLETTING AND SUBCONTRACTING FAIR PRACTICES ACT.

A. All bidders shall comply with the provisions of Part 1, Division 2, Chapter 4 of the Public Contract Code of the State of California, if applicable to the work to be done hereunder.

7.05 RELEASE

A. Pursuant to California Public Contract Code Section 7100, the acceptance by the Contractor of an undisputed payment made under the terms of the contract shall operate as, and shall be, a release to the Port, and their duly authorized agents, from all claim of and/or liability to the Contractor arising by virtue of the contract related to those amounts. Disputed contract claims in stated amounts may be specifically excluded by the Contractor from the operation of the release.

7.06 LABOR DISCRIMINATION

A. Attention of the Contractor is directed to Section 1735 of the California State Labor Code, as added by Chapter 643, Statutes of 1939, which read as follows:

1. "No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."

7.07 LABOR PREFERENCE

- A.** The Contractor shall give preference in the performance of labor under the Contract to persons who shall have actually resided in Redwood City and shall have so resided for the period of one year preceding the date of their engagement to perform labor thereunder.
- B.** The attention of bidders is invited to the fact that the Port has been advised by the Wage and Hour Division, U.S. Department of Labor, that contractors engaged in public construction work are required to meet the provisions of the Fair Labor Standards Act.

7.08 REGISTRATION OF CONTRACTORS

- A.** Before submitting bids, contractors shall be licensed in accordance with the provisions of a California State Act entitled "An Act Providing for the registration of contractors, and defining the term contractor; providing a method of obtaining licenses to engage in the business of contracting, and fixing the fees for such licenses; providing a method of suspension and cancellation of such licenses; and prescribing the punishment for violation of the provisions of the Act", codified as Chapter 9 of Division 3 of the Business Professions Code, Chapter 37 of the Statutes of 1939, as amended.

7.09 PERMITS AND LICENSES

- A.** The Contractor shall procure and maintain all City, County and State permits and licenses, including municipal business license, and pay all charges and fees for the same, without cost to the Port and shall give all notices necessary and incidental to the due and lawful prosecution of the work.

7.10 SAFETY CODES

- A.** The Contractor shall conduct his operations in strict conformance with all applicable "Safety Orders" of the Industrial Safety Division of the State of California.

7.11 PATENTS

- A.** All fees or claims for any patented invention, article, or arrangement that may be used upon or in any manner connected with the doing of the herein proposed work, or any part thereof, shall be included in the price bid for doing the work herein proposed; and the Contractor and his sureties shall protect and hold The City of Redwood City, the Port of Redwood City, the Council of Redwood City, the Board of Port Commissioners, and all officers, agents, and employees of each hereof harmless against any and all suits and claims brought or made by the holders of any invention, patent, copyright, or trademark, or growing out of any alleged infringement of any invention, patent, copyright, or trademark; and before final payment is made on account of the Contract, the Contractor shall furnish acceptable proof to the Port of a proper release from all such fees or claims.

7.12 PUBLIC CONVENIENCE AND SAFETY

- A.** The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to the public. Convenient access to driveways, houses, sidewalks and buildings along the line of work must be maintained and kept in good condition. The Contractor shall provide flagmen and guards to direct the control of traffic, and to provide such special signs as may be required by the Engineer. Construction equipment shall interfere as little as possible with the free passage of traffic, and the Contractor shall provide at his own expense the necessary signs, lights, and watchmen required to safely direct public traffic past such equipment.
- B.** The Contractor shall, at his own expense, provide and maintain such fences, barriers, signs, lights, and other means as may be necessary to prevent accidents to the public and to protect the work. It shall be the responsibility of the Contractor to protect and guard the work from injury or damage due to any cause. No material or other obstruction shall be placed within 25 feet of active fire hydrants, and they shall be kept readily accessible to the Fire Department at all times.

7.13 RESPONSIBILITY FOR WORK AND MATERIALS

- A.** Except as may be otherwise provided in the Contract Documents for partial acceptance of the work, the Contractor shall have the charge and care thereof until formal acceptance by the Port and shall bear the risk of injury or damage to any part thereof from any cause whatever arising from the execution or non-execution of the work. The Contractor shall rebuild, restore, repair, and make good all injuries or damages to any portion of the work occasioned by any of above causes before its acceptance, and shall bear the expense thereof. Suspension of the work will not in any way relieve the Contractor of his responsibility for the protection of materials and the work.

7.14 PRESERVATION OF PROPERTY

- A.** The Contractor shall exercise due care and concern to avoid injury to existing improvements or facilities, utility facilities, fences, buildings, structures, adjacent property, and trees and shrubbery that are not to be removed. If such objects are injured by reason of the Contractor's operations, they shall be replaced or restored at the Contractor's expense to a condition as good as when the Contractor entered upon the work, and to the satisfaction of the Engineer.
- B.** The Contractor shall be responsible for any damage to existing sewer or water lines, or other underground structures damaged during the course of construction, and shall bear the cost of any repair or replacement. Where such damage occurs, the Contractor shall immediately notify the Engineer, or his representative, to insure immediate repair of damage. No repair of damaged water lines shall be attempted by the Contractor. Such repairs may be done only by the Water Division forces of the City of Redwood City, and the cost of the repair of said water lines shall be borne by the Contractor. The Contractor shall pay to the Port of Redwood City the actual cost of such repairs plus fifty and seventy-eight hundredths percent (50.78%) of the labor charges to cover superintendency and administrative overhead expense.

- C. The Contractor shall furnish, maintain, and use at his expense such equipment and materials as may be necessary to protect adjacent property from damage caused by dust from any of the operations of the Contractor, and he shall be liable for any damage caused by said dust. Failure on the part of the Contractor to control dust, mud, dirt, and refuse from his operations shall be cause for stopping said work until dust, mud, dirt and refuse are controlled, and any expense caused by such delay shall be borne by the Contractor.

7.15 PRESERVATION OF MATERIALS AND EQUIPMENT

- A. Materials and equipment delivered to the site of the work shall be fully protected against the elements, thefts, vandalism, and damage of any kind; and the Contractor shall be held fully responsible for such protection until acceptance of the work. The Engineer shall have the right to require warehousing, watch service, or other type of protection if the same is deemed necessary.

7.16 PROPERTY RIGHTS IN MATERIALS

- A. Nothing in the Contract or the Contract Documents shall be construed as vesting in the Contractor any right of property in the materials used in, or products or equipment incorporated into, the work after the same have been attached or affixed to the work or soil, but the same shall be and remain the property of the Port.

7.17 TAXES

- A. The contract unit prices shall include full compensation for any payroll taxes which may be incurred under State and Federal Unemployment and Social Security Acts, and all sales taxes on materials furnished by the Contractor. The Contractor shall promptly pay such taxes to the proper agency, and shall indemnify and save harmless the Port from any liability which may or could arise therefrom.

7.18 SANITARY PROVISIONS

- A. The Contractor shall comply with all of the sanitary regulations prescribed by the Department of Public Health of the State of California, the San Mateo County Health Department, and by the City of Redwood City or by any other city having jurisdiction over any of the work.

7.19 DISPOSAL OF EXCESS MATERIALS

- A. Excess of unsuitable excavated materials shall be disposed of at the direction of the Engineer. Should the excess material be required to be disposed of on property adjacent to the excavation, the material thus disposed of shall be placed in a neat and uniform manner and to the satisfaction of the Engineer. Full costs for disposing of such material shall be included in the prices bid. No additional payment will be made for off-haul and disposal.

7.20 COOPERATION BETWEEN CONTRACTORS

- A. Where two or more Contractors are employed on related or adjacent work, each shall conduct his operations in such a manner as not to cause any unnecessary

delay or hindrance to the other. Each Contractor shall be responsible to the other for any damage to work, or injury to person or property, or for loss caused by failure to complete the work within the time specified.

7.21 FIRE HYDRANT ACCESS AND USE

- A.** The Contractor shall provide continuing access to all fire hydrants located within the limits of the work, and such access shall meet the approval of the City's Fire Department.
- B.** The Contractor shall not make use of any fire hydrant without first having obtained approval therefore from the Fire Department and a construction meter obtained from the Water Division of the City.

7.22 CLOSURE OF STREETS

- A.** Should the work require the closure of an existing City street or right-of-way, or portions thereof, the Contractor shall first obtain the written approval of the Engineer and the Fire Department therefore. Upon approval, no street closure shall be made unless and until the City's Police Department has been notified of the closure.
- B.** Upon completion of construction operations and cleanup, the Contractor shall notify the Engineer, the Police Department and the Fire Department when the street is reopened.

7.23 SUBCONTRACTING

- A.** All Contractors shall comply with the provisions of Chapter 4 (commencing at Section 4100) of Division 2 of Part 1 of the Public Contract Code of the State of California, if applicable to the work being performed and, specifically, shall comply with the provisions of Section 4104 of the Government Code.
- B.** Pursuant to the requirements of the State of California Public Contract Code, Section 4104, each bidder must state in his proposal the subcontractors he intends to employ to perform any work or labor, or render service to the Contractor, in or about the construction of the work or improvement, in an amount in excess of one-half of one percent (1/2%) of the Contractor's bid. This statement shall include the name of each subcontractor, the location of his place of business, and the nature of the work to be performed by him.
- C.** The Contractor, whose bid is accepted, shall not, without the written consent to the Port either:
 - 1. Substitute any person as subcontractor in place of the sub contractor designated in the original bid.
 - 2. Permit any such subcontract to be assigned or transferred, or allow it to be performed by anyone other than the original subcontractor listed in the bid.
 - 3. Sublet or subcontract any portion of the work, in excess of one-half of one percent (1/2%) of the Contractor's total bid, to which his original bid did not designate a subcontractor.

- D. The Port may consent to the substitution of another person as subcontractor, when the subcontractor named in the bid, after having had a reasonable opportunity to do so, fails or refuses to execute a written Contract, when said written Contract, based upon the general items, conditions, plans and specifications for the Contract involved or the terms of such subcontractor's written bid, presented to him by the Contractor (Section 4107, Public Contract Code).

7.24 STANDARDS TO APPLY IN LIEU OF SPECIFICATIONS

- A. Wherever in these Contract Documents, or in any orders that may be given by the Engineer pursuant to or supplementing these documents, it is provided that the Contractor shall furnish materials or manufactured articles for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market from companies of established reputation; or if not ordinarily carried in stock, shall conform to accepted standards for first class materials or articles of the kind required, with due consideration for the use to which they are to be put. Work for which no detailed specifications are set forth herein, shall conform to accepted standards for first class work of the kind required.

7.25 GUARANTEE OF THE WORK

- A. All equipment, materials, and workmanship furnished under this Contract shall be guaranteed against all defects for a period of one (1) year from the date of acceptance thereof by the Port unless otherwise provided in the Special Conditions. Defective materials and workmanship occurring during the guarantee shall be replaced by the Contractor at his expense, together with the repair or replacement of any adjacent work which may be damaged or displaced in the process.
- B. Unless otherwise provided in the Special Conditions, in addition to the above guaranty, the Contractor shall assign to the Port all equipment and material guarantees issued by manufacturers or subcontractors, which guarantees extend beyond the one (1) year period specified above.

7.26 PUBLIC WORKS CONTRACTS OR SUBCONTRACTS; GOODS, SERVICES OR MATERIALS; ASSIGNMENT TO AWARDING BODY

- A. In accordance with Section 4551 of the Government Code, the Contractor and subcontractors shall conform to the following requirements. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the Port all rights title, and interest in and to all causes of action it may have under the Section 4 of the Clayton Act (15 U.S.C. Sec. 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 public works contract or the subcontract. This assignment shall be made and become effective at the time the Port tenders final payment to the Contractor, without further acknowledgment by the parties.

7.27 SUBMISSION OF BIDS TO PORT; AGREEMENT TO ASSIGN

- A.** In accordance with Section 4552 of the Government Code, the bidder shall conform to the following requirements. In submitting a bid to the Port, the bidder offers and agrees that if the bid is accepted, it will assign to the Port 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. Sec. 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, materials, or services by the bidder for sale to the Port pursuant to the bid. Such assignment shall be made and become effective at the time the Port tenders final payment to the bidder.

7.28 SECTION 6705 OF THE CALIFORNIA LABOR CODE

- A.** As required by Section 6705 of the California Labor Code, whenever work under the Contract involves the excavation of any trench or trenches 5 feet or more in depth, the Contractor shall submit for acceptance by the Port Engineer or by a registered civil or structural engineer, employed by the Port to whom authority to accept has been delegated, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of ground caving during the excavation, of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by the Contractor, and all costs therefor shall be included in the price named in the Contract for completion of the work as set forth in the Contract Documents. Nothing in this Section shall be deemed to allow the use of shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the Port nor any of its officers, agents, representatives or employees.

8.00 PROGRESS OF THE WORK

8.01 COMMENCEMENT OF WORK

- A.** Within thirty (30) calendar days after receipt of the required bonds and evidences of insurance and the executed Agreement from the Contractor, written Notice to Proceed will be given by the Port to Contractor. Notwithstanding other provisions of the Contract, the Contractor shall not be obligated to perform work, and the Port shall not be obligated to accept or pay for work performed by the Contractor, prior to Notice to Proceed.
- B.** The Contractor shall commence the work covered by this Contract within ten (10) calendar days after the date established in the Notice to Proceed for the commencement of Contract Time. The Contractor shall give the Engineer written notice not less than two (2) working days in advance of the actual date on which the work will be started. The Contractor shall be entirely responsible for any delay in the work which may be caused by its failure to give such notice.

8.02 CONTRACT TIME

- A. Time shall be of the essence in the performance of this Contract. The Contractor shall prosecute the work so that the various portions of the project shall be complete and ready for use within the time specified in Section 00800 – 1.04, Time of Completion. It is expressly understood and agreed by and between the Contractor and the Port that the Contract Time for completion of the work described herein is a reasonable time taking into consideration the average climatic and economic conditions and other factors prevailing in the locality and the nature of the Work.

8.03 DELAYS

- A. Notice of Delays - When the Contractor foresees a delay in the prosecution of the Work and, in any event, immediately upon the occurrence of a delay, the Contractor shall notify the Engineer in writing of the probability of the occurrence and the estimated extent of the delay, and its cause. The Contractor shall take immediate steps to prevent, if possible, the occurrence or continuance of the delay. The Contractor agrees that no claim shall be made for delays which are not called to the attention of the Engineer at the time of their occurrence.
- B. Non-excusable Delays - Non-excusable delays in the prosecution of the Work shall include delays which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers.
- C. Excusable Delays - Excusable delays in the prosecution or completion of the Work shall include delays which result from causes beyond the control of the Contractor and Port and which could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. Excusable delays fall into the following three categories:
1. The physical shortage of material, caused by unusual circumstances, will be considered under these provisions as a cause for extension of time, and no consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost or price, unless it is shown to the satisfaction of the Engineer that such material could have been obtained only at exorbitant prices out of line with current rates, taking into account the quantities involved and usual practices in obtaining such quantities. Contractor must demonstrate to the Engineer that Contractor has made every effort to obtain such materials from all known sources.
 - a. A time extension for shortage of material will not be considered for material ordered or delivered late or whose availability is affected by virtue of the mishandling of procurement.
 - b. The above provisions apply equally to equipment to be installed in the work.
 2. Delays caused by acts of god, fire, unusual storms, floods, tidal waves, earthquakes, strikes, labor disputes, and freight embargoes, shall be

considered as excusable delays insofar as they prevent the Contractor from proceeding with at least seventy-five (75) percent of the normal labor and equipment force for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule.

3. Weather delays mean inclement weather conditions or conditions resulting from weather, which (1), prevent the Contractor from proceeding with seventy-five (75) percent of the normal labor and equipment force engaged in the current critical activity item for a period of at least five (5) hours per day toward completion of such operation or operations; and (2), requires dismissal of work as a result thereof, and (3) which exceeds the allowance for inclement weather, as listed in Section 00800, Paragraph 1.06.

D. Compensable Delays - Compensable delays in the prosecution or completion of the Work shall include delays that occur through no fault of the Contractor and prevent the Contractor from proceeding with at least seventy-five (75) percent of the normal labor and equipment force for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule due to the following cause(s):

1. Delays due solely to the actions and/or inactions of the Port.
2. Delays due to differing site conditions as defined in Section 00700 – 4.05, CHANGED CONDITIONS.
3. Delays due to other Contractors employed by the Port interfering with the Contractor's prosecution of the Work as defined above.

E. Concurrent Delays - Concurrent delays are those delay periods when the prosecution of the Work is delayed during the same period of time due to causes from a combination of the delays defined in this section as Non-Excusable Delays, Excusable Delays, or Compensable Delays. During such concurrent delay periods, time extensions will be granted; however, the Contractor shall not be compensated for its overhead costs as defined in Paragraph 8.05C, Indirect Overhead, and the Port shall not assess its actual costs as defined in Paragraph 8.04A, Non-excusable Delays.

8.04 TIME EXTENSIONS

A. Non-excusable Delays - The Port may grant an extension of time for non-excusable delays if the Port deems it is in its best interest. If the Port grants an extension of time for non-excusable delays, the Contractor shall pay the Port's actual costs, including charges for engineering, inspection and administration incurred during the extension.

B. Excusable Delays - If the Contractor is delayed in the performance of its work as defined in Paragraph 8.03C, Excusable Delays, the Contract completion date may be extended by the Port for such time that, in the Engineer's determination, the Contractor's completion date will be delayed, provided that the Contractor strictly fulfills the following:

1. Contractor shall provide notification, in accordance with Paragraph 8.03A, Notice of Delays, and submit in writing a request for an extension of time to the Engineer stating at a minimum the probable cause of the delay and the number of days being requested.
 2. If requested by the Engineer, the Contractor shall promptly provide sufficient information to the Engineer to assess the cause or effect of the alleged delay, or to determine if other concurrent delays affected the work.
 3. Contractor will be granted a non-compensable time extension for weather caused delays, pursuant to Paragraph 8.03C(3), Weather Delays, over and above an allowance as provided for in Section 00800 – Paragraph 1.06 Weather Days. No time extensions for weather delays will be granted until the total number of weather days exceeds this allowance.
- C. Should the Contractor fail to fulfill any of the foregoing, which are conditions precedent to the right to receive a time extension, Contractor's failure to fulfill the foregoing shall constitute a waiver of the right to receive a time extension.
- D. During such extension of time for excusable delays, neither extra compensation for engineering, inspection and administration nor damages for delay will be charged to the Contractor.
- E. Time extensions due to compensable delays will be granted only if such delays involve controlling items of work, which would prevent completion of the whole Work within the specified Contract time, plus extensions for excusable delays.

8.05 COMPENSABLE DELAYS

- A. Contractor shall be reimbursed for his Indirect Overhead expenses for periods of time when the Work is delayed as defined in Paragraph 8.03D, Compensable Delays. However, no reimbursement for indirect overhead shall be made for compensable delays which occur during a concurrent delay.
- B. Payment to the Contractor for indirect overhead expenses will be made only if the extended Contract period granted for the compensable delay(s) is required to complete the work following the depletion of the original contract period and any time extensions granted other than compensable time extensions.
- C. Indirect Overhead expenses are defined as follows:
1. Indirect Field Overhead: The Contractor shall be reimbursed for its indirect field overhead based on:
 - a. Actual invoice costs for any contractor-provided on-site field offices and temporary utilities.
 - b. Actual payroll labor costs as described in Section 00900 – Paragraph 1.03, Force Account Payment, for field office staff.
 - c. Fair rental values acceptable to the Engineer as described in Section 00900 – Paragraph 1.03, Force Account Payment for construction equipment idled due to the delay.

2. Indirect Home Office Overhead: The Contractor shall also be reimbursed for its home office overhead based on the following formula:
 - a. $\frac{OCA}{OCT} \times 0.3 = \text{Daily Home Office Overhead (\$/day)}$;
where OCA is the Original Contract Amount,
and OCT is the Original Contract Time in days.
 - b. Since it is impractical to determine the actual home office overhead, such reimbursement shall encompass full payment for any home office overhead expenses for such periods of time for the PRIME Contractor and all subcontractors, and no other payment for subcontractors shall be made.

8.06 LIQUIDATED DAMAGES FOR DELAYS

- A. Time is of the essence in the completion of this Work, and that in case all the Work called for under the Contract is not completed before or upon the expiration of the time limit as set forth in these Contract Documents, as modified by extensions of time granted by the Port, damage will be sustained by the Port. As it is impracticable to determine the actual delay damage; it is, therefore, agreed that the Contractor shall pay liquidated damages to the Port in the amount set forth in Section 00800 – Paragraph 1.05, Damages for Delays, per day for each and every day's delay beyond the time prescribed to complete the Work. The Contractor agrees to pay such liquidated damages and in case the same are not paid, agrees that the Port may deduct the amount thereof from any monies due or that may become due the Contractor under the Contract.

8.07 SUSPENSION OF WORK

- A. If the Contractor fails to correct defective work as required by Paragraph 6.0, CONTROL OF MATERIALS AND PRODUCTS, or fails to carry out the Work in accordance with the Contract Documents or any other applicable rules and regulations, the Port, by a written order of the Port's representative or signed personally by an agent specifically so empowered by the Port, in writing, may order the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated. The Port's concurrence that the condition or cause has been eliminated will be provided to the Contractor in writing. This right of the Port to stop the Work shall not give rise to any duty on the part of the Port to exercise this right for the benefit of the Contractor or any other person or entity. All delays in the Work occasioned by such stoppage shall not relieve the Contractor of any duty to perform the Work or serve to extend the time for its completion. Any and all necessary corrective work done in order to comply with the Contract Documents shall be performed at no cost to the Port.
- B. In the event that a suspension of Work is ordered, as provided in this paragraph, the Contractor, at its expense, shall perform all work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public, pedestrian, and vehicular traffic, during the period of such use by suspension. Should the Contractor fail to perform the Work as specified, the

Port may perform such work and the cost thereof may be deducted from monies due the Contractor under the Contract.

- C. The Port shall also have the right to suspend the Work wholly or in part, for such period as the Port may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the Work. Such temporary suspension of the Work will be considered justification for time extensions to the Contract in an amount equal to the period of such suspension if such suspended work includes the current critical activity on the latest favorably reviewed progress schedule. The Contractor as directed by the Port shall provide the provisions as stipulated in Paragraph 8.07, Suspension of Work, above. Such additional work shall be compensated as provided for in Section 00700 – Paragraph 4.05, Changed Conditions.

8.08 FAILURE TO PERFORM PROPERLY

- A. Should Contractor neglect to prosecute the work properly, or diligently, or fail to perform any provision of the Contract, the Port, after five (5) calendar days written notice to the Contractor, may without prejudice to any other remedy the Port may have, make good such deficiencies and deduct the cost from the payment then or thereafter due to the Contractor. The Contractor shall notify the Engineer in writing immediately any time the work falls fourteen (14) days behind the time schedule submitted by the Contractor under the provisions of Section 01700, Execution Requirements.

8.09 RIGHT TO TERMINATE CONTRACT

- A. If at any time the Contractor is determined to be in material breach of the Contract, notice thereof in writing will be served upon the Contractor and its sureties, and should the Contractor neglect or refuse to provide means for a satisfactory compliance with the Contract, as directed by the Engineer, within the time specified in such notice, the Port or the Port's Representative in such case shall have the right to terminate the operation of the Contract.
- B. Upon such termination, the Contractor shall discontinue the Work, or such parts of it as the Port may designate. Upon such termination, the Contractor's control shall terminate and thereupon the Port or its fully authorized representative may take possession of all or any part of the Contractor's materials, tools, equipment, and appliances upon the premises and use the same for the purposes of completing the Work and hire such force and buy or rent such additional machinery, tools, appliances, and equipment, and buy such additional materials and supplies at the Contractor's expense as may be necessary for the proper conduct of the Work and for the completion thereof; or the Port may employ other parties to carry the Contract to completion, employ the necessary workers, substitute other machinery or materials and purchase the materials contracted for, in such manner as the Port may deem proper; or the Port may annul and cancel the Contract and relet the Work or any part thereof. Any excess of cost arising therefrom over and above the Contract price will be charged against the Contractor and its sureties, who will be liable therefore.
- C. In the event of such termination, all monies due the Contractor or retained under the terms of this Contract shall be held by the Port; however, such holdings will

not release the Contractor or its sureties from liability for failure to fulfill the Contract. Any excess cost over and above the Contract amount incurred by the Port arising from the termination of the operations of the Contract and the completion of the Work by the Port as above provided shall be paid for by any available funds held by the Port. Any surplus remaining after all just claims and expenses owed after damages have been paid, will be distributed to Contractor.

- D. In addition to the Port's rights under this section, if at any time before completion of the work under the Contract, it shall be determined by the Port that reasons beyond the control of the parties hereto render it impossible or against the interests of the Port to complete the work, or if the work shall be stopped by an injunction of a court of competent jurisdiction, the Port may, upon ten (10) days written notice to the Contractor, discontinue the work and terminate the Contract. Upon service of such notice of termination, the Contractor shall discontinue the work in such manner, sequence, and at such times as the Engineer may direct. The Contractor shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the work thus dispensed with, nor any other claim except for the work actually performed up to the time of discontinuance, including any extra work ordered by the Engineer to be done, nor for any claim for liquidated damages.

8.10 CHARACTER OF WORKERS

- A. The Contractor shall neither permit nor suffer the introduction of the use of spirituous liquors and drugs upon or about the work, or upon any ground occupied by him in the prosecution of the work. The Contractor shall employ on the work only such superintendent, foremen, and workers who are competent to perform the type of work to which each is assigned. If any subcontractor or person employed by the Contractor fails or refuses to comply with the directions of the Engineer, or conducts himself in a disorderly, improper or incompetent manner, he shall be immediately discharged upon written request in writing of the Engineer.

8.11 CLEANING UP

- A. During the progress of the work the Contractor shall at all times keep the site in a neat and clean condition and shall not permit unsightly accumulation of construction debris. Upon completion of any portion of the work, as directed by the Engineer, the Contractor shall promptly remove from the vicinity all equipment and temporary structures, except as otherwise herein provided.
- B. Upon completion of the work, the Contractor shall promptly remove all construction rubbish and debris of any nature from the work site, and promptly remove all of his equipment, supplies, surplus material, and temporary facilities of every nature except as otherwise herein provided, and shall dispose of the same off the work site to the satisfaction of the Engineer.
- C. The Engineer will not schedule the final inspection of the work until the Contractor has cleaned up the work site in a satisfactory manner.

8.12 FINAL INSPECTION

- A.** Upon completion of the work and the final cleanup to the satisfaction of the Engineer, and upon receipt of the Contractor's application for acceptance of the work, the Engineer will proceed with the final inspection.

9.00 MEASUREMENT AND PAYMENT

9.01 MEASUREMENT

- A.** After the work has been completed, the Engineer will make field counts or measurements of unit price items, from which to determine the quantities of the various items as a basis for payment. On all unit price items, the Contractor will be paid for the actual amount of the work performed in accordance with the Contract Documents as computed from the field counts or measurements taken in a horizontal plane.
- B.** All measurements shall be made in accordance with the United States Standard Measure. Measurements for area and linear quantities will be taken on horizontal plane. Measurement of excavation and embankment, when specified, in cubic yards will be computed from cross sections, by the method of average end areas; and when specified in tons, will be computed from weight slips certified by the Engineer. Cubic yardage of any other materials will be computed by multiplication of the surface area on a horizontal plane times the depth or thickness specified. If material is specified to be placed in a structure, the actual volume within the neat lines of the structure, as shown on the Plans, will be the basis for computing the cubic yardage.

9.02 PROGRESS PAYMENTS

- A.** The Contractor shall, at the end of each month, prepare an estimate in writing to be approved by the Engineer of the total amount of work done, in place to date, and the value thereof based on the contract unit prices and the approved cost breakdown of lump sum items as approved by the Engineer.
- B.** In addition to the aforesaid estimate of work completed in place, there may be included an amount equal to fifty-percent (50%) of the value of major items of materials and equipment furnished and delivered to the job site, but not installed, such materials and equipment to be those which are proposed and suitable for permanent incorporation in the work. The meaning of the aforementioned "value" shall be the actual cost to the Contractor of the said materials and equipment, as evidenced by receipted bills submitted by the Contractor to the Engineer. The amounts thus included in the progress payment estimates shall be deducted from subsequent estimates, when the said materials and equipment have been installed.

The Contractor shall be responsible for the proper storage and safeguarding of the materials and equipment thus included in the progress payment estimates. The materials must be stored in a locked, secure storage area satisfactory to the Engineer. Any such materials or equipment which become damaged, stolen, or lost, shall be repaired or replaced to the satisfaction of the Engineer, at Contractor's expense.

- C. The Port shall retain five percent (5%) of such estimated value as part security for the fulfillment of the Contract, and shall pay monthly to the Contractor the remaining ninety-five percent (95%) after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the Contract.
- D. No such estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the Contract, or when in his judgment the total value of the work done since the last estimate amounts to less than one thousand dollars (\$1,000.00). No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

9.03 FINAL PAYMENT

- A. Upon completion of the Contract and final inspection by the Engineer, he shall prepare a final estimate of quantities and the value of such work, and the Port shall pay to the Contractor the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior progress estimates and payments shall be subject to the correction in the final estimate and payment.
- B. Final payment shall not be due and payable until the expiration of thirty-five (35) days from the date of recording by Port, of a notice of completion or acceptance or notice of cessation pursuant to Section 3184 of the Civil Code of the State of California. It is mutually agreed between the parties to the Contract that no approval given or payment made under the Contract, except the final acceptance and payment, shall be accepted as evidence of the satisfactory performance of the Contract. The Contractor further agrees that the payment of the final amount due under the Contract, and the adjustment and payment for any work done in accordance with any alteration of the same, shall release the Port and its officers, consultants, agents, and employees from any and all claims or liability on account of work performed under the Contract or alterations thereof. The final payment shall be conclusive and binding against both parties to the Contract on all questions relating to the performance of the Contract, and the amount of work done thereunder and compensation therefore, except in case of gross error, or in case of concealed defects in the work and/or materials.

9.04 ASSIGNMENT OF FUNDS

- A. No assignment of any funds to be received by the Contractor will be recognized by the Port unless such assignment has had the prior written consent of the Port, and of the surety or sureties.

10.00 OBSTRUCTIONS

10.01 PRIVATE IMPROVEMENTS

- A. It is anticipated that all major utilities or private improvements that are required to be removed or replaced with new construction, will be so moved and replaced by their respective owners prior to the construction operations covered by this

Contract. Except as otherwise provided in Section 10.02 of these General Conditions, it shall be the responsibility of the Contractor to ascertain if any public utilities exist along the line of work, whether or not shown on the Plans; and he shall, at his own expense, do any necessary work to save from damage, all such property in or adjacent to the work; and shall repair all damage thereto caused by his operations to the satisfaction of the Engineer.

- B. The right is reserved by the Port and the owners of public utilities and franchises or their authorized agents, to enter upon the work for the purpose of making such changes as are made necessary by the proposed work, or for making necessary connections or repairs to their properties.

10.02 UNDERGROUND OBSTRUCTION

- A. The provisions of Section 10.01 of these General Conditions notwithstanding, the Port shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utilities located on the construction site if such utilities are not identified by the Port in the plans and specifications made a part of the invitation for bids. The Port shall compensate the Contractor for the costs of locating such utilities, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy; and for the cost of equipment on the project necessarily idled during such work. The Contractor shall not be assessed liquidated damages for delay in completion of the work under this agreement when such delay was caused by the failure of the Port or the owner of the utility to provide for removal or relocation of such utilities.
- B. Nothing herein shall be deemed to require the Port to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the construction; provided, however, nothing herein shall relieve the Port from identifying main or trunklines in the plans and specifications.
- C. Nothing herein shall preclude the Port from pursuing any appropriate remedy against the utility for delays which are the responsibility of the utility.
- D. If the Contractor while performing the contract discovers utilities not identified by the Port in the contract plans or specifications, he shall immediately notify the Port and utility company in writing.

10.03 SURFACE OBSTRUCTIONS

- A. Rubbish, debris of any nature, brush and other surface obstructions in the line of the work, and not covered under separate heading in the bid schedule, shall be removed by the Contractor at his own expense and disposed of off the work site in a lawful manner, and to the satisfaction of the Engineer.

* * *

SECTION 00800

SPECIAL CONDITIONS

1.01 GENERAL

- A. These **SPECIAL CONDITIONS** supersede conflicting or contradictory sections in any other section of this Contract.
- B. Titles and headings to sections and paragraphs in these specifications are introduced merely for convenience and shall not be taken as a correct or complete segregation of the several units or materials and labor.

1.02 HOURS OF CONSTRUCTION

- A. Working hours shall be from 7:30 AM to 4:00 PM Monday through Friday, unless otherwise specified for off-peak hours.

1.03 PLANS

- A. Those certain plans entitled **Wharf 3 & 4 Fender Replacement Project and consisting of 37 sheets** are hereby made a part of this Contract.
- B. The City of Redwood City Standard Details and Technical Specifications.
- C. "State of California, Department of Transportation, Standard Specifications" dated 2015, (excepting application to payment) are hereby made a part of this contract.
- D. In the event of discrepancy between Standards of City of Redwood City and State of California Department of Transportation, the Standards of the City of Redwood City shall govern.

1.04 TIME OF COMPLETION

- A. The work covered under the BASE BID as defined in these Contract Documents shall be diligently prosecuted in accordance with the schedule proposed by the Contractor and approved by the Engineer to insure completion on or before January 31, 2018. All pile driving and pile removal may only be performed between June 1 and November 30. However, if the Port does not issue the Notice to Proceed on or before May 31, 2017, then the Port has the right to terminate the agreement at no cost and/or liability to the Port.
- B. Time for performance shall start running on the day stated in the Notice to Proceed, and shall run continuously thereafter, including Saturdays, Sundays and legal holidays, subject to such extensions and/or reductions as may from time-to-time during the course of the work be effectuated by change orders duly executed.

1.05 DAMAGES FOR DELAYS

- A.** In accordance with the provisions of Section 00700 - 8.06, Liquidated Damages For Delays, for the period of time that any portion of the work remains unfinished after the time fixed for completion in the Contract documents, as modified by extensions of time granted by the Owner, it is understood and agreed by the Contractor and the Owner that the contractor shall pay the Owner One Thousand and No/100 Dollars (\$1,000.00) per day liquidated damages.

1.06 WEATHER DELAYS

- A.** In accordance with the provisions of Section 00700 – 8.03c(3), Weather Delays, an allowance of five (5) working days for inclement weather delay have been included in the time allowed for completion.

1.07 GENERAL TRAFFIC CONTROL, SAFETY & ACCESS

- A.** Contractor shall provide one 11-foot minimum width traffic lane for vehicular traffic in each direction of travel during construction.
- B.** Contractor shall be responsible for supplying, placing and maintaining all construction signs, lighted barricades, cones, and other related traffic safety equipment to assure the safety of motorists as well as pedestrians. Detour shall conform to **WORK AREA TRAFFIC CONTROL HANDBOOK** prepared by the Uniform Ordinances and Practice Committee of the Southern California Chapter APWA. Copies can be obtained from Building News, Inc. 3055 Overland Avenue, Los Angeles, CA. 90034, (213) 870-9871.
- C.** Contractor has immediate access to the work site within the corporate limits of Redwood City. Contractor shall limit his activities within the area indicated as limits of the Contract. No work shall proceed on site unless temporary barriers, fences, gates and protection are installed and functioning.

1.08 PRE-CONSTRUCTION CONFERENCES

- A.** There will be a pre-construction conference after award of contract and before start of actual work on the project. The arranged time and place will be mutually agreeable to the Engineer and the Contractor. The Contractor together with the person to be designated as the Contractor's Superintendent for the work shall attend the meeting.
- B.** The Contractor shall at this time submit his proposed project progress schedule and detailed cost breakdown for the work for review and approval as to conformance with the Contract Documents.

1.09 SUPERINTENDENCE

- A.** The Contractor is to have on the job at all times a competent superintendent who shall represent the Contractor in his absences and all direction given him to be as binding as if given the Contractor.

1.10 UTILITY OPERATIONS

- A.** Prior to any underground excavation or demolition of any pavement, "Underground Services Alert" shall be notified by telephone, (800) 642-2444, at least 48 hours prior to the beginning of each excavation or demolition.

1.11 UTILITY SHUTDOWN

- A.** No utility shall be disconnected without prior written approval of the Engineer.
- B.** In the event operations of this project require that there be a temporary utility shutdown, the Contractor shall submit, in writing, notice of this requirement at least forty-eight (48) hours in advance of the operation.

1.12 COOPERATION WITH OTHER CONTRACTORS

- A.** It is possible that other contractors and/or the Port's crew may be working adjacent to the site concurrently with this contract. This Contractor shall cooperate with these other contractors so that all work can be coordinated and can proceed without conflict between various parties involved.

1.13 DRAWINGS ON SITE

- A.** A complete set of Plans and Specifications shall be kept continuously at the site. Copies of all change orders, letters, extra work orders shall be kept on the job at all times, and shall be available for inspection.

1.14 RECORDS

- A.** Contractor shall keep accurate, detailed records of the type, character and extent of all work accomplished and time spent in the performance of each type of work and shall, upon request, furnish the Engineer with any information from these records, including the accumulative totals.
- B.** Contractor shall keep an accurately marked up, current set of drawings for the work actually installed. Mark-ups should indicate work scope changes, changes in dimensions and locations, and changes in details as approved by the Engineer. Contractor shall provide these drawing mark-ups to the Engineer such that the Engineer can create a final set of as-built plans for the project. Contractor to review and verify accuracy of Engineer's incorporation of as-built information in the as-built drawing set.
- C.** Contractor shall submit to the Port prior to final acceptance all guarantees and maintenance and repair manuals as required.

1.15 ADJUSTMENT OF QUANTITIES

- A.** The Port reserves the right to increase or decrease the quantity of any item or portion of the work, or to omit portions of the work, or completely delete any item or items by issuing any Change Orders. Therefore, and in connection

therewith, to make such alterations, changes, or additions to, or deviations or omissions from the plans and specifications for the work as may be necessary or advisable to accomplish the object and purpose thereof; and the same shall be in no way offset or make void the contract nor release the surety or sureties of any bond or bonds given to ensure the performance thereof; and the cost of such changes, additions or deletions, based on the Contract unit prices for the item or portion of the work involved shall be added to or deducted from the Contract prices as the case may be.

1.16 PARTIAL ACCEPTANCE AND OCCUPANCY

- A.** Partial acceptance of completed work may be considered at the discretion of the Engineer.
- B.** The Port shall have the right to occupy and use in any manner any or all portions of completed work which has been accepted.

1.17 FINAL INSPECTION

- A.** At least four (4) working days notice shall be given to the Engineer that the project is ready for final inspection, that the Contractor has carefully inspected all portions of the work and that all conditions of the Contract document have been fulfilled.
- B.** Upon acceptance of notice that the work is ready for final inspection, the Engineer together with the Contractor, shall promptly make a joint inspection of the work and note deficiencies, if any. If there are no deficiencies, or when noted deficiencies, have been corrected and Engineer finds the work acceptable then the Contract is fully performed.

1.18 GUARANTEES

- A.** Unless otherwise specified in these Specifications, Contractor shall guarantee for one full year (365 days) from the date of the final completion of the contract and acceptance thereof by the Board of Port Commissioners, to repair or replace any improvements which constitutes defect resulting from the use of inferior or defective materials, equipment or workmanship.

1.19 WATER CONSERVATION

- A.** Nothing in this section "Water Conservation" shall be construed as relieving the Contractor from furnishing an adequate supply of water required for the proper construction of this project in accordance with the Specifications of these special provisions or relieving the Contractor from the legal responsibilities.
- B.** The Water Shortage Emergency Ordinance, adopted by the City of Redwood City on July 1, 1990, prohibits or restricts water for construction purposes. However, the use of domestic water in construction projects for backfill consolidation or compaction, or for dust control purposes is allowed under the current conditions.

- C. The Contractor shall, whenever possible and not in conflict with the above requirements, minimize the use of water during construction of the project. Watering equipment shall be kept in good working order; water leaks shall be repaired promptly; and washing of equipment, except when necessary for safety or for the protection of equipment, shall be discouraged.
- D. When ordered by the Engineer, a dust palliative shall be used to control dust on this project. No additional compensation will be allowed for the use of dust palliatives.

1.20 USE OF WATER

- A. Nothing in this section shall be construed as relieving the Contractor from furnishing an adequate supply of water required for the proper construction of this project in accordance with the Specifications of these special provisions or relieving the Contractor from the legal responsibilities.
- B. All water used in conjunction with the project improvements shall be metered and paid for by the Contractor.
 - 1. Contractor shall pay a deposit to Cash Collections at City Hall, 1017 Middlefield Road for the construction meter.
 - 2. The receipt of payment shall be taken to the General Services Department, 1400 Broadway to pick up the water meter.

1.21 ORDER OF WORK

- A. The contractor's schedule shall indicate the order of his work and the time period required in each area.

1.22 RESPONSIBILITY FOR UNDERGROUND FACILITIES

- A. Attention of bidders is specifically directed to responsibility for the care and protection of previously installed underground facilities, including, but not limited to, storm drains, sanitary sewers, water mains, utility ducts, and appurtenant structures underlying the roadway improvements to be constructed.
- B. Contractor shall be solely responsible for the protection and care of such facilities which facilities have been tested and accepted prior to commencement of the work hereunder. Any damage to such facilities discovered during the course of the work and/or upon final inspection of the work hereunder shall be repaired or replaced by Contractor to the satisfaction of the Engineer at no additional expense to the contract prior to acceptance of the work.

1.23 MARKINGS ON SIDEWALKS

- A. Any permanent marking to be set or made in the concrete shall be made with an approved stencil in the appropriate location. All temporary markings shall be removed after completion of the project.

1.24 CLAIMS; REQUIREMENTS

For any claim subject to this article, the following requirements apply:

- A.** The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
- B.** For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.
 - 1. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
 - 2. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.
- C.** For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.
 - 1. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
 - 2. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
- D.** If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer within 30 days for settlement of the dispute.
- E.** If following the meet and confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) or Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to

subdivision (A) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

1.25 DUST CONTROL

- A.** Contractor shall take appropriate steps such as watering to prevent airborne dust due to work under this Contract.
- B.** Contractor shall remove and dispose daily at his cost, off-site of dirt, debris, waste and rubbish from the work area and the construction site.

1.26 DAMAGE

- A.** Damage to existing structures, facilities, utilities, trees, lawns, shrubs, pavements, or other property caused by the Contractor shall be restored to original condition at the Contractor's expense, prior to final inspection and acceptance.

1.27 STAGING AREA

- A.** The Contractor shall make his own arrangements to obtain a staging or storage area for his equipment and materials. With coordination from the Port, the area in the figure below is available to the contractor. Traffic lanes and rail must be kept clear and operational.



1.28 TEMPORARY SURFACING

- A. Unless permanent pavement is placed immediately, temporary bituminous resurfacing 2 inches thick shall be placed and maintained at locations determined by the Engineer wherever excavation is made through pavement, sidewalk or driveways. In sidewalk areas, the temporary bituminous resurfacing shall be at least 1 inch thick; in all other areas it shall be at least 2 inches thick. At major intersections and other critical locations, a greater thickness may be ordered. Temporary resurfacing shall be placed as soon as the conditions of the backfill is suitable to receive it and shall remain in place until the conditions of the backfill is suitable for permanent resurfacing.
- B. The mixture may be furnished from stockpiles or directly from the plant mixer and may be laid cold, at the option of the Contractor. The resurfacing shall be placed, rolled, maintained, and removed and disposed of by the Contractor.

- C. Maintain temporary surfacing in good condition, satisfactory to the Engineer, until finished paving is installed.

1.29 CONSTRUCTION LAYOUT AND COMPACTION TESTING

- A. The Contractor will furnish his own layout and control lines necessary for the construction of the improvements covered by this contract. The Contractor shall notify the Engineer, in writing, at least one full working day prior to the date when excavation will start.
- B. The Engineer and the Contractor will jointly review the Contractor's layout in the field, and the Engineer will give his approval, or make whatever changes are necessary, prior to excavating.
- C. The Port will provide soil and concrete testing to insure conformance to the plans and specifications. If additional testing is required due to insufficient compaction, at the discretion of the Engineer, the Contractor will be responsible for the cost of any re-testing required.

1.30 STORM WATER POLLUTION PREVENTION

"The Contractor shall comply with all terms *the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2010-0014-DWQ (Construction General Permit)* and shall be responsible for identification, installation, and maintenance of all appropriate best management practices for prevention of pollutant discharges to storm water or receiving water bodies. The Contractor shall obtain a Waste Discharge Identification (WDID) number for the proposed project, prior to the commencement of any land disturbance activities that are subject to the *Construction General Permit*. Unless otherwise directed, the Contractor shall name the Port as the Legally Responsible Party on the WDID application. The Contractor shall submit a report to the Port, at the close of the project but no less than annually by July 1, summarizing the effectiveness of the BMPs implemented, supported by monitoring data if any data are collected. In the event that work is subcontracted out by the Contractor, the subcontractor shall be required to comply with the same terms as stated above."

1.31 EQUIPMENT AND PROCEDURES

- A. Subject to the approval of the Geotechnical Consultant, Contractor may select the equipment and procedures he deems most appropriate for the prosecution and completion of the Work in conformance with the requirements of the Contract documents, provided however, that the equipment and procedures selected shall not be such as to cause damage to the underlying soils in the project area, and shall demonstrate compliance with said requirements and the intent of the Work.
- B. If, in the opinion of the Geotechnical Consultant, the equipment or procedures selected by the Contractor are detrimental to the intent of the Work and/or will cause damage to the underlying soils, the Contractor shall so modify his procedures or his equipment as to meet the approval of the Geotechnical Consultant at no additional expense to the Contract.

- C. Equipment will be evaluated by the Geotechnical Consultant on the basis of its performance and suitability for completing the Work within the intent of the specifications and without damage to the underlying soils. The Port may, upon the advice of the Geotechnical Consultant and with due written notice to the Contractor, exclude any vehicles or equipment from the Work which do not comply with this requirement.
- D. Equipment shall be operated in such a manner as to preclude pumping, and/or subgrade damage. Where, in the opinion of the Geotechnical Consultant, pumping and wearing have progressed to an extent where damage to subgrade has occurred as evidenced by distortion of the surface, rutting, or appearance at the surface of underlying undessicated soils, the Contractor shall perform the following subgrade repair to the satisfaction of the Geotechnical Consultant at no additional expense to the Contract.
 - 1. Excavate damaged roadway areas to the extent directed by the Geotechnical Consultant.
 - 2. Segregate excavated material into native soil and imported granular material to the satisfaction of the Geotechnical Consultant.
 - 3. Allow excavation to dry and then condition the excavation material to optimum moisture content.
 - 4. Backfill excavation with conditioned native soil and compact to a minimum density of seventy-five (75) percent of maximum dry density as determined by the procedure set forth in ASTM Designation D1557.
 - 5. Backfill excavation to subgrade for imported granular fill material with conditioned native soil and compact to a minimum density of ninety (90) percent of maximum dry density as determined by the procedure set forth in ASTM Designation D1557.
 - 6. Backfill excavation above subgrade for import fill material with salvaged granular fill material compacted to a minimum density of ninety (90) percent of maximum dry density as determined by the procedure set forth in ASTM Designation D1557.

1.32 CONSTRUCTION GUIDELINES ON BAY MUD

- A. Introduction - The purpose of this document is to provide general observations and guidelines for earthwork construction in the Redwood Shores area and to highlight some of the more difficult aspects of earthwork on sites underlain by Bay Mud. It is presented as a supplement to the Standard Plans and technical specifications normally provided for the project.
- B. General Soil and Ground Water Conditions - Redwood Shores is a former marshland which has been carefully filled to allow development. Fill in the area is generally about 5 feet thick and has two distinct layers: The upper 2 feet consists of select granular import underlain by about 3 feet of compacted clayey fill. The clayey fill is either import silty clay fill or reconditioned organic clay from local excavations.

The fill is underlain by native organic clay, locally known as Bay Mud. The upper approximately 2 feet of the Bay Mud is generally stiff from former desiccation,

and is usually referred to as Bay Mud crust. Below the upper 2 foot crust, the Bay Mud is soft and highly compressible. Moisture contents of the Bay Mud crust range from about 30 to 50 percent and from 50 to 200 percent for the soft clay beneath the crust.

The Bay Mud is usually underlain by relatively incompressible and stiff or dense alluvial deposits.

Groundwater exists within the Bay Mud although it generally does not appear as free water. Instead, ground water tends to seep slowly out of the Bay Mud. The ground water often appears brackish. For design purposes, ground water is generally considered to be at about Elevation 99 feet (Mean Sea Level equals - El. 100 feet).

Groundwater can also collect in the upper select fill, where it perches upon the lower clayey fills.

C. Trenches and Excavations - Trenching specifications for Bay Mud sites are usually restrictive about excavation methods and shoring requirements. All contractors should carefully review the technical specifications provided for the project. The following observations and guidelines are presented as a supplement to the technical specifications:

1. The select granular fill should be segregated when performing excavations. Most contractors accomplish this by placing the select fill on one side of the trench and excavated clayey soils on the other. The select fill has an R-value of at least 25 and if mixed with the clayey soil beneath, cannot be considered as select fill.
2. Bay Mud requires significant drying and processing time to be reused as compacted fill. Bay Mud must be spread in thin layers and disked or turned to facilitate drying such that the material may be properly compacted.
3. Trenches which extend into the Bay Mud should be backfilled as soon as possible after placement of utilities to prevent base heave or trench sloughing. Significant lateral movements of excavation walls can occur if the trenches are left open for extended periods.
4. The Port trench backfill specifications are strict on the type of materials and compaction requirements. The Contractor should carefully read and understand these specifications.
5. As stated in the project specifications, glory hole excavations and V-trenching are not allowed. They result in large quantities of heavy backfill which can cause long-term differential settlements.

D. Heavy Equipment Limitations - Due to the underlying soft Bay Mud and the relatively thin layer of compacted fill, construction equipment should be limited to medium to lightweight size to reduce the potential for subgrade damage, pipe breakage, or slope failures. The thin layer of select fill over compacted clay is subject to high deflections under heavy wheel loads. The following observations and guidelines are presented regarding construction equipment:

Avoid the use of large earthwork equipment for mass grading operations, especially within 30 feet of lagoon slopes. The following are suggested maximum equipment sizes over areas where the upper select fill is at least 2 feet thick:

Compactors:	Cat 815 or equivalent
Scrapers:	Cat 613 or equivalent
Track-wheeled loaders:	Cat 963 or equivalent
Blade:	Cat 12G

1. In areas where the thickness of the existing fill has been reduced, even lighter equipment should be considered. Open excavations in soft Bay Mud cannot support rubber-tired equipment although light dozers with mud tracks, such as a Cat D4 or equivalent, are sometimes used.
2. Haul routes for trucks and scrapers should be kept level and smooth to prevent equipment from bouncing and imposing very high dynamic loads on the fill.
3. Heavy equipment should not be allowed to travel at high speeds as this can cause serious subgrade damage and rutting. This has been particular problem for loaded scrapers.
4. All operators of heavy earthwork equipment should be informed of these guidelines and be aware of the general soil conditions.

E. Pumping Subgrade - Under repeated wheel loads and/or excessive moisture, the existing fill can become rutted and difficult to repair. Soft or "pumping" areas can develop from heavy earthwork equipment. Careful attention should be given to the construction operations to limit traffic over areas, which have become wet or show signs of surface cracking due to pumping subgrade soils. We present the following observations and guidelines regarding pumping subgrade soils:

1. Subgrade damage most often occurs where repeated heavy wheel loads are imposed on the soil.
2. Increase subgrade moisture content resulting from ponded water can also lead to subgrade damage under even lightweight earthwork equipment.
3. No water should be allowed to pond in traveled areas.
4. Concrete trucks should not be allowed to wash out in traveled areas.
5. Repair of damaged subgrade is most often accomplished by subexcavation to depths ranging from 8 to 18 inches, placement of geotextile fabric, and careful compaction of select fill or aggregate base up to the former subgrade level.

F. Wet Weather Problems - Earthwork and construction operations can be severely hampered by wet weather. We present the following observations and guidelines:

1. Construction through the wet weather months usually results in some required repair of damaged roadway subgrade and building pad fills.

2. Surface drainage of rainfall is generally limited by low grades and limited discharge points.
3. Wherever possible, the ground surface should be sloped to drain rainfall and prevent ponding of water.
4. Rainfall and ponded water tend to infiltrate and accumulate at the base of the select fill.
5. If cuts are made for roadways, the thickness of select fill is often reduced such that shallow water can accumulate very near the roadway subgrade.
6. Forklifts, concrete trucks, and backhoes often cause severe rutting of surficial soils when used over rain-soaked soils.
7. Repeated vehicle and equipment traffic over wet areas can cause a thick mud slurry to accumulate during wet weather months.
8. Temporary construction haul routes constructed of crushed rock with or without an underlying geotextile membrane are often helpful in reducing subgrade damage and preventing damage to shallow utility pipes.
9. Gradall-type forklifts carrying construction materials can easily damage wet subgrade soils.

G. Shallow Utilities - Underground utilities can be subject to damage from heavy equipment. For gravity flow utilities such as sewer and storm drain, the pipes usually become shallower toward the rear of the sites, furthest from the main connections on roadways. Where pipes have relatively thin soil cover, they can be damaged from heavy earthwork equipment under certain conditions. When backfill has been properly placed and compacted over shallow pipes, the risk of damage from normal equipment wheel loads is usually small. If the fill is allowed to become saturated from ponded water, however, such as rainfall or wash out from concrete trucks, significant rutting can occur. We present the following observations and guidelines:

1. Shallow pipes should be adequately backfilled to the subgrade level in roadway areas and should not be left low.
2. Heavy equipment such as loaded trucks, forklifts, or concrete trucks should not be allowed to drive through areas where the subgrade soils have become wet. Damage to pipes by forklifts and concrete trucks may not be discovered until months later.
3. Where heavy equipment cannot be avoided, sewer laterals should be clearly marked to prevent damage.

1.33 SAFETY

A. Contractor, before beginning construction, is to provide, maintain and remove upon completion of work all barricades around openings and excavations, fences around areas and other temporary construction, warning signals, signs, and flagmen as required to direct traffic through the work area and or to redirect traffic to detours.

- B. The temporary work shall conform to all requirements of state and local authorities, and of the underwriters in regard to operation, safety and fire hazards. The Contractor shall furnish and complete all items necessary for such construction and for conformity with such requirements whether or not called for under the separate divisions of these specifications.
- C. Contractor agrees that he will assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours.

1.34 DISPOSAL OF MATERIAL

- A. All material shall be disposed of at the Contractors expense and shall be included as part of the appropriate bid item prices. No additional compensation shall be given for disposal of material.
- B. Asbestos - containing materials or hazardous substances shall be disposed of in accordance with applicable sections of the Special Technical Provisions.

1.35 PERMITS

- A. Selected contractor will be required to comply with best management practices and mitigation measures in the provided assessments and permit applications. Any necessary biological monitoring, including hydro-acoustic monitoring, will be performed by the Port. Some of the key mitigation measures are summarized below:
- B. Pile Driving – Piles should be started with a vibratory hammer. If tip elevations cannot be reached using a vibratory hammer alone, an impact hammer may be used. Contractor shall limit construction-related sound exposure to 206 dB peak and 187 dB accumulated SEL. Contractor to utilize a bubble curtain and soft start techniques.
- C. Work Window – Pile driving and pile removal may only be performed between June 1 and November 30. Other work may be performed year round, however biological surveys, such as a nesting survey, may be required.
- D. Debris – All debris, including concrete and timber, must be contained and measures taken to prevent debris from entering the water. If floating debris does enter the water, it should be removed as soon as practical and as a minimum, at the end of the shift. Floating booms to be used to contain debris.

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SECTION 00900

MODIFICATIONS

1.01 CHANGES, GENERAL

- A.** Whenever corrections, alterations, or modifications of the Work under this Contract are ordered by the Engineer and approved by the Port and increase the amount of work to be done, such added work shall be known as extra work; and when such corrections, alterations, or modifications decrease the amount of work to be done, such subtracted work shall be known as work omitted.
- B.** The difference in cost of the Work affected by such change will be added to or deducted from the amount of said Contract price, as the case may be, by a fair and reasonable valuation, which shall be determined in one or more of the following ways as directed by the Engineer:

 - 1. Where applicable, by unit prices accepted by the Port and stated in the Contract Documents;
 - 2. By unit prices subsequently fixed by agreement between the parties;
 - 3. By an acceptable lump sum proposal from the Contractor; or
 - 4. By Force Account, when directed in writing, and administered by the Port through its agents or representatives.
- C.** When required by the Engineer, the Contractor shall submit, in the form prescribed by the Engineer, an itemized breakdown with supporting data of the quantities and prices used in computing the value of any change that may be ordered.
- D.** The Engineer will review the Contractor's proposal for the change and negotiate an equitable adjustment with the Contractor. Upon reaching an agreement, the Engineer will prepare and process the Change Order and make a recommendation for action by the Port. All Change Orders must be approved by the Port in writing before the work can be authorized and the Change Order executed.
- E.** The prices agreed upon and any agreed upon adjustment in Contract Time shall be incorporated in the written order issued by the Port, which shall be written so as to indicate an acceptance on the part of the Contractor as evidenced by the Contractor's signature. By signature of the Change Order, the Contractor acknowledges that the adjustments to cost and time contained in the Change Order are in full satisfaction and accord, payment in full, and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by the Change Order.

1.02 NEGOTIATED CHANGE ORDERS

- A.** Under the methods described in Paragraph 1.01 B2 and 1.01 B3 above, the Contractor shall submit substantiating documentation with an itemized breakdown of Contractor and subcontractor direct costs, including labor, material, equipment rentals, and approved services, pertaining to such ordered work in the form and detail acceptable to the Engineer. The direct costs shall include only the payroll cost for workers and foremen, including wages, fringe benefits as established by negotiated labor agreements or state prevailing wages, workers' compensation and labor insurance, and labor taxes as established by law. No other fixed labor burdens will be considered, unless approved in writing by the Engineer; the cost of materials used and equipment delivered and installed in such work as substantiated by appropriate documents; the cost of construction machinery and equipment based on fair rental or ownership values acceptable to the Engineer as described in Paragraph 1.03, Force Account Payment, below, and the cost of incidentals directly related to such work. The direct costs shall not include any labor or office costs pertaining to the Contractor's managers or superintendents, its office and engineering staff and office facilities, or anyone not directly employed on such work, nor the cost of small tools as all such indirect costs form a part of the Contractor's overhead expense.
- B.** Under the method described in Paragraph 1.01 B2 and 1.01 B3 above, the maximum percentage which will be allowed for the Contractor's combined overhead and profit will be:
1. For work by its own organization, the Contractor may add the following percentages:

<input type="checkbox"/> Direct Labor	15 percent
<input type="checkbox"/> Materials	15 percent
<input type="checkbox"/> Equipment (owned or rented)	15 percent
 2. Direct labor shall be as defined in Paragraph 1.03A.
 3. For all such work done by subcontractors, such subcontractor may add the same percentages as the Contractor as listed in (1) above to its actual net increase in costs for combined overhead and profit and the Contractor may add up to five (5) percent of the subcontractor's total for its combined overhead and profit.
 4. For all such work done by sub-tier-subcontractors, such sub-subcontractors may add the same percentages as the Contractor as listed in (1) above to its actual net increase in costs for combined overhead and profit, and the subcontractor may add up to five (5) percent of the sub-subcontractor's total for its combined overhead and profit. The Contractor may add up to five (5) percent of the subcontractor's total for its combined overhead and profit.
 5. To the total of the actual costs and fees allowed hereinunder, not more than two (2) percent shall be added for additional bond and insurance other than labor insurance.

- C. The above fees represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect home office expenses and all costs for cost proposal preparation.
- D. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any, for each area of work, i.e. direct labor, materials, equipment, and subcontractors. The amount of credit to be allowed by the Contractor to the Port for any such change which results in a net decrease in cost will be the amount of the actual net decrease and a credit in accordance with the markups allowed under the use of the method described in Paragraph 1.03, Force Account Payment. The Contractor shall not claim for anticipated profits on work that may be omitted.

1.03 FORCE ACCOUNT PAYMENT

- A. If either the amount of work or payment for a Change Order cannot be determined or agreed upon beforehand, the Port may direct by written Change Order or Field Order that the work be done on a FORCE ACCOUNT basis. The term "FORCE ACCOUNT" shall be understood to mean that payment for the work will be done on a time and expense basis, that is, on an accounting of the Contractor's forces, materials, equipment, and other items of cost as required and used to do the work. For the work performed, payment will be made for the documented actual time and expense of the following:
 - 1. Direct labor cost for workers, including foremen, who are directly assigned to the force account work: Direct labor cost is the actual payroll cost, including wages, fringe benefits as established by negotiated labor agreements or state prevailing wages, workers' compensation and labor insurance, and labor taxes as established by law. No other fixed labor burdens, costs pertaining to the Contractor's managers or superintendents, its office and engineering staff and office facilities will be considered, unless approved in writing by the Port.
 - 2. Material delivered and used on the designated work, including sales tax, if paid for by the Contractor or its subcontractor.
 - 3. Equipment rental, including necessary transportation for items having a value in excess of One Thousand Dollars (\$1,000.00).
 - 4. Additional bond.
 - 5. Additional insurance, other than labor insurance.
- B. To the preceding costs, there shall be added the following fees for the Contractor, subcontractor, or sub-subcontractor actually performing the work:
 - 1. A fixed fee not to exceed 25 percent for Item 1;
 - 2. A fixed fee not to exceed fifteen (15) percent of the costs of Items 2, and 3 above, and

3. To the total of the actual costs and fees allowed hereunder, not more than two (2) percent shall be added for additional bond and insurance as the cost of Items 4 and 5 above.
- C. For work performed by an approved subcontractor, the Contractor may add to the total of the actual costs and fixed fees allowed under the preceding paragraph an additional fixed fee of five (5) percent of said total. No further compensation will be allowed for the Contractor's administration of the work performed by the subcontractor.
- D. For work performed by a sub-tier-subcontractor, the subcontractor may add to the total of the actual costs and fixed fees allowed under the preceding paragraph an additional fixed fee of five (5) percent of said total. No further compensation will be allowed for the subcontractor's administration of the work performed by the sub-tier-subcontractor. The Contractor may add to the total of the actual costs and fixed fees allowed under this paragraph an additional fixed fee of five (5) percent of said total. No further compensation will be allowed for the Contractor's administration of the work performed by the subcontractor.
- E. The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, small tools, incidentals and any other general expenses. The above fixed fees represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect home office expenses and all costs for cost proposal preparation and record keeping.
- F. The Port reserves the right to furnish such materials and equipment as it deems expedient, and the Contractor shall have no claim for profit or added fees on the cost of such materials and equipment.
- G. For equipment under Item 1.03, above, rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Payment shall be based on actual rental and transportation invoices but shall not exceed the rental rates listed for such equipment in the State of California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates" which is in effect on the date upon which the work is performed. Owner-operated equipment rates shall not exceed the rates in the aforesaid Rental Rate publication. The rental cost allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, ownership, and incidental costs and no further allowances will be made for those items, unless specific written agreement to that effect is made.
- H. Compensation for idle time of equipment through delays caused by the Port will be made consistent with Section 00700, Paragraph 8.05 – Compensable Delays.
- I. Prior to the commencement of force account work, the Contractor shall notify the Engineer of its intent to begin work. Labor, equipment and materials furnished on force account work shall be recorded daily by the Contractor upon report sheets furnished by the Engineer to the Contractor. The reports, if found to be correct, shall be signed by both the Contractor and Engineer, or inspector, and a copy of which shall be furnished to the Engineer no later than the working

day following the performance of said work. The daily report sheet shall thereafter be considered the true record of FORCE ACCOUNT work provided. If the Engineer, or inspector, do not agree with the labor, equipment and/or materials listed on the Contractor's daily force account report, the Contractor and Engineer, or inspector, shall sign-off on the items on which they are in agreement. The Engineer shall then review the items of disagreement and will advise the Contractor, in writing, of its determination. If the Contractor disagrees with this determination, it shall have the right to file a claim notice as provided in the Supplementary Conditions.

- J. The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations.
- K. To receive partial payments and final payment for force account work, the Contractor shall submit, in a manner approved by the Engineer, detailed and complete documented verification of the Contractor's and any of its subcontractor's actual costs involved in the force account pursuant to the pertinent Change Order or Field Order. Such costs shall be submitted within thirty (30) days after said work has been performed. No payments will be made for work billed and submitted to the Engineer after the thirty (30) day period has expired.
- L. The force account invoice shall itemize the materials used and shall cover the direct costs of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The invoice shall be in a form acceptable to the Engineer and shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices.
- M. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any. The amount of credit to be allowed by the Contractor to the Port for any such change which results in a net decrease in cost will be the amount of the actual net decrease and a credit in accordance with the markups allowed under the use of the method described in this Section. The Contractor shall not claim for anticipated profits on work that may be omitted.

1.04 UNIT PRICE ADJUSTMENTS DUE TO INCREASED OR DECREASED QUANTITIES

- A. The unit prices as stated in the bid form and as negotiated in Change Orders shall apply to one hundred (100) percent of the quantity indicated to be the estimated quantity for the bid item, plus or minus twenty-five (25) percent. Adjustments in unit prices will be made in accordance with Section 4-1.03B, Increased or Decreased Quantities, and 4-1.03C, Changes in Character of Work, of the State of California, Department of Transportation Standard Specifications, July 1992, with the following modifications:

1. Delete all references to "Section 9, Paragraph 1.03" and insert "00900 – Paragraph 1.03, FORCE ACCOUNT PAYMENT".
2. Delete the last paragraph (fourth paragraph) of Section 4-1.03C, Changes in Character of Work.

* * *

SECTION 01100

SUMMARY

1.01 WORK COVERED UNDER THIS CONTRACT

- A.** The work hereunder consists of the following in accordance with plans, detail drawings and specifications:

At Wharf 3, the scope of work includes construction of nine large diameter steel monopile supported breasting dolphins. Seven of these dolphins are located within the footprint of the existing Wharf. To construct these dolphins, a portion of the concrete deck must first be removed, dolphin constructed, and then a new deck installed. Two of the dolphins are located adjacent to the Wharf. As the existing fender system will be rendered obsolete, it will be demolished.

At Wharf 4, repairs to the decks of six existing concrete breasting dolphins are necessary. New fenders will be installed on these existing dolphins. The existing fender systems, both on the dolphins as well as the adjacent structures, will be demolished. The steel truss walkways that currently provide access between the dolphins of Wharf 4 and Wharf 3 will be replaced with a steel pile supported access pier to facilitate ship-to-shore access.

- B.** The work shall include the provision of all materials, equipment and apparatus not specifically mentioned in the specifications or noted on the plans, but which are obviously necessary to complete the work thereunder.

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SECTION 01200

PRICE AND PAYMENT PROCEDURES

1.01 GENERAL

- a. Unless otherwise specified in other individual sections of these specifications, quantities of work shall be determined from measurements or dimensions in horizontal planes. Linear quantities of pipe shall be considered as being the true length measured along the longitudinal axis.
- b. Units of measurement shall be in accordance with U.S. Standard Measures.

1.02 LUMP SUM PRICE BREAKDOWN

- a. Immediately after award of the contract, the Contractor shall submit a cost breakdown list to the Engineer. This list shall consist of the major items of work that make up the contract and shall be used for determining progress pay estimates. The Contractor shall fill in the amounts for each item, prorating general costs such as setup, overhead, and profit in each item. The total of all items shall equal the total of the contract. The amounts the Contractor indicates for any items on the list may be revised as deemed necessary by the Engineer if it appears such items are unbalanced, unless the Contractor can substantiate these costs.

1.03 UNBALANCED BIDS

The Contractor is cautioned against unbalancing prices for lump sum or unit items. Unbalancing prices may be cause for rejection of the bid or the Contractor may be required to substantiate or correct excessive prices prior to award.

1.04 MEASUREMENT

- a. Lump Sum Bid Items will be measured as a complete job, and are intended to cover payment for all work in connection with the item as indicated on the plans and as described throughout these specifications. Where the item represents a system the lump sum bid price is intended to cover payment for all items required to construct (furnish and install) the system, excluding only those items of work specifically included in other bid items or marked on the plans as "not in contract", "NIC" or "by others".

The intent is that all items of work shown on the plans are to be included within the list of lump sum bid items whether specifically called out or not, except for unit bid items. The Contractor is bidding upon a complete project: the breakdown into various lump sum items is primarily for Owner accounting and funding purposes.

- b. Unit Price Bid Items will be measured as described in the bid schedule or specifications.

1.05 PAYMENT

- a. Payment for Lump Sum Items, measured as stated above and accepted, will be paid for at the lump sum bid price, which price and payment shall constitute full compensation for furnishing all labor, materials, tools, equipment and incidental necessary to complete the project in accordance with the Plans and Specifications.
- b. Payment for Unit Price Bid Items, measured as stated above and accepted, will be paid for at the unit price bid, which price and payment shall constitute full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to complete the project in accordance with the Plans and Specifications.

1.06 MEASUREMENT AND PAYMENT

a. Lump Sum Items

Item 1 - Mobilization and Demobilization

Measurement and payment for this item shall be on a lump sum basis. Compensation for moving onto the site, establishing a corporation yard, permit application costs and bonding of the site, including dismantling and clean-up of corporation yard, shall be included in lump sum payment. The compensation shall not exceed 5% of the total bid price, two-thirds of which shall be payment for mobilization and one-third for demobilization.

Item 2 – Demolish Existing Water Line and Install New Water Line, Vault, and Fittings

The Contract lump sum price for Demolish Existing Water Line and Install New Water Line, Vault, and Fittings shall include full compensation for conforming to these requirements. The lump sum price shall also include compensation for providing all labor, tool and equipment to perform the work, as specified in these Special Provisions, and as directed by the Engineer and no additional compensation will be allowed therefore.

Item 3 – All other work including but not limited to Concrete Curb Repair, Concrete Cap Beam Repair, Handrail Modifications, and Concrete Curb Demo

The Contract lump sum price for all other work including but not limited to Concrete Curb Repair, Concrete Cap Beam Repair, Handrail Modifications, and Concrete Curb Demo shall include full compensation for conforming to these requirements. The lump sum price shall also include compensation for providing all labor, tool and equipment to perform the work, as specified in these Special Provisions, and as directed by the Engineer and no additional compensation will be allowed therefore.

b. Linear Foot Items

Item 4 – Demolition and Disposal of Wharf 3 Fender System

Contract unit price per lineal foot of Demolition and Disposal of Wharf 3

Fender System will be per details shown on the Plans.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work and all incidental to complete the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 5 – Demolition and Disposal of Wharf 4 Fender System

Contract unit price per lineal foot of Demolition and Disposal of Wharf 4 Fender System will be per details shown on the Plans.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work and all incidental to complete the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

c. Square Foot Items

Item 6 – Demolition and Disposal of Wharf 3 Concrete Deck

Contract unit price per square foot of Demolition and Disposal of Wharf 3 Concrete Deck will be per details shown on the Plans.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work and all incidental to complete the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 7 – Existing Wharf 4 Dolphin Concrete Repair without Steel Replacement

Contract unit price per square foot of Existing Wharf 4 Dolphin Concrete Repair without Steel Replacement will be per details shown on the Plans.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work and all incidental to complete the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 8 – Existing Wharf 4 Dolphin Concrete Repair with Steel Replacement

Contract unit price per square foot of Existing Wharf 4 Dolphin Concrete Repair with Steel Replacement will be per details shown on the Plans.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work and all incidental to complete the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 9 – Furnish and Install Access Pier Deck and Handrail

Contract unit price per square foot of Furnish and Install Access Pier Deck and Handrail will be per details shown on the Plans.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work and all incidental to complete the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

c. Each Items

Item 10 – Demolition and Disposal of Steel Truss Walkways

Contract unit price to Demolish and Dispose of Steel Truss Walkways will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 11 – Furnish and Install Large Diameter Pipe Piles at Wharf 3

Contract unit price to Furnish and Install Large Diameter Pipe Piles at Wharf 3 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 12 – Furnish and Install Pipe Stub Head Pieces on Wharf 3 Dolphins

Contract unit price to Furnish and Install Pipe Stub Head Pieces on Wharf 3 Dolphins will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 13 – Furnish and Install New Fenders, Panels, and Chains at Wharf 3

Contract unit price to Furnish and Install New Fenders, Panels, and Chains at Wharf 3 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the

work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 14 – Furnish and Install Single Bit Bollards at Wharf 3

Contract unit price to Furnish and Install Single Bit Bollards at Wharf 3 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 15 – Construct Replacement Concrete Decks for Interior Dolphins at Wharf 3

Contract unit price to Construct Replacement Concrete Decks for Interior Dolphins at Wharf 3 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 16 – Construct New Steel Decks for Exterior Dolphins at Wharf 3

Contract unit price to Construct New Steel Decks for Exterior Dolphins at Wharf 3 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 17 – Furnish and Install Pipe Piles for Access Pier

Contract unit price to Furnish and Install Pipe Piles for Access Pier will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 18 – Furnish and Install Cap Beams for Access Pier

Contract unit price to Furnish and Install Cap Beams for Access Pier will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the

work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 19 – Demolish and Dispose of Existing Mooring Hardware at Wharf 3

Contract unit price to Demolish and Dispose of Mooring Hardware at Wharf 3 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 20 – Furnish and Install Fenders, Panels, and Chains at Wharf 4

Contract unit price to Furnish and Install Fenders, Panels, and Chains at Wharf 4 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 21 – Repair Pile with Sleeve

Contract unit price to Repair Pile with Sleeve will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 22 – Furnish and Install New Lights with Associated Electrical Work

Contract unit price to Furnish and Install New Lights with Associated Electrical Work will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

Item 23 – Bollard Repairs and Replacements at Wharf 4

Contract unit price to perform Bollard Repairs at Wharf 4 will be as shown on the Plans and specified herein.

Payment will include compensation for furnishing all labor, materials, tools and equipment, and supervision to perform all work necessary to perform the work, as shown on the Plans and in accordance with these Specifications and as directed by the Engineer, complete in place.

d. Final Cleanup

Full compensation for final cleanup will be considered as included in those various contract items requiring final cleanup and no additional compensation will be made.

The contractor shall make this final cleanup in conformance with Section 4-1.02, "Final Cleaning Up", of the Standard Specifications.

* * *

SECTION 01300
ADMINISTRATIVE REQUIREMENTS

PORT CONTACTS:

Primary: Don Snaman, Director of Operations, 650.306.4150 main, 650.642.8600 cell

Secondary: Giorgio Garilli, Assistant Manager of Operations, 650.306.4150 main,
650.222.5545 cell

CONTRACTOR CONTACTS:

Contractor to provide contract information for 2 personnel in case urgent contact is required during or outside of working hours.

Primary: _____

Secondary: _____

SECTION 01400

QUALITY REQUIREMENTS

1.01 RULES AND REGULATIONS

- A.** All work done and materials and equipment transported, handled, stored or installed shall be done in strict conformance with the applicable orders, rules and regulations of the State of California, Division of Industrial Safety, and with all other State, County, City or District requirements. Nothing contained in these specifications or shown or noted on the plans shall be construed to permit work not conforming to these orders, rules and regulations.
- B.** When plans or specifications call for material or construction of a better quality or larger size than may be required by applicable codes or standards, the provisions of the plans and/or specifications shall take precedence over the requirements of the code or standard. If there is any other conflict between the plans or specifications and the requirements of applicable codes and standards, the provisions of the code or standard shall govern.

* * *

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

Staging areas are shown in Section 00800 1.27.

Reference PLS survey dated 8/10/16 for control.

SECTION 01600

PRODUCT REQUIREMENTS

1.01 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall submit, at its own expense, submittals and details of structural and reinforcing steel, equipment, material, electrical controls, architectural fabrications, pipe, pipe joints, special pipe sections, and other appurtenances as required in Technical Specifications.
- B. All submittals and supporting data, catalogs, schedules, etc., shall be submitted as the instruments of the Contractor, who shall be responsible for their accuracy and completeness and coordination. Such responsibility shall not be delegated in whole or part to subcontractors or suppliers. These submittals may be prepared by the Contractor, subcontractors, or suppliers, but the Contractor shall ascertain that submittals meet all of the requirements of the Contract Documents, while conforming to structural, space, and access conditions at the point of installation. Designation of work "by others," if shown in submittals, shall mean that the work will be the responsibility of the Contractor rather than the subcontractor or supplier who prepared the submittals. The Contractor shall insure that there is no conflict with other submittals and notify the Engineer in each case where its submittal may affect the work of another contractor or the Port. The Contractor shall insure coordination of submittals among the related crafts and subcontractors. The Contractor accepts the responsibility and expense for additional costs and delays which may result for work performed without favorably reviewed submittals.
- C. Submittals shall be prepared in such form that data can be identified with the applicable Specification paragraph. The data shall clearly demonstrate compliance with the Contract Plans and Specifications and shall relate to the specific equipment to be furnished. Where manufacturer's standard drawings are employed, they shall be marked clearly to show what portion of the data is applicable to this project.

1.02 TRANSMITTAL PROCEDURES

- A. Transmittal Form - A separate transmittal form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole. The specification section to which the submittal is related shall be indicated on the transmittal form.
- B. Submittal Numbers - A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor. Resubmittals shall have the following

format: "XXX-Y"; where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively. Submittal 25B, for example, is the second resubmittal of submittal 25.

- C. Deviations From The Contract - If the submittals show any deviations from the Contract requirements, the Contractor shall provide a separate written description of such deviations and the reasons therefor. If the Engineer accepts such deviation, the Engineer shall issue an appropriate Contract Change Order, except that, if the deviation is minor, or does not involve a change in price or in time of performance, a Change Order need not be issued. If any deviations from the Contract requirements are not noted on the submittal, the review of the shop drawing shall not constitute acceptance of such deviations.
- D. Submittal Completeness - The Contractor shall review and check all submittals before submitting them to the Engineer. The Contractor shall certify on the transmittal letter and on each shop drawing that they have been checked, are in compliance with the Plans and Specifications, and all deviations from the Contract requirements are noted.
- E. Incomplete Submittals - If the Contractor submits an incomplete submittal, the submittal will be returned to the Contractor without review. A complete submittal shall contain sufficient data to demonstrate that the items comply with the Specifications, shall meet the minimum requirements for submissions cited in the technical specifications, shall include materials and equipment data and seismic anchorage certifications where required, and shall include any necessary revisions required for equipment other than first named.
- F. Second Submittal - It is considered reasonable that the Contractor shall make a complete and acceptable submittal to the Engineer at least by the second submission of data. The Port reserves the right to deduct monies from payments due the Contractor to cover additional costs of review beyond the second submission.

1.03 REVIEW PROCEDURE

- A. Submittals will be returned within ten (10) working days after receipt. Review of submittals has as its primary objective the completion for the Port of a project in full conformance with the Contract Plans and Specifications, unmarred by field corrections, and within the time provided. In addition to this primary objective, submittal review as a secondary objective will assist the Contractor in its procurement of equipment that will meet all requirements of the Contract Documents, will fit the structures detailed on the Plans, will be completed with respect to piping, electrical, and control connections, will have the proper functional characteristics, and will become an integral part of a complete operating facility.
- B. After review of each of the Contractor's submissions, the material will be returned to the Contractor with actions defined as follows:

1. **NO EXCEPTIONS NOTED (RESUBMITTAL NOT REQUIRED)** - Material is accepted subject to its compatibility with future submissions and additional partial submissions for portions of the work not covered in this submission. Does not constitute approval or deletion of specified or required items not shown in the partial submission.
 2. **REJECTED** - Submitted material does not conform to Plans and Specifications in major respect., i.e.: wrong size, model, capacity, or material.
 3. **RESUBMIT** - Material submittal has major inconsistencies or errors which shall be resolved or corrected by the Contractor prior to subsequent review by the Engineer.
- C. The Engineer, in submitting his "no exception" statement, may annotate the submittal with minor corrections which may not require re-submittal, but which are necessary to make the submittal comply with specifications.
- D. It shall be the Contractor's responsibility to copy and/or conform reviewed submittals in sufficient numbers for its files, subcontractors, and vendors.

1.04 EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTALS

- A. Favorable review of submittals shall be obtained prior to the fabrication, delivery and construction of items requiring submittal review.
- B. Favorable review of submittals does not constitute a change order to the Contract requirements. The favorable review of all submittals by the Engineer shall apply in general design only and shall in no way relieve the Contractor from responsibility for errors or omissions contained therein. Favorable review shall not relieve the Contractor of its obligation to meet safety requirements and all other requirements of laws, nor constitute a Contract Change Order. Favorable review will not constitute acceptance by the Port of any responsibility for the accuracy, coordination, and completeness of the submittals or the items of equipment represented on the submittals.

* * *

SECTION 01700
EXECUTION REQUIREMENTS

1.00 GENERAL

- A. The Contractor shall provide a construction schedule on a bar chart that includes a procedural outline of all the items of work, which shall be subject to the favorable review of the Engineer.

1.01 CONSTRUCTION SCHEDULE

- A. The schedule shall be submitted within ten (10) calendar days of Notice to Proceed and must be favorably reviewed by the Engineer before the first partial payment can be made.

* * *

SECTION 01800

FACILITY OPERATION

Both Wharf 3 and Wharf 4 are active berths and must remain operational throughout construction. The Port will provide 72 hours of notice of incoming vessels. Contractor should plan on 12 vessel calls during the construction period, each call lasting 2-5 days. The contractor is required to make the following accommodations for vessel calls:

1. Provide a suitable berthing face for the calling vessel. This shall consist of either the existing fender system or the new fender system. As such, the contractor should not demolish the existing Wharf 3 fender system and mooring hardware until the new fender system is operational. At Wharf 4, since the existing fender system must be removed to install the new fender system, contractor should complete all work required at a single dolphin before moving onto the next. For example, if the contractor chooses to start at dolphin 1, all work at dolphin 1 should be completed before commencing work at dolphin 2. This includes concrete repair, existing fender demolition, and new fender installation. If contractor has demolished the existing fenders and is unable to complete the new fender installation prior to a vessel call, a suitable temporary fender system, such as hanging a foam filled fender over the dolphin, should be furnished and installed by the contractor, subject to Engineer approval.
2. Provide truck access at Wharf 3. Both ramps should be free of obstacles. Any open deck areas must be adequately marked and barricaded. A single clear lane at least 20 feet wide must be provided along the full length of the wharf.
3. Provide clear marine access to the faces of the berths. Any floating equipment must be cleared from the faces of the berth to allow vessels to call. The Port will provide the contractor with a temporary storage area for floating equipment while a vessel is calling, either an area to spud down or a tie-up area at Wharf 5.
4. Do not demo existing mooring hardware at Wharf 3 until new mooring hardware is operational.
5. To the extent possible, keep the existing steel truss walkways in operation until construction of the new access pier is ready to commence.

SECTION 02200

MARINE STRUCTURE DEMOLITION AND REMOVAL

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Work includes preparation of the site to receive new construction by demolishing and removing existing structures and features as required to accommodate the new construction. The demolition scope of work includes, but is not limited to, the demolition and disposal of existing timber fender system, existing steel walkways spanning of Wharf 4, portions of Wharf 3's deck as specified, mechanical, electrical, and all related items within the limits shown on the demolition drawings. Cap existing utilities as indicated on the Plans and specified herein.

1.02 SUBMITTALS

- A. Submit proposed demolition and removal procedures to the Engineer for approval before work is started. Procedures must incorporate best management practices required by regulatory agencies. Consideration must also be given to sequencing demolition with construction such that berth remains operational throughout the project.

1.03 REQUIREMENTS

- A. The work includes demolition or removal of all materials indicated or specified. All materials resulting from demolition work, except as indicated or specified otherwise, shall become the property of the contractor and shall be removed from the limits of the work site. Remove debris from the site daily, unless otherwise directed; do not allow accumulations inside or outside project boundaries. Store materials that cannot be removed daily in areas approved by owner.
- B. Special Inspection required for demolition of existing prestressed panels.

1.04 PROTECTION

- A. Protect existing structures that are to remain in place, that are to be reused, or that are to remain on the site. Any item damaged during performance of work shall be repaired or replaced with new at no extra cost to owner.
- B. Use of explosives will not be permitted.
- C. Existing utilities serving the wharf are to remain in service at all times. The relocation of the water line on Wharf 4 should be coordinated with the Port to ensure that down time does not adversely affect Port operation.

PART 2 PRODUCTS (Not used)

PART 3 EXECUTION

3.01 EXISTING STRUCTURES TO BE REMOVED

- A. Remove indicated existing structures to the limits shown on the Plans and as specified in Part 1 herein.
- B. Remove all existing piles to tip, if possible. At a minimum all pilings must be removed to three (3) feet below the existing mudline. The contractor shall coordinate demolition work with new construction to prevent any interference between new piles and existing piles below the mudline.
- C. Anchors connecting the existing fender system to the concrete wharf shall be cut flush to face of concrete and torched and grouted over for corrosion protection. ITW Chockfast® Orange Non-Shrink Grout shall be used.

3.02 DISPOSITION OF MATERIAL

- A. All materials and equipment to be removed, except as specified otherwise, is vested in the Contractor upon receipt of notice to proceed. The Owner will not be responsible for the condition or loss of, or damage to, such property after notice to proceed.
- B. The Contractor is responsible for coordinating demolition and excavation work. The Contractor shall take care to keep debris, concrete rubble, and other materials from falling into the water. No extra compensation shall be made for the removal of demolition debris or for removal of obstructions found within the area defined on the Plans.
- C. Floating booms shall be used to contain debris discharged into the water and any debris discharged shall be removed as soon as possible but no later than the end of each day.
- D. The Owner will monitor turbidity at this site during demolition in accordance with regulatory requirements. Contractor is required to use a silt curtain during pile demolition to reduce potential turbidity associated with pile removal.
- E. All timber is assumed to be treated with creosote and must be disposed of at an appropriate facility in accordance with State law.

3.03 CLEANUP

- A. Remove and transport debris and rubbish in a manner that will prevent spillage on streets or adjacent areas. Clean up spillage from streets and adjacent areas.
- B. Comply with Federal, State, and local hauling and disposal regulations.

END OF SECTION

SECTION 02456

STEEL PIPE PILES

PART 1 GENERAL

1.01 SECTION INCLUDES

The work under this section consists of the provision of all labor, material, appliances, tools, equipment, transportation, services and supervision required to fabricate, deliver, install and test as required, steel pipe piles as shown on the plans. This specification also covers the pipe head pieces that are welded to the piles and embedded into the concrete deck as well as the pipe stub pieces that support the fenders.

1.02 REFERENCE TECHNICAL STANDARDS AND SPECIFICATIONS

The publications listed below, but referred to thereafter by the basic designation only, shall be a part of this specification to the extent referenced herein. The latest edition in effect at the date of the Invitation to Bid shall be used.

A. LANDAN

LANDAN Geotechnical Investigation Port of Redwood City Wharfs 3 and 4.

B. State of California Department of Transportation (Caltrans) Standard Specifications, 2010

C. American Petroleum Institute (API)

API Spec 5L Specification for Line Pipe

D. American Institute of Steel Construction (AISC)

AISC S303 Code of Standard Practice for Steel Buildings and Bridges

E. American Welding Society (AWS)

AWS D1.1 Structural Welding Code

AWS A5.1 Carbon Steel Covered Arc Welding Electrodes

F. American Society for Testing and Materials (ASTM) Specifications

ASTM A572 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel

G. Military Specification

MIL-A-18001 Anode, Sacrificial Zinc Alloy

H. Steel Structures Painting Council (SSPC)

Surface Preparation Specifications

1.03 PERMITS

See project permit section of RFP for work window, bubble curtain, and soft start requirements as well as status.

1.04 SUBMITTALS

A. The following items shall be submitted for the review and approval by the Engineer for compliance with the referenced standards and requirements.

B. Product Data

1. Coating System. If Wasser Coating is used no product data is required – if Contractor proposes an alternate, the following is required:
 - a. Provide the manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each material proposed for use.
 - b. Use of each material and cross-reference the specific coating, finish system, and application. Identify each material by the manufacturer's catalog number and general classification.
 - c. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs)

C. Coating Manufacturer's "Coating Application, Maintenance and Repair Procedures Manual" for each coating system used. This is not required if the Wasser Coating is used.

1. Coating Application

Application shall describe surface preparation requirements, the maximum time allowed between surface preparation and primer application, coat curing times, and procedure for checking minimum and maximum wet and dry film thickness of each of the coats. Identify procedures for coating critical mil thickness locations (e.g. edges, welds).

- a. Weather and Dew Point.
- b. Method of Application (brush, roll or spray including what type of equipment).
- c. Mill Thickness and time between surface preparation and application of primer.

- d. Equipment cleanliness.
- e. Surface preparation prior to application of each coat.
- f. Drying time between primer and topcoat, drying between topcoat coatings, and after final application of topcoat.
- g. Pot Life.
- h. Thinning.
- i. General application techniques for critical areas to be coated
- j. Curing requirements

2. Maintenance

The maintenance procedure shall provide a systematic process for inspection, record keeping and observation, coating application, and repair procedures.

3. Repair

- a. Repair procedures shall establish when a repair is required, what type of repair should be done, with what materials, at what time, and in what manner. Type of failures may include, but are not limited to: undercutting, blistering, rusting, and abrasion.

D. Certified mill test reports which show compliance of materials with referenced standards such as ASTM and the requirements herein shall be submitted to the Engineer. Included shall be submittals for:

- 1. Steel Pipe Piles

E. Shop Drawings:

Contractor shall submit Shop Drawings to the Engineer for approval prior to fabrication. Submittals for the following shall be included:

- 1. Steel Pipe Piles

Show all locations, markings, layouts, materials, sizes, and shapes and indicate all methods of connection and bracing.

- 2. Field Splice Details
- 3. Pile Driving Template and Driving Procedure including hammer information
- 4. Welder Qualifications

Welder qualification papers to be submitted to the Engineer if requested.

5. Welding Procedures:

Welding procedures to be submitted to the Engineer if requested.

6. Evidence of fabricator's written procedural and quality control manuals if requested by the Engineer.

F. Drivability evaluation

The contractor shall perform a pile drivability evaluation considering the anticipated subsurface conditions, and the contractors proposed pile installation equipment and schedule. As a minimum, the drivability evaluation should include an evaluation and estimation of the pile stresses during installation (compression and tension), hammer blows (incremental and total), and duration of pile installation. A written summary presenting the assumptions and results of the drivability evaluation should be included and submitted for review. The summary should include the assumed subsurface profile, soil properties (strengths, ultimate soil resistances, set up, quake, and damping, etc.), pile properties, hammer specifications, and installation including any stoppages in driving.

1.05 TESTING AND INSPECTIONS

A. Welder Qualifications:

All welding operators shall have been qualified and certified as described in "Welding Operator Qualifications" of AWS D1.1. Any welder found to be producing unsatisfactory work even though he has passed qualification tests shall be immediately recertified or shall be replaced.

B. Shop Inspection:

1. The fabricator shall perform, at his expense, normal quality control procedures in accord with industry standards and his quality control manual. The Engineer shall be allowed access to all parts of the Work at all times and shall be furnished such information and assistance by the Contractor and fabricator as may be required for a complete and detailed inspection.

C. Field Inspection:

1. The Engineer will perform visual inspection of welding, in accordance with AWS D1.1, on a spot check basis throughout the work.
2. After welds are completed, they shall be hand or power-brushed and thoroughly cleaned by the Contractor before the Engineer makes the inspection.

3. Ultrasonic testing will be performed in accordance with AWS D1.1 to augment the visual inspection of all pile splice welds. The Engineer will perform this inspection.

D. Correction of Defective Welds:

Weld areas which contain defects which exceed the standards of acceptance in AWS D1.1 shall be repaired by the Contractor at his expense.

E. Repair of the Coating System:

Repair of the Coating System shall be at Contractor's expense and in accordance with manufacturer's instructions.

F. Pile Driving Observation:

All pile driving shall be done under the observation of the Engineer.

1.06 PRODUCT HANDLING

A. Protection:

Use all means necessary to protect steel piles before, during, and after installation and to protect the installed work and materials of all other trades.

B. Replacements:

In the event of damage, immediately make all repairs and replacements necessary and at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 PIPE PILES

A. Acceptable material specifications are as follows:

1. Steel pipe piles per API Specification 5L Grade X52 or ASTM A572 Grade 50 or approved alternative of 50 ksi yield stress or greater.

B. Mark piling with lines of high visibility paint or ink at one-foot intervals from bottom to top. Number every five feet. Markings shall be clearly visible and legible to the naked eye at a distance of 75 feet. Paint markings on coated pile sections shall be of material approved by the coating manufacturer.

C. Pile dimensional tolerances shall be as follows:

1. Overall length \pm 3 inches.
2. Deviation from a straight line shall not exceed length/1000 along the entire length of pile.

- D. No more than 2 shop splices shall occur in any 10 foot length of pile. Splices shall be at least 5 feet apart.
- E. No more field splices shall be permitted.

2.02 PILE COATING SYSTEM

- A. The coating system for all piles shall be as shown on the drawings and referenced in this specification. All pipe piles shall have all surface preparation and coatings applied in a shop prior to delivery to the site. Field coating to be minimized and limited to touch up work. All coating damaged during handling shall be recoated in accordance with the coating manufacturer's written recommendations, at Contractor's expense.
- B. The preparation and coating of pile surfaces shall be as required herein. Before the application of any coat, all defects on the preceding coat shall be repaired.
- C. All exposed steel surfaces including sides and edges, shall be coated. Coating shall be applied in accordance with the coating manufacturer's written recommendations.
- D. Materials
 - 1. Wasser High-Tech Coatings, Inc. products are listed. "Or equal" products may be substituted if preapproved by the Engineer.
 - 2. Surface Preparation: Metal blast cleaning according to SSPC SP10. For field application at weld locations, prepare surface according to SSPC SP3 and apply coating with brush and roller overlapping zinc 3 inches over original tar.
 - 3. 1st Coat: 3.0-5.0 mils DFT of Wasser MC-Zinc 100
 - 4. 2nd Coat: 5.0-7.0 mils DFT of Wasser MC-Tar 100
 - 5. 3rd Coat: 5.0-7.0 mils DFT of Wasser MC-Tar 100

2.03 PILE DRIVING GUIDE

The Contractor shall provide a template to guide the piles during driving. The template shall be so constructed as to achieve the pile driving tolerances listed in Paragraph 3.06. Take necessary measures to prevent damage to the coating due to contact with the template and repair any damage as it occurs.

PART 3 EXECUTION

3.01 LAYOUT

Pile locations shall be laid out by the Contractor in accordance with the plans.

3.02 INSTALLATION

- A. All steel pipe piles are to be coated in a shop prior to delivery to the site in accordance with the coating manufacturer's written recommendations.
- B. All piles shall be installed to their design location, alignment and specified tip elevations. The pile design is for bending loads and full length installation of the piles to their specified tip elevation is required.

C. Damaged Piles:

Do not drive piles damaged or suspected of damage until inspected and approved by the Engineer. All repair costs for pile and coating including additional materials and labor required, shall be at the Contractor's expense.

3.03 PILE DRIVING CRITERIA

A. General:

Notify the Engineer one week prior to the start of the pile driving operations. Drive piles to final design tip elevations. Drive each pile without driving interruptions, except to splice add-on sections or to switch from a vibratory hammer to an impact hammer.

B. Driving Equipment:

Piles to be installed using a combination of vibratory and impact hammers. Piles should be started with vibratory hammers. Once the pile stops moving under the vibratory hammer, use an impact hammer with a minimum operating energy of 318 kip-feet at 80% efficiency. Operate at manufacturer's recommended speeds and pressures. Take special precautions to ensure against buckling of pile or leaning away from plumb position. Care should be taken during driving to prevent and correct any tendency of piles to deviate or walk.

C. Drilling Internal Soil Plug:

1. If refusal is encountered before the pile reaches design tip elevation the internal soil plug may be removed by drilling or internal jetting. Drilling or internal jetting shall not be allowed within 10 feet above the pile tip to avoid disturbing the soils outside the pile. Prior to performing drilling or jetting, the Contractor shall notify the Engineer.
2. Removal, testing and disposal of soil plug material are the responsibility of the Contractor.

D. Modifications:

The Engineer reserves the right to modify the above criteria if conditions encountered in the field make it necessary to do so.

E. Hard Driving:

The Contractor is alerted that piles must be driven per the recommendations in the geotechnical report and requirements of the permitting agencies.

F. Timing:

The Contractor shall comply with the allowable pile driving window pursuant to the project permits.

3.04 PILE CUTOFF

Piles shall be cut off at the elevation indicated on the Project Drawings. Pile coating shall be restored in accordance with the coating manufacturer's procedures.

3.05 PILE DRIVING RECORDS

A. Pile Driving Records:

1. The Engineer's field representative will maintain a pile driving log. The Contractor shall provide all necessary information to facilitate this log including contributing to the following:
 - a. Reference: All piles shall be referenced per the numbering system shown on Contractor's Shop Drawings.
 - b. Dimensions: Record all pile lengths as furnished and the length of pile in place. Include elevations of tip and butt before and after cutting off.
 - c. Hammer: Include in the record the type and size of the hammer used. Record any unusual occurrence during driving of the pile.
 - d. Drilling: Record the length of soil plug removed, pile tip elevation and final drill bit elevation.
2. The Contractor is encouraged to keep their own pile driving log.

3.06 TOLERANCES

Install pipe piling within the following tolerances from the planned locations as shown on the Project Drawings.

A. Vertical Piles:

1. Plan Location ± 3.0 Inches
2. Vertical Cut-Off ± 1 Inches
3. Plumb ± 0.5 Percent For 66 inch pile and 1 Percent for 30 inch diameter piles.

END OF SECTION

SECTION 03210
REINFORCING STEEL

PART 1 GENERAL

1.01 WORK INCLUDED

- A. The work under this section of the Specifications consists of furnishing labor, materials, appliances, tools and equipment to furnish and install reinforcing steel as indicated on the Plans and as specified herein.

1.02 RELATED WORK

- A. Requirements for concrete are contained in Section 03310, "Concrete."

1.03 REFERENCES

- A. American Concrete Institute (ACI) Codes
- ACI 211.1 Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete
 - ACI 301 Specifications for Structural Concrete
 - ACI 214 Recommended Practice for Evaluation of Strength Test Results of Concrete
 - ACI 304R Guide for Measuring, Mixing, Transporting, and Placing Concrete
 - ACI 318 Building Code Requirements for Structural Concrete and Commentary
 - ACI 347R Guide to Formwork for Concrete
- B. American Society for Testing and Materials (ASTM) Specifications
- ASTM A 82 Steel Wire, Plain, for Concrete Reinforcement
 - ASTM A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
 - ASTM A 706 Low-Alloy Steel Deformed Bars for Concrete Reinforcement
 - ASTM A 775 Standard Specification for Epoxy-Coated Steel Reinforcing Bars
 - ASTM D 3963 Standard Specification for Fabrication and Jobsite Handling of Epoxy Coated Reinforcing Steel Bars
- C. Concrete Reinforcing Steel Institute (CRSI)

- D. American Welding Society (AWS)

AWS D1.4 Structural Welding Code – Reinforced Steel

1.04 SUBMITTALS

- A. Evidence of conformance to the referenced standards shall be submitted for the following materials:
1. Reinforcing steel: Mill test certificates for each heat number
- B. Shop drawings shall be prepared in accordance with ACI 315 and the CRSI Manual of Standard Practice and shall be submitted to the Engineer. Method of supporting layers of reinforcing steel shall be clearly shown on shop drawings. Any fabrication undertaken before approval of shop details shall be entirely at the Contractor's risk.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Intermediate grade deformed steel bars: Conform to ASTM A 615 Grade 60 or ASTM A 706 Grade 60 except as shown on the drawings.
1. In addition, ASTM A 615 bars shall conform to the following criteria.
 - a. The actual yield strength based on mill tests shall not exceed the specified yield strength by more than 18,000 psi.
 - b. The ratio of the actual ultimate tensile stress to the yield strength is not less than 1.25.
- B. Reinforcing spiral and bars to be welded shall conform to ASTM A 706, Grade 60.
- C. Welding electrodes for reinforcing bars shall be in accordance with ANSI/AWS D1.4. Welding of bars is not permitted except where shown on the Plans or approved by the Engineer.
- D. Welded Headed Bar Reinforcement
1. All bar reinforcement to be used in the fabrication of welded headed bar reinforcement shall conform to Paragraph A above.
 2. Heads to be used in the fabrication of welded headed bar reinforcement shall be forge formed or cut from properly identified heats of mold cast or strand cast steel using the open-hearth, basic oxygen or electric-furnace process.
 3. The chemical composition of the heads shall conform to the requirements in ASTM Designation: A 29, A 36, A 108 Grade 1018, A 304, A 572, or A 706.

Forging of heads shall conform to the requirements in ASTM Designation: A 788.

- E. Wire for spiral reinforcement shall conform to ASTM A82.

2.02 ACCESSORIES

- A. Chairs and spacers shall be galvanized and plastic-coated or plastic. Bar supports shall have radius bearing legs. Plastic coating shall not be less than 3/32" thick, shall extend to the full reinforcing and steel cover, and shall not chip, peel, crack or deform under ordinary job conditions and temperatures. Metal placed within the outer concrete cover indicated on the Plans shall be galvanized and plastic-coated.

- 1. If dobies are used, Contractor shall demonstrate they are of the same quality (strength, density and durability) as deck concrete.
 - 2. Dobies shall have no embedded wire.

- B. Tie wire shall be black annealed, minimum 16 gauge.

2.03 DETAILING AND FABRICATION

- A. Detailing and fabrication of reinforcing steel shall conform to ACI 315 and to Chapter 7 of ACI 318.

- B. Hooks and bends shall conform to the provisions of the Building Code Requirements for Reinforced Concrete of the American Concrete Institute.

- C. Welded Headed Bar Reinforcement

- 1. Headed bar manufacturer must have a Quality Control Manual (QCM) for the fabrication of welded headed bar reinforcement. The Engineer may request a copy of this manual. As a minimum, the manual shall include the following:
 - a. The pre-production procedures for the qualification of materials and equipment;
 - b. The methods and frequencies for performing all quality control procedures during production;
 - c. The calibration procedures and calibration frequency for all equipment;
 - d. A system for the identification and tracking of all welds. The system shall have provisions for permanently identifying each weld and the parameters used to perform it;
 - e. The welding procedure specification (WPS); and
 - f. A system for marking welded headed bar reinforcement.

2.04 FABRICATION

- A. Welding, welder qualifications, and inspection of welding shall conform to the requirements for welding in ANSI/AWS D1.4, and, for friction welding, in ANSI/AWS C6.1.
- B. All welding shall be performed at an established and permanent fabrication facility.
- C. All equipment used to perform friction welding shall be fitted with an effective in-process monitoring system to record essential production parameters that describe the process of welding the head onto the bar reinforcement.
 - 1. As a minimum, the parameters to be recorded shall include friction welding force, forge force, rotational speed, friction upset distance and time, forge upset distance and time, and other elements of the production process.
 - 2. The data from this in-process monitoring shall be recorded and preserved by the manufacturer and shall be provided to the Engineer upon request.
- D. Heads shall be forge formed or cut from plate into a round shape.
- E. Tensile Test Criteria:
 - 1. Tensile testing of the welded headed bar reinforcement shall be performed in accordance with the requirements described in ASTM Designation: A 370.
 - 2. Tensile test specimens shall be the full cross-section of the bar as rolled with a head attached to one end of the reinforcing bar. A specimen with a head welded to one end shall be placed in the testing machine with the head supported by a steel plate or other fixture to prevent movement and bending of the head. The fixture shall be placed concentrically with the longitudinal axis of the reinforcing bar directly against the flat inner surface of the head. The fixture shall provide clearance between the head support and the head-to-bar connection. Provisions shall be made for clearance between the support and any weld or forming material on the reinforcing bar-to-head connection. The free end of the bar, without a head attached, shall be gripped by the test machine.
 - 3. All tensile test specimens for welded headed bar reinforcement shall conform to the following requirements.
 - a. The tensile strength, yield strength and elongation shall conform to the requirements in Table 2, "Tensile Requirements," in ASTM Designation: A 706.
 - b. At rupture, there shall be no observed partial or total fracture of the head, the head-to-bar connection or the reinforcing bar within one bar diameter of the head-to-bar connection; and

- c. At rupture, there shall be visible signs of necking in the reinforcing bar, at a minimum distance of one bar diameter away from the head-to-bar connection.

4. Pre-production Testing:

- a. Prior to production, successful testing results from 3 tensile tests and 3 bend tests shall be furnished by the Contractor for each combination of 1) reinforcing bar size, 2) head size, 3) head type and, 4) head material specification to be used in the work.
- b. Tensile tests shall conform to the requirements of "Tensile Test Criteria" of this section.
- c. The bend test shall be performed in accordance with the requirements described in ASTM Designation: A 706, except that the test specimen shall be bent around a test mandrel to an angle of at least 90-degrees.
- d. The mandrel shall be placed so as to directly bend the welded region. The mandrel dimensions for bend testing shall conform to the requirements for mandrel (pin) diameters in ASTM Designation: A 706. The centerline of the bend test mandrel shall be placed at the intersection of the reinforcing bar and the weld.
- e. Bend test specimens shall be the full cross-section of the bar as rolled with a head attached to one end of the reinforcing bar.
 - 1) For welded heads directly attached to the end of the reinforcing bar where the head interferes with placement of the bend test mandrel, sufficient head material and any excess material associated with the welding process shall be removed along one edge of the reinforcing bar to provide a flat surface on the specimen for the bend mandrel.
 - 2) For welded headed bar reinforcement where the head does not interfere with the positioning of the bend test mandrel, no specimen preparation shall be performed.
- f. All welded headed bar reinforcement bend test specimens shall conform to the following requirements:
 - 1) There shall be no observed partial or total fracture of the head, the head-to-bar connection or the bar within one bar diameter of the head-to-bar connection; and
 - 2) There shall be no cracking on the outside of the bent portion.

5. Marking:

All welded headed bar reinforcement shall be identified by a distinguishing set of marks legibly stamped onto the flat outer side of the head, away from the bar, to denote the following:

- a. Point of origin—Letter or symbol established as the manufacturer's designation.
- b. Type of Welded Headed Reinforcing Bar—Letter T indicating that the welded headed bar reinforcement was produced to this specification.

PART 3 EXECUTION

3.01 PREPARATION

- A. All reinforcing shall be free from rust, scale or any coating that may reduce the bond strength.

3.02 INSTALLATION

- A. All reinforcing steel shall be installed as shown on the Plans, and in conformance with the referenced standards and good practice, including:
- B. All reinforcing steel, at the time concrete is placed, shall be free from loose rust or scale, oil, grease or any other coating that could reduce bond strength.
- C. All reinforcing steel shall be shop fabricated in accordance with the approved detail Plans. All bars shall be bent cold. Any necessary bending at site shall also be performed cold, unless otherwise permitted by the Engineer.
- D. All reinforcing steel shall be accurately placed and secured against displacement, and held in place by a sufficient number of chair supports as specified. Ties at intersections shall be made with the specified black annealed wire.
- E. Ends of tie wire shall be pointed toward center of pour. Ends of tie wire shall not be located in the clear area between the reinforcing steel and the outside of the concrete. All loose pieces of tie wire shall be removed from formwork.
- F. Whatever conduit, piping, sleeves, bolts, hangers, boxes or other embedded items interfere with the proper placement of reinforcing steel, as detailed, the Contractor shall submit to the Engineer his proposed reinforcement adjustment and obtain the Engineer's approval at least 48 hours prior to concrete placement. Bars shall not be bent around openings or sleeves, except where shown on the Plans.
- G. Splices and laps shall be made and located only as called for on the Plans, or as otherwise approved by the Engineer. All reinforcing steel shall be continuous around corners and shall have Class B splices in accordance with ACI 318, unless otherwise noted on the Plans.

- H. No welding of reinforcing steel to embedded items shall be performed without the Engineer's prior approval. Welding shall conform to AWS D1.4.

3.03 FIELD QUALITY CONTROL

- A. The Contractor shall notify the Engineer at least 24 hours in advance of concrete placement when reinforcing is completely fixed and ready for the inspection.

END OF SECTION

SECTION 03310

CONCRETE

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The work under this Section consists of mixing, furnishing, conveying, placing and curing of concrete, including formwork, and the installation of embedded and other items as shown on the Plans and specified herein.

1.02 REFERENCE STANDARDS

- A. State of California Department of Transportation (Caltrans) Standard Specifications, 2010
- B. American Concrete Institute (ACI) Codes
 - ACI 211.1 Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete
 - ACI 301 Specifications for Structural Concrete
 - ACI 214 Recommended Practice for Evaluation of Strength Test Results of Concrete
 - ACI 304R Guide for Measuring, Mixing, Transporting, and Placing Concrete
 - ACI 318 Building Code Requirements for Structural Concrete and Commentary
 - ACI 347R Guide to Formwork for Concrete
- C. U. S. Army Corps of Engineers' Specifications
- D. American Society for Testing and Materials (ASTM)
 - ASTM C 31 Test Methods of Making and Curing Concrete Test Specimens in the Field
 - ASTM C 33 Concrete Aggregates
 - ASTM C 39 Test Methods for Compressive Strength of Cylindrical Concrete Specimens
 - ASTM C 94 Ready-Mixed Concrete

ASTM C 131	Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 150	Portland Cement
ASTM C 494	Chemical Admixtures for Concrete
ASTM C 618	Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete

1.03 PROJECT DESIGN LIFE

The design life for the project shall be as follows:

- A. New marine structures = 50 years
- B. Repairs and improvements to existing structures = 25 years

1.04 SUBMITTALS

Evidence of conformance to the referenced standards and requirements shall be submitted for the following:

- A. Cement.
- B. Coarse and fine aggregates.
- C. Admixtures and pozzolan or fly ash.

Non-Set-Accelerating Corrosion-Inhibiting Admixture: If DCI S Corrosion Inhibitor is used, no additional documentation is required for submittal.

- D. Concrete: Proposed mix design. Certificates for each delivery, showing slump, weight of cement and pozzolan per cubic yard of concrete, water/cement ratio, and weights of admixtures.
- E. Means of obtaining and proposed finish for concrete decks.
- F. Drawings and calculations for wharf deck soffit formwork and formwork supports, signed and stamped by a Civil or Structural Engineer registered in the State of California.
- G. Concrete Placing Record: Submit to the Engineer weekly throughout the course of the work. This provides for the checking of formwork, reinforcement, and embedded items, concrete quantity, date and time of placement, weather, signatures of Contractor's and Engineer's representatives, and any other items necessary to provide a complete record.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Cement shall be "Type II Modified," conforming to the State Specifications, Section 90-1.02B.
- B. Coarse aggregate shall conform to ASTM C-33 and shall not exceed 1-inch maximum size.
- C. Fine aggregate shall conform to ASTM C-33, and shall be clean, washed natural sand or crushed rock. It shall be uniformly graded between the No. 4 and No. 200 sizes, with at least 95 percent passing the No. 4 sieve, and not more than five percent passing the No. 200.
- D. Mixing, curing and washing water shall conform to the State Specifications, Section 90-1.02D.
- E. Admixtures: Furnish chemical admixtures from one manufacturer. Pozzolan shall be a Type F or Type N natural pozzolan or a fly ash, conforming to ASTM C-618. Fly ash shall have a maximum loss of ignition of 1 percent, a maximum SO_3 content of 3 percent by weight, and a maximum water requirement of 100 percent.
- F. Water reducing admixture, or super-plasticizer, shall conform to ASTM C-494, Types A or D.
- G. No calcium chlorides or admixtures containing chlorides shall be used.
- H. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete. Grace Construction Products, W.R. Grace & Co.; DCI-S or approved equal.

Reinforcing steel corrosion resistance shall be achieved by the inclusion of the corrosion inhibiting admixture into the concrete mix design meeting the requirements of ASTM C 494, chemical admixture for concrete.

Reinforcing steel is specified in Specification Section 03210 "Reinforcing Steel".

Dosage rate (gallons/cubic yard) of the corrosion inhibiting admixture shall be as required to provide the design life specified in Paragraphs 1.03A and 1.03B.

- I. Non-shrink grout shall be cement-based, suitable for use in a salt water attack area and conforming to the Corps of Engineers' Specification CRD-C621. It shall have an initial setting time of not less than 60 minutes. Specifically, ITW Chockfast® Orange Non-Shrink Grout shall be used.
- J. Epoxy bonding agent shall be a two-component formulation conforming to ASTM C 881, specifically SET-XP® High-Strength Epoxy Adhesive.

- K. Sika® Armatec® 110 EpoCem bonding agent shall be used to bond the existing and new concrete together.

2.02 PRODUCTS

- A. Concrete shall be designed, proportioned and mixed in accordance with ASTM C 94, and as follows:
1. Prior to starting work, a design of each proposed concrete mix shall be submitted, accompanied by three 7-day and three 28-day test reports made by an approved testing laboratory. The design shall indicate the brand of cement, type and source of aggregate, pozzolan, admixtures, the water-cement ratio, and the weights of all ingredients per cubic yard. Add the appropriate dosage of Non-Set-Accelerating Corrosion-Inhibiting Admixture. The minimum cement/pozzolan content shall be 564 pounds per cubic yard. Maximum coarse aggregate size shall be 1". Maximum water/cementitious ratio shall be 0.40.
 2. The Contractor shall obtain the Engineer's prior approval for the use of the admixtures. These shall conform to ASTM C 260 or ASTM C 494, for air entraining agent and water reducing agent respectively.
 3. Concrete materials shall be accurately measured and proportioned by approved weighing and measuring equipment. Pozzolan shall be batched separately from cement, and positive means, such as interlocks, shall be instituted to prevent the confusion of cement and pozzolan. The water/cement ratio shall be accurately controlled.
 4. Concrete shall be mixed in a power batch mixer equipped with automatic devices for timing the mixing operations. The materials for each batch of concrete shall be accurately and separately weighed and placed in the mixer. The water shall be measured and combined with the batch and the whole mixture shall be mixed not less than one and one-half minutes for mixers of one cubic yard capacity or less, which shall be increased 15 seconds for each additional cubic yard or fraction thereof, during which time the mixer shall rotate at a peripheral speed of about 200 feet per minute. Over-loading of mixers, or excessive over-mixing of batches, will not be permitted.
 5. Concrete slump shall be adequate to allow proper placement and consolidation while avoiding segregation.
 6. Concrete weight at the time of strength tests shall not be less than 145 pcf. Unless otherwise shown, all concrete shall have a minimum compressive strength of 5,000 psi at 28 days, as defined by ASTM C 39.
- B. Pozzolan or fly ash shall be used to replace between 10 and 25 percent of the total cement that would otherwise be used. Batch cement and fly ash separately.
- C. The concrete supply source and materials shall receive the prior approval of the Engineer, and these shall not be changed without his prior agreement.

PART 3 EXECUTION

3.01 FORMWORK

- A. The Contractor shall be responsible for the design, construction, installation, and removal of formwork.
- B. Formwork shall meet the applicable requirements of ACI 347, including those for loads, stresses and deflection limits.
- C. Formwork will be so designed that the concrete surfaces will conform to the tolerances of ACI 347, unless indicated otherwise. In particular, the following tolerances shall apply:
 - 1. Soffit of deck: +0", - 3/4" (in elevation)
 - 2. Surface of deck (top): + 1/2" and not more than + 1/4" in 10 feet
 - 3. Exposed concrete corners shall have a 3/4-inch chamfer unless otherwise specifically shown on the Plans.
- D. Construction of formwork shall be in accordance with the following:
 - 1. ACI 347 and Section 6.1 of ACI 318.
 - 2. Form surfaces and edges shall produce concrete conforming to the detailed shapes, lines and dimensions, and free from cavities and honeycombing. Exposed concrete surfaces shall be free from protrusions, fins, roughness and other imperfections. Forms shall be strong, flat and rigid and be set true to line and level. They shall be fixed firmly in place and shall resist, without movement, the weight and pressures of wet concrete, and all loads incidental to its placement.
 - 3. Forms for exposed concrete shall be of steel or plywood APA grade-stamped "B-B Plyform Class 1 Exterior".
 - 4. Form accessories to be partially or wholly embedded in the concrete, such as ties and anchors, shall be "Superior", "Burke," or approved equal, plastic-coated or plastic. Wires are not acceptable, nor are ties which remain exposed, or could cause rusting or spalling of concrete. The anchors shall not be left in place, but shall be carefully removed and the holes neatly filled with the specified dry-pack mortar.
 - 5. All concrete embedments and penetrating items requiring attachment to forms shall be accurately located and rigidly secured so that they will not become displaced during concrete placement.
 - 6. Form joints shall be sufficiently tight to prevent leakage of grout or cement paste.

7. Plywood and other wood surfaces subject to shrinkage shall be sealed against absorption of moisture from the concrete by either (1) a form oil such as "Formfilm," manufactured by A. C. Horn or approved equal; or (2) a factory applied non-absorbent liner.
8. When forms are coated to prevent bond with concrete, coating shall be applied prior to placing of the reinforcing steel. Coating material shall not be allowed on concrete against which fresh concrete will be placed.
9. Before placing concrete, the forms shall be thoroughly cleaned of all foreign material. Before placing concrete, all reinforcement shall be checked by the Contractor to insure that each bar is accurately set and anchored against movement such that specified clearances will exist in the finished concrete.
10. The Contractor shall notify the Engineer in writing at least 24 hours in advance for each placement of concrete that the forms are ready to be inspected by the Engineer.

3.02 FORM REMOVAL

All forms shall be removed. Removal shall be in accordance with the following:

- A. Formwork for sides of slabs, beams and other parts not supporting the weight of the concrete may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations, particularly when form ties will be bent by the removal operations. Side forms must remain in place for a minimum of 3 days.
- B. Soffit forms shall remain in place until the concrete has attained a minimum age of two weeks and strength of at least 3,500 psi. This strength shall be determined by the Contractor from cylinder tests, which he shall submit to the Engineer for review.
- C. Whenever the formwork is removed during the curing period, the exposed concrete shall be cured by one of the methods specified under "Curing and Protection" in this Section. No concrete shall remain exposed and unprotected for more than two hours during the curing period.
- D. All form surfaces shall be cleaned before reuse.

3.03 EMBEDDED ITEMS

- A. Miscellaneous and other embedded items are specified in Division 5, Specification Section 05100 "Structural Steel and Miscellaneous Metal."
- B. Items to be embedded in concrete shall be installed prior to concrete placement. The Contractor shall notify the Engineer at least 24 hours in advance of concrete placement when all items are in place and ready for inspection.
- C. Embedded items shall be positioned accurately and rigidly secured against movement during concrete placement. Tolerances shall be + 1/2 inch in location and + 1/4 inch in depth from face of concrete, unless a more stringent tolerance is established elsewhere in these specifications or plans. Voids in sleeves, inserts

and anchor slots, and ends of pipes and conduits shall be filled temporarily with readily removable material to prevent the entry of concrete.

3.04 PLACING CONCRETE

- A. Placing shall conform to Section 51-1.03D of the State Specifications and to ACI 304.
- B. The Contractor shall schedule concrete placement to be continuous – no construction joints will be allowed.
- C. Once concrete placement has started, every effort shall be made to carry it on as an uninterrupted operation until the scheduled placement has been completed.
- D. Bonding to existing concrete: prior to rebar placement, sandblast existing concrete edges to clean and roughen the surface, exposing clean coarse aggregate solidly embedded in mortar matrix. High-pressure water wash is not acceptable. Clean forms and reinforcing by means of compressed air. Surface must be saturated surface dry (SSD) with no standing water. Then thoroughly apply Sika® Armatec® 110 EpoCem bonding agent to existing concrete surface and place concrete. Refer to manufacturer's instructions.

3.05 CONSTRUCTION JOINT SPACING

- A. No construction joints will be allowed.

3.06 HOT AND COLD WEATHER CONCRETING

- A. During hot weather, the Contractor shall implement the requirements of ACI 305R, and during cold weather, the requirements of ACI 306R.

3.07 STRENGTH TESTS

- A. The Engineer shall retain an inspector to sample concrete. Concrete will be sampled and tested in accordance with Section 90-1.01D(5) of the State Specifications to determine compressive strength. Samples will be taken as frequently as specified in ACI 318, however at a minimum 1 set of cylinders shall be taken for each deck element cast. The age of strength tests for acceptance shall be 28 days.
- B. The Contractor may make additional tests at Contractor's expense at earlier ages to obtain advance information on the adequacy of strength development and to determine when forms may be removed.
- C. If strength tests fail to meet the minimum requirements, the concrete represented by such tests will be considered questionable, and will be subjected to additional testing, at the Contractor's expense, as follows:

1. Core samples of the questionable concrete will be taken and tested for compressive strength in accordance with ASTM C 42.
2. If core tests fail to demonstrate strengths adequate for the intended purpose of the member or members in question, as determined by the Engineer, or if failure to meet specified strength requirements occurred in members from which it is impracticable to secure test specimens by the method of ASTM C 42, load tests will be conducted and their results evaluated in accordance with Chapter 20 of ACI 318.
3. If the results of the load tests fail to meet the requirements of Chapter 20 of ACI 318, low-strength portions of the structure shall be demolished and rebuilt, or adequately reinforced as directed by the Engineer, all at the Contractor's expense.

3.08 CONCRETE FINISH

- A. The walking surface of the concrete is desired to have a broom like finish to provide traction for pedestrians. Prior to placing any concrete, contractor shall submit to Engineer proposed deck finish and means of obtaining that finish.

3.09 CURING AND PROTECTION

- A. Freshly deposited concrete shall be protected from premature drying and excessively hot or cold temperatures, and shall be maintained with minimal moisture loss at a relatively constant temperature for the time necessary for hydration of the cement and hardening of the concrete.
- B. Curing shall immediately follow the finish operation. Concrete shall be kept continuously moist for a minimum of seven (7) days by absorbent mat or fabric kept continuously wet.
- C. Steel forms heated by the sun and all wood forms in contact with the concrete during the curing period, shall be kept wet. If forms are to be removed during the curing period, one of the above curing materials or methods shall be employed immediately. Such curing shall be continued for the remainder of the seven (7) day curing period.
- D. During the curing period, the concrete shall be protected from damaging mechanical disturbances, particularly load stresses, shock and excessive vibration. All finished concrete surfaces shall be protected from damage caused by construction equipment, materials, methods, and by frost, rain or running water. Self-supporting structures shall not be loaded in such a way as to overstress the concrete.
- E. The Contractor shall be entirely responsible for protecting the concrete from damage, from whatever cause, until its acceptance by the Owner. Precast decks may not be moved or installed until either 28 days of age or 5,000 psi of strength has been realized.

3.10 REPAIR OF CONCRETE

- A. Immediately after forms are removed and curing is completed, surface defects shall be repaired. Repair procedures shall be as follows:
1. Fins and other projections not acceptable to the Engineer shall be removed, and the concrete ground to an even surface. Individual small surface defects such as air bubbles, voids, and fissures will be accepted without repair, if the voids or air bubbles are less than 1/2-inch in diameter and 3/8-inch in depth and if fissures do not penetrate more than 3/8-inch in depth.
 2. All honeycombed and other defective concrete shall be removed down to sound concrete. The sides of all cuts shall be square and the minimum depth of the defective concrete removal shall be one inch. The area to be patched shall be coated with the approved epoxy bonding agent, applied in accordance with the manufacturer's instructions. Small, shallow holes caused by air entrapment at surface of forms shall not be considered to be defective unless amount is so great as to be considered not the standard of the industry.
 - a. The void shall then be filled with dry-pack mortar. This shall be rammed firmly into place and finished flush with the surrounding concrete.
 - b. Form-tie cavities shall be repaired in the same manner, except that the epoxy bonding agent need not be employed.
 3. For cavities exceeding three (3) inches in depth or 1/4-cubic foot in volume, concrete and not dry-pack mortar shall be employed. A coating of the approved epoxy bonding agent shall first be applied to the surface after removal of all loose material. Concrete of the same strength and composition as that in the defective member shall then be well rammed into the cavity and finished flush. It shall be just plastic enough to permit effective placement. If necessary, a form shall be fixed to prevent concrete sagging.
 4. All repair surfaces shall be cured in the same manner as the surrounding concrete.
- B. Areas of structures which are outside the tolerance limits listed in ACI 347, shall be removed to the specified limits if the Engineer so requires. The finished surface shall be ground smooth to a finish comparable to the surrounding area.

3.11 GROUT

- A. Grout is required to be placed under base plates and elsewhere where shown on the Plans, and shall be the specified non-shrink grout (ITW Chockfast® Orange Non-Shrink Grout)

- B. Metal surfaces, which will be in contact with grout, shall first have all loose mill scale and foreign matter removed. Concrete surfaces shall be roughened and all laitance and foreign matter removed.
- C. The grout shall be stored, mixed, handled, placed and cured in accordance with the manufacturer's instructions. Forms shall be provided, if necessary, to confine the grout to its required location.

3.12 POST-INSTALLED ITEMS

- A. Post-installed items (i.e. adhesive anchors) shall be installed in concrete having a minimum age of 21 days at the time of installation.
- B. Post-installed epoxy adhesive anchor bolts for fenders shall be set true to line and elevation, as shown on the Plans, and secured rigidly to prevent their movement during and after installation. Manufacturer's instructions for installation of epoxy adhesive anchors shall be followed (See Simpson Strong-Tie® SET-XP® epoxy adhesive anchors).

END OF SECTION

SECTION 05100

STRUCTURAL STEEL AND MISCELLANEOUS METAL

PART 1 GENERAL

1.01 SECTION INCLUDED

- A. The work under this section consists of furnishing all labor, materials, tools, equipment, transportation, services, and supervision required to fabricate and install structural steel and miscellaneous metal, including the steel grating for the walkways and items to be embedded and post-installed in concrete. Note that large diameter pipe (greater than or equal to 24" diameter) is covered by the Steel Pipe Specification.

1.02 REFERENCE

- A. AISC – Manual of Steel Construction – Allowable Stress Design (ASD) and Load & Resistance Factor Design (LRFD)
- B. AISC S303 – Code of Standard Practice for Steel Buildings and Bridges
- C. ASTM A36/36M – Structural Steel
- D. ASTM A53 – Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe
- E. ASTM A123/A123M Zinc Coatings (Hot-Dip Galvanized) on Iron and Steel Products
- F. ASTM A153/A153M Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- G. ASTM A307 – Carbon Steel Externally Threaded Standard Fasteners
- H. ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes
- I. ASTM A563 – Standard Specification for Carbon and Alloy Steel Nuts
- J. ASTM A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
- K. ASTM A780 – Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- L. ASTM A992 – Standard Specification for Structural Steel Shapes
- M. ASTM C1107 – Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

- N. ASTM F436 – Hardened Steel Washers
- O. ASTM F593 – Stainless Steel Bolts, Hex Cap Screws, and Studs
- P. ASTM F594 – Stainless Steel Nuts
- Q. ASTM F844 – Washers, Steel, Plain (Flat), Unhardened for General Use
- R. ASTM F1554 – Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
- S. ASTM F2329 – Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners
- T. ASTM F3125 – Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength, Inch and Metric Dimensions
- U. AWS A2.4 – Symbols for Welding, Brazing, and Nondestructive Examination
- V. AWS D1.1 – Structural Welding Code
- W. SSPC SP 6 – Commercial Blast Cleaning

1.03 SUBMITTALS

- A. Evidence of conformance to the referenced standards and requirements shall be submitted for the following:
 - 1. Submit shop drawings and fabrication details for approval prior to fabrication. Prepare in accordance with AISC 326, AISC 316 and AISC 317. Drawings shall not be reproductions of contract drawings. Include complete information for the fabrication and erection of the structure's components, including the location, type, and size of bolts, welds, member sizes and lengths, connection details, blocks, copes and cuts. Use AWS standard welding symbols.
 - 2. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within the previous 12 months. Provide certificates if requested by the Engineer.
 - 3. Welding Procedures and Qualification Test Records – Provide if requested by Engineer.
- B. Shop fabrication details shall be submitted before fabrication commences.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Structural shapes shall conform to ASTM A992 Grade 50. Steel plates shall conform to ASTM A572 Grade 50. HSS shapes shall conform to ASTM A500 Grade B. Pipe, excluding pipe piles, shall be Grade B, conforming to ASTM A53. Bearing bars for grating shall conform to ASTM A36. Steel not embedded in concrete or coated shall be hot dip galvanized after fabrication in accordance with ASTM A123/A123M with a minimum thickness of 7 mils.
- B. Bolts shall be ASTM F3125 Grade A325 and anchor bolts shall be ASTM F1554 unless otherwise shown on the drawings. The bolt heads and the nuts of the supplied fasteners must be marked with the manufacturer's identification mark, the strength grade and type specified by ASTM specifications. All bolts shall be galvanized in accordance with ASTM F2329.
- C. Nuts for ASTM F3125 Grade A325 bolts shall be heavy hex style grade DH3 or C3. Nuts for ASTM F1554 anchor bolts shall be ASTM A563 with F 436 flat washers. Unless otherwise specified, all washers shall be of the same alloy group, and shall have a specified minimum proof stress equal to or greater than the specified minimum full-size tensile strength of the externally threaded fastener. All nuts and washers shall be galvanized in accordance with ASTM F2329.
- D. Drilled-in concrete anchors shall be "Red Head," "Hilti", "Simpson", or approved equal and shall be galvanized.
- E. Welding electrodes shall conform to the requirements of AWS D1.1.
- F. Steel grating for the walkways shall be of McNICHOLS Quality Welded Bar Grating, galvanized in accordance with ASTM A123/A123M.

2.02 FABRICATION

- A. Fabrication shall conform to the AISC Specification for the Design, Fabrication, and Erection of Structural Steel.
- B. Welding shall conform to the American Welding Society Structural Welding Code, AWS D1.1.
- C. All ferrous metal items shall be hot dip galvanized after fabrication in accordance with ASTM A123/A123M Grade 100. Hardware shall be galvanized in accordance with ASTM F2329 and shall not be less than two ounces per square foot. Galvanizing shall be performed before shipment and shall be a hot dip process.
- D. Preparation prior to galvanizing shall be by acid pickling. Galvanizing shall be performed the same day as pickling. After pickling and before galvanizing, all items shall be heated to 300 degrees F to expel hydrogen absorbed during pickling.

- E. Components of bolted assemblies shall be galvanized before assembly. Welded assemblies shall be galvanized after welding.
- F. Zinc coating shall adhere tenaciously to the steel surface, shall be free from blisters and excess zinc, and be even, smooth and uniform throughout. All cutting, punching, drilling and other machine work shall be performed as far as possible before galvanizing, the areas from which galvanizing has been removed shall be touched up in the manner described for repairs.
- G. Cleaning shall be in accordance to SSPC SP 6. Maintain steel surfaces free from rust, dirt, oil, grease, and other contaminants through final assembly
- H. Galvanized items that are damaged shall be repaired with ZRC Cold Galvanizing Compound, or approved equal, applied in accordance with the manufacturer's instructions.
- I. Testing and inspection of welds for prefabricated work performed in the shop shall be done by the fabricator. The Engineer may perform additional inspection.

PART 3 EXECUTION

3.01 IDENTIFICATION AND PROTECTION

- A. Every item shall, before shipment, be clearly marked in waterproof paint with its piece number, and with the number of the Engineer's Plan on which it appears.
- B. The Contractor shall protect all items during storage and installation, and until the work has been accepted by the Owner.

3.02 INSTALLATION

- A. Make all work square, plumb, straight and true, accurately fitted, with tight joints and intersections. Members shall have sharply defined profiles and be free from twists, bends and defects impairing strength and durability. Items not presenting a finished and workmanlike appearance will be rejected.
- B. Clip off projecting edges and corners. Finish and dress surfaces, edges and welds, smoothly and neatly by grinding, chipping and wire brushing. Reduce sharp edges by grinding to (1/4 inch) radius unless otherwise specified on the contract drawings. Do not flame cut holes or enlarge holes by burning unless approved by the Engineer.
- C. Punch, subpunch and ream, or drill bolt holes. Bolts, nuts, and washers shall be clean of dirt and rust and lubricated immediately prior to installation.
- D. ASTM F3125 Grade A325 bolts shall be tightened to a "snug tight" fit. "Snug tight" is the tightness that exists when plies in a joint are in firm contact. If firm contact of joint plies cannot be obtained with a few impacts of an impact wrench, or the full effort of a person using a spud wrench, notify the Engineer for further instructions.

- E. ASTM F3125 Grade A325-SC bolts shall be fully tensioned to the required minimum percent of their minimum tensile strength as per AISC Manual of Steel Construction, unless otherwise specified on the contract drawings. Give special attention to ensure that the proper tightening torque is applied. Bolts shall be installed in connection holes and initially brought to a snug tight fit. After initial tightening procedure, bolts shall then be fully tensioned, progressing from the most rigid part of the connection to the free edges.
- F. ASTM F1554 threaded fasteners shall be installed as shown on the contract drawings. Install ASTM A563 nuts and ASTM F436 flat washers for ASTM F1554 threaded fasteners.
- G. Fabricate and assemble structural assemblies in shop to the greatest extent possible. Fabricate items of structural steel in accordance with AISC S303 and as indicated on final shop drawings.
- H. Welding procedures that conform to Section 3 of AWS D1.1 will be deemed prequalified.
- I. Procedures other than those prequalified shall be qualified by tests as specified in Section 4 of AWS D1.1.
- J. Welding shall be performed only by welders or operators who have been qualified in accordance with Section 4 of AWS D1.1, and their qualifications test records shall be made available to the Engineer.
- K. Welds shall be of uniform width and size throughout their length. Each layer shall be smooth and free from slag, cracks, pinholes and undercut, and completely fused to the adjacent weld beads and base metal. The cover pass shall be free from coarse ripples, high crown deep ridges and valleys between beads, and shall blend smoothly and gradually into the surface of the base metal.
- L. Fillet and groove welds shall be of specified size with full throat and the legs of uniform length.
- M. Repair, chipping or grinding of welds shall not gouge, groove or reduce the base metal thickness.
- N. Field welds will be permitted only where shown on the Plans. They shall be of the type and size indicated and shall be performed in accordance with AWS D1.1.
- O. If reaming or cutting is deemed necessary to correct minor misfits, the approval of the Engineer shall first be obtained.
- P. Welded or reamed areas shall be repaired with galvanized metal primer or epoxy coating, as appropriate, in accordance with the manufacturer's instructions.
- Q. Galvanized items which have been damaged or rusted shall be repaired in a method and with paint conforming to ASTM A780. Damaged or rusted areas shall be thoroughly cleaned by wire brushing or grinding. They shall then receive two-brush coats of ZRC Cold Galvanizing Compound or approved equal.

- R. The coats shall have a combined dry film thickness of not less than six mils. Field welds shall be brushed-coated in the same manner, after cleaning and the removal of all slag. Do not heat surfaces to which repair paint has been applied.
- S. Inspection of field welding shall be performed by the Engineer.
- T. The steel grating shall be installed as shown on the drawings and connected to the steel beams beneath, per manufacturer's recommendations.

END OF SECTION

SECTION 10702

MARINE FENDERS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the supply and installation of new fenders on the breasting dolphins including the fender panel and restraining chains and hardware.

1.02 FENDER SYSTEM DESCRIPTION

The fender system shall consist of the following component items:

- A. Elastomeric energy absorbing element
- B. Steel fender panel
- C. UHMW-PE face pads
- D. Restraint chains
- E. Brackets for chain connections to fender panels
- F. Mounting hardware

1.03 DESIGN LIFE

- A. Each fender system shall be designed for a minimum service life of 25 years and exhibit the performance and physical requirements as set forth in this specification.

1.04 FENDER MANUFACTURERS AND FENDERS

Fenders pre-approved for use on this project are the Trelleborg SCN 860 F2.2 Super Cone Fender and SCN 800 E2.6 Cell Fender. If contractor proposes an alternate fender manufacturer, then fender manufacturers and fender types shall be submitted to the Engineer for approval not less than three weeks prior to manufacture. Fender manufacturers shall be rubber manufacturers and shall submit test reports approved by recognized American Institutes for:

- A. Compression test of fender type that meets the specified performance
- B. Shear capacity test of proposed fender type of minimum 30% of fender performance
- C. Endurance test of proposed fender type for a minimum of 40,000 cycles, certified by an accredited agency
- D. Material tests that meet the specified performance

PART 2 FENDER SYSTEM PERFORMANCE CRITERIA

2.01 FENDER SYSTEM PERFORMANCE CRITERIA

- A. The fenders shall include an overload stopper integrated into the fender to their maximum rated deflection. Alternatively, an external overload stop may be substituted which prevents the fender from exceeding its maximum rated deflection. The selected fender shall provide the specified performance at their published rated deflection.
- B. Each fender system is required to meet or exceed the following performance requirements:

	Wharf 3	Wharf 4	
Criteria	Design Value	Design Value	Tolerance
Minimum Rated Energy Absorption	229 kip-ft (310 kN-m)	124 kip-ft (168 kN-m)	+ ∞ / - 10%
Maximum Rated Reaction Force	162 kips	107 kips	+ 10% / - ∞

**All of the fenders being supplied must be compressed to its rated deflection at least once before being shipped to the jobsite in order to break in the fenders.

2.02 FENDER 3rd PARTY TESTING AND SAMPLING

- A. Performance tests must be conducted in the United States on 5% of the fenders delivered, with a minimum of one fender for each fender type, by an independent testing agency with experience testing rubber marine fenders.
- B. The fenders that are to be tested will be selected at random at the jobsite by the port's representative from the full lot of fenders delivered to the port or designated delivery point. The cost of these tests shall be paid by the contractor. If any of the tested fenders fail to meet the performance required by the project specification, then another 10% of the fenders shall be tested. If any of the second 10% fail to meet the performance requirement all of the remaining fenders shall be tested at the manufacturer's expense. All of the fenders that fail to meet the performance required by the specification shall be rejected.

The specimen for testing and inspection of the materials, dimensions, and performance shall be sampled as specified below. The specimen to be used for the material test shall be taken directly from the product or from the rubber prepared in the quality check and under the condition of the same vulcanization as the products.

PART 3 MATERIALS

3.01 FENDER ELEMENTS

- A. Fender elements shall be molded rubber with encapsulated/bonded steel plates to provide adequate strength for connection to the dolphin structure and fender panel and for the operation of the fender system. The steel shall be fully encapsulated in the rubber with a minimum coverage of 1/8 inch. The fender elements shall be of the circular-conical type.

3.02 FENDER ELEMENT RUBBER

- A. Fender element rubber shall be a blend of natural and synthetic rubber, which is compounded to provide satisfactory resistance to aging, seawater, fatigue and abrasion. The material shall be uniform in quality and free from any contamination, cracks or defects that could be detrimental to the usefulness or performance of the fender. The rubber material from which the fender element is molded shall meet the following requirements:

Property Tested		Test Method	Acceptance Requirements
Before Aging	Hardness	ASTM D2240 Shore A	78° Max
	Tensile Strength	ASTM D412 Die C	16 MPa Min [2320 psi]
	Ultimate Elongation		3 00% Min
After Aging	Change in Hardness	ASTM D573 96 hrs @ 70°C	+8° Max
	Change in Tensile Strength		-20% Max
	Change in Ultimate Elongation		-20% Max
Compression Set		ASTM D395 Method B 22 hours at 70°C	30% Max
Ozone Resistance		ASTM D1171 Method A	No Visible Cracks
Abrasion Resistance		BS 903.A9 Method B - 1000 rev	Volume Loss < 1500mm ³
Tear Resistance		ASTM D624 Die B	70 kN/m [4800 lbs/ft] Min

3.03 FENDER ELEMENT STEEL PLATES

- A. Fender element steel plates shall be manufactured from steel with minimum strength of ASTM A36 or equivalent.

3.04 FRONTAL PANEL

- A. The frontal panel shall have the minimum dimensions and geometry shown on the drawing.

3.05 FRONTAL PANEL FRAME

- A. The frontal panel frame shall be fabricated from steel with minimum strength equal to ASTM A36 or equivalent. It shall be of "closed box" construction and designed to withstand any possible loading conditions (including line and two point contact) and to evenly distribute the reaction forces to the hull of the vessel. Interior steel plates shall have a minimum thickness of 5/16 inch and exterior steel plates shall have a minimum thickness of 3/8 inch. Plates exposed on both sides shall be a minimum of 1/2 inch thick. All fabrication shall be in accordance with the latest edition of *AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings*. All welding shall be in accordance with the latest edition of AWS D1.1. All exposed welds shall be continuous and all exposed contact joints shall be seal welded.
- B. The fender panels shall be pressure tested to a minimum of 5 psi and certified to ensure that no leaks exist prior to painting. The frontal panels shall be configured to resist the effects of belted vessels and low level loads applied by low freeboard barges.
- C. All exposed surfaces of the frontal frame shall be grit blasted in accordance with SSPC-SP10 (near white). All surfaces, at the time of coating, shall be free from dust, oil, grease, moisture and any other contaminants. All coatings shall be produced by the same manufacturer and be appropriate for use together. Coating shall be suitable for use in a highly corrosive marine splash zone. Coating system shall consist of a minimum of 2-3 mils DFT of inorganic zinc primer followed by two coats of epoxy paint for a total DFT of 16 mils. The topcoat color shall be black. The coatings should be applied in strict accordance with the manufacturer's specifications. The final coat should produce a surface that is smooth, uniform and free from sags and voids. Manufacturer may propose an alternate primer free coating if it delivers comparable levels of protection.

3.06 LOW FRICTION FACING

- A. The frontal panel will be faced with 2 inch thick pressed sheet Ultra High Molecular Weight Polyethylene (UHMW-PE) and shall be UV stabilized. The color of the UHMW-PE shall be yellow. The UHMW-PE material shall exhibit the following properties:

Property	Testing Standard	Value
Density	ASTM D792	0.93 to 0.95
Coefficient of Friction – UHMW-PE to Steel, UV stabilized	ASTM D1894	0.11 – 0.2
Ultimate Tensile	ASTM D638	5600 – 6100 psi
Elongation at Break	ASTM D638	250 – 390 %
Shore Hardness	ASTM D785	64 – 69 Shore D
Izod Impact	ASTM D256	No break
Izod Impact	ASTM D256A	20 – 26 ft-lbs/notch

- B. UHMW-PE pads shall be attached to the frontal panel with 5/8" diameter countersunk studs, washers, and nuts all of 316 stainless steel. The individual spacing between studs should not exceed 15 inches. The maximum weight per individual pad shall be 100 pounds. The minimum wear thickness between the outer face and the stud shall be 1/4 inch. Gap between pads shall be between 1/4 inch and 3/8 inch.

3.07 HARDWARE

- A. Bolts shall conform to ASTM A307, or F3125 Grade A325, as required.
- B. Miscellaneous steel shapes and plates shall conform to ASTM A36, unless higher grades are required to resist design loads.

3.08 RESTRAINT CHAINS

- A. The fender systems shall include all chains shown on the drawings. No exception will be taken. The following chains shall be provided:
- Two (2) tension chains, to provide a horizontal reaction at the top when the bottom of the front panel is compressed by a vessel with small freeboard
 - Two (2) shear chains, to limit the lateral deflection of the fender element when a lateral friction force is applied by the docking vessel
 - Two (2) weight chains, to support the weight of the fender, including fender panel, and resist any downward friction force

- B. For chains, the minimum factor of safety between working load and minimum breaking load shall be 2.5.
- C. The required chain anchor hardware (shackles and tensioners) shall provide a minimum factor of safety between working load and nominal breaking load of 1.50.
- D. All chains, shackles and tension devices shall be hot-dip galvanized in accordance with Section 3.09.
- E. The minimum sizes of chains, shackles and tension devices shall be as shown on the drawings.
- F. All anchor pad eyes for attaching the proposed chains to mounting surface are to be included unless otherwise noted on the drawings and supplied by the fender manufacturer. All pad eyes and mounting hardware to be hot dipped galvanized.

3.09 GALVANIZING

- A. All exposed steel (other than those items specifically designated to be painted or stainless steel) shall be hot-dip galvanized to meet the requirements of ASTM A153 or ASTM A123, as the item type may require. The minimum thickness shall be 80 microns.

PART 4 QUALITY ASSURANCE

4.01 MANUFACTURER QUALIFICATIONS

- A. Fender Manufacturer shall demonstrate that they have been manufacturing molded rubber fenders for a minimum of 10 years. Manufacturer must provide upon request evidence of a minimum of 10 installations each having been in service for a minimum of 10 years.

4.02 CERTIFICATION

- A. Fender Manufacturer must be certified to ISO9001 (Quality Assurance).

4.03 PRECOMPRESSION

- A. Fenders shall be pre-compressed in accordance with P.I.A.N.C. and manufacturer requirements.

PART 5 SUBMITTALS

5.01 SUBMITTALS

Fender Manufacturer shall submit the following items for the approval of the Engineer prior to manufacture:

Shop Drawings:

1. General arrangement of the fender system – Plan and elevation
2. Elastomeric element
3. UHMW-PE facing pads
4. Steel fabrication drawings indicating the plate and beam sizes, all material grades and weld details
5. Restraint chains and their attachment hardware including connections to the panel

END OF SECTION

Appendix A: Acceptable Fender Performance Testing Agencies

1. University of Washington

Structural Research Laboratory
201 More Hall
Seattle, WA 98195
206-616-3530
Contact: Jeffrey Berman

2. Lchigh University

Fritz Engineering Laboratory
117 ATLSS Drive
Bethlehem, PA 18015
610-758-3497
Contact: Robin Hendricks