

**CITY OF PETALUMA
PETALUMA, CALIFORNIA**

**CONTRACT DOCUMENTS FOR
PETALUMA RIVER TURNING BASIN
FLOAT, PILE, AND GANGWAY REPLACEMENT**

City Project No. C14402010

(Notice Inviting Bids, Instructions to Bidders, Bid Forms, General Conditions,
Special Provisions, Technical Specifications, Construction Agreement,
Bond Forms, Project Drawings)

CITY OF PETALUMA - SONOMA COUNTY - CALIFORNIA

Questions concerning interpretation of improvement plans, special provisions,
contract documents and bid items shall be directed to:

*Department of Public Works and Utilities
202 N. McDowell Boulevard
Petaluma, CA. 94954
Phone: (707) 778-4546 Fax: (707) 778-4508*

Attention: Erica Jacobs, MPA

Office Hours: Monday thru Thursday - 8:00 to 5:00 p.m.

Bid Opening: Thursday, July 13th, 2023, at 1:30 p.m.

CITY OF PETALUMA
PETALUMA, CALIFORNIA

PETALUMA RIVER TURNING BASIN FLOAT, PILE, AND GANGWAY REPLACEMENT

CITY PROJECT NO. C14402010

FOTH & VAN DYKE AND ASSOCIATES, INC. - PETALUMA -
CALIFORNIA



Prepared by: Alex Mora, P.E.



A handwritten signature in black ink that reads "Alex I Mora".

Alex Mora, P.E. #C85274

June 16, 2023

Date

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NOTICE INVITING BIDS

1. **RECEIPT OF BIDS:** Sealed Bids will be received at the office of the City Clerk of the City of Petaluma located at 11 English Street, Room 4, Petaluma, California, 94952-2610, until 1:30 PM (enter time) on Thursday, July 13th, 2023, for the Petaluma River Turning Basin Float, Pile, and Gangway Replacement. Any Bids received after the specified time and date will not be considered. Fax and other electronically transmitted Bids will not be accepted.
2. **OPENING OF BIDS:** The Bids will be publicly opened and read at 1:30 PM (enter time) on Thursday, July 13th, 2023 at the above-mentioned office of the CITY. The CITY reserves the right to postpone the date and time for opening of Bids at any time prior to the aforesaid date and time.
3. **COMPLETION OF WORK:** The WORK must be completed within 90 working days after the commencement date stated in the Notice to Proceed.
4. **DESCRIPTION OF WORK:** The WORK includes The proposed project consists of the replacement of the floating docks, gangways and support piles within the Petaluma River Turning Basin. Existing, currently serviceable and deteriorating site structures include the timber pier access structure, metal gangways, floating docks, and piles, as specified within the Contract Plans. The scope of work includes the instillation of 3,800 sf of non-ferrous concrete docks (fabricated by other), the removal of six (6) 16-inch diameter steel and nine (9) 12-inch timber piles, to be replaced with (14) 16-inch diameter steel piles, the removal and disposal of the existing gangways and adjacent access structures, to be replaced with ADA compliant steel gangways (fabricated by other) and gangway landings platforms as specified in the Contract Plans, and the bank restoration and planting in areas affected by gangway structures and landing platforms.
5. **SITE OF WORK:** The site of the WORK is located: at the Petaluma River Turning Basin near downtown Petaluma. There are two access gangways to the Turning Basin docks located on adjacent properties to the West and the East of the Turning Basin. On the East side of the Turning Basin the gangway is close to Weller Street Park located at 150 Weller Street and on the West side the gangway is located close to Taps Restaurant located at 54 E. Washington Street, Petaluma CA.
6. **OBTAINING CONTRACT DOCUMENTS:** The Contract Documents are entitled "Petaluma River Turning Basin Float, Pile, and Gangway Replacement."

The Contract Documents may be obtained by 4:00 P.M., Monday through Thursday at the office of Public Work & Utilities, 202 North McDowell Boulevard, Petaluma, California 94954.

If you would like to receive the bid document via the CITY's website, at no cost, please go to:

- <https://cityofpetaluma.org/bid-opportunities-2/>
- Fill out the Plan Holder's form by clicking on the Plan Holder's form link
- Fill in all fields
- Click on the submit button at the end of the form

Submitting the Plan Holder's form on-line automatically puts you on the CITY's Bidders List and you will be notified of any Addendums or information pertaining to the bid by

email.

If you would like to purchase bid documents, please call Phone No. (707) 778-4585, Attention: Tiffany Avila, upon payment of \$50.00 (non-refundable) for each set of Contract Documents (including technical specification and accompanying reduced scale drawings). The scale of the reduced drawings is about one-half of the original scale. At the Bidder's request and expense, the Contract Documents may be sent by overnight mail.

- Full-scale drawings are not available.
- If full-scale drawings are available and desired, they may be purchased at reproduction cost from _____ .

7. **BID SECURITY:** Each Bid shall be accompanied by a certified or cashier's check or Bid Bond executed by an admitted surety in the amount of 10% percent of the Total Bid Price payable to the City of Petaluma as a guarantee that the Bidder, if its Bid is accepted, will promptly execute the Agreement. A Bid shall not be considered unless one of the forms of Bidder's security is enclosed with it. Upon acceptance of the Bid, if the Bidder refuses to or fails to promptly execute the Agreement the Bidder's security shall be forfeited to the CITY.
8. **CONTRACTOR'S LICENSE CLASSIFICATION:** In accordance with the provisions of California Public Contract Code Section 3300, the CITY has determined that the CONTRACTOR shall possess a valid Class C 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 pursuant to Labor Code Section 1725.5, subject to limited legal exceptions.
9. **PREFERENCE FOR MATERIAL:** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal" or "or equivalent" is intended only to indicate quality and type of item desired. Substitute products will be considered prior to award of the Contract in accordance with Section 3400 of the California Public Contract Code. The Bidder will submit data substantiating its request for a substitution of "an equal" item within 14 days following submission of its Bid. Substantiation date will conform to the requirements of the instructions for Proposed Substitutions of "or equal" items contained in the bid Forms. The ENGINEER will make a determination of approval or rejection of the proposed substitution prior to the award of the Contract. No request for substitution of "an equal" items will be considered by the ENGINEER after award of the Contract. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code Section 3400(c).
10. **REJECTION OF PROPOSALS:** The CITY reserves the right to reject all or any part of all bids submitted, waive informalities and irregularities, and will not, to the extent allowed by law, be bound to accept the lowest bid.
11. **BIDS TO REMAIN OPEN:** The Bidder shall guarantee the total bid price for a period of 90 calendar days from the date of bid opening.

- 12. CALIFORNIA PREVAILING WAGE RATE REQUIREMENTS:** In accordance with the provisions of California Labor Code Sections 1770, 1773, 1773.1, and 1773.7 as amended, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in Section 1773 for the locality in which the WORK is to be performed. A copy of said wage rates is on file at the office of the City Clerk and is available to any interested party upon request. A copy of the prevailing rate of per diem wages are also online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half. It shall be mandatory upon the CONTRACTOR to whom the WORK is awarded and upon any subcontractor under the CONTRACTOR to pay not less than said specified rates to all workers employed by them in the execution of the WORK. The Contract will be subject to compliance monitoring and enforcement by the Department of Industrial Relations under Labor Code Section 1771.4. Additionally, CONTRACTOR shall post job site notices as required by Labor Code section 1771.4.
- 13. LABOR COMPLIANCE PURSUANT TO CALIFORNIA LABOR CODE § 1771.1:** A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirement of Section 4104 of the Public Contract Code or engage in the performance of any contract for public work, as defined in Division 2, Part 7, Chapter 1 of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.
- 14. RETAINAGE FROM PAYMENTS:** The CONTRACTOR may elect to receive 100 percent of payments due under the Contract Documents from time to time, without retention of any portion of the payment by the CITY, by depositing securities of equivalent value with the CITY in accordance with the provisions of Section 22300 of the Public Contract Code. Alternatively, the CONTRACTOR may request, and the CITY shall make payment of retentions earned directly to the escrow agent at the expense of the CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investments of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms as provided in Section 22300 of the Public Contract Code for securities deposited by the CONTRACTOR. The CONTRACTOR shall be responsible for paying all fees for the expenses incurred by the escrow agent in administering the escrow account and all expenses of the CITY. These expenses and payment terms shall be determined by the CITY's Finance Director or their designee and the escrow agent. Upon satisfactory completion of the WORK, the CONTRACTOR shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the CITY, pursuant to the terms of Section 22300 of the Public Contract Code. Such securities, if deposited by the CONTRACTOR, shall be valued by the CITY, whose decision on valuation of the securities shall be final. Securities eligible for investment under this provision shall be limited to those listed

in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the CITY.

15. **PAYMENT BOND:** Pursuant to and in accordance with California Civil Code Section 9550, a payment bond must be filed if the expenditure for the WORK is in excess of Twenty-Five Thousand Dollars (\$25,000).

16. **PRE-BID CONFERENCE VISITS:** [At least one box below MUST be checked]

Check if no pre-bid conference/site is to be held:.

Mandatory pre-bid conference/site visit to be held: Prospective bidders are required to attend a mandatory pre-bid conference/site visit at 1:00 PM (enter time) on Wednesday, June 28, 2023, at the Petaluma Turning Basin, offices at River Plaza near TAPS 54 E. Washington Street, Petaluma, CA, 94952. Prospective bidders that fail to attend the mandatory pre-bid conference/site visit will be ineligible to bid on the project. Following the conference at City offices, City staff and prospective bidders will meet at the project Site. Transportation to the project site will be the responsibility of prospective bidders. The purposes of the conference/site visit are to discuss the scope of the project and bidding requirements and to acquaint bidders with Site conditions.

No information communicated at the pre-bid conference/site visit may amend the project bidding requirements. Project bidding requirements may only be amended by addenda issued by authorized City officials. Following the pre-bid conference/site visit, prospective bidders may submit detailed technical questions in writing. If warranted, the City may respond to such questions by addenda.

Non-Mandatory pre-bid conference/site visit to be held: Prospective bidders are invited to attend a non-mandatory pre-bid conference/site visit at (enter time) on _____, at the _____. Following the conference at City offices, City staff and prospective bidders will meet at the project Site. Transportation to the project site will be the responsibility of prospective bidders. The purposes of the conference/site visit are to discuss the scope of the project and bidding requirements, and to acquaint bidders with Site conditions.

No information communicated at the pre-bid conference/site visit may amend the project bidding requirements. Project bidding requirements may only be amended by addenda issued by authorized City officials. Following the pre-bid conference/site visit, prospective bidders may submit detailed technical questions in writing. If warranted, the CITY may respond to such questions by addenda.

17. **PROJECT ADMINISTRATION:** All communications relative to the WORK shall be directed to the ENGINEER prior to opening of the Bids.

18. **FINDING OF SUBSTANTIAL COMPLEXITY:** Pursuant to Public Contract Code section 7201(b)(3) the CITY's Public Work's Director has found that the WORK is substantially complex due to: the amount of technical and scientific knowledge needed to complete the project; The amount of resources needed to complete the project including amount of days, workers, and labor; The urgency for project completion; The amount of

tasks needed to complete the project; The number of organizational stakeholders needed to satisfy; The environmental complexity of the conditions; And in particular the external permitting agencies the project needs to satisfy; the size and impact of the project (which will require the operation of the D Street bridge affecting traffic, and fire station response times); over water work (dredging and demolition of existing docks); the specialty contractor work and therefore this is a unique project that is not regularly performed and requires a higher retention amount than 5 percent.

Notwithstanding Public Contract Code Section 7201 or any other law or regulation that purports to provide otherwise, public contracting is a quintessential municipal affair, subject to charter cities' home rule power, and the California Constitution grants charter cities supreme authority over municipal affairs, which include public works, procurement, and the mode of municipal contracting (see, Public Contract Code Section 1100.7 and e.g., *Bishop v. City of San Jose* (1969) 1 C3d 56).; and it is the courts, not the legislature, that determines which matters are municipal affairs (see, e.g., *California Federal Savings and Loan v. City of Los Angeles* (1991) 54 C3d 1); and

Article X, Section 67 of the Petaluma Charter provides in pertinent part:

. . . no progressive payments can be provided for or made at any time which, with prior payments, if there have been such, shall exceed in amount at that time ninety percent of the value of the labor done and the materials used up to that time, and no contract shall provide for or authorize or permit the payment of more than ninety percent of the contract price before the completion of the work done under said contract and the acceptance thereof . . . ; and

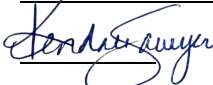
City charters are documents of limitation and a restriction on the City Council's powers imposed by the voters (see, e.g., *City of Glendale v. Trondsen* (1957) 48 C2d 93) and, as a result, the City Council's contracting power is limited by the retention requirement in Article X, Section 67, and the City Council and City staff lack the power to provide for public works contract retention other than as specified in the City Charter.

19. **GOVERNMENT CODE SECTION 1090:** The successful Bidder may be precluded from competing for, or participating in, subsequent contracts that result from or relate to the Work performed pursuant to this Bid. The ethics laws that apply to the City and all its consultants, contractors, and vendors include California Government Code Section 1090 and following, which prohibits government officials, employees, and contractors from participating in making government contracts in which the official, employee or contractor has a financial interest. Because City contractors always have a financial interest in their City contracts, the Section 1090 prohibition regarding City contractors focuses on whether a contractor is or would be "making a government contract" in a quasi-governmental capacity for purposes of Section 1090. Section 1090 prohibits City contractors from using their role as a contractor to influence how the City spends the public's funds in a way that benefits the contractor. Penalties for violating Section 1090 are severe, and may include felony criminal penalties, permanent disqualification from holding public office in California, disgorgement of any benefit received by the financially interested contractor, civil and administrative penalties, and voiding of the prohibited contract.

NAME: Erica Jacobs

ADDRESS: 202 N. McDowell Blvd
Petaluma, CA 94954
PHONE: 707-370-0605 x3159

20. **CITY'S RIGHTS RESERVED:** The CITY reserves the right to reject any or all bids, to waive any minor irregularity in a bid, and to make awards to the lowest responsive, responsible bidder as it may best serve the interest of the CITY.

CITY: Petaluma
BY: 
DATE: 6/14/2023

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END OF NOTICE INVITING
BIDS

INSTRUCTIONS TO BIDDERS

1. **DEFINED TERMS.** Terms used in these Instructions to Bidders and the Notice Inviting Bids which are defined in the General Conditions have the meanings assigned to them in the General Conditions. The term “Bidder” means one who submits a Bid directly to CITY, as distinct from a sub-bidder, who submits a price or quote to a Bidder.
2. **LOCAL BUSINESS LICENSE.** All CONTRACTORS, including subcontractors, not already having a local business license for the work contemplated, will be required to secure the appropriate license before a Contract can be executed.
3. **INTERPRETATIONS AND ADDENDA.**
 - 3.1 All questions about the meaning or intent of the Contract Documents are to be directed to the ENGINEER. Additions, deletions, or revisions to the Contract Documents considered necessary by the ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the ENGINEER as having received the Contract Documents. Questions received less than 14 days prior to the date of Bids may not be answered. Only answers to such questions issued by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
 - 3.2 Addenda may also be issued to make other additions, deletions, or revisions to the Contract Documents.
 - 3.3 Bidders shall make no special interpretation or inference of intent from differing formats in the Technical Specifications.
4. **BIDDER’S EXAMINATION OF CONTRACT DOCUMENTS AND SITE.**
 - 4.1 It is the responsibility of each Bidder before submitting a Bid:
 - A. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including “technical” data referred to below);
 - B. To visit the site to become familiar with local conditions that may affect cost, progress, or performance of the WORK;
 - C. To consider federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the WORK;
 - D. To study and carefully correlate the Bidder’s observations with the Contract Documents; and

- E. To notify the ENGINEER of all conflicts, errors, ambiguities, or discrepancies in or between the Contract Documents and such other related data.
- 4.2 Reference is made to the Supplementary General Conditions for identification of:
- A. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by the ENGINEER in the preparation of the Contract Documents.
 - B. Those drawings of physical conditions in or relating to existing surface and subsurface conditions (except Underground Utilities) which are at or contiguous to the site which have been utilized by the ENGINEER in the preparation of the Contract Documents.
 - C. Those environmental reports or drawings relating to Asbestos, Hazardous Waste, PCBs, Petroleum, and/or Radioactive Materials identified at the site which have been utilized by the ENGINEER in the preparation of the Contract Documents.
 - D. The ENGINEER makes no representation as to the completeness of the reports or drawings referred to in Paragraphs 4.2A, 4.2B, and 4.2C. above or the accuracy of any data or information contained therein. The Bidder may rely upon the accuracy of the technical data contained in such reports and drawings. However, the Bidder may not rely upon any interpretation of such technical data, including any interpretation or extrapolation thereof, or any non-technical data, interpretations, and opinions contained therein.
- 4.3 Copies of reports and drawings referred to in Paragraph 4.2 will be made available by the CITY to any Bidder on request, if said reports and drawings are not bound herein. Those reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which the Bidder is entitled to rely, are incorporated herein by reference.
- 4.4 Information and data reflected in the Contract Documents with respect to Underground Utilities at or contiguous to the site are based upon information and data furnished to the ENGINEER by the owners of such Underground Utilities or others, and the CITY does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary General Conditions.
- 4.5 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Utilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.2, 4.3, and 4.4 of the General Conditions.
- 4.6 Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface,

subsurface, and Underground Utilities) at or contiguous to the site or otherwise which may affect cost, progress, or performance of the WORK and which the Bidder deems necessary to determine its Bid for performing the WORK in accordance with the time, price, and other terms and conditions of the Contract Documents.

- 4.7 On request a minimum of 2 working days in advance, the ENGINEER will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a Bid. Location of any excavation or boring shall be subject to prior approval of ENGINEER and applicable agencies. Bidder shall fill all holes, restore all pavement to match existing structural section, and shall clean up and restore the site to its former condition upon completion of such explorations. ENGINEER reserves the right to require Bidder to execute an Access Agreement with the CITY prior to accessing the site.
- 4.8 The lands upon which the WORK is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by the CONTRACTOR in performing the WORK are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the CITY unless otherwise provided in the Contract Documents.
- 4.9 The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of this Paragraph 4 and the following:
 - A. That the Bid is premised upon performing the WORK required by the Contract Documents without exception and such means, methods, techniques, sequences, or procedures of construction (if any) as may be required by the Contract Documents;
 - B. That Bidder has given the ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies in the Contract Documents and the written resolution thereof by the ENGINEER is acceptable to the Bidder; and
 - C. That the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the WORK.
5. **BID FORMS.** The Bid shall be submitted on the Bid Forms provided by the City. All blanks on the Bid Forms shall be completed in ink. All names must be printed below the signatures. The Bid shall be submitted in a sealed envelope which shall be plainly marked in the upper left hand corner with the name and address of the Bidder and shall bear the words "BID FOR" followed by the title of the Contract Documents for the WORK, the name of the CITY, the address where Bids are to be delivered or mailed to, and the date and hour of opening of Bids.

- 5.2 The Bid must set forth 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 a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the WORK 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 or, in the case of bids or offers for the construction of streets and highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.
6. CERTIFICATES.
- 6.1 Bids by corporations must be executed in the corporate name by the president, a vice-president, or other corporate officer. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary, and with the corporate seal affixed. The corporate address and state of incorporation must appear below the signature.
- 6.2 Bids by partnerships must be executed in the partnership name and be signed by a managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the partnership must appear below the signature.
- 6.3 Bids by joint venture must be executed in the joint venture name and be signed by a joint venture managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the joint venture must appear below the signature.
7. DISQUALIFICATION OF BIDDERS. More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If the CITY believes that any Bidder is interested in more than one Bid for the WORK contemplated, all Bids in which such Bidder is interested will be rejected. If the CITY believes that collusion exists among the Bidders, all Bids will be rejected. A party who has quoted prices to a bidder is not hereby disqualified from quoting prices to other Bidders, or from submitting a Bid directly for the WORK. If a Bidder is not registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 and Section 1771.1, then the Bid may be rejected as non-responsive.
8. QUANTITIES OF WORK. The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the WORK; the OWNER does not expressly or by implication agree that the actual amount of work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit price item of the WORK by an amount up to and including 25 percent of any Bid item in its entirety, or to add additional Bid items up to and including an aggregate total amount not to exceed 25 percent of the Bid price.

9. **SUBSTITUTE OR “OR EQUAL” ITEMS.** Whenever materials or equipment are specified or described in the Contract Documents by using the name of a particular manufacturer and the name is followed by the words “or equal”, the Bidder may write the name of a substitute manufacturer (which the Bidder considers as an “or equal”) in the List of Proposed Substitutions in the Bid Forms. The ENGINEER will make a determination of approval or rejection of the proposed substitution prior to award of the Contract. No request for substitution of an “or equal” item will be considered by the ENGINEER after award of the Contract. The procedure for the submittal of substitute or “or equal” products is contained in the Bid Forms. The Bidder shall not be relieved of any obligations of the Contract Documents or be entitled to an adjustment in the Contract Price in the event any proposed substitution is not approved.
10. **COMPETENCY OF BIDDERS.** In selecting the lowest responsive, responsible Bidder, consideration will be given not only to the financial standing but also to the general competency of the Bidder for the performance of the WORK covered by the Bid. To this end, each Bid shall be supported by a statement of the Bidder’s experience as of recent date including: (a) all projects worked on by the Bidder over the past three (3) years including the contract amount for each project; (b) all complaints made against the Contractor’s license in the past ten (10) years; and (c) all claims and lawsuits presented or filed in the last five (5) years, regardless of the form, regarding any public works project.
11. **SUBMISSION OF BIDS.** The Bid shall be delivered by the time and to the place stipulated in the Notice Inviting Bids. It is the Bidder’s sole responsibility to see that its Bid is received in proper time and at the proper place.
12. **BID SECURITY, BONDS, AND INSURANCE.** Each Bid shall be accompanied by a certified or cashier’s check or approved Bid Bond in the amount stated in the Notice Inviting Bids. Said check or bond shall be made payable to the CITY and shall be given as a guarantee that the Bidder, if awarded the WORK, will enter into an Agreement with the CITY and will furnish the necessary insurance certificates, Payment Bond, and Performance Bond. In case of refusal or failure to enter into said Agreement, the check or Bid Bond, as the case may be, shall be forfeited to the CITY. If the Bidder elects to furnish a Bid Bond as its Bid security, the Bidder shall use the Bid Bond form bound herein. Bid Bonds shall comply with the requirements applicable to payment and performance bonds in the General Conditions.
- 12.1 **BIDDING CAPACITY.** Each Bid shall be accompanied by a list of the projects currently being worked on by Bidder, their size, contract price, scheduled completion date, location, and owner. Additionally, Bidder shall provide certified evidence of its current bonding capacity.
13. **DISCREPANCIES IN BIDS.** In the event there is more than one Bid item in a Bid Schedule, the Bidder shall furnish a price for all Bid Items in the Schedule, and failure to do so will render the Bid non-responsive and shall cause its rejection. In the event there are unit price Bid items in a Bidding schedule and the amount indicated for a unit price Bid item does not equal the product of the unit price and quantity, the unit price shall

govern and the amount will be corrected accordingly, and the BIDDER shall be bound by said correction. In the event there is more than one Bid item in a Bid Schedule and the total indicated for the Schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the Schedule will be corrected accordingly, and the BIDDER shall be bound by said correction.

14. **MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS.** Unauthorized conditions, limitations, or provisos attached to the Bid shall render it informal and may cause its rejection as being non-responsive. The Bid forms shall be completed without interlineations, alterations, or erasures in the printed text. Alternative Bids will not be considered unless called for. Oral, telegraphic, or telephonic Bids or modifications will not be considered.
15. **WITHDRAWAL OF BID.** The Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids prior to the scheduled closing time for receipt of Bids.
16. **BID PROTEST.** Any Bid protest must be submitted in writing to the City Manager before 5:00 p.m. on the fifth (5th) working day following Bid opening.
 - A. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation.
 - B. The party filing the protest must have actually submitted a Bid for the WORK. A subcontractor of a party submitting a Bid for the WORK may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder, but must timely pursue its own protest.
 - C. The protest must refer to the specific portion of the bid document which forms the basis for the protest.
 - D. The protest must include the name, address and telephone number of the person representing the protesting party.
 - E. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - F. The CITY will give the protested Bidder five (5) working days after the receipt of the protest to submit a written response. The responding Bidder shall transmit the response to the protesting Bidder concurrent with delivery to the CITY.

- G. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest. The Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings. A Bidder may not rely on a protest submitted by another Bidder, but must timely pursue its own protest.
- H. If the CITY determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards.
17. **AWARD OF CONTRACT.** Award of the contract, if awarded, will be made to the lowest responsive, responsible Bidder whose Bid complies with the requirements of the Contract Documents. Unless otherwise specified, any such award will be made within the period stated in the Notice Inviting Bids that the bids are to remain open. Unless otherwise indicated, a single award will be made for all the Bid items in an individual Bid Schedule. In the event the WORK is contained in more than one Bid Schedule, the CITY may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative schedules will be awarded. The CITY may condition the award upon the Bidder's timely submission of all items required by the Contract Documents, including, but not limited to the executed Agreement, performance, labor and materials, and maintenance bonds, and required certificates of insurance and endorsements.
18. **RETURN OF BID SECURITY.** Within 14 days after award of the contract, the CITY will, if requested, return the Bid securities accompanying such Bids that are not being considered in making the award. All other Bid securities will be held until the Agreement has been finally executed. They will then be returned, if requested, to the respective Bidders whose Bids they accompany.
19. **EXECUTION OF AGREEMENT.** The Bidder to whom award is made shall execute a written Agreement with the CITY on the form of agreement provided, shall secure all insurance, and shall furnish all certificates and bonds required by the Contract Documents within five (5) working days after receipt of Notice of Award from the CITY. Failure or refusal to enter into an Agreement as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the CITY may award the Contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the third lowest responsive, responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Agreement, each such Bidder's Bid securities shall be likewise forfeited to the CITY.
20. **LIQUIDATED DAMAGES.** Provisions for liquidated damages, if any, are set forth in the Agreement.

21. **WORKERS' COMPENSATION REQUIREMENT.** The Bidder should be aware that in accordance with Section 3700 of the California Labor Code it will, if awarded the Contract, be required to secure the payment of compensation to its employees and execute the Workers' Compensation Certification in the form contained in these Contract Documents.
22. **NON-COLLUSION AFFIDAVIT.** Bidders must execute the following affidavit and submit the same with his/her bid:
23. **MATERIALS SUPPLIERS LIST.** Bidders and their subcontractors must complete the List of Materials Suppliers and Material Guarantee form provided with the Bid Forms and must submit the completed form with the Bid.

END OF INSTRUCTIONS TO BIDDERS

SECTION I

BID FORMS

(TO BE SUBMITTED WITH BIDS)

BIDDER'S AFFIDAVIT OF NON-COLLUSION SUBMITTED WITH BID

_____, [Contractor] hereby declares that:

He or she is _____ [title/position] of _____, [company name] 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 or 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.

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

Dated: _____

Signature

Public Contract Code section 7106
Code of Civil Procedure section 2015.5

END OF BIDDER'S AFFIDAVIT OF NON-COLLUSION SUBMITTED WITH BID

BID PROPOSAL CERTIFICATE
(if Partnership)

STATE OF CALIFORNIA)
) ss:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Partners of the _____
_____,
a partnership existing under the laws of the State of _____, held
on _____, 20____, the following resolution was duly passed and adopted:

“RESOLVED, that _____, as the
General Partner of the Partnership, be and is hereby authorized to execute the Bid
Proposal dated _____, 20____, for the _____
project, in the City of Petaluma and that his/her execution thereof, attested by the
_____ shall be the official act and deed of this Partnership.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of
_____, 20____.

Partner

(SEAL)

PROPOSAL

To the City Council of the City of Petaluma:

The undersigned declares that he/she has carefully examined the location of the proposed work, that he/she has examined the plans and specifications, and read the accompanying instructions to bidders, and hereby proposes to furnish all materials and do all the work required to complete the said work in accordance with said plans, specifications, and special provisions for the unit or lump sum prices set forth in the attached Bid Schedule.

It is understood and agreed that the undersigned shall complete the work of the contract within the time provided for in the Contract Documents and Specifications governing said work.

If awarded the contract, the undersigned hereby agrees to sign said contract and to furnish the necessary bonds, insurance certificates and agreements within five (5) working days after receipt of Notice of Award of said contract from the City.

The undersigned has examined the location of the proposed work and is familiar with the plans, specifications and other contract documents and the local conditions at the place where the work is to be done.

The undersigned has checked carefully all the figures on the attached Bid Schedule and understands that the City will not be responsible for any errors or omissions on the part of the undersigned in making up the bid.

Enclosed find bidder's bond, certified check, or cashier's check no. _____ of the _____ (Company) (Bank) for _____ Dollars (\$_____).

This project requires a Class A California State Contractor's License.

Contractor's License No. _____ License Class _____

Expiration Date of Contractor's License _____

This project requires registration with the California State Department of Industrial Relations.

Public Works Contractor Registration No. _____

Registration Date _____ Expiration Date _____

A bid submitted to a public agency by a contractor who is not licensed and not registered shall be considered non-responsive and shall be rejected by the public agency. The undersigned contractor declares that the contractor's license number, public work contractor registration number, and expiration dates stated herein are made under penalty of perjury under the laws of the State of California.

Contractor: _____

Signed by: _____

Title: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

Dated this _____ day of _____, 20____.

END OF PROPOSAL

BID SCHEDULE

| Item No. | Description | Estimated Quantity | Unit | Unit Price | Total Price |
|-----------------------|--|---------------------------|-------------|-------------------|--------------------|
| 1 | Mobilization/Demobilization | LS | 1 | | |
| 2 | Coordination and Receipt of Concrete Float Delivery with Bellingham Marine | LS | 1 | | |
| 3 | Demolition, Removal & Disposal of Existing Timber Floating Dock System, Timber & Steel Piles, Metal Gangways, and Gangway Structures | LS | 1 | | |
| 4 | Excavation, Removal, & Disposal of East Gangway Foundation | LS | 1 | | |
| 5 | Pile Probing | LS | 1 | | |
| 6 | Install 3,800 sf of Concrete Floating Docks and Water/Power Pedestals | LS | 1 | | |
| 7 | Furnish & Install 16-in Dia. x 50-ft long x 3/8-in W.T. Steel Pipe Piles | EA | 14 | | |
| 8 | Furnish & Install Concrete Gangway Foundations & Ramp | CY | 50 | | |
| 9 | Install Metal Gangways | EA | 2 | | |
| 10 | Furnish & Install 8-ft Tall Iron Gangway Fencing | LF | 100 | | |
| 11 | Bank Restoration, Seeding, and Furnish & Install East Bank Marine Mattress | LS | 1 | | |
| 12 | Remove, Store, and Re-Install PSCC Gangway | LS | 1 | | |
| Total Base Bid | | | | \$ | \$ |

OPTIONAL BID ITEMS

| Item No. | Description | Unit | Unit Price |
|-----------------|---|-------------|-------------------|
| 1 | 10' Rock Socketing of Steel Piles | EA | |
| 2 | Furnish & Install Additional 16-in Dia x 3/8-in W.T. Steel Pipe Pile | LF | |
| 3 | Furnish & Install Gangway Gates | EA | |

***Note:** In case of error in extension of price into the total price column, the unit price will govern.

| |
|---|
| Total Amount of Bid (written in words) is: _____ _____ Dollars and _____ Cents. In the event of discrepancy between words and figures, the words shall prevail. \$ _____ _____ Figures |
|---|

The award of the contract shall be awarded to the lowest qualified price of the total of Base Bid items 1. Options Bid items should NOT be included in the Base Bid Price.

Address of Bidder

Signature of Bidder

City

Name of Bidder (Print)

Telephone Number of Bidder

Fax Number of Bidder

Contractor's License Number

License's Expiration Date

Addendum Acknowledgement

Addendum No. 1 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 2 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 3 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 4 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 5 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 6 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 7 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 8 Signature Acknowledging Receipt: _____ Date: _____

LIST OF SUBCONTRACTORS

In accordance with Section 4104 of the Public Contracting Code of the State of California, each bidder shall list below the name and location of place of business of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent of the total contract price or, in the cases of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater. In each such instance, the nature and extent of the work to be performed shall be described.

If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent of the prime contractor's total bid, the prime contractor agrees that he or she is fully qualified to perform that portion himself or herself, and that the prime contractor shall perform that portion himself or herself. The subcontracting of work for which no subcontractor was designated in the original bid and which is in excess of one-half of one percent of the total contract price, will be allowed only with the written consent of the City.

| Name of Subcontractor | Address of Office, Mill, or Shop | Description of Work to be Performed (also show Bid Schedule Item Number) | Public Works Contractor Registration Number |
|--------------------------------------|---|---|--|
|--------------------------------------|---|---|--|

LIST OF MATERIAL SUPPLIERS AND MATERIAL GUARANTEE

The bidder is required to name the make and supplier of the material items listed below to be furnished under these specifications. The bidder shall name a manufacturer for each item and the supplier of the item if the supplier is not the manufacturer. The naming of more than one supplier for a single item or naming a supplier followed by the words “or equal” will not be acceptable. Substitution of any listed supplier following submission of this form with the Bid shall only be permitted as authorized by the Engineer pursuant to Section 6.3 of the General Conditions.

Failure to complete this form and submit it with the bid proposal may cause the proposal to be rejected as being incomplete and not responsive to the solicitation.

| Item | Supplier & Manufacturer | Address |
|-------------|------------------------------------|----------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

MATERIAL GUARANTEE

In addition to completion of the list of material suppliers on the Material Suppliers form, the bidder may be required to furnish prior to award of contract, a complete statement of the origin, composition and manufacturer of any or all materials to be used in the construction of the work, together with samples, which samples may be subjected to test, provided for in these specifications or in the Special Provisions to determine their quality and fitness for the work.

END OF
LIST OF MATERIAL SUPPLIERS AND MATERIAL GUARANTEE

QUESTIONNAIRE AND FINANCIAL ASSURANCE STATEMENT

The following statements as to experience and financial qualifications of the Proposer are submitted in conjunction with the proposal as a part thereof, and the truthfulness and accuracy of the information is guaranteed by the Proposer.

The Proposer has been engaged in the contracting business under the present business for _____ years. Experience in work of a nature similar to that covered in the proposal extends over a period of _____ years.

The Proposer, as a contractor, has never failed to satisfactorily complete a contract awarded to contractor, except as follows:

List all claims and lawsuits presented or filed in the last five (5) years, regardless of the form, regarding any public works project:

The following contracts for work have been completed in the last three (3) years for the persons, firm or authority indicated and to whom reference is made:

| <u>Year</u> | <u>Type of Work-Size, Length and Contract Amount</u> | <u>Location and For Whom Performed</u> |
|-------------|--|--|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

The following complaints have been made against the Proposer's contractor's license within the past ten (10) years:

Date: _____ Nature of Complaint _____

Reference is hereby made to the following bank or banks as to the financial responsibility of the proposer:

| NAME OF BANK | ADDRESS |
|--------------|---------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Reference is hereby made to the following surety companies as to the financial responsibility and general reliability of the proposer:

NAME OF SURETY COMPANY:

I, the undersigned, declare under penalty of perjury under the laws of the State of California, that the foregoing is true and correct.

SIGNATURE OF PROPOSER

DATE

NAME OF PROPOSER

END OF
QUESTIONNAIRE AND FINANCIAL STATEMENT FORM

STATEMENT OF QUALIFICATIONS

The apparent low Bidder shall submit a Statement of Qualifications as specified herein as a submittal to the City within 24 hours of the bid opening.

- A. The following are minimum requirements for the Bidder to be found responsible to perform the Work. Bidder's compliance with the minimum qualification requirements will be measured by the experience of the supervisory personnel who will have responsible charge of the various major components of the Work. If Bidder subcontracts portions of the Work, City, in its determination of whether the minimum qualification requirements have been met, will consider the qualifications of the Subcontractor's supervisory personnel.
 - 1. Five years experience as a continuously operating entity engaged in the performance of similar work.
 - 2. Experience on public works projects, with no history of default termination.
 - 3. Sufficient financial strength, stability and resources as measured by Bidder's equity, debt-to-assets ratio, and capability to finance the Work to be performed.

- B. Owner will notify Apparent Low Bidder in writing of any deficiencies found and will provide Bidder the opportunity to respond in writing with reasonable clarifications but will not allow any changes in the nature of Bidder as a business entity.

**SITE VISIT AFFIDAVIT
TO BE EXECUTED
BY BIDDER, NOTARIZED AND SUBMITTED WITH BID**

(To Accompany Bid)

State of California)
) ss.
County of)

_____, **being first duly sworn**, deposes and says that he or
(Contractor's Authorized Representative)

she is

_____ of _____, the party making the foregoing
(Title of Representative) (Contractor's Name)

bid, has visited the Site of the Work as described in the Contract and has examined and familiarized themselves with the existing conditions, as well as all other conditions relating to the construction which will be performed. The submitting of a bid shall be considered an acknowledgement on the part of the Bidder of familiarity with conditions at the site of Work. The Bidder further acknowledges that the site examination has provided adequate and sufficient information related to existing conditions which may affect cost, progress or performance of the Work.

Signature Name of Bidder

BID BOND

We, _____ as Principal, and _____ as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the City of Petaluma (herein called "the Owner") for the payment of the penal sum of _____ Dollars (\$_____), lawful money of the United States, which is ten (10) percent of the total amount bid by bidder to the Owner. Principal has submitted the accompanying bid for the construction of the _____ project.

If the Principal is awarded the contract and enters into a written contract, in the form prescribed by the Owner, at the price designated by his bid, and files the bonds required by the Agreement with the Owner, and carries all insurance in type and amount which conforms to the contract documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking all other remedies provided by law to cover losses sustained as a result of the Principal's failure to do any of the foregoing.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay the Owner's reasonable attorney's fees, witness fees and other costs incurred with or without suit.

Executed on _____, _____.

PRINCIPAL

By _____
Signature

Title

Any claims under this bond may be addressed to:

(Name and address of Surety's agent for service of process in California, if different from above)

(Telephone number of Surety's agent in California)

(Attach Acknowledgment)

SURETY

By _____
(Attorney-in-Fact)

NOTICE:

No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk).

END OF BID BOND

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GENERAL CONDITIONS

CITY OF PETALUMA - GENERAL CONDITIONS

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ARTICLE 1 - DEFINITIONS

Whenever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated in this Article 1 which meanings are applicable to both the singular and plural thereof. If a word which is entirely in upper case in these definitions is found in lower case in the Contract Documents, then the lower case word will have its ordinary meaning.

Addenda - Written or graphic instruments issued prior to the opening of Bids which make additions, deletions, or revisions to the Contract Documents.

Agreement - The written contract between the CITY and the CONTRACTOR covering the WORK to be performed; other documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form accepted by the ENGINEER which is to be used by the CONTRACTOR to request progress payments or final payment and which is to be accompanied by such supporting documentations as is required by the Contract Documents.

Asbestos - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the price or prices for the WORK.

Bonds - Bid, Performance, and Labor and Materials, and Maintenance Bonds and other instruments of security.

Change Order - A document recommended by the ENGINEER, which is signed by the CONTRACTOR and the CITY, and authorizes an addition, deletion, or revision in the WORK, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

CITY - The City of Petaluma.

Clarification - A document issued by the ENGINEER to the CONTRACTOR that clarifies the requirements(s) and/or design intent of the Contract Documents, which may not represent an addition, deletion, or revision in the WORK or an adjustment in the Contract Price or the Contract Times.

Contract Documents - The Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates, affidavits and other documentation), Agreement, Performance Bond, Labor and Materials Bond, Maintenance Bond, General Conditions, any Supplementary General

Conditions, Special Provisions, Specifications, Drawings, all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents. Shop Drawings are not Contract Documents.

Contract Price - The total monies payable by the CITY to the CONTRACTOR under the terms and conditions of the Contract Documents.

Contract Times - The number or numbers of successive calendar days or dates stated in the Contract Documents for the completion of the WORK.

CONTRACTOR - The individual, partnership, corporation, joint-venture, or other legal entity with whom the CITY has executed the Agreement.

Day - A calendar day of 24 hours measured from midnight to the next midnight.

Defective Work - Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or work that has been damaged prior to the ENGINEER's recommendation of final payment.

Drawings - The drawings, plans, maps, profiles, diagrams, and other graphic representations which indicate the character, location, nature, extent, and scope of the WORK and which have been prepared by the ENGINEER and are included and/or referred to in the Contract Documents. Shop Drawings are not Drawings as so defined.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER - The City Manager or his/her designee.

Field Order - A written order issued by the ENGINEER which may or may not involve a change in the WORK.

Hazardous Waste - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 U.S.C. Section 6906) as amended from time to time.

Laws and Regulations; Laws or Regulations - Any and all applicable laws, rules, regulations, ordinances, codes, and/or orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

Lien or Mechanic's Lien - A form of security, an interest in real property, which is held to secure the payment of an obligation. When related to public works construction, Lien or Mechanic's Lien may be called Stop Notice.

Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date of a separately identifiable part of the WORK or a period of time within which the separately identifiable part of the WORK should be performed prior to completion of all the WORK.

Notice of Award - The written notice by the CITY to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein within the time specified, the CITY will enter into an Agreement.

Notice of Completion - A form signed by the ENGINEER and the CONTRACTOR recommending to the CITY that the WORK is Complete and fixing the date of completion. After acceptance of the WORK by the CITY Council, the form is signed by the CITY and filed with the County Recorder. This filing starts the 30 day lien filing period on the WORK.

Notice to Proceed - The written notice issued by the CITY to the CONTRACTOR authorizing the CONTRACTOR to proceed with the WORK for the purpose for which it is intended prior to completion of all the WORK.

Partial Utilization - Use by the CITY of a completed part of the WORK for the purpose for which it is intended prior to completion of all the WORK.

Petroleum - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

Project - The total construction project of which the WORK to be provided under the Contract Documents may be the whole, or as part as indicated elsewhere in the Contract Documents.

Record Drawings - Drawings generated by marking a set of Drawings to reflect all of the changes that have occurred during construction of the Project.

Resident Project Representative - The authorized representative of the ENGINEER who is assigned to the Site or any part thereof.

Samples - Physical examples of materials, equipment, or workmanship that are representative of some portion of the WORK and which establish the standards by which such portion of the WORK will be judged.

Shop Drawings - All drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for the CONTRACTOR and submitted by the CONTRACTOR to illustrate some portion of WORK.

Site - Lands or other areas designated in the Contract Documents as being furnished by the CITY for the performance of the construction, storage, or access.

Special Provisions - Specific clauses setting forth conditions or requirements peculiar to the work and supplementary to the Standard Specifications.

Specifications - The directions, provisions and requirements set forth in the Standard Specifications as supplemental and modified by the special provisions.

Stop Notice - A legal remedy for subcontractors and suppliers who contribute to public works, but who are not paid for their work, which secures payment from construction funds possessed by the CITY. In some states, for public property, the Stop Notice remedy is designed to substitute for a mechanic's lien.

Subcontractor - An individual, partnership, corporation, joint-venture, or other legal entity having a direct contract with the CONTRACTOR or with any other subcontractor for the performance of a part of the WORK at the Site.

Supplementary General Conditions - The part of the Contract Documents which make additions, deletions, or revisions to these General Conditions.

Supplier - A manufacturer, fabricator, distributor, materialman, or vendor having a direct contract with the CONTRACTOR or with any Subcontractor to furnish materials, equipment, or product to be incorporated in the WORK by the CONTRACTOR or any Subcontractor.

Utilities - All pipelines, conduits, ducts, cables, wires, tracks, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground or above the ground to furnish any of the following services or materials; water, sewage, sludge, drainage, fluids, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic control, or other control systems.

WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. WORK is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

Working day - Any day except Saturdays, Sundays and CITY holidays.

ARTICLE 2 – PRELIMINARY MATTERS

2.1 DELIVERY OF BONDS AND INSURANCE CERTIFICATES

- A. When the CONTRACTOR delivers the signed Agreement to the CITY, the CONTRACTOR shall also deliver to the CITY such Bonds and insurance policies and certificates as the CONTRACTOR may be required to furnish in accordance with the Contract Documents.

2.2 COPIES OF DOCUMENTS

- A. The CITY will furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Supplementary General Conditions.

2.3 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

- A. The Contract Times will start to run on the commencement date stated in the Notice to Proceed.

2.4 STARTING THE WORK

- A. The CONTRACTOR shall begin to perform the WORK on the commencement date stated in the Notice to Proceed, but no work shall be done at the Site prior to said commencement date.
- B. Before undertaking each part of the WORK, the CONTRACTOR shall review the Contract Documents in accordance with Paragraph 3.3.

2.5 PRECONSTRUCTION CONFERENCE

- A. The CONTRACTOR is required to attend a preconstruction conference. This conference will be attended by the CITY, ENGINEER, and others as appropriate in order to discuss the WORK.
- B. The CONTRACTOR's initial schedule submittals for shop drawings, obtaining permits, and Plan of Operation and CPM Schedule will be reviewed and finalized. At a minimum, the CONTRACTOR's representatives shall include its project manager, project superintendent and schedule expert. If the submittals are not finalized at the end of the meeting, additional meetings will be held so that the submittals can be finalized prior to the submittal of the first Application for Payment. No Application for Payment will be processed prior to receiving acceptable initial submittals from the CONTRACTOR.

ARTICLE 3 – INTENT AND USE OF CONTRACT DOCUMENTS

3.1 INTENT

- A. The Contract Documents comprise the entire agreement between the CITY and the CONTRACTOR concerning the WORK. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the State of California .
- B. It is the intent of the Contract Documents to describe the WORK, functionally complete, to be constructed in accordance with the Contract Documents. Any

labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not called for specifically.

- C. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe work, materials, or equipment such words or phrases shall be interpreted in accordance with that meaning unless a definition has been provided in Article 1 of the General Conditions.

3.2 REFERENCE TO STANDARDS

- A. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code shall be effective to change the duties and responsibilities of the CITY or the CONTRACTOR or any of their consultants, agents or employees, from those set forth in the CONTRACT Documents, nor shall it be effective to assign to CITY any duty or authority to direct the performance of the WORK or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.3 REVIEW OF CONTRACT DOCUMENTS

- A. If, during the performance of the WORK, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the WORK or of any such standard, specification, manual, or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once, and CONTRACTOR shall not proceed with the work affected thereby (except in an emergency as authorized by Paragraph 6.13 until a Clarification, Field Order, or Change Order to the Contract Documents has been issued.

3.4 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

A. Unless otherwise noted herein, conflicts or inconsistencies between parts of the Contract will be resolved by the ENGINEER with a Change Order or an Addendum, if required. Addenda and Change Orders bearing the most recent date shall prevail over Addenda or Change Orders bearing earlier dates. Any reference to addenda-changed specifications or drawings shall be considered to have been changed accordingly. In resolving conflicts resulting from errors or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Change Orders/Addenda (most recent in time take precedence)
2. Agreement and Bond Forms
3. Referenced Standard Specifications
4. Special Provisions
5. Drawings
6. General Conditions
7. Instructions to Bidders
8. Contractor's Bid (Bid Form)
9. Notice Inviting Bids
10. Supplementary General Conditions (if any)
11. Permits from other agencies as may be required by law

B. With reference to the Drawings the order of precedence is as follows:

1. Figures govern over scaled dimensions
2. Detail drawings govern over general drawings
3. Addenda/Change Order drawings govern over any other drawings
4. Drawings govern over standard drawings

3.5 AMENDING CONTRACT DOCUMENTS

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the WORK or to modify the terms and conditions thereof by a Change Order (pursuant to Article 10).

3.6 REUSE OF DOCUMENTS

A. Neither the CONTRACTOR, nor any Subcontractor or Supplier, nor any other person or organization performing any of the WORK under a contract with the CITY shall have or acquire any title to or ownership rights in any of the Drawings, Technical Specifications, or other documents used on the WORK, and they shall not reuse any of them on the extensions of the Project or any other project without written consent of CITY.

ARTICLE 4 – SITE OF THE WORK

4.1 AVAILABILITY OF LANDS

- A. The CITY will furnish, as indicated in the Contract Documents, the lands upon which the WORK is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the CITY, unless otherwise provided in the Contract Documents. Nothing contained in the Contract Documents shall be interpreted as giving the CONTRACTOR exclusive occupancy of the lands or rights-of-way provided. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment; provided, that the CONTRACTOR shall not enter upon nor use any property not under the control of the CITY until a written temporary construction easement agreement has been executed by the CONTRACTOR and the property owner, and a copy of said easement furnished to the ENGINEER prior to said use; and the CITY will not be liable for any claims or damages resulting from the CONTRACTOR's trespass on or use of any such properties. The CONTRACTOR shall provide the CITY with a signed release from the property owner confirming that the lands have been satisfactorily restored upon completion of the WORK.

4.2 REPORTS OF PHYSICAL CONDITIONS

- A. **Subsurface Explorations:** Reference is made to any Supplementary General Conditions for identification of those reports of explorations and tests of subsurface conditions at the Site that have been utilized by the ENGINEER in the preparation of the Contract Documents.
- B. **Existing Structures:** Reference is made to any Supplementary General Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except underground Utilities referred to in Paragraph 4.3 herein) which are at or contiguous to the Site that have been utilized in the preparation of the Contract Documents.
- C. The CITY makes no representation as to the completeness of the reports or drawings referred to in Paragraph 4.2 A or B above or the accuracy of any data or information contained therein. The CONTRACTOR may rely upon the accuracy of the technical data contained in such reports and drawings. However, the CONTRACTOR may not rely upon any interpretation of such technical data, including any interpolation or extrapolation thereof, or any non-technical data, interpretations, and opinions contained therein.

4.3 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES

- A. **Indicated:** The information and data indicated in the Contract Documents with respect to existing underground Utilities at or contiguous to the Site are based on information and data furnished to the CITY or the ENGINEER by the owners of such underground Utilities or by others. Unless it is expressly provided in any Supplementary General Conditions the CITY will not be responsible for the accuracy or completeness of any such information or data, and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all underground Utilities indicated in the Contract Documents, for coordination of the WORK with the owners of such underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the WORK, the cost of all of which are deemed to have been included in the Contract Price.
- B. **Not Indicated:** If an underground Utility is uncovered or revealed at or contiguous to the Site which was not indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall identify the owner of such underground Utility and give written notice thereof to that owner and shall notify the ENGINEER.

4.4 DIFFERING SITE CONDITIONS

- A. The CONTRACTOR shall notify the ENGINEER, in writing, of the following unforeseen conditions, hereinafter called differing Site conditions, promptly upon their discovery (but in no event later than 14 days after their discovery) and before they are disturbed:
 - 1. Subsurface or latent physical conditions at the Site of the WORK differing materially from those indicated, described, or delineated in the Contract Documents, including those reports discussed in Paragraph 4.2, 4.3, and 4.5.
- B. The ENGINEER will review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto.
- C. If the ENGINEER concludes that because of newly discovered conditions a change in the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the difference.
- D. In each such case, an increase or decrease in the Contract Price or an extension or shortening the Contract Times, or any combination thereof, will be allowable to the extent that they are attributable to any such difference. If the ENGINEER and the CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefor as provided in Articles 11 and 12.

- E. The CONTRACTOR's failure to give notice of differing Site conditions within 14 days of their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith, whether direct or consequential in nature.

4.5 HAZARDOUS MATERIALS

- A. CITY shall be responsible for any Asbestos, Hazardous Waste, Petroleum, or Radioactive Material uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the WORK and which may present a substantial danger to persons or property exposed thereto in connection with the WORK at the Site. CITY will not be responsible for any such material brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.
 - 1. Upon discovery of any Asbestos, Hazardous Waste, Petroleum, or Radioactive Material, the CONTRACTOR shall immediately stop all work in any area affected thereby (except in an emergency as required by Paragraph 6.13) and notify ENGINEER (and therefore confirm such notice in writing). CONTRACTOR shall not be required to resume any work in any such affected area until after CITY has obtained any required permits related thereto and delivered to CONTRACTOR special written notice. Such written notice will specify that such condition and any affected area is or has been rendered safe for the resumption of the work or specify any special conditions under which the work may be resumed safely. If ENGINEER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of adjustment, if any, in Contract Price or Contract Times as a result of such work stoppage or such special conditions under which work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided in Articles 11 and 12.
 - 2. If, after receipt of such special written notice, CONTRACTOR does not agree to resume such WORK based on a reasonable belief it is unsafe, or does not agree to resume such WORK under special conditions, ENGINEER may order such portion of the WORK that is in connection with such hazardous condition or in such affected area to be deleted from the WORK. If ENGINEER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the WORK then either party may make a claim therefor as provided in Articles 11 and 12. CITY may have such deleted portion of the WORK performed by CITY's own forces or others in accordance with Article 7.
- B. The provisions of Paragraphs 4.2, 4.3, and 4.4 are not intended to apply to Asbestos, Petroleum, Hazardous Waste, or Radioactive Material uncovered or revealed at the Site.

4.6 REFERENCE POINTS

- A. The ENGINEER will provide the location and elevation of one bench mark, near or on the Site of the WORK, for use by the CONTRACTOR for alignment and elevation control. Unless otherwise specified in any Supplementary General Conditions, the CONTRACTOR shall furnish all other lines, grades, and bench marks required for proper execution of the WORK.
- B. The CONTRACTOR shall preserve or replace any and all bench marks, section corners, witness corners, stakes, and other survey marks, and in case of their removal or destruction by any party, the CONTRACTOR shall be responsible for the accurate replacement of such reference points by surveyor licensed under the applicable state codes governing land surveyors.

ARTICLE 5 – BONDS AND INSURANCE

5.1 BONDS

- A. The CONTRACTOR shall furnish Performance and Labor and Materials Bonds, each in the amount of one hundred percent (100%) of the contract price, as security for the faithful performance and payment of all the CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date of completion, except as otherwise provided by Law or Regulation or by the Contract Documents. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions.
- B. The CONTRACTOR shall guarantee the WORK to be free of defects in material and workmanship for a period of one (1) year following the CITY's acceptance of the WORK. The CONTRACTOR shall agree to make, at the CONTRACTOR's own expense, any repairs or replacements made necessary by defects in material or workmanship which become evident within the one-year guarantee period. The CONTRACTOR's guarantee against defects required by this provision shall be secured by a Maintenance Bond, in the amount of ten percent (10%) of the contract price, which shall be delivered by the CONTRACTOR to the CITY prior to acceptance of the WORK. The Maintenance Bond shall remain in force for one (1) year from the date of acceptance of the contracted WORK. The CONTRACTOR shall make all repairs and replacements within the time required during the guarantee period upon receipt of written order from the ENGINEER. If the CONTRACTOR fails to make the repairs and replacements within the required time, the CITY may do the work and the CONTRACTOR and the CONTRACTOR's surety for the Maintenance Bond shall be liable to the CITY for the cost. The expiration of the Maintenance Bond during the one-year guarantee period does not operate to waive or void the one-year guarantee, as set forth herein and in paragraph 6.16 of these General Conditions.

- C. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent’s authority to act.
- D. If the surety on any Bond furnished by the CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and surety, which must be acceptable to the CITY.
- E. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of California to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.

5.2 INSURANCE

Contractor and any subcontractor shall not commence work under this Agreement until Contractor shall have obtained all insurance required under this paragraph and such insurance shall have been approved by the City Attorney as to form and carrier and the City Manager as to sufficiency, nor shall Contractor allow any contractor or subcontractor to commence work on this contract or subcontract until all similar insurance required of the contractor and/or subcontractor shall have been so obtained and approved. All requirements herein provided shall appear either in the body of the insurance policies or as endorsements and shall specifically bind the insurance carrier.

CONTRACTOR shall procure and maintain for the duration of the contract all necessary insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, the Contractor’s agents, representatives, employees or subcontractors.

A. Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage.
2. Insurance Services Office form number CA covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. [Optional] Such other insurance coverages and limits as may be required by the CITY as follows: _____.

B. Minimum Limits of Insurance

CONTRACTOR shall maintain limits no less than:

1. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate liability is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: Bodily Injury by Accident - \$1,000,000 each accident
Bodily Injury by Disease - \$1,000,000 policy limit
Bodily Injury by Disease - \$1,000,000 each employee

C. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the CITY. At the option of the CITY, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the CITY, its officers, officials, employees, and volunteers; or the CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

D. Other Insurance Provisions

The required general liability and automobile policies are to contain, or be endorsed to contain the following provisions:

1. The CITY, its officers, officials, employees, agents and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the CONTRACTOR; products and completed operations of the CONTRACTOR; premises owned, occupied or used by the CONTRACTOR; or automobiles owned, leased, hired or borrowed by the CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to the CITY, its officers, officials, employees, agents or volunteers.
2. For any claims related to this project, the CONTRACTOR's insurance coverage shall be primary insurance as respects the CITY, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the CITY, its officers, officials, employees, agents or volunteers shall be excess of the CONTRACTOR's insurance and shall not contribute with it.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the CITY, its officers, officials, employees, agents or volunteers.
4. The CONTRACTOR's insurance shall apply separately to each insured against whom claim is made or suit is brought except, with respect to the limits of the insurer's liability.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the CITY.

E. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

F. Verification of Coverage

CONTRACTOR shall furnish the CITY with original endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the CITY. All endorsements are to be received and

approved by the CITY before work commences. As an alternative to the CITY's forms, the CONTRACTOR's insurer may provide complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.1 COMMUNICATIONS

- A. Written communications with the CITY shall be only through or as directed by the ENGINEER.

6.2 SUPERVISION AND SUPERINTENDENCE

- A. The CONTRACTOR shall supervise, inspect, and direct the WORK competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the WORK in accordance with the Contract Documents. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction and all safety precautions and programs incidental thereto. The CONTRACTOR shall be responsible to see that the completed WORK complies accurately with the Contract Documents.
- B. The CONTRACTOR shall designate in writing and keep on the Site at all times during the performance of the WORK a technically qualified, English-speaking superintendent, who is an employee of the CONTRACTOR and who shall not be replaced without written notice to the ENGINEER. The superintendent will be the CONTRACTOR's representative at the Site and shall have authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR.
- C. The CONTRACTOR's superintendent shall be present at the Site at all times while work is in progress and shall be available by phone for emergencies 24 hours per day, 7 days per week. Failure to observe this requirement shall be considered suspension of the WORK by the CONTRACTOR until such time as such superintendent is again present at the Site.

6.3 LABOR, MATERIALS, AND EQUIPMENT

- A. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the WORK and perform construction as required by the Contract Documents. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and any required temporary works. The CONTRACTOR shall at all times maintain good discipline and order at the Site. Except in connection with the safety or protection of persons or the WORK or property at the Site or adjacent thereto, and except as otherwise indicated in the

Contract Documents, all work at the Site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday, or any federally observed holiday without the CITY's written consent. The CONTRACTOR shall apply for this consent through the ENGINEER in writing a minimum of 24 hours in advance.

- B. Except as otherwise provided in this Paragraph, the CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of 8 hours in any one calendar day or hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing. Additional compensation will be paid to the CONTRACTOR for overtime work only in the event extra work is ordered by the ENGINEER and the Change Order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the CONTRACTOR for overtime work of a similar nature in the same locality.
- C. All increased costs of inspection and testing performed during overtime work by the CONTRACTOR which is allowed solely for the convenience of the CONTRACTOR shall be borne by the CONTRACTOR. The CITY has the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the CONTRACTOR.
- D. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, lubricants, power, light, heat, telephone, water, sanitary facilities, and all other facilities, consumables, and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the WORK.
- E. All materials and equipment incorporated into the WORK shall be of specified quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of the CITY. If required by the ENGINEER, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provisions of any such instructions will be effective to assign to the CITY or any of its consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9 C.
- F. The work, unless otherwise permitted or approved by the ENGINEER, shall be completed with the incorporated use of equipment, materials, and/or products where such are specified. Substitutions and equal alternatives will be permitted as

provided in this article; however, neither the request for substitution nor the offer of alternatives shall in any way by their submittal obligate the CITY to assent to any request or offer. Failure of the CONTRACTOR awarded the work to either submit requests for substitutions or to offer alternatives within the required times provided in this General Condition will be considered as evidence that the work shall be accomplished with trade-named equipment, materials, and/or products as identified in the Specifications and/or the Drawings.

- G. Unless otherwise provided elsewhere in the Contract, all equipment, materials, and/or products incorporated into the work shall be new and, where not specified, shall be of the highest quality of the respective kinds for the intended use, and all workmanship shall meet or exceed applicable construction industry standards and practices. If equipment, materials, and/or products are designated by listing named manufacturers of particular equipment, materials, and/or products followed by the words "or equal," then the CONTRACTOR may furnish the named equipment, materials, and/or products or any equal equipment, materials, and/or products. The first-named manufacturer of particular equipment, materials, and/or products is the basis for the design shown on the Project Drawings. A subsequently named manufacturer or particular equipment, materials, and/or products has been determined to be an acceptable substitution but may require modifications in the Project's design and its ultimate construction to accommodate its use. If such subsequently named items are selected by the CONTRACTOR for incorporation into the work, the CONTRACTOR shall assume all costs required for modifications to the equipment, materials, and/or products, and Project design and construction as may be required for said items' use. Substitutions for an unnamed "equal" item of material shall be permitted upon compliance of the procedures set forth in Paragraph I of this article. If a CONTRACTOR makes use of an unnamed "equal" product as a substitute for a specifically named material or product, the CONTRACTOR shall assume all costs required to make the necessary revisions or modifications to accommodate the use of said unnamed product.
- H. Before beginning the work and within thirty-five (35) calendar days after award of the Contract, the CONTRACTOR shall submit a List of Materials to the ENGINEER for review. The List shall include all items of equipment, materials, and/or products to be incorporated into the work and the names of suppliers with whom purchase orders have been placed. The names on the List shall be arranged in the same order as in the specifications, and shall contain sufficient data to identify precisely the items of equipment, materials, and/or products the CONTRACTOR proposes to furnish. The List shall include Specifications or Drawing references. Once the submission is determined to be acceptable to the ENGINEER, it shall be returned to the CONTRACTOR.
- I. Substitution for those equipment, materials, and/or products specified shall only be permitted when the proposed unnamed "equal" product or material to be furnished is both equal in quality and utility and after the CONTRACTOR has

complied with the following provisions: (1) All substitutions shall be reviewed by the ENGINEER. (2) The ENGINEER must approve such substitution in writing prior to its incorporation into the work. (3) Unless otherwise authorized in writing by the CITY, the CONTRACTOR shall, within thirty-five (35) calendar days of award and prior to placing any purchase orders, but at least thirty (30) calendar days before it requires approval of any such alternative item, submit to the CITY sufficient data, drawings, samples, literature, or other detailed information as will demonstrate to the ENGINEER that the proposed substitute is equal in quality and utility to the equipment, materials and/or products specified.

1. Within thirty (30) calendar days following receipt of all requested information from the CONTRACTOR, the ENGINEER will determine whether the proposed alternative is equal in quality and utility and meets the requirements of the Contract and will inform the CONTRACTOR in writing of such determination. The burden of substantiating the quality and utility of alternatives shall be upon the CONTRACTOR, and the CONTRACTOR shall furnish all necessary information requested and required by the ENGINEER. The ENGINEER will be the sole judge as to the quality and utility of alternative equipment, materials, and/or products, and the ENGINEER's decision shall be final. An acceptance by the ENGINEER of a substitution shall not relieve the CONTRACTOR from complying with the requirements of the Drawings and Specifications. Acceptance by the ENGINEER shall not relieve the CONTRACTOR from full responsibility for the efficiency, sufficiency, and quality and performance of the substitute equipment, materials, and/or products, in the same manner and degree as the equipment, materials, and/or products specified by name.
2. Failure of the CONTRACTOR to submit proposed substitutions for review in the manner described above and within the time prescribed shall be sufficient cause for rejection by the CITY of any other proposed substitutions.
3. In determining whether a proposed product is equal in quality and utility, the ENGINEER is not restricted to such basic issues as performance and durability, but may consider any other issues that the ENGINEER, in the discretion of the ENGINEER, deems appropriate. Said issues may, but are not required to include, nor are they limited to, such additional factors as comparable performance, reliability, efficiency of operation, ease of operation, adaptability, ease of maintenance, capital costs, life-cycle costs, operational characteristics, costs of training personnel, maintenance history, warranties, problems created by the resulting overall warranty system, availability of qualified service, availability of parts, the history of any supplier and compatibility with existing facilities.

4. No one factor or group of factors, including such issues as savings on capital costs, shall be determinative of whether the proposed product or material is equal in quality and utility. The decision of the ENGINEER shall be based on those factors deemed by the ENGINEER to be relevant and any data, drawings, samples, literature, or other detailed information furnished by the CONTRACTOR with respect to the proposed substitution. Each decision as to whether a product or material is equal in quality and utility shall be made by the ENGINEER on a case-by-case basis.
 5. The CONTRACTOR shall be responsible for any and all costs, including consultant costs, incurred by the CITY with respect to the proposed substitution that exceed the costs inherent in the normal and reasonable review of drawings and other standard data, information, and documents concerning any proposed substitution. The CONTRACTOR shall be responsible for this cost, regardless of whether or not the substitution is approved by the ENGINEER.
- J. Unless otherwise provided in the Contract, the title and interest in the right to the use of all water, and the title to all soil, stone, gravel, sand, minerals, timber, and all other materials developed or obtained within the Project limits from operations by the CONTRACTOR or any of its subcontractors, of any of their representatives or employees, and the right to use or dispose of the same are hereby expressly reserved in the CITY; and neither the CONTRACTOR nor any of its subcontractors, nor any of their representatives or employees, shall have any right, title, or interest in or to any part thereof.
- K. All material used under the Contract after it has been attached or affixed to the work or soil and after partial payment has been made therefore shall become the property of the CITY.
- L. In the event that any Indian relics or items possessing archaeological or historical value are discovered by the CONTRACTOR or any of its subcontractors or any of their representatives or employees, the CONTRACTOR shall immediately notify the ENGINEER and await the ENGINEER's decision before proceeding with any work. The CONTRACTOR shall have no property right in such relics and items.
- M. The CONTRACTOR shall be satisfied as to the quantity of acceptable materials or products which may be produced or obtained at local sources, and the CITY will not assume any responsibility as to the quantities or quality of acceptable materials or products available.
- N. The CONTRACTOR, with the permission of the ENGINEER, may use in the proposed construction such stone, gravel, sand, or other material suitable in the opinion of the ENGINEER as may be found in excavation.

- O. Existing equipment, materials, and/or products to be salvaged shall remain the property of the CITY. Salvage to be reinstalled in the work shall be refurbished as required before reinstallation. Other work to be salvaged shall be carefully removed and handled in such a manner as to avoid damage and shall be delivered to storage at a location designated by the ENGINEER.

6.4 SCHEDULE

- A. The CONTRACTOR shall comply with the schedule requirements in the Special Provisions or as otherwise provided in the Contract Documents.

6.5 SUBSTITUTES OR “OR EQUAL” ITEMS

- A. The CONTRACTOR shall submit proposed substitutes or “or equal” items in accordance with the Bidding Requirements. No request for substitution of an “or equal” item will be considered by the ENGINEER after award of the Contract, except as provided in Paragraph 6.3I herein.

6.6 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- A. The CONTRACTOR shall be responsible to the CITY for the acts and omissions of its Subcontractors, Suppliers, and their employees to the same extent as CONTRACTOR is responsible for the acts and omissions of its own employees. Nothing contained in this Paragraph shall create any contractual relationship between any Subcontractor and the CITY nor relieve the CONTRACTOR of any liability or obligation under the Contract Documents. The CONTRACTOR shall include these General Conditions and the Supplementary General Conditions as part of all its subcontract and supply agreements.

6.7 PERMITS

- A. Unless otherwise provided in any Supplementary General Conditions, the CONTRACTOR shall obtain and pay for all constructions permits and licenses from the agencies having jurisdiction, including the furnishing of insurance and bonds if required by such agencies. The enforcement of such requirements shall not be made the basis for claims for additional compensation by CONTRACTOR. When necessary, the CITY will assist the CONTRACTOR, in obtaining such permits and licenses. The CONTRACTOR shall pay all charges of utility owners for inspection or connections to the WORK.

6.8 PATENT FEES AND ROYALTIES

- A. The CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the WORK or the incorporation in the WORK of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design,

process, product, or device is specified in the Contract Documents for use in the performance of the WORK and if to the actual knowledge of the ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed by the ENGINEER in the Contract Documents. The CONTRACTOR's indemnification obligation under this Paragraph 6.8 A. for all claims and liabilities arising out of any infringement of patent rights or copyrights incident to the use in the performance of the WORK or resulting from the incorporation in the WORK of any invention, design, process, product or device not specified in the Contract Documents shall be in accordance with Paragraph 6.16 of these General Conditions.

6.9 LAWS AND REGULATIONS

- A. The CONTRACTOR shall observe and comply with all Laws and Regulations which in any manner affect those engaged or employed on the WORK, the materials used in the WORK, or the conduct of the WORK including, but not limited to, all applicable safety Laws and Regulations. If any discrepancy or inconsistency should be discovered between the Contract Documents and any such Laws or Regulations, the CONTRACTOR shall report the same in writing to the ENGINEER. Any particular Law or Regulation specified or referred to elsewhere in the Contract Documents shall not in any way limit the obligation of the CONTRACTOR to comply with all other provisions of federal, state, and local laws and regulations. The CONTRACTOR's indemnification obligations for all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by CONTRACTOR or by its employees, Subcontractors or Suppliers shall be in accordance with Paragraph 6.16 of these General Conditions.

6.10 TAXES

- A. The CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by the CONTRACTOR in accordance with the laws and regulations of the place of the Project which are applicable during the performance of the WORK.

6.11 USE OF PREMISES

- A. The CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site, the land and areas identified in and permitted by the Contract Documents, and the other land and areas permitted by Laws and Regulations, rights-of-way, permits, and easements. The CONTRACTOR shall assume full liability and responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the WORK. Should any claim be made against the CITY by any such owner or occupant because of the performance of the WORK, the CONTRACTOR shall

promptly attempt to settle with such other party by agreement or otherwise resolve the claim through litigation at the CONTRACTOR's sole liability expense. The CONTRACTOR's indemnification obligations for all claims and liability, arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any such owner or occupant against the CITY, its consultants, subconsultants, and the officers, directors, employees and agents of each and any of them to the extent caused by or based upon the CONTRACTOR's performance of the WORK shall be in accordance with Paragraph 6.16 of these General Conditions.

6.12 SAFETY AND PROTECTION

- A. The CONTRACTOR shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR shall be responsible for the direction and control of the work assigned and for assuring that all workers on the project understand the hazards of the work involved and the safe work procedures required for each job. The CONTRACTOR shall assure that its subcontractors of all tiers shall, without expense to the CITY, comply with this safety responsibility. No work shall proceed until each worker and subcontractor understands the scope of the work and all safety rules and work procedures to be followed. The CONTRACTOR shall not allow a new employee or new subcontractor to begin work on CITY projects without a full and proper safety orientation. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage to prevent damage, injury or loss to:
1. All persons at the Site and other persons and organizations who may be affected thereby;
 2. All the WORK and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of the performance of the WORK.
- B. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property or to the protection of persons or property from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the WORK may effect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. CONTRACTOR'S duties and responsibilities for safety and for protection of the WORK shall continue until such time as all the

WORK is completed and ENGINEER has issued a notice to the CONTRACTOR in accordance with Paragraph 14.7 B. that the WORK is acceptable.

- C. The CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- D. Materials that contain hazardous substances or mixtures may be required on the WORK. A Material Safety Data Sheet shall be made available at the Site by the CONTRACTOR for every hazardous product used.
- E. Material usage shall strictly conform to OSHA safety requirements and all manufacturer's warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.
- F. The CONTRACTOR shall be responsible for the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- G. The CONTRACTOR shall notify the ENGINEER if it considers a specified product or its intended use to be unsafe. This notification must be given to the ENGINEER prior to the product being ordered, or if provided by some other party, prior to the product being incorporated in the WORK.
- H. Before starting work, the CONTRACTOR shall submit a written safety program to the CITY. The objective of the safety program shall be accident prevention. Such program shall include, but not be limited to, the following:
 - 1. An organization chart and accompanying narrative which describes the responsibility for employee and public safety of those individuals who control each phase of operations and set forth in writing the policies and procedures to be followed by all personnel. The chart shall also show the CONTRACTOR's internal lines of communication (including subcontractors) for the program.
 - 2. A specific program for communication between the CONTRACTOR and CITY on safety matters. The CONTRACTOR shall also designate one person with whom official contact can be made by the CITY on safety matters.
 - 3. Evidence that the CONTRACTOR has become thoroughly familiar with the potential hazards of the work and applicable federal and state regulations.

4. Specific safety procedures and guidelines for conduct of the Work.
5. The CITY's review, comment upon, and/or acceptance of the CONTRACTOR's safety program and/or plan does not in any way negate the responsibilities of the CONTRACTOR for safety or place any responsibility upon the CITY for such safety. Such review comment and/or acceptance shall not be construed as limiting in any manner the CONTRACTOR's obligation to undertake any action which may be necessary or required to establish and maintain safe working conditions at the site.

6.13 EMERGENCIES

- A. In emergencies affecting the safety or protection of persons or the WORK or property at the Site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER, is obligated to immediately act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the WORK or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Change Order will be issued to document the consequences of such action.

6.14 SUBMITTALS

- A. After checking and verifying all field measurements and after complying with applicable procedures specified in the Special Provisions, the CONTRACTOR shall submit to the ENGINEER for review all Shop Drawings and details of all structural and reinforcing steel, equipment, electrical controls, structural fabrications, pipe, pipe joints, special pipe sections, and other appurtenances in accordance with the accepted schedule of Shop Drawing submittals specified in the Special Provisions or as otherwise provided in the Contract Documents.
- B. The ENGINEER'S review will be only to determine if the items covered by the submittals will, after installation or incorporation in the WORK, generally conform to the Contract Documents and with the design concept of the completed Project. The ENGINEER's favorable review shall be obtained before any such items are manufactured or used in the work. The favorable review of Drawings 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 by the ENGINEER shall not relieve the CONTRACTOR of its obligation to meet safety requirements and all other requirements of law. The ENGINEER will start reviewing the CONTRACTOR's submittals only after the

Notice to Proceed is issued by the CITY with the exception of some unusual long lead items which may require submittals prior to issuing the Notice to Proceed.

- C. The CONTRACTOR shall also submit to the ENGINEER for review all Samples in accordance with the accepted schedule of Sample submittals specified in the Special Provisions or as otherwise provided in the Contract Documents.
- D. Before submittal of each Shop Drawing or Sample, the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the WORK and the Contract Documents. The CONTRACTOR shall provide submittals in accordance with the requirements of the Special Provisions or as otherwise provided in the Contract Documents.
- E. Shop-drawing submittal and coordination are the responsibility of the prime contractor; this responsibility shall not be delegated in whole or in part to subcontractors or suppliers. Any designation of work "by others," shown on Shop Drawings, shall mean that the work will be the responsibility of the CONTRACTOR rather than the subcontractor or supplier who has prepared the Shop Drawings.

Submittals shall be prepared in such form that data can be identified with the applicable Specification paragraph. The data shall demonstrate clearly compliance with the Drawings 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 portions of the data are applicable to this Project.

- F. Review of shop-drawing submittals by the ENGINEER has as its primary objective the completion for the CITY of a Project in full conformance with the Drawings and Specifications, unmarred by field corrections, and within the time provided. In addition to this primary objective, shop-drawing review as a secondary objective will assist the CONTRACTOR in its procurement of equipment that will meet all requirements of the Drawings and Specifications, will fit the structures detailed on the Drawings, will be complete 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. Acceptance of Shop Drawings and submittals does not constitute a change order to the Contract requirements.
- G. Where the CONTRACTOR is required by these Specifications to make submittals, they shall be submitted to the ENGINEER with a letter of transmittal and in sufficient number of copies to allow a distribution of at least one (1) copy to all parties needing a copy to carry out the provisions of the Specifications, including three (3) copies to be retained by the ENGINEER. The ENGINEER

shall determine the appropriate number of such copies required at the time of the preconstruction conference.

H. Within twenty-five (25) calendar days of receipt by the ENGINEER of each of the CONTRACTOR's submissions and all appurtenant data required for their review, the appropriate number of copies will be returned to the CONTRACTOR with one of the following notations:

1. Resubmittal not required; correction, if any, noted.
2. Correct and resubmit; corrections noted.

Returned copies of Drawings marked with Notation "1" authorize the CONTRACTOR to proceed with the operations covered by such returned copies, provided that such operations be subject to the comments, if any, shown on such returned copies. Returned copies of Drawings marked with Notation "2" shall be corrected, as necessary and required, and shall be submitted in the same manner as before.

I. When submittals are favorably reviewed, the ENGINEER will retain three (3) copies and will return all other copies to the CONTRACTOR. When submittals are not favorably reviewed, the ENGINEER will retain only two (2) copies and will return all others to the CONTRACTOR. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submission to the ENGINEER at least by the second submission of data. The CITY reserves the right to deduct monies from payments due the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the second submission.

J. Favorable review by the ENGINEER will not constitute acceptance by the ENGINEER of any responsibility for the accuracy, coordination, and completeness of the Shop Drawings or the items of equipment represented on the Drawings. Accuracy, coordination, and completeness of Shop Drawings shall be the sole responsibility of the CONTRACTOR, including responsibility to back check comments, corrections, and modifications from the ENGINEER's review before fabrication. Supplemental, specific requirements for Shop Drawings and details are contained in the applicable technical sections of these Specifications.

K. Copies of schedules and Shop Drawings submitted to the ENGINEER for review shall be such as to provide three (3) copies for the ENGINEER's files, and such additional copies as the CONTRACTOR may desire for its own office files and/or for distribution by it to subcontractors or vendors. Exceptions will be noted in specific sections of Specifications. All Shop Drawings and supporting data, catalogs, and schedules shall be submitted as the instruments of the CONTRACTOR, who shall be responsible for their accuracy and completeness. 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, while conforming to structural, space, and access conditions at the point of installation. The CONTRACTOR shall check all submittals before submitting them to the ENGINEER.

- L. The ENGINEER shall check and review schedules, drawings, etc., submitted by the CONTRACTOR only for general design conformance with the concept of the Project and compliance with the Contract. Shop Drawings shall not be used to order products' fabrication or delivery for construction or installation unless submitted to and favorably reviewed by the ENGINEER. Acceptance by the ENGINEER of any drawings, method of work, or any information regarding materials and equipment the CONTRACTOR proposes to furnish shall not relieve the CONTRACTOR of its responsibility for any errors therein and shall not be regarded as an assumption of risks or liability by the Design ENGINEER or the CITY, or any officer or employee thereof, and the CONTRACTOR shall have no recourse against the CITY under the Contract on account of the failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Such acceptance shall be considered to mean merely that the ENGINEER has no objection to the CONTRACTOR using, upon its own full responsibility, the plan or method of work proposed or furnishing the materials and equipment proposed.

6.15 CONTINUING THE WORK

- A. The CONTRACTOR shall carry on the WORK and adhere to the progress schedule during all disputes or disagreements with the CITY. No WORK shall be delayed or postponed pending resolution of any disputes or disagreements, except as the CONTRACTOR and the CITY may otherwise agree in writing.

6.16 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

- A. CONTRACTOR warrants and guarantees that all WORK will be in accordance with the Contract Documents and will not be defective. The CONTRACTOR represents that the WORK performed pursuant to the Contract shall be of the quality specified or of the highest quality if no quality is specified, and shall conform to the Contract Documents. The CONTRACTOR warrants all equipment, material, products, and workmanship furnished and all work performed under the Contract against defects for a period of one (1) year after final acceptance regardless of whether the same were furnished or performed by the CONTRACTOR or by any of its subcontractors or suppliers of any tier.
- B. The CONTRACTOR shall make, at its own expense, all repairs and/or replacements necessitated by defects in the equipment, materials, and/or products and in the workmanship provided by the CONTRACTOR or any of its subcontractors that become evident within the warranty period.

- C. Upon receipt of written notice from the CITY of any breach of warranty during the applicable warranty period, the affected item shall be redesigned, repaired, or replaced by the CONTRACTOR and the CONTRACTOR shall perform such tests as the CITY may require to verify that such redesign, repair, and replacement comply with the requirements of the Contract. The CITY shall have the right to operate and use such equipment, materials, and/or products until they can, without damage to the CITY, be taken out of service for correction or replacement by the CONTRACTOR. As to the redesigned, repaired, or replaced work, the CONTRACTOR warrants such redesigned, repaired, or replaced work against defective design, equipment, materials, products, and workmanship for a period of one (1) year from and after the date of satisfactory completion of such redesigned, repaired, or replaced work. The CITY reserves the right to require that the CONTRACTOR performs such repair or replacement work.
- D. The CITY also reserves the right to make such repairs or replacements, if, within seven (7) calendar days after the mailing of a notice in writing to the CONTRACTOR and Surety, the CONTRACTOR shall neglect to make or undertake with due diligence the aforesaid repairs or replacements and that Surety within seven (7) calendar days after mailing of a notice in writing of such negligence of the CONTRACTOR shall neglect to make or undertake with due diligence the aforesaid repairs or replacements itself, provided, however, that in the case of an emergency where in the opinion of the CITY delay would cause hazard to health or serious loss or damage, repair may be made without notice being sent to the CONTRACTOR or Surety, and the CONTRACTOR shall pay the cost thereof.
- E. All costs including workforce and materials incidental to such redesign, repair, replacement, and testing, including the removal, replacement, and reinstallation of equipment necessary to gain access and all other costs incurred as the result of a breach of warranty shall be borne by the CONTRACTOR whether performed by the CITY or the CONTRACTOR.
- F. Nothing in this section shall be construed to limit, relieve, or release the CONTRACTOR, subcontractor's, and equipment, materials, and/or products suppliers, and other service providers' liability to the CITY for damages sustained as the result of latent defects in the workmanship, equipment, materials, and/or products done and/or furnished by the CONTRACTOR, its subcontractors, suppliers and/or other service providers.
- G. The Performance Bond shall extend for a period of one (1) year after acceptance of the Contract by the CITY and shall cover the CONTRACTOR's obligations resulting from the warranty requirements herein specified.
- H. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, or Suppliers, or other individual or entity for whom CONTRACTOR is responsible;
 2. Normal wear and tear under normal usage.
- I. CONTRACTOR's obligation to perform and complete the WORK in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of WORK that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents:
1. Observations by ENGINEER;
 2. Recommendation by ENGINEER or payment by CITY of any progress or final payment;
 3. The issuance of a Certificate of Completion by the CITY;
 4. Use or occupancy of the WORK or any part thereof by the CITY;
 5. Any acceptance by CITY or any failure to do so;
 6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice or acceptability by ENGINEER pursuant to Paragraph 14.7 B.;
 7. Any inspection, test, or approval by others; or
 8. Any correction of Defective Work by CITY.

6.17 INDEMNIFICATION

- A. Contractor shall indemnify, defend with counsel acceptable to City, and hold harmless to the full extent permitted by law, City and its officers, officials, employees, agents and volunteers from and against any and all liability, loss, damage, claims, expenses and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the WORK or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the active negligence, sole negligence or willful misconduct of the City. Such indemnification by the CONTRACTOR shall include, but not be limited to, the following:
1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the CONTRACTOR, its subcontractors, employees, or

agents in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, or agents;

2. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's, or Supplier's own employees, or agents engaged in the WORK resulting in actions brought by or on behalf of such employees against the CITY and/or the ENGINEER;
3. Liability or claims arising directly or indirectly from or based on the violation of any Laws or Regulations, whether by the CONTRACTOR, its subcontractors, employees, or agents;
4. Liability or claims arising directly or indirectly from the use or manufacture by the CONTRACTOR, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement;
5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the CITY or any other parties by the CONTRACTOR, its subcontractors, employees, or agents;
6. Liability or claims arising directly or indirectly from the willful misconduct of the CONTRACTOR, its subcontractors, employees, or agents;
7. Liability or claims arising directly or indirectly from any breach of the obligations assumed in this Agreement by the CONTRACTOR;
8. Liability or claims arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the CONTRACTOR, Subcontractors, Suppliers, or any of their employees or agents, and;
9. Liability or claims arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the CITY, the ENGINEER, their consultants, subconsultants, and the officers, directors, employees and agents of each or any of them, to the extent caused by the CONTRACTOR's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous thereto or its performance of the WORK thereon.

- B. The CONTRACTOR shall reimburse the CITY for all costs and expenses, (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court costs of appeal) incurred by said CITY in enforcing the provisions of this Paragraph.
- C. The indemnification obligation under this Article 11 shall not be limited in any way by any limitation on the amount or type of insurance carried by CONTRACTOR or by the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- D. Pursuant to California Public Contract Code Section 9201, City shall timely notify Contractor of receipt of any third-party claim relating to this Agreement.

6.18 CONTRACTOR'S DAILY REPORTS

- A. The CONTRACTOR shall complete a daily report indicating location worked, total manpower for each construction trade, major equipment on Site, each Subcontractor's manpower and equipment, weather conditions, and other related information involved in the performance of the WORK. These components will be decided by the ENGINEER.

6.19 CONTRACT DOCUMENTS AND RECORD DRAWINGS

- A. The CONTRACTOR shall keep on the work site a copy of the Contract Documents and shall at all times give the ENGINEER access thereto. Any drawings included in the Specifications shall be regarded as part thereto and of the Contract. Anything mentioned in these Specifications and not shown on the Project Drawings, or shown on the Project Drawings and not mentioned in these Specifications, shall be of like effect as though shown or mentioned in both. The ENGINEER will furnish from time to time such detail drawings, plans, profiles, and information as he may consider necessary for the CONTRACTOR's guidance. It shall be the duty of the CONTRACTOR to see that the provisions of the Contract Documents are complied with in detail irrespective of the inspection given the work during its progress by the ENGINEER. Any failure on the part of the CONTRACTOR to observe the requirements contained in the Contract Documents will be sufficient cause for the rejection of the work at any time before its acceptance.
- B. The CONTRACTOR shall maintain, at the jobsite, one record set of Drawings in good order and clearly marked to show any deviations which have been made from the Drawings, including concealed construction and utility features which are revealed during the course of construction. Marked prints shall be updated at least once each week and shall be available to the ENGINEER for review as to

currency prior to developing partial payment estimates. Upon completion of the work, the marked set of prints shall be delivered to the ENGINEER.

- C. In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the Record Drawings shall be updated by indicating those portions which are superseded by change order drawings or final shop drawings, and by including appropriate reference information describing the change orders by number and the shop drawings by manufacturer, drawing, and revision numbers.
- D. Requests for partial payments will not be approved if the updated set of Drawings is not in good order or is not kept current. Request for final payment will not be approved until the complete and correct Record Drawings are delivered to the ENGINEER.

6.20 CLEAN UP

The CONTRACTOR shall, at all times, keep the premises, occupied by it in relation to this Contract, in a neat, clean, and safe condition and at all times provide reasonable access thereto. The CONTRACTOR shall, as a minimum, conduct daily inspections to verify that requirements of this Article are being met.

- A. During the progress of the WORK, the CONTRACTOR shall:
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of material.
 - 2. Provide adequate storage of all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the environment.
 - 3. Remove any accumulation of scrap, debris, waste material, and other items not required for construction of this work.
 - 4. Dispose of existing materials and equipment to be demolished and removed and all trash such as broken concrete, wood blocking, shipping containers, etc., resulting from the contract work off the premises occupied by the CONTRACTOR, including CITY property, at the CONTRACTOR's expense. CITY-leased dumpsters and other disposal containers on CITY's property, unless specifically provided by the CONTRACTOR, shall not be used by the CONTRACTOR.
 - 5. Maintain all excavation, embankments, haul roads, permanent access roads, Plant site, waste disposal areas, borrow areas, and all other work areas within contract work limits free from dust, as determined by the

ENGINEER. Industry-accepted methods of dust control suitable for the area involved, such as sprinkling, chemical treatment, light bituminous treatment, or similar methods, will be permitted. No separate payment will be made to the CONTRACTOR for dust control.

- B. If the CONTRACTOR fails to comply with any of the foregoing, the CITY will transmit written notification of noncompliance. If, within five (5) calendar days of the written notification, the CONTRACTOR fails to comply, cleanup may be undertaken by the CITY at the expense of the CONTRACTOR.
- C. Upon completion of any portion of any WORK, the CONTRACTOR shall promptly remove all of its equipment, temporary structures, and surplus construction and other materials not to be used at or near the same location during later stages of work. Upon completion of any WORK and before final inspection is made, the CONTRACTOR shall unless otherwise specifically directed by the ENGINEER:
 - 1. Remove from the job site all plant, buildings, tools, surplus materials, equipment, forms, rubbish, scrap, debris, and waste.
 - 2. Clean all paved areas on the site. Completely remove all resultant debris.
 - 3. Visually inspect all interior surfaces, and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only approved cleaning materials and equipment.
 - 4. Restore any improved area used for the CONTRACTOR's work or material storage to its condition at the time the CONTRACTOR moved onto the site or to the satisfaction of the ENGINEER.
 - 5. Schedule final cleaning and improvement restoration to enable the CITY to accept a completely clean and restored project.

6.21 STORM WATER POLLUTION PREVENTION

A. General

- 1. Prevention - The CONTRACTOR shall prevent the pollution of storm drain systems and creeks on or near the construction project site(s) resulting from the construction operation. The CONTRACTOR shall keep pollution out of storm drains by reducing the possibility of accidental discharge of materials and wastes, by reducing erosion and sedimentation, and by any action as required. The CONTRACTOR shall train all employees and subcontractors on the storm water pollution prevention

requirements contained in these Specifications and ensure that all employees and subcontractors are aware of the consequences as described in subsection A.3. below. The CONTRACTOR shall include appropriate subcontract provisions to ensure that these requirements are met by all subcontractors.

2. Notification - If the CONTRACTOR causes or permits the spillage or overflow of any sewage, oil, or petroleum product, hazardous substance, contaminant, or waste that may result in the fluid or substance being discharged directly or indirectly into any storm drains, creeks, wetlands, or other manmade or natural waterways the CONTRACTOR shall notify the CITY as soon as possible to the extent notification can be provided without substantially impeding cleanup or other emergency measures. In no event shall such notification be later than one hour after knowledge of the occurrence.
3. Cleanup - Immediately upon gaining knowledge of such spillage, overflow, or discharge, the CONTRACTOR shall eliminate the cause of the spillage, overflow, or discharge and take action to minimize any damages. The CONTRACTOR shall also immediately implement a cleanup program. The cleanup, including sampling and testing required by regulatory agencies to determine the nature and level of contamination shall be performed and completed to the satisfaction of the various regulatory agencies involved and the CITY, at the expense of the CONTRACTOR. Any fines, penalties, and/or subsequent actions imposed upon the CITY and/or the CONTRACTOR by regulatory agencies related to the spillage, overflow, or discharge and any subsequent monitoring, testing, and reporting, as required by regulatory agencies, shall also be at the expense of the CONTRACTOR. The CONTRACTOR shall keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on site. The quantity of cleanup materials shall be appropriate in consideration of the risk of an occurrence of a spill, overflow or discharge.

B. Management of Nonhazardous Material and/or Waste

1. Designated Area - The CONTRACTOR shall propose designated areas of the project site, for approval by the ENGINEER, suitable for material delivery, storage, and waste collection that to the maximum extent practicable are near construction entrances and away from catch basins, gutters, drainage courses, and creeks.
2. Backfill or Excavated Material - The CONTRACTOR shall not allow backfill or excavated material to enter the storm drains or creeks. When rain is forecast within 24 hours or during wet weather, the

CONTRACTOR may be required to cover such material with a tarpaulin and to surround the material with sand bags.

3. Street Sweeping - At least once per week or more frequently as directed by the ENGINEER, the CONTRACTOR shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The CONTRACTOR shall not use water to flush down streets in place of street sweeping.
4. Disposal - At the end of each working day, the CONTRACTOR shall collect all scrap, debris, and waste material, and dispose of such materials properly. The materials may be stored in the CONTRACTOR's yard in stockpiles or placed in dumpsters. The CONTRACTOR shall inspect dumpsters for leaks and replace or repair dumpsters that leak. The CONTRACTOR shall not discharge water from cleaning dumpsters on site. The CONTRACTOR shall arrange for regular waste collection before dumpsters overflow.

C. Management of Hazardous Material and/or Waste

1. Storage - The CONTRACTOR shall label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels, and all hazardous wastes, such as waste oil and antifreeze in accordance with all applicable state and federal regulations. The CONTRACTOR shall store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations. All such materials and wastes shall be covered, as needed, to avoid rainwater becoming polluted with hazardous constituents which could result in potential management of collected rain water as a hazardous waste. The CONTRACTOR shall keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on site.
2. Usage - When rain is forecast within 24 hours or during wet weather, the CONTRACTOR shall refrain from applying chemicals in outside areas. The CONTRACTOR shall follow material manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals. The CONTRACTOR shall post warning signs in areas treated with chemicals.
3. Disposal - The CONTRACTOR shall arrange for regular hazardous waste collection to comply with time limits on storage of hazardous wastes. The CONTRACTOR shall dispose of hazardous waste in accordance with all applicable local, state and federal regulations. The CONTRACTOR shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials. The CONTRACTOR shall

report any hazardous materials spill to the CITY in accordance with Section A.2 above.

D. Vehicle/Equipment Cleaning, Maintenance, and Fueling

1. General - The CONTRACTOR shall inspect vehicles and equipment arriving on site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made.

The CONTRACTOR shall comply with federal, state, and city requirements for aboveground storage tanks.

2. Cleaning - The CONTRACTOR shall perform vehicle or equipment cleaning with water only in a designated, bermed area that will not allow rinse water to run off site into streets, gutters, storm drains, or creeks. Soaps, solvents, degreasers, steam-cleaning equipment, or equivalent methods shall not be allowed.
3. Maintenance and Fueling - The CONTRACTOR shall perform maintenance and fueling of vehicles or equipment in areas that will not allow run-on of storm water or runoff of spills to storm drains and provide for confined clean-up. Examples are working in bermed areas or utilizing drip pans. The CONTRACTOR shall not contaminate the soils or groundwater with such maintenance and fueling activities.

The CONTRACTOR shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured, and shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in Section C.3 above.

E. Dewatering Operations

1. Sediment Control - The CONTRACTOR shall route water through a control measure, such as a sediment trap, sediment basin, or Baker tank, to remove settleable solids prior to discharge to the storm drain system. Straw bales shall be placed in front of storm drain inlets as required. Filtration of the water following the control measure may be required on a case-by-case basis. Approval of the control measure shall be obtained in advance from the ENGINEER. If the ENGINEER determines that the dewatering operation would not generate an appreciable amount of settleable solids, the control measure requirement above may be waived.
2. Contaminated Groundwater - If the project is within an area of known groundwater contamination or if contamination is found, water from

dewatering operations shall be tested prior to discharge. If the water quality meets Regional Water Quality Control Board (RWQCB) standards, it may be discharged to a storm drain or creek. Otherwise, the water shall be hauled off site for proper disposal.

F. Paving or Oiling Operations

1. When rain is forecast within 24 hours or during wet weather, the ENGINEER may prevent the CONTRACTOR from paving or oiling the street. The ENGINEER may direct the CONTRACTOR to protect drainage courses by using control measures, such as earth dike, straw bale, and sand bag, to divert runoff or trap and filter sediment.
2. The CONTRACTOR shall prevent saw-cut slurry from entering catch basins and storm drains by limiting the area over which the slurry may spread.
3. The CONTRACTOR shall cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
4. The CONTRACTOR shall not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. The CONTRACTOR shall either collect the sand and return it to the stockpile or dispose of it in a trash container.

G. Concrete, Grout, and Mortar Waste Management

1. Concrete Truck/Equipment Washout - The CONTRACTOR shall not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks. The CONTRACTOR shall perform washout of concrete trucks or equipment off site or in a designated area on site where the water will flow onto dirt or into a temporary pit in a dirt area. The CONTRACTOR shall let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, the CONTRACTOR shall collect the wash water and remove it off site.
2. Exposed Aggregate Concrete Wash Water - The CONTRACTOR shall avoid creating runoff by draining water from washing of exposed aggregate concrete to a dirt area. If a suitable dirt area is not available, the CONTRACTOR shall filter the wash water through straw bales or equivalent material before discharging to a storm drain. The CONTRACTOR shall collect sweepings from exposed aggregate concrete for disposal.

H. Paint Disposal and Clean-up

1. Disposal of Unused Paint - The CONTRACTOR shall carefully use, store and dispose of paint, solvents, chemicals, and waste materials in compliance with all applicable state and federal regulations. The CONTRACTOR shall not dispose of paint to sanitary sewer systems or storm drains. The CONTRACTOR shall utilize other recycling and disposal services as follows:
 - a. "Recycling Centers" and "Waste Disposals" as may be listed in the yellow pages.
 - b. Local household hazardous waste facility if appropriate.

The CONTRACTOR may dispose of small amounts of leftover latex (water-based) paint by applying the paint to the surface of an item to be discarded and allowing it to dry thoroughly, then disposing of it in a dumpster.

The CONTRACTOR shall store these materials and conduct cleaning of painting equipment and tools in a designated area that will not allow run-on of storm water or runoff of spills. The CONTRACTOR shall not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drains, or creeks.

2. Disposal of Paint Clean-up Waste - The CONTRACTOR shall remove as much excess paint as possible from brushes, rollers, and equipment before starting cleanup.
 - a. The CONTRACTOR shall not discharge cleaning wastes from oil-based paints, buckets, brushes or tools to the sanitary sewer system. The CONTRACTOR shall retain a certified waste hauler to recycle or to dispose of cleaning wastes from oil-based paints at the CONTRACTOR's expense.
 - b. The CONTRACTOR may discharge very small amounts of cleaning wastes from brushes, rollers, buckets, and tools contaminated with latex (water-based) paints to the sanitary sewer system provided they do not contain additives with pollutants of concern (e.g., mercury, tributyltin). Brushes, rollers, and tools containing latex paints may be washed over a sink with plenty of water. Buckets containing latex paints shall first be emptied into the original can or discarded as specified in paragraph 1 above. Should excessive amounts of paint or solvent be found in the wastewater discharged, the CONTRACTOR may be subject to

enforcement action by the CITY in accordance with the City Codes.

- c. The CONTRACTOR shall not discharge any of these paint clean-up wastes to storm drains, streets, gutters, or creeks.
 - d. Waste Disposal - The CONTRACTOR shall dispose of waste thinner, solvent, and sludge from cleaning of equipment and tools as hazardous waste, as described in Section C.3 above. The CONTRACTOR shall dispose of excess thinners, solvents, and oil- and water-based paint as hazardous waste.
- I. Contaminated Soil - If the project is within an area of known soil contamination or evidence of soil contamination is found, the CONTRACTOR shall comply with the requirements of all applicable local, state and federal regulations.

ARTICLE 7 – OTHER WORK

7.1 RELATED WORK AT SITE

- A. The CITY may perform other work related to the Project at the Site by the CITY's own forces, have other work performed by utility owners, or let other direct contracts for such other work. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work.
- B. The CONTRACTOR shall afford each person who is performing the other work (including the CITY's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the WORK with theirs. The CONTRACTOR shall do all cutting, fitting, and patching of the WORK that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. The CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will not only cut or alter their work with the written consent of the ENGINEER and the others whose work will be affected.
- C. If the proper execution or results of any part of the CONTRACTOR's work depends upon such other work by another, the CONTRACTOR shall inspect and report to the ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to report such delays, defects, or deficiencies will constitute an acceptance of the other work as fit and proper for integration with the CONTRACTOR's work except for latent or nonapparent defects and deficiencies in the other work.

7.2 COORDINATION

- A. If the CITY contracts with others for the performance of other work at the Site, CITY will have sole authority and responsibility in respect of such coordination, unless otherwise provided in the Supplementary General Conditions.

ARTICLE 8 – CITY’S RESPONSIBILITIES

8.1 COMMUNICATIONS

- A. Except as may be otherwise provided in these General Conditions or the Supplementary General Conditions, the CITY will issue all its communications to the CONTRACTOR through the ENGINEER.

8.2 PAYMENTS

- A. The CITY will make payments to the CONTRACTOR as provided in Article 14.

8.3 LANDS, EASEMENTS, AND SURVEYS

- A. The CITY’s duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.1 and 4.6.

8.4 REPORTS AND DRAWINGS

- A. The CITY will identify and make available to the CONTRACTOR copies of reports of physical conditions at the Site and drawings of existing structures which have been utilized in preparing the Contract Documents as set forth in Paragraph 4.2.

8.5 CHANGE ORDERS

- A. The CITY will execute Change Orders as indicated in Article 10.

8.6 INSPECTIONS AND TESTS

- A. The CITY’S responsibility for inspections and tests is set forth in Paragraph 13.3.

8.7 SUSPENSION OF WORK

- A. The CITY’s right to stop work or suspend work is set forth in Paragraphs 13.4 and 15.1.

8.8 TERMINATION OF AGREEMENT

- A. The CITY's right to terminate services of the CONTRACTOR is set forth in Paragraphs 15.2 and 15.3.

8.9 LIMITATION ON CITY'S RESPONSIBILITIES

- A. The CITY shall not supervise, direct or have control or authority over, nor be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the WORK. CITY will not be responsible for CONTRACTOR's failure to perform or furnish the WORK in accordance with the Contract Documents.

8.10 UNDISCLOSED HAZARDOUS ENVIRONMENTAL CONDITIONS

- A. CITY's responsibility in respect to an undisclosed hazardous environmental condition is set forth in Paragraph 4.5.

ARTICLE 9 – ENGINEER’S STATUS DURING CONSTRUCTION

9.1 CITY’S REPRESENTATIVE

- A. The ENGINEER will be the CITY’S representative during the construction period. The ENGINEER shall decide any and all questions which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work; all questions which arise as to the interpretation of the plans and specifications, the proposal and the contract documents therefor; all questions as to the acceptable fulfillment of the contract on the part of the CONTRACTOR; and all questions as to claim and compensation.

9.2 OBSERVATIONS ON THE SITE

- A. The ENGINEER will make observations on the Site during construction to monitor the progress and quality of the WORK and to determine, in general, if the WORK is proceeding in accordance with the Contract Documents. The ENGINEER will not be required to make exhaustive or continuous inspections to check the quality or quantity of the WORK.

9.3 PROJECT REPRESENTATION

- A. The ENGINEER may furnish a Resident Project Representative to assist in observing the performance of the WORK. The duties, responsibilities, and limitations of authority of any such Resident Project Representative will be as provided in the Supplementary General Conditions.

9.4 CLARIFICATIONS

- A. The ENGINEER will issue with reasonable promptness such written Clarifications of the requirements of the Contract Documents as the ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

9.5 AUTHORIZED VARIATIONS IN WORK

- A. The ENGINEER may authorize variations in the WORK from the requirements of the Contract Documents. These may be accomplished by a Field Order and will require the CONTRACTOR to perform the WORK involved in a manner that minimizes the impact to the WORK and the Contract Times. If the CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Times, the CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

9.6 REJECTING DEFECTIVE WORK

- A. The ENGINEER will have authority to reject Defective Work and will also have authority to require special inspection or testing of the WORK as provided in Article 13.

9.7 CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS

- A. In accordance with the procedures set forth in the General Requirements, the ENGINEER will review all CONTRACTOR submittals.
- B. The ENGINEER's responsibilities for Change Orders are set forth in Articles 10, 11, and 12.
- C. The ENGINEER's responsibilities for Applications for payment are set forth in Article 14.

9.8 DECISIONS ON DISPUTES

- A. The ENGINEER will be the initial interpreter of the requirements of the Contract Documents and of the acceptability of the WORK thereunder. Claims, disputes, and other matters relating to the acceptability of the WORK and interpretation of the requirements of the Contract Document pertaining to the performance of the work shall be determined by the ENGINEER. Any claims in respect to changes in the Contract Price or Contract Times shall be resolved in accordance with the requirements set forth in Articles 10, 11, and 12.

9.9 LIMITATIONS ON ENGINEER'S RESPONSIBILITIES

- A. Neither the ENGINEER's authority to act under this Article 9 or other provisions of the Contract Documents nor any decision made by the ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any Supplier, any surety for any of them, or any other person or organization performing any of the WORK.
- B. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as reviewed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory," or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment will be solely to evaluate the WORK for compliance with the requirements of the Contract Documents, and conformance with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the ENGINEER any duty or authority

to supervise or direct the performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9 C.

- C. The ENGINEER will not supervise, direct, control, or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations applicable to the performance of the WORK. The ENGINEER will not be responsible for the CONTRACTOR's failure to perform the WORK in accordance with the Contract Documents. The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR nor of any Subcontractor, Supplier, or any other person or organization performing any of the WORK.

ARTICLE 10 – CHANGES IN THE WORK

10.1 GENERAL

- A. Without invalidating the Agreement and without notice to any surety, the CITY may at any time or from time to time, order additions, deletions, or revisions in the WORK. Such additions, deletions or revisions will be authorized by a Change Order or Field Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed to implement the additions, deletions, or revisions in the WORK in accordance with the applicable conditions of the Contract Documents.
- B. The CONTRACTOR shall not be entitled to an increase in the contract Price nor an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented by Change Order, except in the case of an emergency and except in the case of uncovering work as provided in Paragraph 13.3.F and G.
- C. The CITY and the CONTRACTOR shall execute appropriate Change Orders covering:
 - 1. Changes in the WORK which are ordered by the CITY pursuant to Paragraph 10.1 A.;
 - 2. Changes required because of acceptance of Defective Work under Paragraph 13.6; and
 - 3. Changes in the Contract Price or Contract Times which are agreed to by the parties under Articles 11 and/or 12, respectively.
- D. If notice of any change in the WORK is required to be given to a surety, the giving of any such notice shall be the CONTRACTOR's responsibility. If the change in the WORK affects the Contract Price, the CITY may require an

adjustment to the amount of any applicable Bond and the amount of each applicable Bond shall be adjusted accordingly.

- E. If the CITY and CONTRACTOR agree as to the extent, if any, of an increase in the Contract Price or an extension or shortening of the Contract Times that should be allowed as a result of a Field Order, the CONTRACTOR shall proceed so as to minimize the impact on and delays to the WORK pending the issuance of a Change Order.
- F. If the CITY and the CONTRACTOR are unable to agree as to the extent, if any, of an increase in the Contract Price or an extension or shortening of the Contract Times that should be allowed as a result of a Field Order, the ENGINEER can direct the CONTRACTOR to proceed on the basis of time and materials so as to minimize the impact on and delays to the WORK, and the CONTRACTOR may make a claim as provided in Articles 11 and 12.

10.2 ALLOWABLE QUANTITY VARIATIONS

- A. In the event of an increase or decrease in the quantity of any bid item under a unit price contract, the total amount of work actually done or materials or equipment furnished will be paid for according to the unit price established for such work under the Contract Documents, wherever such unit price has been established; provided, that an adjustment in the Contract Price may be made for changes which result in an increase or decrease in excess of 25 percent of the estimated quantity of any unit price bid item of the WORK.
- B. In the event a part of the WORK is to be entirely eliminated and no lump sum or unit price is named in the Contract Documents to cover such eliminated work, the price of the eliminated work shall be agreed upon by the CITY and the CONTRACTOR by Change Order.

ARTICLE 11 – CHANGE OF CONTRACT PRICE

11.1 GENERAL

- A. The Contract Price constitutes the total compensation payable to the CONTRACTOR FOR PERFORMING THE work. All duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR to complete the WORK shall be at its expense without change in the Contract Price.
- B. The Contract Price may only be changed by a Change Order. The value of any work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

1. Where the work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
 2. By mutual acceptance of a lump sum, which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.4; or
 3. On the basis of the cost of work (determined as provided in Paragraph 11.3) plus the CONTRACTOR's overhead and profit (determined as provided in Paragraph 11.4).
- C. Any claim for an increase in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 10 days) after the start of the event giving rise to the claim and shall state the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within 60 days after the start of such event (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of such event. All claims for adjustment in the Contract Price will be determined by the ENGINEER. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph 11.1 C.

11.2 COSTS RELATING TO WEATHER

- A. The CONTRACTOR shall have no claims against the CITY for damages for any injury to work, materials, or equipment, resulting from the action of the elements. If, however, in the opinion of the ENGINEER, the CONTRACTOR has made all reasonable efforts to protect the materials, equipment, and work, the CONTRACTOR may be granted a reasonable extension of Contract Times to make proper repairs, renewals, and replacements of the work, materials, or equipment.

11.3 COST OF WORK (BASED ON TIME AND MATERIALS)

- A. **General:** The term "cost of work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR for labor, materials, and equipment in the proper performance of extra work. Except as otherwise may be agreed to in writing by the CITY, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in Paragraph 11.5.
- B. **Labor:** The costs of labor will be the actual cost for wages prevailing for each craft or type of workers performing the extra work at the time the extra work is

done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. Labor costs for equipment operators and helpers will be paid only when such costs are not included in the invoice for equipment rental. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to extra work shall be paid. Nondirect labor costs including superintendence shall be considered part of the markup set out in Paragraph 11.4.

C. **Materials:** Materials must be specifically authorized by the ENGINEER. The cost of materials reported shall be at invoice or lowest current price at which materials are locally available and delivered to the Site in the quantities involved, plus the cost of freight, delivery and storage, subject to the following:

1. All trade discounts and rebaters shall accrue to the CITY, and the CONTRACTOR shall make provisions so that they may be obtained;
2. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the ENGINEER. Except for actual costs incurred in the handling of such materials, markup will not be allowed;
3. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on extra work items or the current wholesale price for such materials delivered to the Site, whichever price is lower; and
4. If in the opinion of the ENGINEER the cost of material is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such material, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the Site less trade discount. The CITY reserves the right to furnish materials for the extra work and no claim will be allowed by the CONTRACTOR for costs and profit on such materials.

D. **Equipment:** The CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the current California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates." Such rental rate will be used to compute payments for equipment whether the equipment is under the CONTRACTOR's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment will be the rate resulting in the least total cost to the CITY for the total period of use. If it is deemed necessary by the CONTRACTOR to use equipment not listed in the above-

referenced publication, an equitable rental rate for the equipment will be established by the ENGINEER. The CONTRACTOR may furnish cost data which might assist the ENGINEER in the establishment of the rental rate. Payment for equipment shall be subject to the following:

1. All equipment shall, in the opinion of the ENGINEER, be in good working condition and suitable for the purpose for which the equipment is to be used;
2. Before construction equipment is used on the extra work, the CONTRACTOR shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the ENGINEER, in duplicate, a description of the equipment and its identifying number;
3. Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer;
4. Individual pieces of equipment or tools having a replacement value of \$500 or less, whether or not consumed by use, will be considered to be small tools and no payment will be made therefore.

E. **Equipment Rental Time:** The rental time to be paid for equipment on the Site will be the time the equipment is in productive operation on the extra work being performed and, in addition, will include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the extra work, even though located at the Site of the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transporting costs when the equipment is used at the Site of the extra work on other than the extra work. Rental time will not be allowed while equipment is inoperative due to breakdowns. The rental time of equipment on the work Site will be computed subject to the following:

1. When hourly rates are listed, any part of an hour less than 30 minutes of operation will be considered to be half-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation;
2. When daily rates are listed, any part of a day less than 4 hours operation will be considered to be half-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a time and

materials basis, the CONTRACTOR will be paid for the equipment and operator, as set forth in Paragraphs 3, 4, and 5, following;

3. Payment for the equipment will be made in accordance with the provisions in Paragraph 11.3 D., herein;
4. Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already on the Site, or in the absence of such labor, established by collective bargaining agreements for the type of workmen and location of the extra work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein accordance with the provisions of Paragraph 11.3 B., herein, which surcharge shall constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages; and
5. To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Paragraph 11.4, herein.

F. **Special Services:** Special work or services are defined as that work characterized by extraordinary complexity, sophistication, innovation, or a combination of the foregoing attributes which are unique to the construction industry. The ENGINEER will make estimates for payment for special services and may consider the following:

1. When the ENGINEER and the CONTRACTOR, determine that a special service or work is required which cannot be performed by the forces of the CONTRACTOR or those of any of its Subcontractors, the special service or work may be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the ENGINEER, invoices for special services or work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs;
2. When the CONTRACTOR is required to perform work necessitating special fabrication or matching process in a fabrication or a machine shop facility away from the Site, the charges for that portion of the work performed at the off-site facility may, by agreement, be accepted as a special service and accordingly, the invoices for the work may be accepted without detailed itemization; and
3. All invoices for special services will be adjusted by deducting all trade discounts. In lieu of the allowances for overhead and profit specified in

Paragraph 11.4, herein, an allowance of 15 percent will be added to invoices for special services.

- G. **Sureties;** All work performed hereunder shall be subject to all provisions of the Contract Documents and the CONTRACTOR's sureties shall be bound with reference thereto as under the original Agreement. Copies of all amendments to Bonds or supplemental Bonds shall be submitted to the CITY for review prior to the performance of any work hereunder.

11.4 CONTRACTOR'S OVERHEAD AND PROFIT

- A. Extra work ordered on the basis of time and materials will be paid for at the actual necessary cost as determined by the ENGINEER, plus allowances for overhead and profit. No additional mark-ups and/or surcharges will be added to the cost. The allowance for overhead and profit will include full compensation for superintendence, taxes, field office expense, extended overhead, home office overhead, and all other items of expense or cost not included in the cost of labor, materials, or equipment provided for under Paragraph 11.3. The allowance for overhead and profit will be made in accordance with the following schedule:

Overhead and Profit Allowance

Labor 20 percent
Materials 15 percent
Equipment... 15 percent

To the sum of the costs and markups provided for in this Article, an additional 2 percent of the sum will be added as compensation for Bonds and insurance.

- B. It is understood that labor, materials, and equipment for extra work may be furnished by the CONTRACTOR or by the Subcontractor on behalf of the CONTRACTOR. When all or any part of the extra work is performed by a Subcontractor, the allowance specified herein will be applied to the labor, materials, and equipment costs of the Subcontractor, to which the CONTRACTOR may add 5 percent of the Subcontractor's total cost for the extra work. Regardless of the number of hierarchical tiers of Subcontractors, the 5 percent increase above the Subcontractor's total cost which includes the allowances for overhead and profit specified herein may be applied one time only.

11.5 EXCLUDED COSTS

- A. The term "cost of the work" shall not include any of the following:
 - 1. Payroll costs and other compensation of CONTRACTOR's officers, executives, proprietors, partners, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and

contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR whether at the Site or in CONTRACTOR's principal or a branch office for general administration of the WORK all of which are to be considered administrative costs covered by the CONTRACTOR's allowance for overhead and profit;

2. Non-direct labor costs, including superintendence, shall be considered part of the markup for overhead and profit, and no additional payment will be allowed for such;
3. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site;
4. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the WORK and charges against CONTRACTOR for delinquent payments;
5. Cost of premiums for all Bonds and for all insurance whether or no CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as provided by Paragraph 11.4 above);
6. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective Work, disposal of materials or equipment wrongly supplied, and making good any damages to property; and
7. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in Paragraph 11.4.

11.6 CONTRACTOR'S EXTRA WORK REPORT

- A. In order to be paid for extra work, the CONTRACTOR must submit a daily extra work report on the form furnished by the ENGINEER. The form must be completely filled out based on the provisions of Paragraphs 11.3 through 11.5 and signed by the CONTRACTOR and ENGINEER at the end of each work day. Failure to complete the form and obtain appropriate signatures by the next working day after the extra work of the previous day was completed will result in CONTRACTOR's costs for extra work being disallowed.

ARTICLE 12 – CHANGE OF CONTRACT TIMES

12.1 GENERAL

- A. The Contract Times may only be changed by a Change Order. Any claim for an extension of the Contract Times shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 10 days) after the start of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within 30 days after the start of such event (unless the ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR is entitled as a result of said event. All claims for adjustment in the Contract Times will be determined by the ENGINEER. No claim for an adjustment in the Contract Times will be valid if not submitted in accordance with the requirements of this Paragraph 12.1 A. An increase in Contract Times does not mean that the CONTRACTOR is due an increase in Contract Price. Only compensable time extensions will result in an increase in Contract Price.
- B. All time limits stated in the Contract Documents are of the essence of the Agreement.
- C. When CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost on the critical path of the WORK due to such delay, if a claim is made therefor as provided in Paragraph 12.1.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by CITY; acts or neglect of those performing other work as contemplated by Article 7; and fires, floods, epidemics, abnormal weather conditions, or acts of God. Delays attributable to and within the control of any Subcontractor or Supplier shall be deemed to be delays within the control of the CONTRACTOR.
- D. In no event will CITY be liable to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for any increase in the Contract Price or other damages arising out of or resulting from the following:
1. Delays caused by or within the control of CONTRACTOR; or
 2. Delays beyond the control of both CITY and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by those performing other work as contemplated by Article 7.

12.2 EXTENSIONS OF CONTRACT TIMES FOR DELAY DUE TO WEATHER

- A. The CONTRACTOR's construction schedule shall anticipate delay due to unusually severe weather. The number of days of anticipated delay is set forth in the Supplementary General Conditions.
- B. Contract Times may be extended by the ENGINEER because of delays in excess of the anticipated delay. The CONTRACTOR shall, within 10 days of the beginning of any such delay, notify the ENGINEER in writing and request an extension of Contract Times. The ENGINEER will ascertain the facts and the extent of the delay and extend the Contract Times when, in its judgment, the findings of the fact justify such an extension.

ARTICLE 13 – INSPECTIONS AND TESTS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

13.1 NOTICE OF DEFECTIVE WORK

- A. Prompt notice of Defective Work known to the ENGINEER will be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected, or accepted as provided in this Article 13. Defective Work may be rejected even if approved by prior inspection.

13.2 ACCESS TO WORK

- A. ENGINEER and other representatives and personnel of CITY, independent testing laboratories, and governmental agencies with jurisdictional interests shall have access to the WORK at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.3 INSPECTIONS AND TESTS

- A. The CONTRACTOR shall give the ENGINEER not less than 24 hours notice of readiness of the WORK for all required inspections, tests, or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. The CITY shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. For inspection, tests, or approvals covered by Paragraphs 13.3C. and 13.3D. below;

2. That costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.3G. shall be paid as provided in said Paragraph 13.3G.; and
 3. As otherwise provided in the Contract Documents.
- C. If Laws and Regulations of any public body having jurisdiction require any WORK (or any part thereof) to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals; pay all costs in connection therewith; and furnish the ENGINEER the required certificates of inspection or approval.
 - D. The CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for the ENGINEER's acceptance of materials or equipment to be incorporated in the WORK or acceptance of materials, mix designs, or equipment submitted for approval prior to the CONTRACTOR's purchase thereof for incorporation in the WORK. Such inspections, tests, or approvals shall be performed by organizations acceptable to the ENGINEER.
 - E. The ENGINEER will make, or have made, such inspections and tests as the ENGINEER deems necessary to see that the WORK is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified in any Supplementary General Conditions, the cost of such inspection and testing will be borne by the CITY. In the event such inspections or tests reveal non-compliance with the requirements of the Contract Documents, the CONTRACTOR shall bear the cost of corrective measures deemed necessary by the ENGINEER, as well as the cost of subsequent reinspection and retesting. Neither observations by the ENGINEER nor inspections, tests, or approvals by others shall relieve the CONTRACTOR from the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.
 - F. If any WORK (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the ENGINEER not less than 24 hours notice of the CONTRACTOR's intention to perform such test or to cover the same and the ENGINEER has not acted with reasonable promptness in response to such notice.
 - G. If any WORK is covered contrary to the written request of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER's observation and recovered at the CONTRACTOR's expense.

- H. If the ENGINEER considers it necessary or advisable that covered WORK be observed by the ENGINEER or inspected or tested by others, the CONTRACTOR, at the ENGINEER's request shall uncover, expose, or otherwise make available for observation, inspection, or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, material, and equipment. If it is found that such work is Defective Work, the CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to, fees and charges of engineers, architects, attorneys, and other professionals. However, if such work is not found to be Defective Work, the CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, the CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.
- I. No acceptance of equipment, materials, or work shall be construed to result from such inspections by the ENGINEER. Any inspections or tests or waivers thereof shall not relieve the CONTRACTOR of its responsibility for meeting the requirement of the Contract.

13.4 CITY MAY STOP THE WORK

- A. If Defective Work is identified, the ENGINEER may order the CONTRACTOR to stop performance of the WORK, or any portion thereof, until the cause for such order has been eliminated; however, this right of the ENGINEER to stop the WORK shall not give rise to any duty on the part of the ENGINEER to exercise this right for the benefit of the CONTRACTOR or any other party.

13.5 CORRECTION OR REMOVAL OF DEFECTIVE WORK

- A. If required by the ENGINEER, the CONTRACTOR shall promptly either correct all Defective Work, whether or not fabricated, installed, or completed, or, if the work has been rejected by the ENGINEER, remove it from the Site and replace it with non-defective WORK. The CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such correction or removal, including but not limited to fees and charges of engineers, architects, attorneys, and other professionals made necessary thereby.

13.6 ACCEPTANCE OF DEFECTIVE WORK

- A. If, instead of requiring correction or removal and replacement of Defective Work, the CITY prefers to accept the Defective Work, the CITY may do so. The CONTRACTOR shall bear all direct, indirect, and consequential costs attributable to the CITY's evaluation of and determination to accept such Defective Work. If

any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the CITY shall be entitled to an appropriate decrease in the Contract Price.

13.7 CITY MAY CORRECT DEFECTIVE WORK

- A. If the CONTRACTOR fails within a reasonable time after written notice from the ENGINEER to correct Defective Work, or to remove and replace Defective Work as required by the ENGINEER in accordance with Paragraph 13.5A., or if the CONTRACTOR fails to perform the WORK in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the CITY may, after seven days written notice to the CONTRACTOR, correct and remedy any such deficiency.
- B. In exercising the rights and remedies under this paragraph, the CITY shall proceed with corrective and remedial action. In connection with such corrective and remedial action, the CITY may exclude the CONTRACTOR from all or part of the Site, take possession of all or part of the WORK, and suspend the CONTRACTOR's services related thereto and incorporate in the WORK all materials and equipment for which the CITY has paid the CONTRACTOR whether stored at the Site or elsewhere. The CONTRACTOR shall provide the CITY and its ENGINEER, access to the Site to enable CITY to exercise the rights and remedies under this paragraph.
- C. All direct, indirect, and consequential cost and damages incurred by the CITY in exercising the rights and remedies under this paragraph will be charged against the CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK; and the CITY shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, the CITY may make a claim therefor as provided in Article 11. Such claim will include, but not be limited to, all costs of repair or replacement of work of others, destroyed or damaged by correction, removal, or replacement of CONTRACTOR's Defective Work and all direct, indirect, and consequential damages associated therewith.
- D. The CONTRACTOR shall not be allowed an extension of Contract Times (or Milestones) because of any delay in the performance of the WORK attributable to the exercise by CITY of CITY's rights and remedies under this paragraph.

13.8 CORRECTION PERIOD

- A. The correction period for Defective Work shall be the longer of:
 - 1. One year after the date of final acceptance;

2. Such time as may be prescribed by Laws and Regulations;
 3. Such time as specified by the terms of any applicable special guarantee required by the Contract Documents; or
 4. Such time as specified by any specific provision of the Contract Documents.
- B. If, during the correction period as defined in Paragraph 13.8A above, any work is found to be Defective Work, the CITY shall have the same remedies as set forth in Paragraphs 13.5, 13.6, and 3.7 above.
- C. Where Defective Work (and damage to other work resulting therefrom) has been corrected, removed, or replaced under this paragraph, the correction period hereunder with respect to such work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 SCHEDULE OF VALUES (LUMP SUM PRICE BREAKDOWN)

- A. The schedule of values or lump sum price breakdown established as provided in the General Requirements shall serve as the basis for progress payments and shall be incorporated into a form of “Application for Payment acceptable to the ENGINEER.

14.2 UNIT PRICE BID SCHEDULE

- A. Progress payments on account of unit price work will be based on the number of units completed.

14.3 APPLICATION FOR PROGRESS PAYMENT

- A. Unless otherwise prescribed by law, on the 25th of each month, the CONTRACTOR shall submit to the ENGINEER for review, the Application for Payment filled out and signed by the CONTRACTOR covering the WORK completed as of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents.
- B. The Application for Payment shall identify, as a subtotal, the amount of the CONTRACTOR total earnings to date; plus the value of materials stored at the Site which have not yet been incorporated in the WORK; and less a deductive adjustment for materials installed which were not previously incorporated in the WORK, but for which payment was allowed under the provisions for payment for materials stored at the Site, but not yet incorporated in the WORK.

- C. The net payment due the CONTRACTOR shall be the above-mentioned subtotal from which shall be deducted the amount of retainage specified in the Supplementary General Conditions and the total amount of all previous payments made to the CONTRACTOR.
- D. The value of materials stored at the Site shall be an amount equal to the specified percent of the value of such materials as set forth in any Supplementary General Conditions. Said amount shall be based upon the value of all acceptable materials and equipment not incorporated in the WORK but delivered and suitably stored at the Site or at another location agreed to in writing; provided, each such individual item has a value of more than \$5,000 and will become a permanent part of the WORK. The Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the CONTRACTOR has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the CITY's interest therein, all of which will be satisfactory to the CITY.
- E. A ten percent (10%) retention of payment amount shall be held by the CITY from the amount of each Application for Payment.
- F. **OPTIONAL:** Partial payments for mobilization/demobilization costs shall be as follows:
 - 1. Thirty-five percent (35%) of the amount bid for mobilization/demobilization or 1.75 percent of the original Contract Price, whichever is less, shall be paid in each of the first two progress payments.
 - 2. The balance of the amount bid for mobilization/demobilization shall be paid upon completion of all WORK on the project.

14.4 CONTRACTOR'S WARRANTY OF TITLE

- A. The CONTRACTOR warrants and guarantees that title to all WORK, materials, and equipment covered by an Application for Payment, whether incorporated in the WORK or not, will pass to the CITY no later than the time of payment, free and clear of all Liens.

14.5 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. The ENGINEER will, within 7 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the application to the CITY, or return the application to the CONTRACTOR indicating in writing the ENGINEER'S REASONS FOR REFUSING TO RECOMMEND PAYMENT. In the latter case, the CONTRACTOR may make

the necessary corrections and resubmit the application. If the ENGINEER still disagrees with a portion of the application, it will submit the application recommending the undisputed portion of the application to the CITY for payment and provide reasons for recommending non-payment of the disputed amount. Thirty days after presentation of the Application for Payment with the ENGINEER'S recommendation, the amount recommended will (subject to the provisions of Paragraph 14.5B.) become due and when due will be paid by the CITY to the CONTRACTOR.

- B. The ENGINEER, in its discretion, may refuse to recommend the whole or any part of any payment. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect CITY from loss because:
1. The work is Defective Work or the completed WORK has been damaged requiring correction or replacement.
 2. The Contract Price has been reduced by written amendment or Change Order.
 3. The CITY has been required to correct Defective Work or complete WORK in accordance with Paragraph 13.7.
 4. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.1 through 15.4 inclusive.
 5. Third party claims filed or reasonable evidence indicating probable filing of such claims; or
 6. Failure of the Contractor to make payments properly to subcontractors or for labor, materials, or equipment; or
 7. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum; or
 8. Failure of the Contractor to submit an acceptable construction schedule or failure to update the schedule; or
 9. Damage to the City or another contractor; or
 10. Reasonable evidence that the work will not be completed within the time provided for in the Contract; or

11. Contractor's failure or inability to obtain or maintain insurance coverage and bonds as required by the Contract throughout the course of the job; or
 12. Persistent failure to carry out the work in accordance with the Contract; or
 13. Failure to deliver copies of certified payrolls, as specified in Section 17.11, General Conditions.
 14. In addition, the City may deduct from any such payments due the Contractor any amounts the City may be currently or in the future authorized to retain pursuant to federal, state, or local laws or regulations, any amounts due the City from the Contractor, and any other amounts which the City is otherwise authorized to retain as specified in Special Provisions.
- C. The CITY may refuse to make payment of the full amount recommended by the ENGINEER because:
1. Claims have been made against CITY on account of CONTRACTOR's performance or furnishing of the WORK.
 2. Liens have been filed in connection with the WORK, except where CONTRACTOR has delivered a specific Bond satisfactory to CITY to secure the satisfaction and discharge of such Liens.
 3. There are other items entitling CITY to set-off against the amount recommended, or
 4. CITY has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.5B. through 14.5C and 15.1 through 15.4 inclusive.

The CITY must give the CONTRACTOR immediate written notice stating the reasons for such action and promptly pay the CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by CITY and CONTRACTOR, when CONTRACTOR corrects to CITY's satisfaction the reasons for such action.

14.6 COMPLETION

- A. When the CONTRACTOR considers the WORK ready for its intended use, the CONTRACTOR shall notify the ENGINEER in writing that the WORK is complete. The CONTRACTOR shall attach to this request a list of all work items that remain to be completed and a request that the ENGINEER prepare a Notice of Completion. Within a reasonable time thereafter, the CONTRACTOR, and the ENGINEER shall make an inspection of the WORK to determine the status of completion. If the ENGINEER considers the WORK complete, the ENGINEER

will prepare and execute and deliver for City Council approval and recordation the Notice of Completion signed by the ENGINEER and CONTRACTOR, which shall fix the date of completion.

14.7 PARTIAL UTILIZATION

- A. The CITY shall have the right to utilize or place into service any item of equipment or other usable portion of the WORK prior to completion of the WORK. Whenever the CITY plans to exercise said right, the CONTRACTOR will be notified in writing by the ENGINEER, identifying the specific portion or portions of the WORK to be so utilized or otherwise placed into service.
- B. It shall be understood by the CONTRACTOR that until such written notification is issued, all responsibility for care and maintenance of all of the WORK shall be borne by the CONTRACTOR. Upon issuance of said written notice of Partial Utilization, the CITY will accept responsibility for the protection and maintenance of all such items or portions of the WORK described in the written notice.
- C. The CONTRACTOR shall retain full responsibility for satisfactory completion of the WORK, regardless of whether a portion thereof has been partially utilized by the CITY prior to completion of the WORK.

14.8 FINAL APPLICATION FOR PAYMENT

- A. After the CONTRACTOR has completed all of the remaining work items referred to in Paragraph 14.6 and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in the General Requirements), and other documents, all as required by the Contract Documents, and after the ENGINEER has indicated that the WORK is acceptable, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to the CITY) of all Liens arising out of or filed in connection with the WORK.

14.9 FINAL PAYMENT AND ACCEPTANCE

- A. If, on the basis of the ENGINEER's observation of the WORK during construction and final inspection, and the ENGINEER's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, the ENGINEER is satisfied that the WORK has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the ENGINEER will, within 14 days after receipt

of the final Application for Payment, indicate in writing the ENGINEER's recommendation of payment and present the application to the CITY for payment.

- B. After acceptance of the WORK by the City Council, the CITY will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract Documents, including the following items:
1. Liquidated damages, as applicable;
 2. Amounts withheld by CITY under Paragraph 14.5B. and C. which have not been released; and
 3. In accordance with Section 17.6, one-and-one-half times the value of outstanding items of correction work or punch list items yet uncompleted or uncorrected, as applicable. All such work shall be completed or corrected to the satisfaction of the ENGINEER as required by the Contract Documents, otherwise the CONTRACTOR does hereby waive any and all claims to all monies withheld by the CITY to cover the value of all such uncompleted or uncorrected items.
- C. Prior to final payment by the CITY, the CONTRACTOR must provide the CITY a fully-executed Conditional Waiver and Release Upon Final Payment in accordance with California Civil Code Section 3262.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.1 SUSPENSION OF WORK BY CITY

- A. The CITY may, at any time and without cause, suspend the WORK or any portion thereof for a period of not more than 90 days by notice in writing to the CONTRACTOR. The CONTRACTOR shall resume the WORK on receipt of a notice of resumption of work. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both directly attributable to any suspension if the CONTRACTOR makes an approval claim therefor as provided in Articles 11 and 12.

15.2 TERMINATION OF AGREEMENT BY ENGINEER FOR DEFAULT

- A. In the event of default by the CONTRACTOR, the ENGINEER may give seven days written notice to the CONTRACTOR and the CONTRACTOR's surety of CITY's intent to terminate the Agreement and provide the CONTRACTOR an opportunity to remedy the conditions constituting the default within a specified period of time. It will be considered a default by the CONTRACTOR whenever CONTRACTOR shall:
1. Declare bankruptcy, become insolvent, or assign its assets for the benefit of its creditors;
 2. Disregard or violate the Laws or Regulations of any public body having jurisdiction;
 3. Fail to provide materials or workmanship meeting the requirements of the Contract Documents;
 4. Disregard or violate provisions of the Contract Documents or ENGINEER's instructions;
 5. Fail to prosecute the WORK according to the approved progress schedule;
 6. Fail to provide a qualified superintendent, competent workmen, or materials or equipment meeting the requirements of the Contract Documents;
 7. Disregard the authority of the ENGINEER; or
 8. Assign or subcontract any part of the work without the ENGINEER's consent.
- B. If the CONTRACTOR fails to remedy the conditions constituting default within the time allowed, the ENGINEER may then issue the notice of termination.

- C. In the event the Agreement is terminated in accordance with Paragraph 15.2A., herein, the CITY may take possession of the WORK and may complete the WORK by whatever method or means the CITY may select. The cost of completing the WORK will be deducted from the balance which would have been due the CONTRACTOR had the Agreement not been terminated and the WORK completed in accordance with the Contract Documents. If such cost exceeds the balance which would have been due, the CONTRACTOR shall pay the excess amount to the CITY. If such cost is less than the balance which would have been due, the CONTRACTOR shall not have claim to the difference.

15.3 TERMINATION OF AGREEMENT BY CITY FOR CONVENIENCE

- A. Upon seven days' written notice to the CONTRACTOR, the CITY may, without cause and without prejudice to any other right or remedy of the CITY, elect to terminate the Agreement. In such case, the CONTRACTOR shall be paid (without duplication of any items):
 - 1. For completed and acceptable WORK executed in accordance with the Contract Documents, prior to the effective date of termination, including fair and reasonable sums for overhead and profit of such WORK;
 - 2. For expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted WORK, plus fair and reasonable sums or overhead and profit on such expenses;
 - 3. For all reasonable claims, costs, losses, and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. For reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.4 TERMINATION OF AGREEMENT BY CONTRACTOR

- A. The CONTRACTOR may terminate the Agreement upon 14 days written notice to the ENGINEER whenever:
 - 1. The WORK has been suspended under the provisions of Paragraph 15.1, herein, for more than 90 consecutive days through no fault or negligence of the CONTRACTOR, and notice to resume work or to terminate the

Agreement has not been received from the ENGINEER within this time period; or

2. The CITY should fail to pay the CONTRACTOR any monies due him in accordance with the terms of the Contract Documents and within 60 days after presentation to the ENGINEER by the CONTRACTOR of a request therefor, unless within said 14-day period the CITY shall have remedied the condition upon which the payment delay was based.
- B. In the event of such termination, the CONTRACTOR shall have no claims against the CITY except for those claims specifically enumerated in Paragraph 15.3, herein, and as determined in accordance with the requirements of said paragraph.

ARTICLE 16 – GENERAL TERMS

16.1 GIVING NOTICE

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

16.2 TITLE TO MATERIALS FOUND ON THE WORK

- A. The CITY reserves the right to retain title to all soils, stone, sand, gravel, and other materials developed and obtained from excavations and other operations connected with the WORK. Unless otherwise specified in the Contract Documents, neither the CONTRACTOR nor any Subcontractor shall have any right, title, or interest in or to any such materials. The CONTRACTOR will be permitted to use in the WORK, without charge, any such materials which meet the requirements of the Contract Documents.

16.3 RIGHT TO AUDIT

- A. If the CONTRACTOR submits a claim to the ENGINEER for additional compensation, the CITY shall have the right, as a condition to considering the claim, and as a basis for evaluation of the claim, and until the claim has been settled, to audit the CONTRACTOR's books to the extent they are relevant. This right shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discover and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which the claim has been submitted. The right to audit shall include the right to inspect the CONTRACTOR's plant or such parts thereof, as may be or have been engaged in the performance of the WORK. The CONTRACTOR further agrees that the right to audit encompasses

all subcontracts and is binding upon Subcontractors. The rights to examine and inspect herein provided for shall be exercisable through such representatives as the CITY deems desirable during the CONTRACTOR's normal business hours at the office of the CONTRACTOR. The CONTRACTOR shall make available to the ENGINEER for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the ENGINEER.

16.4 SURVIVAL OF OBLIGATIONS

- A. All representations, indemnifications, warranties, and guaranties made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the WORK or termination or completion of the Agreement.

16.5 CONTROLLING LAW

- A. This Agreement is to be governed by the law of the state in which the Project is located.

16.6 SEVERABILITY

- A. If any term or provision of this Agreement is declared invalid or unenforceable by any court of lawful jurisdiction, the remaining terms and provisions of the Agreement shall not be affected thereby and shall remain in full force and effect.

16.7 WAIVER

- A. The waiver by the CITY of any breach or violation of any term, covenant or condition of this Agreement or of any provision, ordinance, or law shall not be deemed to be a waiver of any other term, covenant, condition, ordinance, or law or of any subsequent breach or violation of the same or of any other term, covenant, condition, ordinance, or law. The subsequent payment of any monies or fee by the CITY which may become due hereunder shall not be deemed to be a waiver of any preceding breach or violation by CONTRACTOR or any term, covenant, condition of this Agreement or of any applicable law or ordinance.

ARTICLE 17 – CALIFORNIA STATE REQUIREMENTS

17.1 STATE WAGE DETERMINATIONS

- A. As required by Section 1770 and following, of the California Labor Code, the CONTRACTOR shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of such prevailing rate of per diem wages available file at the office of the City Clerk, which copies shall be made available to any interested party on request. The CONTRACTOR shall post a copy of such determination at each job site.
- B. In accordance with Section 1775 of the California Labor Code, the CONTRACTOR shall, as a penalty to the CITY, forfeit not more than **\$200.00** for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director for the work or craft in which the worker is employed for any public work done under the contract by him or her or by any subcontractor under him or her.

17.2 WORKERS' COMPENSATION

- A. In accordance with the provisions of Section 3700 of the California Labor Code, the CONTRACTOR shall secure the payment of compensation to its employees.
- B. Prior to beginning work under the Contract, the CONTRACTOR shall sign and file with the ENGINEER the following certification:

“I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the WORK of this Contract.”
- C. Notwithstanding the foregoing provisions, before the Contract is executed on behalf of the CITY, a bidder to whom a contract has been awarded shall furnish satisfactory evidence that it has secured in the manner required and provided by law the payment of workers’ compensation.

17.3 APPRENTICES ON PUBLIC WORKS

- A. The CONTRACTOR shall comply with all applicable provisions of Section 1777.5 of the California Labor Code relating to employment of apprentices on public works.

17.4 WORKING HOURS

- A. The CONTRACTOR shall comply with all applicable provisions of Section 1810 to 1815, inclusive, of the California Labor Code relating to working hours. The CONTRACTOR shall, as a penalty to the CITY, forfeit \$25.00 for each worker employed in the execution of the Contract by the CONTRACTOR or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week, unless such worker receives compensation for all hours worked in excess of 8 hours at not less than 1-1/2 times the basic rate of pay.

17.5 CONTRACTOR NOT RESPONSIBLE FOR DAMAGE RESULTING FROM CERTAIN ACTS OF GOD

- A. As provided in Section 7105 of the California Public Contract Code, the CONTRACTOR shall not be responsible for the cost of repairing or restoring damage to the WORK which damage is determined to have been proximately caused by an act of God, in excess of 5 percent of the contracted amount, provided, that the WORK damaged was built in accordance with accepted and applicable building standards and the plans and specifications of the CITY. The CONTRACTOR shall obtain insurance to indemnify the CITY for any damage to the WORK caused by an act of God if the insurance premium is a separate bid item in the bidding schedule for the WORK. For purposes of this Section, the term "acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves.

17.6 NOTICE OF COMPLETION

- A. In accordance with the Sections 3086 and 3093 of the California Civil Code, within 10 days after date of acceptance of the WORK BY THE City Council the ENGINEER will file, in the County Recorder's office, a Notice of Completion of the WORK.

17.7 UNPAID CLAIMS

- A. If, at any time prior to the expiration of the period for service of a stop notice, there is served upon the CITY a stop notice as provided in Sections 3179 and 3210 of the California Civil Code, the CITY shall, until the discharge thereof, withhold from the monies under its control so much of said monies due or to become due to the CONTRACTOR under this Contract as shall be sufficient to answer the claim stated in such stop notice and to provide for the reasonable cost of any litigation thereunder; provided, that if the ENGINEER shall, in its discretion, permit CONTRACTOR to file with the ENGINEER the bond referred to in Section 3196 of the Civil Code of the State of California, said monies shall not thereafter be withheld on account of such stop notice.

17.8 RETAINAGE FROM MONTHLY PAYMENTS

- A. Pursuant to Section 22300 of the California Public Contract Code, the CONTRACTOR may substitute securities for any money withheld by the CITY to insure performance under the Contract. At the request and expense of the CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the CITY or with a state or federally chartered bank in California as to the escrow agent, who shall return such securities to the CONTRACTOR upon satisfactory completion of the Contract.
- B. Alternatively, the CONTRACTOR may request and the CITY shall make payment of retentions earned directly to the escrow agent at the expense of the CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investment of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms provided in Section 22300 of the Public Contract Code securities deposited by the CONTRACTOR. The CONTRACTOR shall be responsible for paying all fees for the expenses incurred by the escrow agent in administering the escrow account and all expenses of the CITY. These expenses and payment terms shall be determined by the CITY's Finance Director or his/her designee and the escrow agent. Upon satisfactory completion of the Contract, the CONTRACTOR shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the CITY, pursuant to the terms of Section 22300 of the Public Contract Code. The CONTRACTOR shall pay to each subcontractor, not later than 20 days of receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to insure the performance of the CONTRACTOR.
- C. Securities eligible for investment under Section 22300 shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the CITY.

17.9 PUBLIC WORKS CONTRACTS; ASSIGNMENT TO AWARDING BODY

- A. In accordance with Section 7103.5 of the California Public Contract 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 CITY all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. 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 awarding body tenders final payment to the CONTRACTOR, without further acknowledgment by the parties.

17.10 PAYROLL RECORDS; RETENTION; INSPECTION; NONCOMPLIANCE PENALTIES; RULES AND REGULATIONS

- A. In accordance with Section 1776 of the California Labor Code the 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 employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:
1. The information contained in the payroll record is true and correct.
 2. The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.
- B. The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of the 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 as well as submitted electronically online to the Department of Industrial Relations Labor Commissioner: <https://apps.dir.ca.gov/ecpr/DAS/AltLogin>.
 2. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the body awarding the contract, 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 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 body awarding the contract, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the

CONTRACTOR, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the CONTRACTOR.

- C. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.
- D. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, 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 the CONTRACTOR awarded the contract or performing the contract shall not be marked or obliterated.
- E. The CONTRACTOR shall inform the ENGINEER of the location of the records including the street address, city and county, and shall, within 5 working days, provide a notice of change of location and address.
- F. The CONTRACTOR shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the CONTRACTOR must comply with this Section. In the event that the CONTRACTOR fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, 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. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

17.11 CULTURAL RESOURCES

- A. The CONTRACTOR's attention is directed to the provisions of the Clean Water Grant Program Bulletin 76A which augments the National Historic Preservation Act of 1966 (16 U.S.C. 470) as specified under Section 01560 - Temporary Environmental Controls, of the General Requirements.

17.12 PROTECTION OF WORKERS IN TRENCH EXCAVATIONS

- A. As required by Section 6705 of the California Labor Code and in addition thereto, 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 ENGINEER, 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 caving ground during the excavation, of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Occupational Safety and Health, the plan shall be prepared by a registered civil or structural engineer employed by the CONTRACTOR, and all costs therefore 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 a 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 CITY or any of its officers, agents, representatives, or employees.

- B. Excavation shall not start until the CONTRACTOR has obtained a permit from the California Division of Industrial Safety and has posted it at the site.

17.13 CONCRETE FORMS, FALSEWORK, AND SHORING

- A. The CONTRACTOR shall comply fully with the requirements of Section 1717 of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design of concrete forms, falsework and shoring, and the inspection of same prior to placement of concrete. Where the said Section 1717 requires the services of a civil engineer registered in the State of California to approve design calculations and working drawings of the falsework or shoring system, or to inspect such system prior to placement of concrete, the CONTRACTOR shall employ a registered civil engineer for these purposes, and all costs therefore shall be included in the price named in the Contract for completion of the WORK as set forth in the Contract Documents.

17.14 REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES

- A. In accordance with the provisions with the provisions of Section 4215 of the California Government Code, the CITY shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the site of any construction project that is a subject of the Contract, if such utilities are not identified by the CITY in the plans and specifications made a part of the invitation for bids. The CITY will compensate CONTRACTOR for the costs of locating, 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 equipment on the project necessarily idled during such work.
- B. The CONTRACTOR shall not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of the public agency or the owner of the utility to provide for removal or relocation of such utility facilities.

- C. Nothing herein shall be deemed to require the public agency to indicate the presence of existing service laterals or appurtenances when 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 construction; provided however, nothing herein shall relieve the public agency from identifying main or trunklines in the plans and specifications.
- D. If the CONTRACTOR while performing the Contract discovers utility facilities not identified by the public agency in the Contract Documents it shall immediately notify the public agency and utility in writing.
- E. The public utility, where they are the owner, shall have the sole discretion to perform such repairs or relocation work or permit the CONTRACTOR to do such repairs or relocation work at a reasonable price.

17.15 CONTRACTOR LICENSE REQUIREMENTS

- A. In accordance with Section 7028.15 of the California Business and Professions Code:
- B. It is a misdemeanor for any person to submit a bid to a public agency in order to engage in the business or act in the capacity of a contractor within this state without having a license therefor, except in any of the following cases:
 - 1. The person is particularly exempted from this chapter.
 - 2. The bid is submitted on a state project governed by Section 10164 of the Public Contract Code or any local agency project governed by Section 20103.5 of the Public Contract Code.
- C. If a person has previously been convicted of the offense described in this section, the court shall impose a fine of 20 percent of the price of the contract under which the unlicensed person performed contract work, or four thousand five hundred dollars (\$4,500), whichever is greater, or imprisonment in the county jail for not less than 10 days nor more than six months, or both.
- D. In the event the person performing the contracting work has agreed to furnish materials and labor on an hourly basis, “the price of the contract” for the purpose of this subdivision means the aggregate sum of the cost of materials and labor furnished and the cost of completing the work to be performed.
- E. This section shall not apply to a joint venture license, as required by Section 7029.1 of the California Business and Professions Code. However, at the time of making a bid as a joint venture, each person submitting the bid shall be subject to this section with respect to his or her individual licensure.

- F. This section shall not affect the right or ability of a licensed architect, land surveyor, or registered professional engineer to form joint ventures with licensed contractors to render services within the scope of their respective practices.
- G. Unless one of the foregoing exceptions applies, a bid submitted to a public agency by a contractor who is not licensed in accordance with this chapter shall be considered nonresponsive and shall be rejected by the public agency. Unless one of the foregoing exceptions applies, a local public agency shall, before awarding a contract or issuing a purchase order, verify that the contractor was properly licensed when the contractor submitted the bid. Notwithstanding any other provision of law, unless one of the foregoing exceptions applies, the registrar may issue a citation to any public officer or employee of a public entity who knowingly awards a contract or issues a purchase order to a contractor who is not licensed pursuant to this chapter. The amount of civil penalties, appeal, and finality of such citations shall be subject to Sections 7028.7 and 7028.13 inclusive of the California Business and Professions Code. Any contract awarded to, or any purchase order issued to, a contractor who is not licensed pursuant to this chapter is void.
- H. Any compliance or noncompliance with subdivision (G) of this paragraph shall not invalidate any contract or bid awarded by a public agency during which time that subdivision was in effect.
- I. A public employee or officer shall not be subject to a citation pursuant to this section if the public employee, officer, or employing agency made an inquiry to the board for the purposes of verifying the license status of any person or contractor and the board failed to respond to the inquiry within three business days. For the purposes of this section, a telephone response by the board shall be deemed sufficient.

17.16 DIGGING TRENCHES OR EXCAVATIONS; NOTICE ON DISCOVERY OF HAZARDOUS WASTE OR OTHER UNUSUAL CONDITIONS; INVESTIGATIONS; CHANGE ORDERS; EFFECT ON CONTRACT

- A. If this Contract involves digging trenches or other excavations that extend deeper than four feet below the surface, the following shall apply:
 - 1. The CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the ENGINEER in writing, of any:
 - a. Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

- b. Subsurface or latent physical conditions at the site differing from those indicated.
- c. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- d. The ENGINEER shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR'S cost of, or the time required for, performance of any part of the work shall issue a change order the procedures described in the Contract.
- e. In the event that a dispute arises between the ENGINEER and the CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the CONTRACTOR'S cost of, or time required for, performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

17.17 RETENTION PROCEEDS; WITHHOLDING; DISBURSEMENT

- A. In accordance with Section 7107 of the Public Contract Code with respects to all contracts entered into on or after January 1, 1993 relating to the construction of any public work of improvement the following shall apply:
 - 1. The retention proceeds withheld from any payment by the CITY from the original CONTRACTOR, or by the original CONTRACTOR from any subcontractor, shall be subject to this paragraph 17.18.
 - 2. Within 60 days after the date of completion of the WORK, including any punch-list WORK, the retention withheld by the CITY shall be released. In the event of a dispute between the ENGINEER and the original CONTRACTOR, the CITY may withhold from the final payment an amount not to exceed 150 percent of the disputed amount. For the purposes of this paragraph, "completion" means any of the following:
 - a. The occupation, beneficial use, and enjoyment of a work of improvement, excluding any operation only for testing, startup, or

commissioning, by the CITY, accompanied by cessation of labor on the work of improvement.

- b. The acceptance by the City Council of the work of improvement.
 - c. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 100 days or more, due to factors beyond the control of the CONTRACTOR.
 - d. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 30 days or more, if the ENGINEER files for record a notice of cessation or a notice of completion.
3. Subject to subparagraph 17.18 A.4, within 10 days from the time that all or any portion of the retention proceeds are received by the original CONTRACTOR, the original CONTRACTOR shall pay each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received. However, if a retention payment received by the original CONTRACTOR is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor, if the payment is consistent with the terms of the subcontract.
 4. The original CONTRACTOR may withhold from a subcontractor its portion of the retention proceeds if a bona fide dispute exists between the subcontractor and the original CONTRACTOR. The amount withheld from the retention payment shall not exceed 150 percent of the estimated value of the disputed amount.
 5. In the event that retention payments are not made within the time periods required by this paragraph 17.18, the CITY or original CONTRACTOR shall be subject to a charge of 2 percent per month on the improperly withheld amount, in lieu of any interest otherwise due. Additionally, in any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to attorney's fees and costs.
 6. Any attempted waiver of the provisions of this section shall be void as against the public policy of this state.

17.18 TIMELY PROGRESS PAYMENTS; INTEREST; PAYMENT REQUESTS

- A. If the CITY fails to make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from the CONTRACTOR, the CITY shall pay interest to the CONTRACTOR equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

- B. Upon receipt of a payment request, the ENGINEER shall act in accordance with both of the following:
 - 1. Each payment request shall be reviewed by the ENGINEER as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request.

 - 2. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the CONTRACTOR as soon as practicable, but not later than seven days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.

- C. The number of days available to the CITY to make a payment without incurring interest pursuant to this paragraph shall be reduced by the number of days by which the CITY exceeds the seven-day requirement set forth above.

- D. For purposes of this paragraph:
 - 1. A “progress payment” includes all payments due the CONTRACTOR, except that portion of the final payment designated by the contract as retention earnings.

 - 2. A payment request shall be considered properly executed if funds are available for payment of the payment request, and payments is not delayed due to an audit inquiry by the financial officer of the CITY.

17.19 PREFERENCE FOR MATERIAL

- A. In accordance with Section 3400 of the California Public Contract Code, the CONTRACTOR will be provided a period prior to award of the contract for submission of data substantiating a request for a substitution of “as equal” item.

17.20 RESOLUTION OF CONSTRUCTION CLAIMS

- A. In accordance with Section 20104 et Seq. of the California Public Contract Code. This paragraph applies to all claims of \$375,000 or less which arise between the CONTRACTOR and the CITY under this Contract for:
 - 1. A time extension;
 - 2. Payment of money or damages arising from work done by or on behalf of, the CONTRACTOR pursuant to this CONTRACT and payment of which is not otherwise expressly provided for or the CONTRACTOR is not otherwise entitled to; or
 - 3. An amount the payment of which is disputed by the ENGINEER.
- B. For any claim set out in Paragraphs A.1, 2, or 3 above, the following requirements apply:
 - 1. The claim shall be in writing and include the documents necessary to substantiate the claim and be accompanied by the following certification:

“CONTRACT PROVISION REQUIRING PERSONAL CERTIFICATION OF ALL CLAIMS:

I, _____, BEING THE _____ (MUST BE AN OFFICER) OF _____ (GENERAL CONTRACTOR), DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA, AND DO PERSONALLY CERTIFY AND ATTEST THAT: I HAVE THOROUGHLY REVIEWED THE ATTACHED CLAIM FOR ADDITIONAL COMPENSATION AND/OR EXTENSION OF TIME, AND KNOW ITS CONTENTS, AND SAID CLAIM IS MADE IN GOOD FAITH; THE SUPPORTING DATA IS TRUTHFUL AND ACCURATE; THAT THE AMOUNT REQUESTED ACCURATELY REFLECTS THE CONTRACT ADJUSTMENT FOR WHICH THE CONTRACTOR BELIEVES THE CITY IS LIABLE; AND, FURTHER THAT I AM FAMILIAR WITH CALIFORNIA PENAL CODE SECTION 12650, ET SEQ. PERTAINING TO FALSE CLAIMS, AND FURTHER KNOW AND UNDERSTAND THAT SUBMISSION OR CERTIFICATION OF A FALSE CLAIM MAY LEAD TO FINES, IMPRISONMENT AND/OR OTHER SEVERE LEGAL CONSEQUENCES.”

Claims must be filed on or before the date of final payment. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by Contract for the filing of claims.

The claim must include an actual cost documentation, including hours of work performed, equipment operation costs, and labor and overhead costs, which should be established at a standard percentage. Any overhead costs listed when paid, shall provide full and complete payment for any and all overhead, including jobsite overhead, home office overhead, as well as additional costs arising from disruption, resequencing or acceleration. A notice of POTENTIAL CLAIM shall be submitted in advance of the performance of any work, regardless of type, in which the CONTRACTOR may claim an additional cost. CONTRACTOR shall provide prompt notification of any disagreement in quantities of work performed along with a detailed accounting by means of a schedule update demonstrating any delays incurred.

2. For claims of less than fifty thousand dollars (\$50,000), the ENGINEER 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 to the claim the CITY may have against the CONTRACTOR.

If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the ENGINEER and the CONTRACTOR.

The ENGINEER's written response to the claim, as further documented, shall be submitted to the CONTRACTOR within 15 days after receipt of further documentation or within a period of time no greater than that taken by the CONTRACTOR in producing the additional information, whichever is greater.

3. For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the ENGINEER 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 to the claim the CITY may have against the CONTRACTOR.

If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the ENGINEER and the CONTRACTOR.

The ENGINEER's written response to the claim, as further documented, shall be submitted to CONTRACTOR within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the CONTRACTOR in producing the additional information or requested documentation, whichever is greater.

4. If the CONTRACTOR disputes the ENGINEER's written response, or the ENGINEER fails to respond within the time prescribed, the CONTRACTOR may notify the ENGINEER, in writing, either within 15 days of receipt of the ENGINEER's response or within 15 days of the ENGINEER's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the ENGINEER shall schedule a meet and confer conference within 30 days for settlement of the dispute.
5. Following the meet and confer conference, if the claim or any portion remains in dispute, the CONTRACTOR may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of 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 CONTRACTOR submits its written claim pursuant to subdivision (a) until the time the claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

C. The following procedures are established for all civil actions filed to resolve claims subject to this article:

1. Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of Article 1.5 of Chapter 1 of Part 3 of Division 2 of the California Public Contract Code shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

In addition to Chapter 2.5 (commencing with Section 1141.10 of Title 3 of Part 3 of the Code of Civil Procedure) any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees of the other party arising out of the trial de novo .

3. The CITY shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in this Contract.
4. In any suit filed under Section 20104.4 of the California Public Contract Code, the CITY shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

END OF GENERAL CONDITIONS

file name:

SECTION III
SPECIAL PROVISIONS

SECTION III

SPECIAL PROVISIONS

PART 1 GENERAL

3-1. DESCRIPTION OF WORK – The project entails the following items:

The proposed project consists of the replacement of the floating docks and support piles within the Petaluma River Turning Basin. Existing, currently serviceable, and deteriorating site structures include the timber pier access structure, metal gangways, floating docks, and piles, as specified within the Contract Plans. The scope of work includes:

- Installation of 3,800 sf of non-ferrous concrete docks (fabricated by others)
- Removal of six (6) 16-inch diameter steel and nine (9) 12-inch timber piles, to be replaced with (14) 16-inch diameter steel piles.
- Removal and disposal of the existing gangways and adjacent access structures, to be replaced with ADA compliant metal gangways (fabricated by other) and gangway landings platforms as specified in the Contract Plans.
- Bank restoration and planting in areas affected by gangway structures and landing platforms.

3-2. ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS – If the CONTRACTOR discovers any errors, omissions, discrepancies, or conflicts in the Contract, he/she shall immediately inform the ENGINEER in writing. The ENGINEER will promptly resolve such matters by issuing addenda or change orders. Failure or delay to act on the part of the ENGINEER shall not constitute a waiver of any right afforded the CITY or the ENGINEER by the Contract or constitute an implied approval. Any work affected by such discoveries that is performed by the CONTRACTOR prior to authorization by the CITY shall be at the CONTRACTOR'S risk.

Unless otherwise noted below, conflicts or inconsistencies between parts of the Contract will be resolved by the ENGINEER with a change order or an addendum, if required. Addenda and change orders bearing the most recent date shall prevail over addenda or change orders bearing earlier dates. Any reference to addenda-changed specifications or drawings shall be considered to have been changed accordingly.

In resolving conflicts, errors, or discrepancies, the order of precedence shall be as follows:

- 1) Change Orders/Addenda (most recent in time takes precedence)
- 2) Agreement and Bond Forms
- 3) Special Provisions
- 4) Technical Specifications
- 5) Drawings
- 6) Standard Specifications (Current Caltrans Standard Specifications)

- 7) General Conditions
- 8) Instructions to Bidders
- 9) CONTRACTOR'S Bid (Bid Form)
- 10) Notice Inviting Bids
- 11) Permits from other agencies as may be required by law.

PART 2 MATERIALS – Not Applicable

PART 3 EXECUTION

3-3. **COOPERATION** - The CONTRACTOR shall not adjust gas, electric, television cable, telephone, Petaluma structures and Sonoma County structures. The CONTRACTOR will notify each agency who will be in turn adjust their own structures at least seven (7) working days prior to covering/burying these facilities at no cost to the CITY. Failure to do so shall result in the CONTRACTOR being liable for the utility agencies' claims. If the adjusted utilities will be embedded in the new sidewalk, the new or adjusted utility boxes shall be concrete. The contractor shall coordinate with the City and utility companies to determine who will provide the concrete boxes if required.

3-4. **OBSTRUCTIONS** - Attention is directed to Sections 5-1.36D, "Non-highway Facilities", and 15, "Existing Facilities", of the Standard Specifications and these special provisions.

The CONTRACTOR's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the CONTRACTOR to protect the health, safety and welfare of workmen and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables either directly buried or in duct or conduit which do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical conductors with potential to ground of more than 300 volts.

The CONTRACTOR shall notify the ENGINEER and the appropriate regional notification center for operators of subsurface installations at least 5 working days prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

Underground Service Alert
Northern California (USA)
Telephone: 1 (800) 227-2600

If the CONTRACTOR's certain operation is delayed, in the opinion of the ENGINEER, by the discovery of an underground utility not indicated on the plans or not marked by

USA, the CONTRACTOR shall be paid a fair and reasonable compensation for the actual loss. Actual loss shall be understood to include no items of expense other than idle time of equipment exclusively used in such operation and necessary payments for idle time of labor exclusively required for such operation only, determined as follows:

- 1) Compensation for idle equipment shall be applied at the reduced Caltrans' Equipment Rental Rates where the right of way delay factor for each classification of equipment shall be applied to such equipment rental rate. No markup shall be applied for overhead or profit.
- 2) Compensation for idle time of labor shall be actual wages paid to the workers. No markup shall be added for overhead and profit.
- 3) The time for which such compensation will be paid will not exceed eight (8) hours for each incident.
- 4) The CONTRACTOR shall be granted an extension of time for the delay.
- 5) No monetary compensation will be allowed for delays due to utilities indicated on the plans or marked by USA.

3-5. **ORDER OF WORK** – The CONTRACTOR shall submit a work plan to the City for review and shall identify proposed order of work to maximize efficiency of construction, minimize impact to the community and maintain safety.

3-6. **PROJECT AND CONSTRUCTION AREA SIGNS** – Project sign and construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, “Construction Area Traffic Control Devices”, of the Standard Specifications.

One (1) project sign with a minimum dimension of 3’X4’X3/4” plywood bolted to an A-frame barricade shall be furnished, installed and moved from site to site by the Contractor. Letters and numbers shall be black on a white background. The sign information shall be as shown below:

CITY OF PETALUMA (4” LETTERS)

**PROJECT: PETALUMA TURNING BASIN FLOAT, PILE, &
GANGWAY REPLACEMENT**

FUNDING: CITY FUNDS (3” LETTERS)

PROJECT MANAGER: ERICA JACOBS (3” LETTERS)

PHONE: 707-370-0605 Ext. 3159

The signs shall be approved prior to fabrication and posted as directed by the Engineer.

Construction area signs will be installed prior to start of construction and maintained in place for the duration of the project by the CONTRACTOR. When installed, the signs shall not extend beyond the street curb alignment into the travel way. Signs shall be repaired or replaced at no cost to the City of Petaluma, if damaged or stolen. The CONTRACTOR shall remove the signs and posts at the completion of the project and with prior approval of the ENGINEER.

All costs involved in purchasing and installing construction area and project signs shall be considered as included in the Lump Sum price paid for Traffic Control.

3-7. MAINTAINING TRAFFIC – Attention is directed to Sections 7-1.03, “Public Convenience”, 7-1.04, “Public Safety”, and 12, “Temporary Traffic Control”, of the Standard Specifications and the City of Petaluma Traffic Control Design and Construction Standards Series 700. Nothing in these special provisions shall be construed as relieving the CONTRACTOR from his/her responsibility as provided in said Section 7-1.04. In addition, Traffic Control shall be performed in accordance with Section 50 (Traffic Control) of the project’s technical specifications.

The CONTRACTOR shall:

- A. Notify all adjacent residents, businesses, City of Petaluma Police and Fire, Green Waste Recovery (residential refuse service company), Waste Management Company (industrial refuse service company), and Petaluma Transit by written notices detailing the type, limits, date and the hours of work. Details of the notice shall be submitted to the ENGINEER for review and approval at least five (5) days prior to delivering these notices.

Personal vehicles of the CONTRACTOR's employees shall not be parked on the traveled way, including any section closed to public traffic. The CONTRACTOR, at all times, shall provide flag person(s) to direct delivery trucks and CONTRACTOR's vehicles entering or leaving the public traffic.

The CONTRACTOR shall notify the City of Petaluma of his/her intent to begin work at least 5 days before work is begun. The CONTRACTOR shall cooperate with local authorities relative to handling traffic through the area and shall make his/her own arrangements relative to keeping the working area clear of parked vehicles.

Weekdays: Weekday (Monday through Friday) hours shall be from 7:00 a.m. and 7:00 p.m. unless approved by the ENGINEER in writing, except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or specified elsewhere in the special provisions.

Night work: No work and/or preparation of work shall be performed between 7:00 p.m. and 7:00 a.m. unless approved by the ENGINEER in writing, except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or specified elsewhere in the special provisions.

Except as otherwise provided, the full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, after 4:00 p.m. on Fridays, on designated legal holidays, during the holiday shutdown period (in applicable areas), and when construction operations are not actively in progress.

Designated legal holidays and the holiday shutdown period are outlined in "Hours of Work" of these Special Provisions.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the CONTRACTOR if in the opinion of the ENGINEER public traffic will be better served and the work expedited. Such deviations shall not be adopted until the ENGINEER has indicated his/her written approval. All other modifications will be made by contract change order.

Residents, businesses, delivery to businesses, and customer parking shall be notified in writing by the Contractor at least five (5) calendar days prior to any activity that will impact access to their property.

The CONTRACTOR's failure to comply with the requirements of this section will be sufficient cause for the ENGINEER to suspend work at no cost to the City.

All costs involved with completing all work described in this section shall be considered included in the contract price paid for Traffic Control System and no additional compensation shall be allowed therefore.

3-8. PROGRESS SCHEDULE - The CONTRACTOR shall submit a schedule which includes all major tasks and milestones to the City of Petaluma, Public Works and Utilities Department for review **at least** ten (10) working days prior to start of work.

After beginning of work, updated schedules shall be submitted. No progress payments will be processed without accepted updated schedules.

Payment for the original schedule and updated, weekly schedules shall be considered to be included in the various items of work and no additional compensation will be allowed therefore.

3-9. SUPERINTENDENCE - The CONTRACTOR shall designate in writing and submit to the Project Engineer two (2) working days before starting work, an authorized representative who shall have the authority to represent and act for the CONTRACTOR for the duration of the contract. Any change in the designation shall require prior approval of the ENGINEER.

When the CONTRACTOR is comprised of two (2) or more persons, firms, partnerships or corporations functioning on a joint venture basis, said CONTRACTOR shall designate in writing before starting work, the name of one authorized representative who shall have the authority to represent and act for the CONTRACTOR.

Said authorized representative shall be present, at all times, at the site of work, while work is actually in progress on the contract. When work is not in progress and during periods when work is suspended, arrangements acceptable to the ENGINEER shall be made for any emergency work, which may be required.

If work is in progress and the authorized representative is not on site, the City reserves the right to stop the work at no cost to the City.

Once the work begins, the Superintendent shall keep the ENGINEER informed of the CONTRACTOR's daily schedule. The ENGINEER shall have at least twenty-four (24) hour advance notice of all work, on a daily basis, including SUBCONTRACTOR's work. If the CONTRACTOR fails to notify the ENGINEER, the ENGINEER reserves the right to stop the work at no cost to the City.

In the case of urgency or emergency where the CONTRACTOR's authorized representative is not present on any particular part of the work and where the ENGINEER wishes to give notification or direction, it will be given to and be obeyed by the superintendent or foreperson who may have charge of the particular work or it will be given to and be obeyed by any worker in the area should the superintendent or foreperson not be immediately available.

All costs involved in superintendence shall be included in the contract prices paid for various items of work and no additional payment will be allowed therefore.

- 3-10. SAFETY REQUIREMENT - The CONTRACTOR shall comply with all CAL/OSHA safety requirements. It shall be the CONTRACTOR's sole responsibility for making sure these safety requirements are met and the CONTRACTOR shall fully assume all liabilities for any damages and/or injuries resulting from his or her failure to comply with the safety requirements. Failure on the City's part to stop unsafe practices shall, in no way, relieve the CONTRACTOR of his/her responsibility.

The CONTRACTOR shall first call City of Petaluma Emergency Center at 911, from a regular telephone, and (707) 762-2727 or from a cellular phone (707) 762-4545, if any gas lines or electrical power lines are broken or damaged.

- 3-11. PROJECT APPEARANCE - The CONTRACTOR shall maintain a neat appearance to the work area.

When practicable, debris developed during construction shall be disposed of concurrently with its removal. Stockpiling on the street shall not be allowed. The CONTRACTOR shall apply for a "stockpiling" permit from the City's Community Development Department prior to stockpiling more than fifty (50) cubic yards of materials on private property. The CONTRACTOR shall solely be responsible for securing staging and/or stockpiling areas.

The CONTRACTOR shall provide dust control as often as required during the construction and shall clean the roads/streets with street sweepers at least once a day at

the end of each working day or more often if safety or appearance conditions warrant. Failure to maintain dust control, street cleaning and/or any required work specified in this section shall result in the City performing the work with other forces and back charge the CONTRACTOR for the costs.

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

3-12. RESPONSIBILITY FOR DAMAGE - The CONTRACTOR shall indemnify, hold harmless, release and defend the City of Petaluma, its officers, officials, employees and agents from and against any and all liabilities, claims, demands, losses, damages, expenses, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with the activities of the CONTRACTOR, his/her subcontractors, employees and agents, except such loss or damage which was caused by the sole negligence or willful misconduct of the CITY, its employees or agents. The CITY may retain so much of the money due the CONTRACTOR as shall be considered necessary, until disposition has been made of claims or suits for damages as aforesaid.

3-13. GUARANTEE OF WORK - Neither the final certificate of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this contract by the City or the public shall constitute an acceptance of work not done in accordance with the contract or relieve the CONTRACTOR of liability in respect to any warranties or responsibility for faulty materials or workmanship. The CONTRACTOR's attention is directed to Article 5, "Bonds and Insurance", of the General Conditions.

3-14. NOTICE TO PROCEED, BEGINNING OF WORK, CONTRACT TIME, TIME OF COMPLETION, AND LIQUIDATED DAMAGES - Article 2.3, "Commencement of Contract Times; Notice To Proceed" of the General Conditions is amended to read:

The CONTRACTOR shall begin work within ten (10) working days from the date of Notice To Proceed (NTP) and shall diligently prosecute the same to completion before the expiration of total allocated working days as specified in the Construction Agreement and/or Invitation to Bid, from the date of starting work. The CONTRACTOR shall complete all of the work directed by the ENGINEER in all parts and requirements within the time set forth. A working day is defined in these specifications.

The CONTRACTOR is on notice that it may take approximately eight (8) weeks from the bid opening to obtain the City Council's award of the contract, to process the construction agreement, and to issue the Notice to Proceed.

The CONTRACTOR shall pay to the City of Petaluma the sum of \$1500 per day for each and every *calendar day's* delay in finishing the work in excess of the number of days prescribed above (and/or in excess of the number of days prescribed for any scheduled operations or works described in the Special Provisions).

A working day is defined as any day, except as follows:

- a. Saturdays, Sundays, and legal holidays
- b. Days on which the CONTRACTOR is prevented by inclement weather or conditions resulting immediately therefrom adverse to the current controlling operation or operations, as determined by the ENGINEER, from proceeding with at least 75 percent of the normal labor and equipment force engaged on that operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation or operations.

Should the CONTRACTOR prepare to begin work at the regular starting time of any day on which inclement weather, or the conditions resulting from the weather, or the condition of the work, prevents the work from beginning at the usual starting time and the crew is dismissed as a result thereof and the CONTRACTOR does not proceed with at least 75 percent of the normal labor and equipment force engaged in the current controlling operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation or operations, the CONTRACTOR will not be charged for a working day whether or not conditions should change thereafter during that day and the major portion of the day could be considered to be suitable for those construction operations.

Determination that a day is a non-working day by reason of inclement weather or conditions resulting immediately therefrom shall be made by the ENGINEER. The CONTRACTOR will be allowed 10 days from the issuance of the weekly statement of working days in which to file a written protest setting forth in what respects the CONTRACTOR differs from the ENGINEER; otherwise, the decision of the ENGINEER shall be deemed to have been accepted by the CONTRACTOR as correct. The ENGINEER will furnish the CONTRACTOR a weekly statement showing the number of working days charged to the contract for the preceding week, the number of working days of time extensions being considered or approved, the number of working days originally specified for the completion of the contract, and the number of working days remaining to complete the contract and any time extensions thereof.

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3-15. HOURS OF WORK

Weekdays – Weekdays (Monday through Friday) hours shall be from 7:00 a.m. to 7:00 p.m. for all required work except those hours approved by the City of Petaluma or specified in “Order of Work” Section of these special provisions. No work and/or preparation of work shall be performed between 7:00 p.m. and 7:00 a.m. except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or as approved in writing by the Engineer.

Night Hours – Generally, other than emergency work, there will be no night hours allowed for work on this project.

Liquidated Damages in the sum of Fifteen Hundred Dollars (\$1500) per day will be assessed against the CONTRACTOR if he fails to comply with any of the daily conditions or operations such as maintaining erosion control facilities, job site/street cleanliness and daily cleanup and traffic control and flagging, as described in the General Conditions, these Special Provisions, and the Technical Specifications.

If the CONTRACTOR closes a street or sidewalk without prior notice and approval of the ENGINEER within 24 hours, the associated operation will be shutdown at the CONTRACTOR's expense.

Holidays - Designated legal holidays are: January 1st, the third Monday in January, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, the second Monday in October, November 11th, Thanksgiving Day, the day after Thanksgiving, December 24th and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday. The Contractor shall not work on the legal holidays unless approved in writing by the Engineer.

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- 3-16. RECORD ("AS-BUILT") DRAWINGS – The CONTRACTOR shall furnish Record Drawings of the complete project and procure from the Director of Public Works a full-sized set of Contract Drawings. Construction drawings shall be on the construction site at all times while the work is in progress. Drawings shall show approved substitutions, if any, of material including manufacturer's name and catalog number. The Drawings shall be to scale, and all indications shall be neat and legible. All information noted on the CONTRACTOR's job-site print shall be transferred to the Record Drawings by CONTRACTOR and all indications shall be recorded in a neat, legible and orderly way. The Record Drawings shall be signed by the CONTRACTOR and turned over to the Director of Public Works before the final acceptance of the project. If the CONTRACTOR fails to provide the City with an acceptable "Record Drawings", the City shall deduct \$5,000 from the amount due CONTRACTOR.

Refer to Section IV TECHNICAL SPECIFICATIONS under Section 01 78 39 PROJECT RECORD DOCUMENTS for additional information.

- 3-17. NOTICE OF POTENTIAL CLAIM - If for any reason the CONTRACTOR deems that additional compensation is due him/her for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized extra work, a Notice of Potential Claim shall be made. The CONTRACTOR shall give the ENGINEER a written Notice of Potential Claim for such additional compensation before work begins on the items on which the claim is based. The notice shall set forth the reasons for which the CONTRACTOR believes additional compensation will or may be due and the nature of the costs involved. The CONTRACTOR shall afford the ENGINEER every opportunity and facility for keeping records of the actual cost of the work. The CONTRACTOR shall keep records of the disputed work in accordance with Contract General Conditions, Section 11.3, "Cost of Work (Based on Time and Materials)."

If such notification is not given or the ENGINEER is not afforded proper opportunity by the CONTRACTOR for keeping strict account of actual cost as required, then the CONTRACTOR hereby agrees to waive any claim for such additional compensation. Such notice by the CONTRACTOR and the fact that the ENGINEER has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is

based has been completed, the CONTRACTOR shall, within 10 calendar days, submit his/her written claim to the ENGINEER who will present it to the City for consideration in accordance with local laws or ordinances. The CONTRACTOR is directed to Section 17.20 "Resolution of Construction Claims" of the General Conditions.

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

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

Nothing in this subsection shall be construed as a waiver of the CONTRACTOR's right to dispute final payment based on differences in in-place quantity measurements or computations of unit priced pay items.

3-18. PAYMENT FOR MATERIALS ON HAND - At the discretion of the ENGINEER, partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications. Such delivered costs of stored or stockpile materials may be included in the next partial payment after the following conditions are met:

1. The material has been stored or stockpiled and protected at the sole expense of the CONTRACTOR at a location acceptable to the City and in a manner acceptable to the ENGINEER.
2. The CONTRACTOR has furnished the ENGINEER with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
3. The CONTRACTOR has furnished the ENGINEER with satisfactory evidence that the material and transportation costs have been paid.
4. The CONTRACTOR has furnished the City legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.
5. The CONTRACTOR has furnished the City evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.
6. The CONTRACTOR shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

It is understood and agreed that the transfer of title and the City's payment for such stored or stockpiled materials shall in no way relieve the CONTRACTOR of his/her responsibility for furnishing and placing such materials in accordance with the

requirements of the contract, plans, and specifications. In no case will the amount of partial payments for materials on hand exceed 70% of the contract price for the contract items in which the material is intended to be used.

3-19. ACCESS TO DRIVEWAYS – All accesses for local businesses and residents shall be maintained at all times. Temporary ramps will be required each night for access to driveways for residences and commercial access. The Contractor shall coordinate with each driveway user as needed.

3-20. ARCHAEOLOGICAL MONITORING – In the event that archaeological materials are found during construction, CONTRACTOR shall notify the ENGINEER immediately and shall temporarily cease work in the area until a determination or investigation of the site can be made by a qualified archaeologist. Archaeologist services shall be provided by the City at no cost to the CONTRACTOR.

3-21. ITEM INCREASES AND DECREASES -

Increased or Decreased Quantities

Increases or decreases in the quantity of a contract item of work will be determined by comparing the total pay quantity of that item of work with the ENGINEER's Estimate therefor.

If the total pay quantity of any item of work required under the contract varies from the ENGINEER's Estimate therefore by 25 percent or less for increases and 25 percent or less for decreases, payment will be made for the quantity of work of the item performed at the contract unit price.

If the total pay quantity of any item of work required under the contract varies from the ENGINEER's Estimate therefor by more than 25 percent for increases and 25 percent for decreases, in the absence of an executed contract change order specifying the compensation to be paid, the compensation payable to the CONTRACTOR will be determined in accordance with the following sections.

Increases of More Than 25 Percent

Should the total pay quantity of any item of work required under the contract exceed the ENGINEER's Estimate therefore by more than 25 percent, the work in excess of 125 percent of the estimate and not covered by an executed contract change order specifying the compensation to be paid therefor will be paid for by adjusting the contract unit price based upon a force account analysis.

The adjustment of the contract unit price will be the difference between the contract unit price and the actual unit cost which will be determined as hereinafter provided, of the total pay quantity of the item. If the costs applicable to the item of work include fixed costs, the fixed costs will be deemed to have been recovered by the CONTRACTOR by the payments made for 125 percent of the ENGINEER's Estimate of the quantity for the item, and in computing the actual unit cost, the fixed costs will be excluded. Subject to

the above provisions, the actual unit cost will be determined by the ENGINEER in the same manner as if the work were to be paid for on a force account basis.

When the compensation payable for the number of units of an item of work performed in excess of 125 percent of the ENGINEER's Estimate is less than \$5,000 at the applicable contract unit price, the ENGINEER reserves the right to make no adjustment in the contract unit price if the ENGINEER so elects, except that an adjustment will be made if requested in writing by the CONTRACTOR.

Decreases of More Than 25 Percent

Should the total pay quantity of any item of work required under the contract be less than 25 percent of the ENGINEER's Estimate therefore, an adjustment in compensation pursuant to this Section will not be made unless the CONTRACTOR so requests in writing. If the CONTRACTOR so requests, the quantity of the item performed, unless covered by an executed contract change order specifying the compensation payable therefor, will be paid for by adjusting the contract unit price based upon a force account analysis. In no case shall the payment for that work be less than that which would be made at the contract unit price.

The adjustment of the contract unit price will be the difference between the contract unit price and the actual unit cost, which will be determined as hereinafter provided, of the total pay quantity of the item, including fixed costs. The actual unit cost will be determined by the ENGINEER in the same manner as if the work were to be paid for on a force account basis; or the adjustment will be as agreed to by the CONTRACTOR and the ENGINEER.

The payment for the total pay quantity of the item of work will in no case exceed the payment which would be made for the performance of 25 percent of the ENGINEER's Estimate of the quantity for the item at the original contract unit price.

3-22. WAGE RATES - The General Prevailing Wage Determination Made by the Director of Industrial Relations Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.2. The CONTRACTOR can download this information from the web site: <http://www.dir.ca.gov/dlsr/PWD/>

The most current prevailing wage rates available at the time of bid opening shall be used.

3-23. STAGING AREA - It is the responsibility of the Contractor to provide a staging area for equipment and materials. The site and hauling route shall be submitted to the City for approval prior to the commencement of work. The Contractor shall obtain written confirmation from property owners for use of the site.

Refer to Section IV under Section 01 50 00 TEMPORARY FACILITIES AND CONTROLS for additional information.

Float, Pile, and Gangway Replacement - City Project No. C14402010

- 3-24. COORDINATION WITH PETALUMA SMALL CRAFT CENTER (PSCC) – The contractor shall coordinate with the PSCC when work is being performed at their facility. The contractor shall provide a one (1) week advanced notice to the contact for the Petaluma Small Craft Center (PSCC) via Greg Sabourin – 707-293-3685.
- 3-25. COORDINATION WITH D STREET BRIDGE – The City shall be responsible for providing staff on site for operations of the D Street Bridge. The contractor shall be responsible for providing a proposed schedule of operations with approximate cycle times for any activities which will require bridge openings. D Street Bridge operating hours are from 6:00 am to 6:00 pm. For openings outside of normal operating hours 24-hour notice is required for openings. Public Works operations services can be reached at 707-778-4303 or by email at Bridgeopenings@cityofpetaluma.org.
- 3-26. PROTECTION OF EXISTING STRUCTURES – The Petaluma Turning Basin, Small Craft Center (PSCC) shall be protected from damage during the duration of the project.

SECTION IV
TECHNICAL SPECIFICATIONS

SECTION 01 22 05

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Permits, drawings, and general provisions of Contract, including General and Supplementary Conditions and Specification sections, apply to work of this section.

1.2 UNIT PRICE BID ITEMS

- A. Payment items for the Work of this Contract on which the Contract Unit Price payments will be made are listed in Section I BID FORM as part of the Bid Schedule and described below.

- B. Lump Sum prices include:

- 1. Payment shall be made to the Contractor in accordance with accepted Progress Schedule and Schedule of Values on the basis of actual work completed.

- C. Unit Prices include:

- 1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all Unit Price Items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
- 2. Payment shall be based on the actual amount of work accepted and for the actual amount of materials removed, as shown by the final measurements.
- 3. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and interpreted by the Engineer.
- 4. After the work is completed and before final payment is made, the Engineer will make final measurements to determine the quantities of various items of work accepted as the basis for final settlement.

1.3 SCOPE OF PAYMENT

- A. The quantities to be measured under the various bid items will be those quantities of work completed in accordance with the Contract Drawings and Specifications. The methods of measurement will be as stated hereinafter for the individual bid items.
- B. The unit or lump sum payment for all bid items in Section I BID FORM as part of the Bid Schedule, shall be full compensation for the work specified and shall include the cost of furnishing all supervision, materials, labor, tools, equipment, obtaining any/all additional permits and approvals, testing and surveys as required to perform all work

specified in accordance with the Contract, and all work and expenses incidental to and necessary to complete the work in accordance with the drawings and specifications. Payment for Lump Sum Work covers all Work necessary to furnish, install and/or complete the following items. The methods of payment will be as stated hereinafter for the individual bid items.

- C. Progress payment requests shall be submitted monthly.
- D. Payment for equipment, materials and labor for items not included on the Unit Price Bid Schedule, shall be considered incidental and no separate payment will be made.

1.4 METHOD OF MEASUREMENT

- A. Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.
 - 1. When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the Contractor in writing and approved by the City of its Engineer in writing, the material will be weighed and converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the City of its Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.
 - 2. Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefore.
 - 3. Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the plans or given by the City of its Engineer; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will be deducted from the final total quantities. No compensation will be allowed for hauling rejected material.

PART 2 - DISCRIPTION OF BID ITEMS

2.1 **BID ITEM 1 – MOBILIZATION/DEMOBILIZATION**

A. **WORK COVERED BY CONTRACT PRICE**

- 1. All work associated with the mobilization of the Contractor's materials, equipment, site preparation/restoration and temporary facilities furnished for this project shall be included in the contract lump-sum prices for Items of mobilization as listed in Section I BID FORM as part of the Bid Schedule.

2. Mobilization shall include all costs for operations accomplished prior to commencement of actual construction operations and all work to identify site conditions including but not limited to: transfer of materials and equipment to site including but not limited to barges, pile driving equipment, excavation equipment, concrete forming and testing equipment, support equipment or vessels, and all equipment needed for debris handling, separation and disposal of materials removed from the site; coordination and submittals as required; notifications; coordination with the regulatory agencies; obtaining any necessary permits and approvals not already in place for the work specified; construction of environmental controls required by the Permits with respect to protection of the environment; procurement of materials needed for construction; installation and maintenance of work area fencing, security measures, traffic controls, and temporary facilities; maintaining access for City operations; establishing horizontal and vertical control for all proposed work; registration/ training of project personnel and compliance with on-site security measures and any other work that is necessary in advance of the actual construction operations.
3. Demobilization shall include general preparation for transfer of plant to its home base, removal of equipment, and site restoration of all areas disturbed by the Contractor's operations to their pre-construction conditions, preparation and submittal of a complete set of Record "As-Built" Drawings and any additional project close-out submittals as required, and removal of all equipment and temporary construction facilities from the site.
4. There will be only one (1) mobilization / demobilization paid. If for any other reason, the Contractor must shut down and remove his equipment from the site, then remobilize; then the City will not be responsible for payment of any additional costs associated with such work or any remobilization costs.
5. Payment for Mobilization and Demobilization
 - a. The City will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this item.
 - b. 60 percent of the lump sum price upon will be paid upon completion of the contractor's mobilization at the work site.
 - c. The remaining 40 percent upon completion of demobilization.
 - d. The City or its Engineer may require the Contractor to furnish cost data to justify this portion of the bid if the City or its Engineer believes that the percentages do not bear a reasonable relation to the cost of the work in this contract.
 - e. Failure to justify such price to the satisfaction of the City or its Engineer will result in payment, as determined by the City or Project Engineer, of:
 - 1) Actual mobilization costs at completion of mobilization.
 - 2) Actual demobilization costs at completion of demobilization; and
 - 3) The remainder of this item in the final payment under this contract.

B. MEASUREMENT

1. Unit of Measure: LUMP SUM (LS)

2. Mobilization/ Demobilization will be measured as the lump sum to include compensation for project preparations, procurement and assembly of all equipment, controls, materials, supplies, permits, labor and bonds required for the prosecution of the work not otherwise included in other pay items and upon completion of the work as specified and directed, the clean-up of the work areas, removal of equipment, materials and supplies from the work area. This bid item shall be paid upon complete demobilization from the site, which shall include all cleanup and restoration as set forth herein and in accordance with the Contract Documents.

2.2 **BID ITEM 2 – COORDINATION AND RECEIPT OF CONCRETE FLOAT DELIVERY WITH BELLINGHAM MARINE**

A. WORK COVERED BY CONTRACT PRICE

1. All work associated with this bid item includes any labor, materials, or equipment shall be included in the contract lump-sum prices for the coordination of the concrete float delivery with Bellingham Marine, as listed in Section I BID FORM as part of the Bid Schedule.
2. Payment.
 - a. The City will pay all costs for this bid item at the contract lump sum price for this item.
 - b. The City or its Engineer may require the Contractor to furnish cost data to justify this portion of the bid if the City or its Engineer believes that the percentages do not bear a reasonable relation to the cost of the work in this contract.
 - c. Failure to justify such price to the satisfaction of the City or its Engineer will result in payment, as determined by the City or Project Engineer, of:
 - 1) Actual mobilization costs at completion of mobilization.
 - 2) Actual demobilization costs at completion of demobilization; and
 - 3) The remainder of this item in the final payment under this contract.

B. MEASUREMENT

1. Unit of Measure: LUMP SUM (LS)

2.3 **BID ITEM 3 – DEMOLITION, REMOVAL & DISPOSAL OF EXISTING TIMBER FLOATING DOCK SYSTEM, TIMBER & STEEL PILES, METALS GANGWAYS, AND GANGWAY STRUCTURES**

A. WORK COVERED BY CONTRACT PRICE

1. This item consists of all work associated with site preparation, selective demolition, transport, salvage, removal and disposal of all existing timber floating dock system, timber & steel piles, metals gangways, gangway structures, accessories, and any rubbish and debris resulting from the demolition of the existing site features, as shown and specified in the Contract Drawings.
2. This bid item shall include, but not be limited to, the complete removal of all existing creosote treated timber and steel piles, timber floating system, metals gangways, gangway structures and any other associated miscellaneous demolition. Bid item shall include removal, protection, labor, transportation and

equipment to demolish, remove and dispose of all piles to the extent shown on the plans. Bid item shall also include all work such as disconnecting, trimming, disposal of excess, bracing, staging, manpower, fueling, maintenance, operation, field engineering, environmental protection as required for the complete removal and proper off-site disposal of all waste associated with demolition work.

3. Full compensation for all documents and submissions; for complying with the requirements of the regulatory permits and the requirements of any other agencies with jurisdiction over these matters shall be included in the Contract unit price for this bid item and no additional payment will be made.

B. MEASUREMENT

1. Unit of Measure: LUMP SUM (LS)
2. Demolition, Removal, and Disposal will be measured as Lump Sum to include full compensation for the work specified.
3. Payment shall be made for all supervision, materials, labor, tools, and equipment and all work, expenses and taxes incidental and necessary to complete the work in accordance with the Contract Drawings and specifications.

2.4 BID ITEM 4 – EXCAVATION, REMOVAL, AND DISPOSAL OF EAST GANGWAY FOUNDATION

A. WORK COVERED BY CONTRACT PRICE

1. This item consists of all work associated with site preparation, selective demolition, transport, salvage, removal and disposal of the existing concrete east gangway foundation and any rubbish and debris resulting from the demolition of the existing site feature, as shown and specified in the Contract Drawings.
2. Bid item shall include removal, protection, labor, transportation and equipment to demolish, remove and dispose of the concrete foundation to the extent shown on the plans. Bid item shall also include all work such as disconnecting, trimming, disposal of excess, bracing, staging, manpower, fueling, maintenance, operation, field engineering, environmental protection as required for the complete removal and proper off-site disposal of all waste associated with demolition work.
3. Full compensation for all documents and submissions; for complying with the requirements of the regulatory permits and the requirements of any other agencies with jurisdiction over these matters shall be included in the Contract unit price for this bid item and no additional payment will be made.

B. MEASUREMENT

1. Unit of Measure: LUMP SUM (LS)
2. Demolition, Removal, and Disposal will be measured as Lump Sum to include full compensation for the work specified.
3. Payment shall be made for all supervision, materials, labor, tools, and equipment and all work, expenses and taxes incidental and necessary to complete the work in accordance with the Contract Drawings and specifications.

2.5 **BID ITEM 5 – PILE PROBING**

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, coordination, locating, and installation of probing piles, shop drawings and submittals, and all related incidental items as required to confirm pile locations within the limits shown on the Contract Drawings and in accordance with specifications.
2. The contractor shall conduct a field probing program, prior to pile installation, at the approximate location of the proposed float piles. This probing program shall determine if the proposed pile location shall require relocation or if rock socketing shall be required in order to reach the tip elevation specified within these Contract Documents.

B. **MEASUREMENT AND PAYMENT**

1. Unit of Measure – LUMP SUM (LS)
2. This item will be measured as Lump Sum as accepted by the Engineer.
3. Payment shall be made for costs including, but not limited to, furnishing all labor, equipment, tools and all related incidentals associated with this Bid Item.

2.6 **BID ITEM 6 – INSTALL 3,800 SF OF CONCRETE FLOATING DOCKS AND POWER AND WATER PEDESTALS**

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, coordination and on-site receipt of delivery by a third party, off-loading, temporary storage (as required), handling, locating, and installation of new concrete floating dock system, shop drawings and submittals, and all related incidental items as required for a new concrete floating dock system at the locations and to the limits shown on the Contract Drawings and in accordance with specifications. All work shall be performed as shown on the typical details. Installation drawings to be provided prior to the start of work.

B. **MEASUREMENT AND PAYMENT**

4. Unit of Measure – LUMP SUM (LS)
5. This item will be measured as Lump Sum of concrete floating dock system complete in place as accepted by the Engineer.
6. Payment shall be made for costs including, but not limited to, furnishing all labor, equipment, tools and all related incidentals associated with this Bid Item.

2.7 **BID ITEM 7 – INSTALL 16-IN DIA. X 60-FT LONG X 3/8-IN W.T. STEEL PIPE PILES**

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, furnishing all labor, equipment, tools and incidentals for the complete in place installation of 16-inch diameter, 3/8-inch thick coated steel pipe piles in accordance with Contract Drawings and specifications as required to support a new concrete floating dock system. This item shall include all work necessary for the installation of coated steel pipe piles at the locations and to the depths/elevations shown on the Contract

Drawings, including but not limited to, on-site receipt of delivery, off-loading and temporary storage (as required), setting and removal of falsework, furnishing and installation of steel pile closure plates, installation of PVC pile caps, drilling, hole clearing, coating touch up, inspection, testing, as-built survey(s) and any/all other item as necessary for the installation of all steel pipe piles. Driving through any obstructions, if encountered, and testing shall be considered incidental to the steel pile installation.

2. Full compensation for all documents and submissions; for complying with the requirements of the regulatory permits and the requirements of any other agencies with jurisdiction over these matters shall be included in the Contract unit price for this bid item and no additional payment will be made.

B. MEASUREMENT AND PAYMENT

1. Unit of Measure – EACH (EA)
 - a. The Contractor will be paid the contract unit price per Each installed, 16-inch diameter, 3/8-inch thick coated steel pile piles which unit price shall include the full compensation for coordination and on-site receipt of delivery, storage (as required), furnishing/installing PVC pile caps and closure plates, field coating touch up, handling, preparation, and installation, including all material, equipment, labor, supervision, survey, tools, and other incidental or appurtenant work required to complete the work under this item, as shown on the Contract Drawings, specified herein, and as directed by the Engineer.
 - b. The unit contract price for the placement of piles complete in place shall include all coordination, receipt of delivery, handling, temporary storage, handling, preparation and installation of pile end closure plates and PVC pile caps, cleaning, field coating touch up, obstruction procedures, and cutoff operations, including all tools, labor, and equipment, and all incidental work, as indicated by the Contract Drawings and as specified.
 - c. No additional measurement for payment shall be made for cutoff lengths, or for overdriving that is not approved by the Engineer.
2. Payment for this item will be measured as Each after deemed complete in place as accepted by the Engineer.

**2.8 BID ITEM 8 – FURNISH & INSTALL CONCRETE GANGWAY
FOUNDATION & RAMP**

A. WORK COVERED BY CONTRACT PRICE

1. The contract price per cubic yard for this item shall include all costs to furnish and install new concrete gangway foundations, as specified in the Contract Documents. This item shall include all work associated with the location, installation, testing, surveying, shop drawings and submittals, and all related incidental items as required as part of the Contract Drawings and these specifications.
2. Payments to the Contractor will be made for the actual quantities of the Contract items performed and accepted in accordance with the Contract Documents. Upon completion of the construction, if these actual quantities show either an increase or decrease from the quantities as provided in Section I BID Form, Bid Schedule,

the Contract unit prices will still prevail, except as otherwise provided. The payment of any partial estimate or of any retained percentage except by and under the approved final invoice, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.

3. Full compensation for all documents and submissions; for complying with the requirements of the regulatory permits and the requirements of any other agencies with jurisdiction over these matters shall be included in the Contract unit price for this bid item and no additional payment will be made.

B. MEASUREMENT

1. Unit of Measure: IN-PLACE CUBIC YARD (CY)
2. The total amount of material utilized and paid for under the contract for this Item, will be measured by the cubic yard in place by computing the volume utilizing concrete batch tickets for each truck delivered to the site.
3. Partial payments will be based on approximate quantities determined and approved by the City or its Engineer.

2.9 BID ITEM 9 – INSTALL METAL GANGWAY

A. WORK COVERED BY CONTRACT PRICE

1. This item consists of all work including, but not limited to, coordination and on-site receipt of delivery by a third party, off-loading, temporary storage (as required), handling, locating, and installation of new concrete floating dock system, shop drawings and submittals, and all related incidental items as required for a new concrete floating dock system at the locations and to the limits shown on the Contract Drawings and in accordance with specifications. All work shall be performed as shown on the typical details. Installation drawings to be provided prior to the start of work.

B. MEASUREMENT AND PAYMENT

1. Unit of Measure – EACH (EA)
 - a. The Contractor will be paid the contract unit price per Each installed, which unit price shall include the full compensation for all material, equipment, labor, supervision, survey, tools, and other incidental or appurtenant work required to complete the work under this item, as shown on the Contract Drawings, specified herein, and as directed by the Engineer.
2. Payment for this item will be measured as Each after deemed complete in place as accepted by the Engineer.

2.10 BID ITEM 10 – FURNISH & INSTALL 8-FT TALL IRON GANGWAY FENCING

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, coordination and on-site receipt of delivery by a third party, off-loading, temporary storage (as required), handling, locating, and installation of new 8-ft tall iron fencing, shop drawings and submittals, and all related incidental items as required for the new fencing at the locations and to the limits shown on the Contract Drawings and in accordance with specifications.

B. **MEASUREMENT AND PAYMENT**

1. Unit of Measure – LUMP SUM (LS)
2. This item will be measured as Lump Sum, complete in place as accepted by the Engineer.
3. Payment shall be made for costs including, but not limited to, furnishing all labor, equipment, tools and all related incidentals associated with this Bid Item.

2.11 **BID ITEM 11 – BANK RESTORATION, SEEDING, AND FURNISH & INSTALL EAST BANK MARINE MATTRESS**

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, complete restoration of all areas disturbed by the Contractor's operations to their pre-construction conditions at the locations and to the limits shown on the Contract Drawings and in accordance with specifications.

B. **MEASUREMENT AND PAYMENT**

1. Unit of Measure – LUMP SUM (LS)
2. This item will be measured as Lump Sum, complete in place as accepted by the Engineer.
3. Payment shall be made for costs including, but not limited to, furnishing all labor, equipment, tools and all related incidentals associated with this Bid Item.

2.12 **BID ITEM 12 – REMOVE, STORE, AND RE-INSTALL PSCC GANGWAY**

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, temporary storage (as required), handling, locating, and reinstallation of the existing PSCC aluminum access gangway and all related incidental items as required at the locations and to the limits shown on the Contract Drawings and in accordance with specifications.

B. **MEASUREMENT AND PAYMENT**

1. Unit of Measure – LUMP SUM (LS)
2. This item will be measured as Lump Sum, complete in place as accepted by the Engineer.
3. Payment shall be made for costs including, but not limited to, furnishing all labor, equipment, tools and all related incidentals associated with this Bid Item.

2.13 **OPTIONAL BID ITEM 1 – 10' ROCK SOCKETING OF STEEL PILES**

A. **WORK COVERED BY CONTRACT PRICE**

1. All costs including but not limited to furnishing all labor, materials, equipment, and incidentals for the complete in place installation of City-provided 16-inch diameter, 5/8-inch thick coated steel pile piles socketed into bedrock in accordance with Contract Drawings and specifications as required to support a new gangway lifting system and floating dock system and MAAB/ADA aluminum gangway which both shall be provided to the Contractor by the City. This item shall include all work necessary for the installation of rock-socketed steel pipe piles at the locations and to the depths/elevations shown on the Contract Drawings, including but not limited to, the installation and complete placement of steel pipe piles, temporary casing, drilling, hole clearing, inspection, testing, cast in place grout, pile cap plates, as-built survey(s) and any/all other item as necessary for the installation of all steel pipe piles. Drilling through any obstructions, if encountered, and testing shall be considered incidental to the socketed pile installation.

C. **MEASUREMENT AND PAYMENT**

1. Unit of Measure – EACH (EA)
 - a. The Contractor will be paid the contract unit price per Each installed, which unit price shall include the full compensation for all material, equipment, labor, supervision, survey, tools, and other incidental or appurtenant work required to complete the work under this item, as shown on the Contract Drawings, specified herein, and as directed by the Engineer.

2.14 **OPTIONAL BID ITEM 2 – ADDITIONAL 16-IN DIA X 3/8-IN W.T. STEEL PIPE PILE**

A. **WORK COVERED BY CONTRACT PRICE**

1. This item consists of all work including, but not limited to, furnishing all labor, equipment, tools and incidentals for any additional pipe piles required in order to complete the pile installation. The contractor shall have a minimum of one (1) additional 16-in Dia x 3/8-in W.T. pile on site to accommodate any potential splicing required as part of this work.
2. This option bid item is intended to be utilized as a supplementary bid item to complete in place installation of 16-inch diameter, 3/8-inch thick coated steel pipe piles in accordance with Contract Drawings and specifications as required to support a new concrete floating dock system. This item shall include all work necessary for the installation of coated steel pipe piles at the locations and to the depths/elevations shown on the Contract Drawings, and any/all other item as necessary for the installation of all steel pipe piles. Driving through any obstructions, if encountered, and testing shall be considered incidental to the steel pile installation.
3. Full compensation for all documents and submissions; for complying with the requirements of the regulatory permits and the requirements of any other agencies

with jurisdiction over these matters shall be included in the Contract unit price for this bid item and no additional payment will be made.

B. MEASUREMENT AND PAYMENT

1. Unit of Measure – Linear Foot (LF)

- a. The Contractor will be paid the contract unit price per Linear foot installed, 16-inch diameter, 3/8-inch thick coated steel pile piles which unit price shall include the full compensation for work associated with the splicing of additional pile lengths for rock socketing or unforeseen driving conditions, as shown on the Contract Drawings, specified herein, and as directed by the Engineer.
- b. The unit contract price for the placement of piles complete in place shall include all coordination, receipt of delivery, handling, temporary storage, handling, preparation and installation of pile end closure plates and PVC pile caps, cleaning, field coating touch up, obstruction procedures, and cutoff operations, including all tools, labor, and equipment, and all incidental work, as indicated by the Contract Drawings and as specified.
- c. No additional measurement for payment shall be made for cutoff lengths, or for overdriving that is not approved by the Engineer.

2.15 OPTIONAL BID ITEM 3 – FURNISH & INSTALL GANGWAY GATES

A. WORK COVERED BY CONTRACT PRICE

1. This item consists of all work including, but not limited to, coordination and on-site receipt of delivery by a third party, off-loading, temporary storage (as required), handling, locating, and installation of new gangway gates, shop drawings and submittals, and all related incidental items as required for the new fencing at the locations and to the limits shown on the Contract Drawings and in accordance with specifications.

D. MEASUREMENT AND PAYMENT

1. Unit of Measure – EACH (EA)

- a. The Contractor will be paid the contract unit price per Each installed, which unit price shall include the full compensation for all material, equipment, labor, supervision, survey, tools, and other incidental or appurtenant work required to complete the work under this item, as shown on the Contract Drawings, specified herein, and as directed by the Engineer.
2. Payment for this item will be measured as Each after deemed complete in place as accepted by the Engineer.

END OF SECTION

SECTION 01 25 13

SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.
- B. Work not included:
 - 1. Non-required submittals will not be reviewed by the Engineer.
 - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer.
- C. Definitions:
 - 1. “Or equivalent”:
 - a. Where the phrase “or equivalent,” or “or equivalent as accepted by the Engineer,” occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equivalent unless the item has been specifically so accepted for this Work by the Engineer.
 - b. The decision of the Engineer shall be final.

1.2 QUALITY ASSURANCE

- A. Coordination of submittals:
 - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 - 2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
 - 3. The Contractor shall procure a rubber stamp with identical wording to the sample Contractor’s submittal stamp shown below.

CONTRACTOR: _____

THIS SUBMITTAL IS REQUIRED PER SECTION _____ OF THE SPECIFICATIONS. THE SUBMITTED ITEMS HAVE BEEN REVIEWED IN DETAIL AND ARE CORRECT AND IN STRICT CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE SUBMITTED ITEMS HAVE BEEN COORDINATED WITH OTHER WORK OF THIS CONTRACT, EXISTING STRUCTURES, AND WORK OF OTHER CONTRACTS.

BY: _____

DATE: _____

4. By affixing the Contractor's submittal stamp to each submittal, certify that this coordination has been performed. Submittals which do not bear the requisite stamp will be returned to the Contractor non-reviewed.

B. Substitutions:

1. The Contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed at time of bidding, on the form provided therefore in the bidding documents, and when substantiated by the Contractor's submittal of required data.
2. Do not substitute materials, equipment, or methods unless such substitution has been specifically accepted in writing for this Work by the Engineer.

1.3 SUBMITTALS

Make submittals of Shop Drawings, Samples, substitution requests, and other items in accordance with the provisions of this Section.

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

- A. Scale and measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
- B. Types of prints required:
 1. Submit Shop Drawings electronically in PDF format.
 2. Blueprints will not be acceptable.
- C. One electronic set of shop drawings with the Engineer's review comments will be returned to the Contractor. The Contractor may distribute as required for his purposes.

2.2 MANUFACTURERS' LITERATURE

- A. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.
- B. Submit manufacturers' data electronically in PDF format for review. One electronic set of manufacturer's data with the Engineer's review comments will be returned to the Contractor. The Contractor may distribute as required for his purposes.

2.3 SAMPLES

- A. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.
- B. Number of Samples required:
 - 1. Unless otherwise specified, submit Samples in the quantity, which is required to be returned, plus one, which will be retained by the Engineer.
 - 2. By prearrangement in specific cases, a single Sample may be submitted for review and, when accepted, be installed in the Work at a location agreed upon by the Engineer.

2.4 COLORS AND PATTERNS

Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Engineer for selection.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

- A. Consecutively number all submittals.
 - 1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
 - 2. On re-submittals, cite the original submittal number for reference.
- B. Clearly label each submittal with a reference to the appropriate Specification Section for which the submittal is made.
- C. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
- D. On at least the first page of each submittal, and elsewhere as required for positive

identification, show the submittal number in which the item was included.

- E. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Engineer for his review upon request.

3.2 GROUPING OF SUBMITTALS

- A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
- B. Partial submittals may be rejected as not complying with the provisions of the Contract.
- C. The Contractor may be held liable for delays so occasioned.

3.3 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.
- B. In scheduling, allow at least fourteen (14) days for review by the Engineer following his receipt of the submittal.

3.4 ENGINEER'S REVIEW

- A. Review by the Engineer does not relieve the Contractor from responsibility for errors or omissions that may exist in the submitted data.
- B. Revisions:
 - 1. Make revisions required by the Engineer.
 - 2. If the Contractor considers any required revision to be a change, he shall so notify the Engineer as provided for in Section 00 63 63.
 - 3. Make only those revisions directed or accepted by the Engineer.
- C. Reimbursement of Engineer's Costs:
 - 1. In the event substitutions are proposed to the Engineer after the Contract has been awarded, the Engineer will record all time used by him and by his consultants in evaluation of each such proposed substitution.
 - 2. Whether or not the Engineer accepts a proposed substitution, the Contractor shall be responsible for the costs of the Engineer and his consultants for all

time spent by them in evaluating the proposed substitution, plus administrative fees. The costs will be deducted from outstanding pay requests due to the Contractor by way of a Change Order.

- D. Engineer's Review Stamp: The Engineer's review stamp will indicate the status of the submittal, and corresponding action to be taken by the Contractor as follows:
1. No Exceptions Taken: When the Engineer marks the submittal "No Exceptions Taken", the Work covered by the submittal may proceed, provided it complies with the requirements of the Contract Documents.
 2. Make Corrections Noted: When the Engineer marks the submittal "Make Corrections Noted", the Work covered by the submittal may proceed provided it complies with the notations on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 3. Amend and Resubmit: When the Engineer marks the submittal "Amend and Resubmit", the Work covered by the submittal may proceed provided it complies with the notations on the submittal and requirements of the Contract Documents. The submittal must be revised to comply with the notations on the submittal and requirements of the Contract Documents, and must then resubmitted to the Engineer. Final payment depends on that compliance.
 4. Rejected – See Remarks: When the Engineer marks the submittal "Rejected – See Remarks", do not proceed with the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise and prepare a new submittal according to the notations, resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not use or allow others to use submittals marked "Resubmit" at the Project Site or elsewhere where Work is in progress.
 5. "Not Subject to Review": When the Engineer/Architect will return unsolicited submittals to the sender without action.

END OF SECTION



City: _____
Project Name: _____
City Project #: _____
Foth Project #: _____
Contractor: _____

Submittal/Shop Drawing Review Form

Contractor's Actions

Submittal No: _____
Submittal Description: _____

Item #: _____
Date Due Back To Contractor: _____

Contractor's Certification

By submitting this Submittal/Shop Drawing for review, I am certifying that I have reviewed this Submittal/Shop Drawing and confirm that it is in conformance with the Contract Documents and understand that I am solely responsible for errors and omissions in this Submittal/Shop Drawing. If this Submittal/Shop Drawing is not in conformance with the Contract Documents, any variations from the Contract Document requirements have been specifically noted in this Submittal/Shop Drawing submission.

This Submittal/Shop Drawing is intended for information in accordance with (specification or drawing reference)

and demonstrates the Contractor's methods to conform to the design concepts expressed in the Contract Documents.

Submittal/Shop Drawing variation from requirements of Contract Documents (if any)

1. _____
2. _____

Contractor Approval

Name: _____ Title: _____
Signature: _____ Date: _____



City: _____
 Project Name: _____
 City Project #: _____
 Foth Project #: _____
 Contractor: _____

Engineer's Actions

Submittal No: _____
 Engineer's Reviewer: _____
 Date Returned To Submittal Coordinator: _____

Date Received From Contractor: _____
 Date Sent To Reviewer: _____
 Date Returned To Contractor: _____

| Item | Action* | Comments |
|------|---------|----------|
| | | |
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| | | |
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| | | |

*Action Stamped on Submittal(s):

- No Exceptions Taken* - The work covered by the submittal may proceed provided it complies with requirements of the Contract Documents.
- Make Corrections Noted* - The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.
- Revise and Resubmit* - Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where work is in progress.
- Rejected - See Remarks* - Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked "Rejected" at the Project Site or elsewhere where work is in progress.
- "Not Subject to Review"* - The Engineer/Architect will return unsolicited submittals to the sender without action.

Engineer's action on this submittal is subject to this note. Engineer's review is only for general compatibility with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, and for general compliance with the information given in the Contract Documents. Contractor shall be solely responsible for complying with the Contract Documents, as well as with Supplier instructions consistent with the Contract Documents, City's directions, and Laws and Regulations. Contractor is solely responsible for obtaining, correlating, confirming, and correcting dimensions at the Site; quantities; information and choices pertaining to fabrication processes; means, methods, sequences, procedures, and techniques of construction; safety precautions and programs incident thereto; and for coordinating the work of all trades. Engineer's action/review does not constitute a change order or Contract amendment.

Reviewer Name: _____

Date: _____

Signature: _____

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide temporary facilities and controls needed for the Work including, but not necessarily limited to:

1. Temporary utilities such as heat, water, electricity, and telephone.
2. Field office for the Contractor's personnel.
3. Sanitary facilities.
4. Enclosures such as tarpaulins, barricades, and canopies.
5. Temporary fencing of the construction site.
6. Comply with pertinent provisions of Section 01 66 00 for product storage and stockpiling.
7. Comply with pertinent provisions of Section 02 41 00 for selective demolition.

B. Definitions:

1. Temporary: Labor, equipment, and materials required for the installation of facilities and controls which, upon completion of the Work, are not a part of the completed Work, shall be furnished, installed, and subsequently removed from the site by the Contractor.

1.2 PRODUCT HANDLING

Maintain temporary facilities and controls in proper and safe condition throughout the progress of the Work.

PART 2 - PRODUCTS

2.1 UTILITIES

A. Water:

1. The contractor shall coordinate with the City prior to use of any fresh water supply at the site.

2. Provide necessary temporary service and piping.

B. Electricity:

1. Provide and pay for temporary electrical service and electricity used in construction.
2. Provide necessary temporary wiring.
3. Provide temporary area distribution boxes so located that the individual trades may furnish and use extension cords to obtain power and lighting at points where needed for work, inspection, and safety.

C. Heating:

1. Provide and maintain temporary heat necessary for the proper conduct of operations needed in the Work.

D. Telephone:

1. Provide and maintain temporary telephone service to the Contractor's office at the site.

2.2 FIELD OFFICES AND SHEDS

A. Contractor's facilities:

1. Provide a temporary field office building and sheds adequate in size and accommodation for Contractor's offices, supply, and storage. As a minimum, equip the Contractor's field office with a telephone, telephone answering machine, facsimile machine, and photocopier which shall remain in operation throughout the Work.

B. Sanitary facilities:

1. Provide temporary sanitary facilities in the quantity required by applicable health regulations for use by all personnel.
2. Always maintain in a sanitary condition.

2.3 ENCLOSURES

Provide and maintain for the duration of construction all temporary scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.

2.4 CONTAINERS FOR DEBRIS & REFUSE REMOVAL

Provide and maintain suitable containers for the collection and disposal of trash and debris generated from demolition and construction. Do not use containers that are the property of the City, or the property of others that may be present on site.

PART 3 - EXECUTION

3.1 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.
- B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Engineer.

END OF SECTION

SECTION 01 66 00

PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

Work included: Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

1.2 QUALITY ASSURANCE

Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURERS' RECOMMENDATIONS

Except as otherwise required by the Engineer, determine, and comply with manufacturers' recommendations on product handling, storage, and protection.

1.4 PACKAGING

A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.

1. Maintain packaged materials with seals unbroken and labels intact until the time of use.
2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace them with material meeting the specified requirements, at no additional cost to the City.

B. The Engineer may reject non-complying material and products that do not have satisfactory identification as to manufacturer, grade, quality, and other pertinent information.

1.5 PROTECTION

A. Protect finished surfaces through which equipment and materials are handled.

B. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the City.

1.6 REPAIRS AND REPLACEMENTS

A. In the event of damage, promptly make replacements and repairs to the acceptance of the Engineer and at no additional cost to the City.

- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the Contract Time of Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

Provide materials, not specifically described but required for a complete and proper execution of the Work, as selected by the Contractor subject to the review of the Engineer.

PART 3 - EXECUTION

3.1 PROCEDURES

Handle products as outlined in Part 1 above.

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 - GENERAL

1.1 DESCRIPTION

Work included: Provide such field engineering services as are required for proper completion of the Work including, but not necessarily limited to:

- A. Establishing and maintaining lines and levels.
- B. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.

1.2 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 25 13.
- B. Upon request of the Engineer, submit:
 - 1. Data demonstrating qualifications of persons proposed to be engaged for field engineering services.
 - 2. Documentation verifying the accuracy of field engineering work.
 - 3. Certification, signed by the Contractor's retained field engineer, certifying that elevations and locations of improvements are in conformance or non-conformance with requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 MATERIALS

Provide materials, not specifically described but required for a complete and proper execution of the Work, as selected by the Contractor subject to the review of the Engineer.

PART 3 - EXECUTION

3.1 PROCEDURES

In addition to procedures directed by the Contractor for the proper performance of the Contractor's responsibilities:

- A. Locate and protect control points before starting work on the site.
- B. Preserve permanent reference points during the progress of the Work.
- C. Do not change or relocate reference points or items of the Work without specific direction from the Engineer.
- D. Promptly advise the Engineer when a reference point is lost or destroyed or requires relocation because of other changes in the Work.
 - 1. Upon direction of the Engineer, require the field engineer to replace reference stakes or markers.
 - 2. Locate such replacements according to the original survey control.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DESCRIPTION

Work included: This Section establishes general requirements pertaining to cutting (including excavating), fitting, and patching of the Work required to:

- A. Make the several parts fit properly.
- B. Uncover work to provide for installing, reviewing, or both, of ill-timed work.
- C. Remove and replace work not conforming to requirements of the Contract Documents; and
- D. Remove and replace defective work.

1.2 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

1.3 SUBMITTALS

- A. Request for Engineer's consent:
 - 1. Prior to cutting which affects structural safety, submit written request to the Engineer and secure written authorization to proceed cutting.
 - 2. Should conditions of the Work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the Engineer and secure his written authorization and the required Change Order prior to proceeding.
- B. Notices to the Engineer:
 - 1. Prior to cutting and patching performed pursuant to the Engineer's instructions, submit cost estimate to the Engineer. Secure the Engineer's written authorization before proceeding with cutting and patching.
 - 2. Submit written notice to the Engineer designating the time the Work will be uncovered, to provide for the Engineer's observation.

PART 2 - PRODUCTS

2.1 MATERIALS:

For replacement of items removed, use materials complying with pertinent Sections of these Specifications.

2.2 PAYMENT FOR COSTS

The City will reimburse the Contractor for cutting and patching performed pursuant to the written Change Order, after claim for such reimbursement is submitted by the Contractor. Perform other cutting and patching needed to comply with the Contract Documents at no additional cost to the City.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection by the Contractor:

1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching, and backfilling.
2. After uncovering the work, inspect conditions affecting installation of new work.

B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Engineer in writing, and secure the Engineer's written directions.
2. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION PRIOR TO CUTTING

A. Provide required protection including, but not necessarily limited to, shoring, bracing, and support to maintain the structural integrity of the Work.

B. Prior to cutting new or existing elements, carefully lay out the work required. Verify that the layout is correct and accurate as necessary to perform the construction safely and within the tolerances required.

3.3 PERFORMANCE

A. Perform required excavating and backfilling as required under pertinent other Sections of these Specifications.

B. Perform cutting and demolition by methods that will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.

- C. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.
- D. Prevent migration of soils into waterways. Do not affect water quality of waterways.
- E. Any cutting, fitting, or patching of concrete, steel, or timber material shall be performed in such a manner that no excess material is allowed to enter the waterways of the Petaluma River or adjacent water sources.

END OF SECTION

SECTION 01 74 23

CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

Work included: Throughout the construction period, maintain any facilities related to the work in a standard of cleanliness as described in this Section.

1.2 QUALITY ASSURANCE

- A. Conduct daily inspections, and more often if necessary, to verify that requirements for cleanliness are being met.
- B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

Provide the required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY

Use only the cleaning materials and equipment that are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General:
 - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
 - 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for the construction of this Work.
 - 3. At least twice each month, and more often, if necessary, completely remove all scrap, debris, and waste material from the job site.
 - 4. Provide adequate storage for all items awaiting removal from the job site,

observing requirements for fire protection and protection of the ecology.

B. Site:

1. Daily, a more often, if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. Weekly, and more often, if necessary, inspect all arrangements of materials stored on the site. Re-stack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1-A-1 above.
3. Always maintain the site in a neat and orderly condition.

C. Structures:

1. Weekly, and more often, if necessary, inspect the structures and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the necessary cleanliness.

3.2 FINAL CLEANING

A. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.1 above.

B. Site:

1. Unless otherwise specifically directed by the Engineer, broom clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

C. Structures:

1. Exterior:
 - a. Visually inspect exterior surfaces and remove all traces of soil, cement-based materials, waste materials, smudges, and other foreign matter.
 - b. Remove all traces of splashed materials from adjacent surfaces.

- c. If necessary to achieve a uniform degree of cleanliness, hose down the exterior of the structure.
 - d. In the event of stubborn stains not removable with water, the Engineer may require light sandblasting or other cleanings at no additional cost to the City.
- D. Schedule final cleaning as approved by the Engineer to enable the City to accept a completely clean Work.

3.3 CLEANING DURING CITY'S OCCUPANCY

Should the City occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the City, responsibilities for interim and final cleaning shall be as determined by the Engineer in accordance with the General Conditions of the Contract.

END OF SECTION

SECTION 01 77 19

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

Work included: Provide an orderly and efficient transfer of the completed Work to the City.

1.2 QUALITY ASSURANCE

- A. Prior to requesting review by the Engineer, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for the requested review.
- B. Submit written certification that Contract Documents have been reviewed by the Contractor, the Work has been inspected by the Contractor, and that the Work is complete and in accordance with the Contract Documents.

1.3 PROCEDURES

A. Substantial Completion:

- 1. Substantial Completion is defined as the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the City can occupy or utilize the Work for its intended use.
- 2. When the Contractor considers that the Work, or a portion thereof which the City agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Engineer a comprehensive list of items to be completed or corrected.
- 3. Prepare and submit the list required by Paragraph 1.3-A-2 above.
- 4. Within a reasonable time after receipt of the list, the Engineer will review to determine the status of completion.
- 5. Should the Engineer determine that the Work is not substantially complete:
 - a. The Engineer promptly will so notify the Contractor, in writing, giving the reasons, therefore.
 - b. Remedy the deficiencies and notify the Engineer when ready for additional review.

- c. The Engineer will review the Work.
 6. When the Engineer concurs that the Work is substantially complete:
 - a. The Engineer will prepare a “Certificate of Substantial Completion”, accompanied by the Contractor’s list of items to be completed or corrected, as verified by the Engineer.
 - b. The Engineer will submit the Certificate to the City and to the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.
- B. Final Completion:
 1. Prepare and submit to the Engineer a notice that the Work is complete and ready for final review and acceptance.
 2. Certify that:
 - a. Contract Documents have been reviewed.
 - b. Work has been reviewed for compliance with the Contract Documents.
 - c. Work has been completed in accordance with the Contract Documents.
 - d. Equipment and systems have been tested as required and are operational.
 - e. Work is completed and ready for final review.
 3. The Engineer will make a review to verify the status of completion.
 4. Should the Engineer determine that the Work is incomplete or defective:
 - a. The Engineer promptly will so notify the Contractor, in writing, listing the incomplete or defective work.
 - b. Remedy the deficiencies promptly and notify the Engineer when ready for additional review.
 5. When the Engineer determines that the Work is acceptable under the Contract Documents, he will request the Contractor to make closeout submittals.
- C. Closeout submittals include, but are not necessarily limited to:

1. Project Record Documents described in Section 01 78 39.
 2. Operation and maintenance data for items so listed in pertinent other Sections of these Specifications, and for other items when so directed by the Engineer;
 3. Warranties and bonds.
 4. Spare parts and materials extra stock.
 5. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
 - a. Certificates of Inspection.
 - b. Certificates of Occupancy.
 6. Certificates of Insurance for products and completed operations.
 7. Evidence of payment and release of liens.
 8. List of subcontractors, service organizations, and principal vendors, including names, address, and telephone numbers where they can be always reached for emergency service including nights, weekends, and holidays.
 9. As built drawings and surveys.
- D. Final adjustment of accounts:
1. Submit a final statement of accounting to the Engineer, showing all adjustments to the Contract Sum.
 2. If so required, the Engineer will prepare a final Change Order showing adjustments to the Contract Sum that were not made previously by Change Orders.

1.4 INSTRUCTION

Instruct the City's personnel in the proper operation and maintenance of systems, equipment, and similar items which were provided as part of the Work.

PART 2 - PRODUCTS

(No products are required in this Section)

PART 3 - EXECUTION

3.1 Closeout procedures are described in Part 1 above.

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

Work included:

- A. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents, as described in Article 3.1 below.
- B. Upon completion of the Work, transfer the recorded changes to a set of Record Documents, as described in Article 3.2 below.

1.2 QUALITY ASSURANCE

- A. Accuracy of records:
 - 1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
 - 2. Accuracy of records shall be such that future searches for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.
- B. Make entries within 24 hours after receipt of information that the change has occurred.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 25 13.
- B. The Engineer's review of the status of Project Record Documents may be a prerequisite to the Engineer's review of requests for progress payment and request for final payment under the Contract.
- C. Prior to submitting each request for progress payment, secure the Engineer's review of the status of the Project Record Documents.
- D. Prior to submitting the request for final payment, submit the final Project Record Documents to the Engineer and secure his review.

1.4 PRODUCT HANDLING

- A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Documents.
- B. In the event of loss of recorded data, use means necessary to again secure the data to the Engineer's review.
 - 1. Such means shall include, if necessary, in the opinion of the Engineer, removal, and replacement of concealing materials.
 - 2. In such cases, provide replacements to the standards originally required by the Contract Documents.

PART 2 - PRODUCTS

2.1 RECORD DOCUMENTS

- A. Job set: Promptly following receipt of the Contract, secure from the Engineer at no charge to the Contractor one complete set of all Documents comprising the Contract.
- B. Final Record Documents: At a time nearing the completion of the Work, secure from the Engineer at no charge to the Contractor one complete set of Drawings in the Contract.

PART 3 - EXECUTION

3.1 MAINTENANCE OF JOB SET

- A. Immediately upon receipt of the job set described in Paragraph 2.1-A above, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET."
- B. Preservation:
 - 1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set.
 - 2. Do not use the job set for any purpose except entry of new data and for review by the Engineer, until the start of transfer of data to final Project Record Documents.
 - 3. Maintain the job set at the site of Work as designated by the Engineer.
- C. Making entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
 2. Date all entries.
 3. Call attention to the entry by a “cloud” drawn around the area or areas affected.
 4. In the event of overlapping changes, use different colors for the overlapping changes.
- D. Make entries in the pertinent other Documents.
- E. Conversion of schematic layouts:
1. In some cases, on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items are shown schematically and are not intended to portray precise physical layout.
 - a. Final physical arrangement is determined by the Contractor, subject to the Engineer’s review.
 - b. However, the design of future modifications of the facility may require accurate information as to the final physical layout of items that are shown only schematically on the Drawings.
 2. Show on the job set of Record Drawings, by dimension accurate to within one inch, the centerline of each run of items such as is described in subparagraph 3.1-E-1 above.
 - a. Clearly identify the item by accurate note such as “cast iron drain,” “galv. water,” and the like.
 - b. Show, by symbol or note, the vertical location of the item (“under slab,” “in ceiling plenum,” “exposed,” and the like).
 - c. Make all identification sufficiently descriptive that it may be related reliably to the Specifications.
 3. The Engineer may waive the requirements for conversion of schematic layouts where, in the Engineer’s judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the Engineer.

3.2 FINAL PROJECT RECORD DOCUMENTS

- A. The purpose of the final Project Record Documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable

future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

B. Engineer's review of recorded data prior to transfer:

1. Following receipt of the Drawings described in Paragraph 2.1-B above, and prior to the start of transfer of recorded data thereto, secure the Engineer's review of all recorded data.
2. Make required revisions.

C. Transfer of data to Drawings:

1. Carefully transfer change data shown on the job set of Record Drawings to the corresponding final set of Record Drawings, coordinating the changes as required.
2. Clearly indicate at each affected detail and other Drawing a full description of changes made during construction, and the actual location of items described in subparagraph 3.1-E-1 above.
3. Call attention to each entry by drawing a "cloud" around the area or areas affected.
4. Make changes neatly, consistently, and with the proper media to assure longevity and clear reproduction.

D. Transfer of data to other Documents:

1. If the Documents other than Drawings have been kept clean during progress of the Work, and if entries thereon have been orderly to the acceptance of the Engineer, the job set of those Documents other than Drawings will be accepted as final Record Documents.
2. If any such Document is not so accepted by the Engineer, secure a new copy of that Document from the Engineer at the Engineer's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the acceptance of the Engineer.

E. Review and submittal:

1. Submit the completed set of Project Record Documents to the Engineer as described in Paragraph 1.3-D above.
2. Participate in review meetings as required.
3. Make required changes and promptly deliver the final Project Record Documents to the Engineer.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE

The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

END OF SECTION

SECTION 02 41 00

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Carefully demolish and remove from the site those items scheduled to be so demolished and removed.
- B. Carefully remove and store off or on-site those items scheduled to be reused. Replace these items as indicated on the drawings such that they are undamaged and fit for their intended purpose.
- C. All utility lines that are altered or relocated during the construction are to be of an equal standard to those now existing and are to be acceptable to the City and the appropriate Utility Company. The Contractor is to inform and liaise with the City regarding all work that may affect the existing utilities. The City will make arrangements with the Utility Company for services to be cut-off if required during construction. The Contractor is responsible for notification of local utilities.

1.2 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the Work of this Section.

1.3 SUBMITTALS

Except for items specifically scheduled for reuse, demolished material shall be considered to be property of the Contractor and shall be completely removed from the job site and disposed of in legal manner. The Contractor shall submit a detailed disposal plan to the Engineer. The disposal plan shall include the name, address, and telephone number of the disposal site. The Contractor shall submit to the Engineer a signed manifest and trip ticket stating that the debris was disposed at the stated site within 24 hours after the material has left the site.

PART 2 - PRODUCTS

2.1 MATERIALS

(NONE)

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

Examine the areas and conditions under which Work of this Section will be performed.

Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until satisfactory conditions are corrected.

3.2 DEMOLITION

- A. By careful study of the Contract Documents, determine the location and extent of selective demolition to be performed.
- B. In company with the Engineer, visit the site and verify the extent and location of selective demolition required.
 - 1. Carefully identify the limits of selective demolition.
 - 2. Secure the Engineer's review of the items scheduled for selective demolition.
 - 3. Demolish and remove the scheduled items.
- C. Prepare and follow an organized plan for demolition and removal of items.
 - 1. Shut off, cap, and otherwise protect existing utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
 - 2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere or excavation.
 - 3. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
- D. Exercise all necessary care so as not to damage items scheduled to remain in place for re-use.
- E. Except for items specifically scheduled for reuse or to be turned over to the City, demolished material shall be considered to be the property of the Contractor and shall be completely removed from the job site and disposed of in accordance with all Federal, State, and local regulations. Provide documentation to the Engineer that the material has been disposed of in such a manner.

3.3 REPLACEMENTS

In the event of demolition or damage caused to items not so scheduled to be demolished, promptly replace such items to the approval of the City and at no additional cost to the City.

3.4 ALTERATIONS TO REUSED ITEMS

All alterations to reused items are to be of an equal standard to their original construction, or as otherwise indicated in these Specifications. The Contractor is responsible for ensuring that the dimensions of reused items are adjusted to suit the new construction. Drawings are

to be presented to the Engineer for review prior to making any alterations; however, this review does not relieve the Contractor of his responsibilities as indicated elsewhere in this Contract.

3.5 RELOCATION OF UTILITIES

Relocate existing utilities as required during construction such that services to the site are maintained to the City's satisfaction. The Contractor is responsible for liaison with the City on all aspects of utility service maintenance and relocation. If replacement of utilities is undertaken by a Utility Company or others, the Contractor shall coordinate these activities with its own work.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 WORK SPECIFIED

Work included: The Work covered under this Section of these Specifications consist of furnishing all plant, labor, supervision, equipment, appliances, and materials and in performing all operations in connection with the installation of reinforced concrete for all aspects of the project, all in strict accordance with the Contract Documents.

1.2 SUBMITTALS

A. Shop Drawings and Product Data.

Shop drawings and product data showing all fabricated dimensions and locations for placing of the reinforcing steel and accessories shall be submitted for review. Shop Drawings shall provide sufficient technical data to demonstrate compliance with the specified requirements. Products, materials, or information submitted for review shall not be used or fabricated until after receipt of the Engineer's review comments. Distribute only reviewed shop drawings to the job site.

B. Mix Design.

Submit concrete mix design, with known test results, to the Engineer for review. The concrete mix design submittal shall consist of at least the following:

1. Type of cement.
2. Dry weight of cement.
3. Saturated surface-dry weights of fine and coarse aggregates.
4. Specific gravity of fine and coarse aggregates.
5. Quantities, type, name, and producer of admixtures, as applicable.
6. Total weight of water, including the water that is absorbed by and on the surface of the aggregates.
7. Water to cement ratio.

8. Slump: Maximum slump, taken at the truck, will be determined based on the pump hose length. The mix designs shall include the anticipated loss of slump per 100-foot length of specified hose size.
 9. Strength test data of the proposed mix design as specified herein.

Distribute reviewed mix design to testing laboratory, batch plant, and job site.
- C. Submit concrete batch tickets for each truck delivered to site. Each ticket shall note at least the following data: design mix strength; batch proportions including actual water and aggregate moisture contents; date and batch time; arrival time at site; discharge time; concrete volume; and any change to concrete made at the site.
 - D. Construction Joints: Submit proposed construction and control joint details and locations for Engineer's review.
 - E. Curing and protection procedures: including product data on materials proposed for use.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Quality Assurance:
 1. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
 2. The City, through the Engineer, reserves the right of approval of any Subcontractor pre-qualified and selected for this portion of the Work by the Contractor. Approval will be based, in part, on a documented successful experience in performing work of a similar nature.
 3. Cast-In-Place Concrete work shall conform to all requirements of ACI 301, "Specifications for Structural Concrete for Buildings".
 4. Detailing, fabrication, and erection of reinforcing steel shall conform to ACI 318, "Building Code Requirements for Structural Concrete and Commentary" and ACI 315, "Details and Detailing of Concrete Reinforcement".

5. Ready mix plant equipment and facilities shall conform to the "Check List for Certification of Ready Mixed Concrete Production Facilities" of the NRMCA.

B. Concrete:

1. Portland cement: Type II - low alkali conforming to ASTM C 150, "Standard Specification for Portland Cement".
2. Aggregate, general:
 - a. Shall be normal weight and uniformly graded and clean conforming to ASTM C33, "Standard Specification for Concrete Aggregates".
 - b. Do not use aggregate known to cause excessive shrinkage.
3. Aggregate, coarse: Crushed rock or washed gravel with a maximum size of 3/4".
4. Aggregate, fine: Natural washed sand of hard and durable particles varying from fine to particles passing a 3/8" screen, of which at least 12% shall pass a 50-mesh screen.
5. Water: Clean and potable.
6. Air entraining admixture shall conform to ASTM C260, "Standard Specification for Air Entraining Admixture for Concrete". The air entraining agent shall be a nontoxic concentrated solution of neutralized Vinsol resin, such as "Daravair" as manufactured by GCP Applied Technologies or equivalent accepted by the Engineer.
7. Water reducing admixture shall conform to ASTM C494 "Standard Specification for Chemical Admixtures for Concrete." Water reducing agent shall be of Type A, B, C, D, E, F, or G (as noted in concrete mix design) such as "Daracem-100" as manufactured by GCP Applied Technologies or equivalent accepted by the Engineer.

C. Reinforcing Steel:

8. All reinforcing steel shall conform to ASTM 615 Grade 60, "Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement".

9. Reinforcing steel shall be fusion bond epoxy coated per ASTM A775 or hot dip galvanized per ASTM A767.
10. Fabricate reinforcement to the required shapes and dimensions, within fabrication tolerances stated in the CRSI "Manual of Standard Practices."
11. Do not use reinforcement having any of the following defects:
 - a. Bar lengths, depths, or bends exceeding the specified fabricating tolerances.
 - b. Bends or kinks not indicated on the Drawings or required for this Work.
 - c. Bars with cross section reduced due to excessive rust or other causes.

D. Moisture Protection:

Curing materials for concrete cast above the tidal zone shall conform to ASTM C309, "Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete", wet burlap, or plastic membrane.

E. Accessories:

All spacers, chairs, bolsters, and other devices necessary for proper reinforcing steel placement shall be epoxy coated with nylon tipped legs. All reinforcing steel shall be adequately tied with nylon, epoxy, or plastic-coated tie wire and supported with epoxy-coated chairs that hold the bars to the specified clearance. One chair sample shall be submitted to the Engineer for review. No clay or concrete bricks or any other material other than reviewed chairs shall be permitted to support reinforcing steel.

F. Bonding Agent and Fusion Bonded Epoxy Coating Touch-Up:

Bonding agent shall be Sika Armatec 110 Epocem, as manufactured by Sika Corporation or an equivalent accepted by the Engineer.

G. Product Delivery, Storage, and Handling:

Conform to the recommendations of ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete".

PART 3 – EXECUTION

3.1 INSTALLATION

A. Concrete Mix Proportioning

1. Concrete shall be proportioned by the Contractor in accordance with ACI 301. The proposed design mix, together with all the Test Records, or Trial Mix Data, as required by ACI 301, shall be submitted to the Engineer for review at least two weeks prior to the first intended placement. Submit a separate pump mix if different from the concrete mix placed by conventional methods.
2. Concrete shall be normal weight with a minimum compressive strength of 5000 psi at 28 days unless noted otherwise (UNO).
3. Concrete shall have a maximum water to cement ratio of 0.40, UNO.
4. Concrete shall be proportioned to have a slump of 4 inches, \pm 1 inch, at the discharge end of the pump hose. Use a water reducing agent as required to achieve the desired slump range. Addition of water at site will not be permitted.
5. Concrete shall contain 4% to 6% entrained air (based on 3/8" coarse aggregate).

B. Form Construction

1. Design, erect, support, brace, and maintain formwork so it will safely support vertical and lateral loads which might be applied until such loads can be supported safely by the concrete structure in accordance with ACI 347.
2. Construct forms to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, and level and plumb work in the finished structure.
3. Form coating or water shall be applied to all forms. If coating is used, it shall be applied prior to placement of reinforcing steel.
4. Form ties and spreaders shall be of such type as to leave no metal closer than 3 inches from any exposed concrete surface.

C. Reinforcement Placement

1. All coated reinforcing steel shall be protected from damage to the coating during handling and placement. Any coated reinforcing steel, where the coating has been damaged shall be either removed from the site or re-coated, at the Engineer's discretion with strict

conformance to the manufacturer's instructions at the Contractors expense.

2. Place reinforcement to obtain the required coverage for concrete protection. Minimum concrete cover for all reinforcing shall be 3 inches except where specifically noted otherwise.
3. Clean reinforcement and remove loose dust, earth, and other materials which reduce bond or destroy bond with concrete other than coating.
4. Position, support, and secure reinforcement against displacement by forms, construction, and the concrete placement operations.
5. All reinforcing steel shall be continuous unless specifically detailed otherwise on the Contract Drawings. Provide dowels or lap splices of the appropriate class to maintain continuity. Unless otherwise shown on the Contract Drawings lap bars in compliance with ACI 318. Dowels or splices shall be shown on the shop drawings and shall be subject to the field review of the Engineer. No more than 60% of the total number of bars shall be spliced at one location.

D. Embedded Items

1. Install embedded items furnished under this Section and other Sections. All sleeves, inserts, anchors, and embedded items required for adjoining work or for its support shall be placed prior to casting concrete. All embedded items shall be positioned accurately and supported against displacement.
2. Where existing timber pile tops are to be embedded in the concrete, thoroughly clean the embedded portion of the piles of all debris and foreign matter prior to concrete placement. Do not damage the existing piles by cleaning.

E. Concrete Mixing

1. Transit-mix the concrete in accordance with provisions of ASTM C94.
2. Do not use concrete after 90 minutes from time of introduction of water to the mix.

F. Concrete Placement

1. All concrete work shall conform to the requirements of ACI 318, “Building Code Requirements for Structural Concrete”.
2. Preparation:
 - a. Remove foreign matter accumulated in the forms.
 - b. Rigidly close openings left in the formwork.
 - c. Wet wood forms immediately prior to concrete placement. Wet wood forms sufficiently to tighten up cracks. Wet other material sufficiently to maintain workability of the concrete.
 - d. Use only clean tools.
3. Conveying:
 - a. Perform concrete placing at such a rate that concrete which is being integrated with fresh concrete is still plastic.
 - b. Deposit concrete as nearly as practicable in its final location so as to avoid separation due to re-handling and flowing.
 - c. Do not use concrete which becomes non-plastic and unworkable, or does not meet required quality control limits, or has been contaminated by foreign materials.
 - d. Remove rejected and excess concrete from the job site.
4. Placing concrete in forms:
 - a. Concrete shall be cast to full dimensions in one operation.
 - b. Free-fall of concrete during placement greater than eight feet is prohibited. The contractor shall place concrete with a tremie tube for drops greater than eight feet.
 - c. Deposit concrete in horizontal layers not deeper than 24 inches and avoid inclined construction joints.
 - d. Remove temporary spreaders in forms when concrete has reached the elevation of the spreaders.
5. Consolidation

- a. Consolidate each layer of concrete immediately after placing, by use of internal concrete vibrators supplemented by hand spading, rodding, or tamping.
 - b. Do not use vibrators to transport concrete inside the forms.
 6. Construction Joints
 - a. Do not use horizontal construction joints.
 - b. Secure the Engineer's review of joint design and location prior to start of concrete placement.
- G. Curing And Protection
1. Beginning immediately after placement, concrete shall be protected from premature drying, excessively hot or cold temperatures, and mechanical damage and shall be maintained with minimal moisture loss at a relatively constant temperature for the period necessary for the hydration of the cement and hardening of the concrete.
 2. Concrete surfaces not covered by forms or within the inter-tidal elevations shall be protected from loss of surface moisture for not less than seven days using moisture protection as specified herein.
 3. If cold-weather concreting is anticipated, a preconstruction meeting should be held to define how cold weather concreting methods will be used. When the mean daily ambient temperature is at or below 40 degrees F or 45 degrees F and falling the Contractor shall follow the requirements of ACI 306.1, "Standard Specification for Cold Weather Concreting":
 - a. Set up proper enclosure and heat to 50 degrees F for at least two (2) hours before starting any pour. Set up individual thermometers within enclosure to monitor ambient temperatures near the face of fresh concrete. Thermometers shall be placed at a maximum of 50-foot centers, at major corners or returns, and at ends of concrete sections. Monitor and record temperatures in a log at early morning, noon, and early evening.
 - b. Use a water-reducing admixture with an accelerated set, but do not use or rely upon any material as an anti-freeze. Use of calcium chloride is forbidden.

- c. Use vented heaters with blowers so placed that they do not produce localized hot spots which may dry out the concrete. Exposure to exhaust gases from combustion heaters is prohibited for the first 24 hours of the curing period.
 - d. Maintain the temperature of the formwork at not less than 50 degrees F but not greater than 70 degrees F for 48 hours after completion of pour; formwork may be stripped after 72 hours after completion of pour. After 48 hours of maintaining at least 50 degrees F, the temperature may be allowed to drop gradually and shall be kept above 32 degrees F for a period of seven (7) days after completion of pour. Protection during this period may be provided by existing enclosure or by means indicated in note e below.
 - e. Protection may be provided by use of insulation methods. Adequate insulation shall consist of at least one of the following:
 - 12" of dry earth; provide moisture cover if over slab concrete.
 - 4" of hay under adequate moisture cover.
 - 1" of insulation blankets with vapor barrier seal.
 - Other insulating material acceptable to the Engineer.
- NOTE: Extreme conditions of temperature or wind may require more protection.
- f. Concrete may not be placed on frozen ground.
 - g. All frozen concrete shall be removed from the job and replaced at a cost to the Contractor.
4. When the mean daily ambient and substrate temperature is above 80 degrees F, the Contractor shall follow the requirements of ACI 305.1, "Standard Specification for Hot Weather Concreting". Concrete shall be protected from thermal damage. Provisions for windbreaks, shading, fog spraying, sprinkling, ponding, or wet covering with a light-colored material shall be made in advance of placement and such protective measures shall be taken as quickly as concrete hardening and finishing operations will allow.

- a. No concrete shall be placed when the air temperature is above 90 degrees F unless the air is still, and relative humidity is above 80%.
- b. Set up proper windbreakers for concrete surfaces whenever the relative humidity is less than 70% for slight air motion or 80% for light breezes.
- c. Provide shade for pours otherwise exposed to the sun.
- d. Concrete is to be at a temperature of 80 degrees F or less when placed. If necessary, the batching plant shall cool aggregates by spraying or by using chilled water or ice. All such water shall be accounted for as part of the mixing water.
- e. Use an admixture with a retarded set.
- f. All forms shall be thoroughly wetted at least daily and more often when the relative humidity is low.
- g. For slabs, maintain the required materials for curing on hand, so they may be placed immediately upon finishing. All concrete placed in ambient temperatures over 80 degrees F shall be kept wet for a minimum of 24 hours. Intermittent spraying will not be permitted. No water shall be applied before the concrete has acquired its initial set. When the concrete temperature of any slab goes above 100 degrees F, place a layer of sand on it and keep it continuously wet until the temperature is below 80 degrees F.

H. Finishing

1. Remove all fins, blemishes, and defective concrete areas and patch where required with reworked cement mortar of the same proportions as that used in the concrete.
2. Form tie holes shall be plugged solid with reworked cement mortar of the same proportions as that used in the concrete.
3. Exposed surfaces of concrete shall receive a wood float finish or a light broom finish, unless noted otherwise.

3.2 CONCRETE TESTING

Concrete testing shall comply with ACI-318. Test reports shall be submitted to the Engineer for review.

END OF SECTION

SECTION 05 12 00

STRUCTURAL STEEL

PART 1 – GENERAL

1.1 WORK SPECIFIED

Work included: Provide miscellaneous structural steel items including but not limited to accessories as shown on the Drawings, specified herein, and needed for a complete and proper installation.

1.2 SUBMITTALS

- A. Sufficient technical data to demonstrate compliance with the specified requirements.
- B. Complete shop drawings detailing all members, profiles, sizes, spacing, proposed cuts, connections, camber, holes, openings, fasteners, and similar data. Erection plans showing the location and field connection of all members. Identify members by piece numbers that correspond to erection numbers. Structural steel connection details not specifically shown in the Contract Documents shall be detailed by the Contractor and included with a shop drawing submittals.
- C. Submit manufacturer's certifications showing that the products meet or exceed the required standards for the following items:
 - 1. Bolts, including nuts and washers.
 - 2. Threaded rods including all hardware.
 - 3. Filler material and flux for welding.
 - 4. Expansion bolts.
- D. Submit Certified Mill Test Reports indicating structural strength, destructive and non-destructive test analysis, chemical and physical properties of each type of steel and conformance with ASTM A6.
- E. Submit welder's certificates certifying welders employed on the Work, verifying AWS qualifications within the previous twelve months.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Quality Assurance

1. Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the Work of this section.
2. Perform welding with an electric arc process and in accordance with AWS "Code for Arc and Gas Welding in Building Construction".
3. In addition to complying with pertinent codes and regulations, comply with:
 - a. The American Institute of Steel Construction, AISC, "Steel Construction Manual", Fifteenth Edition.
- B. Structural Steel Shapes shall conform to ASTM A992, A690, or A572 Grade 50.
- C. Steel Angles, Channels, and Plates shall conform to ASTM A572 Grade 50.
- D. Anchor rods shall conform to ASTM F1554, for Grades 36, 55 and 105.
- E. Carriage bolts and Lag screws shall conform to ASTM A307, Grade A.
- F. High Strength Structural Bolts: Shall conform to ASTM F3125 Grade A325 with hexagonal heads.
- G. Nuts: Shall be hexagonal and conform to ASTM A563.
- H. Washers (except against timber): Shall conform to ASTM F436.
- I. Threadbar Rods and Nuts: DYWIDAG Threadbar or equivalent accepted by the Engineer, shall conform to ASTM A615 for Grades 60, 70, 80, and 100, and ASTM A722 Grade 150.
- J. Adhesive Anchors: Adhesive shall be HIT RE 500 V3 Injection Adhesive Anchor as manufactured by Hilti Corporation, or equivalent acceptable to the Engineer. Anchor rods shall be as specified above for threadbare anchors.
- K. Expansion bolts: Shall be stainless steel HILTI KWIK BOLT 3, as manufactured by HILTI or equivalent accepted by the Engineer.
- L. Welding Materials: AWS D1.1; Type E70XX or type required for materials being welded.

- M. Grout: Non-shrink, non-metallic, high-performance cement-based grout conforming to ASTM C827 such as Sikagrout 212 as manufactured by Sika Corporation or equivalent accepted by the Engineer.
- N. Fabrication:
1. Fabricate items of structural steel in accordance with AISC specifications and as shown on the accepted shop drawings.
 2. Properly mark materials for field assembly and for identification of the structure and location intended. Fabricate for delivery sequence which will expedite erection and minimize field handling of Materials.
 3. Provide bolts, nuts, and washers of all types and sizes required for completion of field erection.
 4. Comply with AWS code for procedures, appearance, and quality of welds, and methods used in correcting welded work.
 5. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates. No holes will be allowed unless first shown on the Shop Drawings and accepted by the Engineer.
 6. Should holes be required in addition to those provided under this Section, provide all such holes, and strengthen the area as required to compensate but only as accepted by the Engineer.
 7. Moment connections shall develop the full strength of joined members. The cold weather welding requirements of AWS shall be required and enforced.
 8. Where finishing is required, complete the assembly, including welding of units, before start of finishing.
 9. Provide finish surfaces of members exposed in the final structure free from markings, burrs, and other defects.
 10. Assemble and weld built-up sections by methods which will produce true alignment of axes without warp.
- O. Protective Coating
1. General: Unless specifically noted otherwise, all items scheduled to receive protective coating shall be fully fabricated with holes,

cuts, threads, etc. prior to receiving protective coating, prior to delivery to site.

2. Steel Sections: Unless specifically noted otherwise, all steel sections shall be shop coated prior to delivery to site in accordance with Section 09 97 13 Coating on Steel Waterfront Structures.
3. Bolts, Nuts, and Washers: All bolts, nuts, and washers shall be hot-dipped galvanized in accordance with ASTM A153.
4. Threadbar Rods, and Nuts: Epoxy coated in accordance with ASTM A775.
5. Adhesive Anchor Rods: anchor rods, nuts, and washers shall be hot-dipped galvanized in accordance with ASTM A153.
6. Field Touch-Up of Epoxy-Coated Items: Shall be performed in accordance with Section 09 97 13 Coating on Steel Waterfront Structures.
7. Field Touch-Up of Hot-Dipped Galvanized Items: Touch-up shall be performed with Tnemec 90-97 Tneme-Zinc primer or equivalent accepted by the Engineer. Surface preparation and coating application shall be in strict accordance with manufacturers written instructions.

P. Other Material

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the review of the Engineer prior to final installation.

Q. Product Handling and Storage

1. Deliver materials to the job site properly marked to identify the location for which they are intended.
2. Use markings corresponding to markings shown on the reviewed shop drawings.
3. Store in a manner to maintain identification and prevent damage, off the ground, using pallets or other supports, and to permit easy access for inspection.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Surface Conditions

Examine the areas and verify the conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

B. Erection

1. Surveys:

- a. Establish benchmarks necessary for accurate erection of structural steel.
- b. Check elevations of concrete surfaces, and locations of anchor bolts and similar items, before erection proceeds.

2. Temporary shoring and bracing:

- a. Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads.
- b. Provide temporary guy lines to achieve proper alignment of the structure as erection proceeds.
- c. Remove temporary connections and members when permanent members are in place and final connections are made.
- d. Field touch-up protective coating where damaged.

3. Anchor bolts:

- a. Install anchor bolts and other connectors required for securing structural steel to adjacent work as shown on the Contract Drawings.
- b. Provide templates and other devices as needed for presetting bolts and other anchors to accurate locations.

4. Field Assembly:

- a. Set structural frames accurately to the lines and elevations indicated.
- b. Align and adjust the members forming part of a complete frame or structure before fastening permanently.

- c. Clean the bearing surfaces and other surfaces which will be in permanent contact before assembly.
 - d. Adjust as required to compensate for discrepancies in elevation and alignment.
 - e. Level and plumb individual members of the structure within specified AISC tolerances.
 - f. Establish required leveling and plumbing measurements on the mean operating temperature of the structure, making allowances for the difference between temperature at time of erection and the mean temperature at which the structure will be when completed and in service.
 - g. Comply with AISC specifications for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to welds.
5. Gas cutting:
- a. Do not use gas cutting torches for correcting fabricating errors in structural framing, except on secondary members where acceptable to the Engineer.
 - b. When gas cutting is permitted, finish the gas cut section to a sheared appearance acceptable to the Engineer.
6. Expansion Bolts and Adhesive Anchors: Install anchors in strict accordance with manufacturers written instructions.
7. Field Welding: Where field welds are scheduled, surfaces to be joined are to be properly prepared, including removal of any existing coatings prior to welding. Following welding, prepare and touch-up all areas requiring coating as set forth in Section 09 97 13 Coating on Steel Waterfront Structures.

END OF SECTION

SECTION 09 97 13

COATING OF STEEL WATERFRONT STRUCTURES

PART 1 - GENERAL

1.1 WORK SPECIFIED

The work includes The furnishing of all plant, labor, materials, tools and equipment, and the performance of all operations and incidentals necessary for the coating, handling, storing, and shipping of plant coated steel sheet piling, structural steel, and miscellaneous ancillary items.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. The City, through the Engineer, reserves the right of approval of any Subcontractor pre-qualified and selected for this portion of the Work by the Contractor. Approval will be based, in part, on:
 - 1. Documented successful experience in performing work of a similar nature.
 - 2. Acceptable schedule of unit prices for measurement and payment in event of changes in the Work of this Section.
- C. Coating materials shall be handled, stored, and applied in accordance with the manufacturer's specifications, or as directed by an authorized representative of the coating manufacturer.
- D. All references to SSPC shall be interpreted as Steel Structures Painting Council, part of Association for Materials Protection and Performance.
- E. Structural steel fabrications shall be received by coating applicator free of all oil and grease.

1.3 SUBMITTAL

Submit material certification data for the coating system to the Engineer for review no later than the time of delivery of materials to the site. Certification shall include a statement by the coating applicator that the protective coating was installed in strict accordance with manufacturer's written instructions, including all surface preparation.

1.4 PRODUCT DELIVERY AND STORAGE

The Contractor guarantees that material shall be stored in a safe manner within City-designated area provided at the site.

PART 2 - PRODUCTS

2.1 EPOXY COATING

- A. Material used for factory epoxy coating of all scheduled surfaces shall be BAR-RUST 235 Multi-Purpose Epoxy Coating as manufactured by Devoe Coatings or equivalent accepted by the Engineer.
- B. Epoxy coating field touch-up material shall be identical to factory coating specified in paragraph 2.1-A above.
- C. The topcoat color for all surfaces is to be black.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Surfaces shall be prepared in strict accordance with the protective coating system manufacturer's written instructions. Surfaces are to be abrasion-blasted to near-white surface cleanliness in accordance with SSPC-SP-10. Blast profile on steel shall be 1.5 to 2.5 mils in depth and be of a sharp, jagged nature as opposed to a "peen" pattern (from shot blasting). Surfaces must be sound, dry, clean, free of oil, grease, dirt, mildew, form release agents, curing compounds, loose and flaking paint, grit dust, and other foreign substances. Roto-blasted surfaces are not acceptable.
- B. Surfaces requiring field touch-up shall be prepared as described in paragraph 3.1-A above.

3.2 PROTECTIVE COATING APPLICATION

- A. The protective coating shall be installed in strict accordance with manufacturers written instructions. Coating is to be applied in two coats to achieve a minimum overall dry film thickness of 15 mils.
- B. All holidays or other imperfections in the coating shall be removed or repaired at the Contractors expense prior to final acceptance of the Work.
- C. Surfaces requiring field touch-up of any required areas shall be prepared as described in paragraph 3.1-A above or by the following procedure:
 - 1. Clean all surfaces to be repaired per SSPC-SP1 Solvent Clean to remove chlorides and general surface contamination.
 - 2. Grind all welded areas to provide a smooth surface with no sharp edges.

3. Feather existing coatings back to sound material.
4. Clean all other surfaces to be repaired per SSPC-SP2 (Hand Tool Clean) or SSPC-SP3 (Power Tool Clean). Do not grind surfaces smooth; maintain adequate surface profile from original blast cleaning.
5. Stripe-coat all welds and edges with the epoxy coating prior to painting to insure adequate film thickness.

END OF SECTION

SECTION 35 05 19.13

GEOTEXTILE FABRIC

PART 1 – GENERAL

1.1 WORK SPECIFIED

The Work covered by this Section of these Specifications consists of furnishing all plant, labor, supervision, equipment, appliances, and materials and in performing all operations in connection with the installation of geotextile fabric. The primary function of the geotextile is filtration; all in strict accordance with this Section of the Specifications and the applicable drawings, and subject to the terms and conditions of the Contract.

1.2 SUBMITTALS

- A. Submit the pre-qualified list of subcontractors to the Engineer for review.
- B. Certification: The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. The Certification shall state that the furnished geotextile meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Manufacturer:

Mirafi Construction Products

365 South Holland Drive

Pendergrass, GA, USA 30567

1-888-795-0808

1-706-693-2226

1-706-693-2083, fax

www.mirafi.com
- B. Geotextile:

1. The geotextile shall be manufactured with fibers consisting of long-chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages.
2. Woven slit film geotextile (i.e., geotextile made from yarns of a flat, tape-like character) shall not be allowed.
3. The geotextile shall meet the requirements of Table 1. All numeric values in Table 1 except AOS represent MARV in the weakest principal direction. Values for AOS represent maximum average roll values.
4. Acceptable geotextiles are as follows:

Elongation < 50%: Mirafi Filterweave 700

TABLE 1 - SUBSURFACE DRAINAGE GEOTEXTILE

| Property | Test Method | Units | Elongation < 50% ¹ |
|------------------------------------|-------------|-------------------|-------------------------------|
| Grab Tensile Strength | ASTM D 4632 | N (lbs) | 1100 (247) |
| Sewn Seam Strength ² | ASTM D 4632 | N (lbs) | 990 (222) |
| Tear Strength ³ | ASTM D 4533 | N (lbs) | 400 (90) |
| Puncture Strength | ASTM D 4833 | N (lbs) | 400 (90) |
| Burst Strength | ASTM D 3786 | kPa (psi) | 2700 (391) |
| Permittivity | ASTM D 4991 | sec ⁻¹ | 0.2 |
| Apparent Opening Size | ASTM D 4751 | mm (U.S. Sieve) | 0.25 max (60) |
| Ultraviolet Stability ⁴ | ASTM D 4355 | % | 50 |

¹ A measured in accordance with ASTM D 4632.

² When sewn seams are required.

³ The required MARV Tear Strength for woven monofilament geotextiles is 250 N (56 lbs.).

⁴ After 500 hrs.

C. Quality Control:

1. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this Section and qualified by the Geosynthetic Accreditation Institute (GAI) Laboratory Accreditation Program (LAP) and by the American Association for Laboratory Accreditation (A2LA).
2. The Owner reserves the right of approval of the subcontractor pre-qualified and selected for this portion of the Work by the Contractor. Approval will be based, in part, on documented successful experience in performing work of a similar nature.
3. Manufacturing Quality Control: Testing shall be performed at a laboratory accredited by GAI-LAP and A2LA for tests required for the geotextile, at frequency meeting or exceeding ASTM D 4354.
4. Geotextile properties, other than Sewn Seam Strength, Burst Strength, and Ultraviolet Stability shall be tested by NTPEP to verify conformance with this specification.
5. Sewn Seam Strength shall be verified based on testing of either conformance samples obtained using Procedure A of ASTM D 4354 or based on manufacturer's certifications and testing of quality assurance samples obtained using Procedure B of ASTM D 4354. A lot size for conformance or quality assurance sampling shall be considered to be the shipment quantity of the given product or a truckload of the given product, whichever is smaller.
6. Ultraviolet Stability shall be verified by an independent laboratory on the geotextile or a geotextile of similar construction and yarn type.

D. Product Delivery and Storage:

1. Geotextile labeling, shipment, and storage shall follow ASTM D 4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

2. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Preparation

Excavation shall be done in accordance with details of the project plans. In all instances excavation shall be done in such a way so as to prevent large voids from occurring. The graded surface shall be smooth and free of debris.

B. Installation

1. The geotextile shall be placed loosely with no wrinkles or folds, and with no void spaces between the geotextile and the ground surface. Successive sheets of geotextile shall be overlapped a minimum of 300 mm (12 in), with the upstream sheet overlapping the downstream sheet.
2. In trenches equal to or greater than 300 mm (12 in) in width, after placing the drainage aggregate the geotextile shall be folded over the top of the backfill material in a manner to produce a minimum overlap of 300 mm (12 in). In trenches less than 300 mm (12 in) but greater than 100 mm (4 in) wide, the overlap shall be equal to the width of the trench. Where the trench is less than 100 mm (4 in) the geotextile overlap shall be sewn or otherwise bonded. All seams shall be subject to the review of the Engineer.
3. Should the geotextile be damaged during installation or drainage aggregate placement, a geotextile patch shall be placed over the damaged area extending beyond the damaged area a distance of 300 mm (12 in), or the specified seam overlap, whichever is greater.
4. Placement of drainage aggregate should proceed immediately following placement of the geotextile. The geotextile should be covered with a minimum of 300 mm (12 in) of loosely placed aggregate prior to compaction. If a perforated collector pipe is to be installed in the trench, a bedding layer of drainage aggregate should be placed below the pipe, with the remainder of the aggregate placed to the minimum required construction depth.

5. The aggregate should be compacted with vibratory equipment to a minimum of 95 percent Standard AASHTO density unless the trench is required for structural support.

END OF SECTION

SECTION 31 23 00

EXCAVATING, BACKFILLING AND COMPACTING

PART 1 – GENERAL

1.1 WORK SPECIFIED

Work included: excavating, backfilling, compacting, and grading the site to the elevations and limits shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown on the Contract Documents.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work of this Section in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the Consulting Engineer.

1.3 SUBMITTALS

- A. Submit the pre-qualified list of subcontractors and the proposed schedule of unit prices to the Engineer for review.
- B. Submit material gradation, moisture density curve, and representative material sample for each material proposed for use.
- C. Submit de-watering plan if de-watering is to be performed. Include proposed intake and discharge location, containment measures for discharge, including details on size, type, and intended location of all components.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Granular Backfill

Where the Drawings indicate “structural fill” material, it shall meet the requirements of granular backfill as described herein. Granular backfill shall consist of broken or crushed stone, bank or crushed gravel, or mixtures thereof. A sample and grading curve is to be provided for the Engineer's

review prior to commencing work. Make submittal in accordance with Section 01 25 13. Recycled man-made products such as asphalt and concrete are not acceptable.

1. Broken or crushed stone shall consist of sound, tough, durable stone.
2. Bank or crushed gravel shall consist of sound, tough, durable particles of crushed or uncrushed gravel free from soft, thin, elongated, or laminated pieces and organic or other deleterious substances.

B. Uncontrolled Fill

Uncontrolled backfill material may consist of surplus excavated materials from the site.

C. Pipe Bedding Material

This material shall be sand or sandy soil, all of which passes a 3/8" sieve, and not more than ten (10) percent passes a No. 200 sieve.

D. Other Materials

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the review of the Engineer. Make submittals in accordance with Section 01 25 13.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Surface Conditions

1. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

B. Finished Elevations and Lines

Comply with pertinent provisions of Section 01 71 23.

C. Procedures

1. Utilities:

- a. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the City. The Contractor is responsible for notification of local utilities.
 - b. If active utility lines are encountered and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
 - c. If service is interrupted as a result of Work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the City.
 - d. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Engineer, and secure his instructions.
 - e. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.
2. Protection of persons and property:
- a. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
 - b. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 - c. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
 - d. Provide grounding of equipment.
3. Dewatering of Upland Excavations:
- a. Remove all water, including rainwater, encountered during trench and substructure work to an approved location by pumps, drains, and other approved methods.
 - b. Keep excavations and site construction area free from water.

- c. Should de-watering systems be employed, discharge effluent to an upland location contained by hay bales, silt fencing or other means of containment acceptable to the City.
 4. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
 5. Always maintain access to adjacent areas.
 6. Upland soil stockpiles shall be contained by hay bales or silt fencing to prevent erosion. Maintain containment measures during the Work.
- D. Excavating
 1. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.
 2. Satisfactory Excavated Materials

Transport to, and place in, fill or embankment areas within the limits of the Work.
 3. Unsatisfactory Excavated Materials
 - a. Excavate to a distance below grade as directed by the Engineer and replace with satisfactory materials.
 - b. Include excavation of unsatisfactory materials, and replacement by satisfactory materials, as part of the work of this Section.
 4. Surplus Materials
 - a. It is a requirement of this Contract that no excavated soils, including riprap and other stone products, are permitted to be removed from the site. Surplus materials are to be stockpiled by the Contractor at a location on site per the direction of the City. Stockpiles are to conform to the requirements of Paragraph 3.1-C above.
 5. Excavating of Surfaces and Subsurfaces
 - a. Where rocks, boulders, granite, or similar material is encountered, and where such material cannot be removed or excavated by conventional earth moving or ripping

equipment, take required steps to proceed with the general grading operations of the Work, and remove or excavate such material by means which will neither cause additional cost to the City nor endanger buildings or structures whether on or off the site.

- b. Where existing subsurface structures are encountered, notwithstanding items described in Paragraph 3.1-C, where these subsurface structures are classified as abandoned by the Engineer, and where these structures impede progress of the Work, shall be removed by means which will neither cause additional cost to the City nor endanger buildings or structures on or off site.
 - c. Do not use explosives without written permission from the Engineer.
6. Excavate and backfill in a manner and sequence that will always provide proper drainage.
7. Borrow
- Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrows areas selected and paid for by the Contractor and accepted by the Engineer.
8. Ditches and Gutters
- a. Cut accurately to the cross sections, grades, and elevations shown.
 - b. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the Work.
9. Unauthorized Excavations
- a. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimension without specific instruction from the Engineer.
 - b. Under footings, foundations, or retaining walls:
 - i. Fill unauthorized excavations by extending the indicated bottom elevation of the footing or base to

the excavation bottom, without altering the required top elevation.

- ii. When acceptable to the Engineer, lean concrete fill may be used to bring the bottom elevation to proper position.
- iii. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the Engineer.

10. Stability of Excavations

- a. Slope excavations as necessary to make slopes safe in accordance with the appropriate regulations.
- b. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.
- c. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

11. Shoring and Bracing

- a. Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work and compliance with requirements of govern-mental agencies having jurisdiction.
- b. Maintain shoring and bracing in excavations regardless of the time excavations will be open.
- c. Construct shoring and bracing as excavation progresses.

12. Excavating the Structure

- a. Conform to elevations and dimensions shown within a tolerance of 0.10 ft and extending a sufficient distance from footings and foundations to permit placing and removing concrete formwork, installation of services, other construction required, and for inspection.
- b. In excavating for footings, take care not to disturb bottom of excavation:
 - i. Excavate by hand tools to final grade just before concrete is placed.

- ii. Trim bottoms to required lines and grades to leave solid base to receive concrete.
 - iii. Excavate for footings and foundations only after general site excavating, filling, and grading are complete.
- 13. Excavating the Pavement

Cut surface under pavements to comply with cross sections, elevations, and grades.
- 14. Cold Weather Protection

Protect excavation bottoms against freezing when ambient atmospheric temperature remains lower than 35 degrees F for more than four consecutive hours or is anticipated to be lower than 35 degrees F during non-working hours such as overnight, weekends, or holidays.
- 15. Filling and Backfilling
 - a. General:
 - i. For each area shown on the Drawings, place acceptable soil material in layers to required elevations.
 - ii. Perform all backfilling and compaction operations in a careful and controlled manner. Avoid damaging existing structures. Prevent loss of material through openings in the bulkhead and prevent materials from entering the waterway.
- 16. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following:
 - a. Acceptance of construction below finish grade including, where applicable, damp-proofing and waterproofing.
 - b. Inspecting, testing, approving, and recording locations of underground utilities.
 - c. Removing concrete formwork.
 - d. Removing shoring and bracing, and backfilling of voids with satisfactory materials.

- e. Removing trash and debris.
 - f. Placement of horizontal bracing on horizontally supported walls.
17. Ground Surface Preparation
- a. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of fills.
 - b. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontals so that fill material will bond with existing surface.
 - c. When existing ground surface has a density less than specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
18. Placing and Compacting
- a. De-water area scheduled to receive backfill.
 - b. Place backfill and fill materials in layers not more than 8" in loose depth.
 - c. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
 - d. Compact each layer to required percentage of maximum density for area.
 - e. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 - f. Place backfill and fill materials evenly along structures, to required elevations.
 - g. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.
19. Grading
- a. General:

- i. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
 - ii. Smooth the finished surfaces within specified tolerance.
 - iii. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.
 - iv. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'-0" unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.
 - b. Grading outside building lines:
 - i. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding.
 - ii. Finish the surfaces to be free from irregular surface changes, and:
 - i. Shape the surface of areas scheduled to be under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft above or below the required subgrade elevation.
 - ii. Shape the surface of areas scheduled to be under pavement to line, grade, and cross section, with finished surface not more than 0.05 ft above or below the required subgrade elevation.
20. Compacting
- a. Control backfill compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557.
 - b. Backfill material's density shall not be below 99% of its density at optimum moisture content as determined by the above test in all layers.

- c. Moisture control:
 - i. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
 - ii. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
 - iii. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by dicing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture density relation tests reviewed by the Engineer.

21. Pipe Bedding Material

- a. Support pipe as required during placement and compaction of bedding fill. Place and compact as described in paragraphs above taking care not to damage piping. Extent of material shall be as indicated on the Drawings.

22. Dust Suppression

- a. Engineer shall determine if dust generated at the site is significant enough to require dust suppression.
- b. Contractor shall at all times keep machinery and a sufficient supply of water onsite to suppress dust generated at the site as necessary.
- c. Contractor shall suppress dust as necessary throughout construction and until vegetation or other surface treatments have been established, if necessary.
- d. Uniformly apply water to surface, subgrade, or layer of soil material requiring dust suppression.

3.2 MAINTENANCE

- A. Protection of newly graded areas:

1. Protect newly graded areas from traffic and erosion and keep free from trash and weeds.
 2. Repair and re-establish grades in settled, eroded, and rutted areas to the specified tolerances.
- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

END OF SECTION

SECTION 02371XXXX

MARINE MATTRESS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Polymeric Marine Mattress system with structural geogrid, braid, mechanical connection elements and stone infill. Design details including mattress thickness shall be as shown on the Contract Drawings, and on the Shop Drawings. Work consists of:

1. Providing system supplier representative for pre-construction conference with the Contractor and the Engineer.
2. Furnishing geogrids, braid, mechanical connection elements and stone fill materials as specified herein and shown on the Contract Drawings. Geogrid material shall include sufficient quantities to form lifting hoops for the units.
3. Fabricating, filling and placing Polymeric Marine Mattress units in accordance with this Section and in reasonably close conformity with the lines, grades and dimensions shown on the Contract Drawings or established by the Engineer. Some pre-fabrication of the units may be accomplished prior to delivery to the site.

B. Alternates:

1. Metallic materials will not be considered as an alternative to polymeric materials for the Polymeric Marine Mattress system.
2. Alternate geogrid materials shall not be used unless submitted with the Bid and accepted by the Owner. The Engineer shall have absolute authority to reject or accept alternate materials based on the requirements of this Section and the Engineer's judgment. Certain material properties of the structural geogrid are critical to the fabrication, lifting and placement, and serviceability of this application. The structural geogrid must satisfy the requirements of this Section, regardless of any previous approval of the geogrid by the Owner or Engineer for other types of applications. Coated geogrids and geogrids composed of small diameter filaments shall not be allowed for constructing Polymeric Marine Mattress units. In order to be considered, submittal packages for alternate geogrid materials must include:
 - a. A list of 10 comparable projects, in terms of size and applications, in the United States, where the results of using the specific alternate geogrid material can be verified after a minimum of 3 years of service life.

- b. A sample of the alternate geogrid material and certified specification sheets.
- c. Recommended fabrication and installation instructions.
- d. Additional information as required at the discretion of the Engineer.

1.02 REFERENCES

A. American Association of State Highway and Transportation Officials (AASHTO)

- 1. Standard Specification for Highway Bridges.

B. American Society for Testing and Materials (ASTM):

- 1. D 1388 Standard Test Method for Stiffness Of Fabrics (Option A).
- 2. D 4355 Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon-Arc Type Apparatus.
- 3. D 4439 Standard Terminology for Geosynthetics
- 4. D 4759 Standard Practice for Determining the Specification Conformance of Geosynthetics
- 5. D 5732 Standard Test Method for Stiffness of Nonwoven Fabrics Using the Cantilever Test
- 6. D 5818 Standard Practice for Exposure and Retrieval of Samples to Evaluate Installation Damage of Geosynthetics
- 7. D 6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method

C. Geosynthetic Institute:

- 1. GG2-87 Standard Test Method for Individual Geogrid Junction Strength.

1.03 DEFINITIONS

- A. Polymeric Marine Mattress - A non-metallic compartmental structure filled tightly with stone prior to installation. Filling is achieved while each unit is positioned on edge prior to installation. Units are comprised of structural geogrid, braid, and mechanical connection elements fabricated to allow placement and provide containment of aggregate fill.

- B. Geogrid – An integrally formed grid structure manufactured of a stress resistant, copolymer of high density polyethylene (HDPE) and polypropylene (PP) possessing molecular weight and morphological characteristics that impart high resistance to:
1. Loss of load capacity or structural integrity when the geogrid is subjected to mechanical stress in installation,
 2. Deformation when the geogrid is subjected to applied force in use, and
 3. Loss of load capacity or structural integrity when the geogrid is subjected to long-term environmental stress.
- C. Minimum Average Roll Value (MARV) – Value based on testing and determined in accordance with ASTM D 4759 and defined within D 4439.
- D. Tensile Modulus in Use – The ratio of tensile strength to corresponding strain (e.g. 1%). The tensile strength is measured via D 6637 as modified by AASHTO Standard Specification for Highway Bridges, 1997 Interim, using a single rib having the greater of 3 junctions or 8 inches and tested at a strain rate of 10 percent of the average specimen gauge length per minute without deforming the test materials under load before measuring such resistance or employing “secant” or “offset” tangent methods of measurement so as to overstate tensile properties. Values shown in section 2.02 are MARV.
- E. Junction Strength – Breaking tensile strength of junctions when tested in accordance with GRI GG2 as modified by AASHTO Standard Specification for Highway Bridges, using a single rib having the greater of 3 junctions or 8 inches and tested at a strain rate of 10 percent of the average specimen gauge length per minute. Values shown in section 2.02 are MARV.
- F. Flexural Stiffness (also known as Flexural Rigidity) - Resistance to a bending force measured in accordance with ASTM D 5732. Specimens are two ribs wide, with transverse ribs cut flush with exterior edges of the longitudinal ribs (i.e., a “ladder” configuration) to a length sufficiently long to enable measurement of the overhang dimension. The overall Flexural Rigidity is calculated as the square root of the product of the machine direction and cross-machine direction Flexural Rigidity values. Values shown in section 2.02 are MARV.
- G. Resistance to Installation Damage – Resistance to loss of load capacity or structural integrity when subjected to mechanical stress in installation measured in accordance with ASTM D 5818 with a crushed stone classified as a poorly graded gravel with a maximum 2-inch particle size (GP). Values shown in section 2.02 are MARV.

- H. Resistance to Long Term Degradation – Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments measured via EPA 9090 immersion testing. Values shown are typical values.
- I. Ultraviolet Stability – The ratio of tensile strength after exposure to the tensile strength prior to exposure, with exposure per ASTM D 4355 and tensile strengths measured in accordance with D 6637 as discussed above for “Tensile Modulus in Use.”

1.04 SUBMITTALS

A. Submit product samples of:

1. Geogrid
2. Braid
3. Mechanical connection elements

B. Shop Drawings – Submit details of the typical sections and connections.

C. Submit geogrid product data sheet and certification from the manufacturer that the geogrid product supplied meets the requirements of sub-part 2.02 of this Section.

D. Submit manufacturer’s general recommendations and instructions for fabrication, filling, installation and repair.

1.05 QUALITY ASSURANCE

A. Pre-Construction Conference – Prior to the installation of the units, the Contractor shall arrange a meeting at the site with the system supplier and, where applicable, the system installer. The Owner and the Engineer shall be notified at least 3 days in advance of the time of the meeting.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection:

1. Prevent excessive mud, wet concrete, epoxy, or other deleterious materials from coming in contact with and affixing to mattress materials.
2. Store at temperatures above –20 °F (-29 °C).
3. Rolled materials may be laid flat or stood on end.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Tensar International Corporation, Inc., Atlanta, GA, or approved equivalent.
- B. Substitutions – See sub-part 1.01B of this Section.

2.02 MATERIALS

A. Structural Geogrid:

1. Unless otherwise called out on the Construction Drawings or Shop Drawings, the structural geogrid type shall be:
 - a. Type 1 for the internal diaphragms of the units.
 - b. Type 2 for the top, bottom and sides of the units.
2. The structural geogrid shall be produced from virgin, copolymer resin of high density polyethylene (HDPE) and polypropylene (PP) and shall possess complete continuity of all properties throughout its structure.
3. The structural geogrid shall accept applied force in use by positive mechanical interlock (i.e. direct mechanical keying) with:
 - a. Compacted soil or construction fill materials,
 - b. Contiguous sections of itself when overlapped and embedded in compacted soil or construction fill materials, and
 - c. Rigid mechanical connection elements such as bodkins, pins, or hooks.
4. The structural geogrid shall have the following characteristics at a minimum:

| PROPERTY | UNITS | TYPE 1 | TYPE 2 |
|---|--------------|---------------|-----------------|
| Tensile Modulus in Use (MD) @ 1% Strain | kN/m (lb/ft) | 750 (51,400) | 1,650 (113,090) |
| Junction Strength (MD) | kN/m (lb/ft) | 48.6 (3,330) | 100.8 (6,908) |
| Flexural Stiffness | mg-cm | 670,000 | 6,600,000 |
| Resistance to Installation Damage | %GP | 85 | 85 |
| Resistance to Long Term Degradation | % | 100 | 100 |
| Ultraviolet Stability (Retained Strength @ 500 hours) | % | 98 | 98 |

B. Mechanical Connection Elements:

1. The mechanical connection elements shall be as shown on the Construction Drawings and Shop Drawings and shall be composed of a copolymer of high-density polyethylene (HDPE) and polypropylene (PP).
2. The mechanical connection used shall be bodkin type.

C. UV Stabilized Braid:

1. The braid used for tying and lacing in the fabrication of the units shall be an 8-strand hollow-core braid composed of high-density polyethylene (HDPE). Each strand shall consist of a monofilament bundle of HDPE.
2. The braid shall have a nominal diameter of not less than 3/16 inches and a breaking strength of not less than 400 lbs on a test specimen 36 inches in length.
3. The braid shall be UV stabilized with a minimum carbon black content of 2.0% by weight.

Alternative fill materials may be proposed based on local availability. Various gradations may be proposed within the following stone size range, in order to achieve more specific filtration, unit weight, pore size distribution or porosity characteristics.

D. Stone Fill Materials:

1. The stone fill shall be sound and durable, free of cracks, soft seams, and other structural defects.
2. Unless other shown on the Construction Drawings or Shop Drawings:
 - a. The stone fill shall possess a specific gravity of at least 2.5.
 - b. The loss when the stone is subjected to the Los Angeles Abrasion Test shall not exceed 40%.
 - c. The dimensions of stone shall be in accordance with $D_{50} = 3$ inches.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. The Contractor shall check the geogrid, braid, and mechanical connection elements upon delivery to verify that the proper material has been received. These materials shall be inspected by the Contractor to be free of flaws or damage occurring during manufacturing, shipping, or handling.

3.02 FINAL FABRICATION AND FILLING

- A. Mechanical Connections - The joints where the ends and baffles of each unit join the top or bottom of the unit shall be made with a mechanical connection between geogrid elements which shall be detailed on the Shop Drawings.
- B. Seaming - Unless otherwise shown on the Construction Drawings or Shop Drawings:
1. All cut ends of braid material shall be knotted within 1 inch to 2 inch of the end to prevent raveling of the braid material. The braid material shall be securely knotted to the geogrid at all ends of all stitched seams, and at a spacing not to exceed 6 feet along any stitched seam. Pieces of braid material may be spliced end to end by securely knotting.
 2. The stitches along each seam shall be sufficiently tight to close the gap between the adjacent pieces of geogrid. The braid material shall be stitched through each pair of apertures along each seam at least once. The spacing of stitches shall be reasonably uniform at approximately 6 (minimum) stitches per foot along the entire length of each seam.
 3. Seaming to connect adjacent units is not required.
- C. Filling - Unless otherwise shown on the Construction Drawings or Shop Drawings:
1. Each unit shall be filled and the fill shall be packed while the unit is supported in an upright position resting on its side with the open side facing upward and the long direction of the compartments running vertical. Each compartment shall be filled in lifts and each lift shall be tightly packed, except the final lift. The typical lift height shall not exceed 3 feet (loose) or 2.5 feet (packed). The final lift height shall not exceed 9 inches in height and should overfill each compartment by approximately 2 inches.
 2. Packing of the stone fill material and complete filling of each compartment shall be accomplished by rodding and / or vibration. The degree of filling and packing shall be adequate to achieve complete filling as evidenced by tightly confined stone particles, tensioned interior diaphragms, snug bodkin connections, slight bulging of each compartment, and no evidence of air space between compartments during lifting. Excessive bulging of the unit or displacement on the interior diaphragms, such as caused by overpacking or inadequate support, shall not be allowed.
 3. Lifting hoops shall be formed by joining the top and bottom layers of grid from each unit by means of approved mechanical connections.
 4. When filling and fabrication of a unit are complete, the unit shall be rotated to a horizontal position resting on its bottom in order to facilitate subsequent lifting.

5. Filling shall be accomplished in a manner that does not cause excessive damage to the geogrid, mechanical connection elements or the braid.

2.03 PREPARATION

- A. Subgrade - The subgrade soil shall be prepared as indicated on the Construction Drawings.
- B. Geotextile Underlayer:
 1. The geotextile underlayer shall be installed as indicated on the Construction Drawings.
 2. The Engineer may accept placing the geotextile simultaneously with the units by pre-attaching the geotextile material to each unit with provision for sufficient overlap of the geotextile.

2.04 INSTALLATION

- A. Position - The units shall be placed at the proper elevation, alignment and orientation as shown on the Construction Drawings.
- B. Placement Procedures:
 1. The procedure used in placement of the units shall be in accordance with the recommendations of the system supplier.
 2. For lifting of each unit, a spreader beam and / or spreader bars shall be used in a manner that the unit is not subjected to severe bending or distortion and that the top and bottom layers of geogrid are tensioned uniformly across their width. Units should generally be lifted from a horizontal position.
 3. Personnel shall stay clear of the area beneath units and rigging during lifting. Tag lines and / or divers may be required to facilitate proper placement of the units.
- C. Splicing and Anchoring - Where applicable, splicing and / or anchoring of the units shall be accomplished as shown on the Construction Drawings or Shop Drawings.

2.05 REPAIR

- A. Any units damaged during fabrication, filling, or installation shall be repaired in a manner approved by the manufacturer or shall be replaced by the Contractor. Any such measures required shall be at no additional cost to the Owner.

END OF SECTION

SECTION 31 62 16.13

STEEL PIPE PILES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

Work included: The work covered by this section of these Specifications consists of furnishing all plant, labor, supervision, equipment, appliances, and materials and in performing all operations in connection with the installation of the steel pipe piles, all in strict accordance with this Section of the Specifications and the applicable Drawings and subject to the terms and conditions of the Contract. The Work includes providing Wave Equation Analyses for each proposed pile hammer and pile type.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this Section.
- B. The City reserves the right of approval of any Subcontractor pre-qualified and selected for this portion of the Work by the Contractor. Approval will be based, in part, on documented successful experience in performing work of a similar nature.
- C. Driving of additional piles at the Contractor's own expense may be required by the City in the event installation tolerances are exceeded.
- D. The City may perform shop inspections during the fabrication of the steel piles. The Contractor shall provide necessary detail on his project schedule and keep the City informed as to progress of this work (minimum of one week notice).

1.3 SUBMITTALS

- A. Submit technical data for all pile driving equipment proposed for use and a Wave Equation Analysis for the proposed pile and driving equipment. The Wave Equation shall be used to assess the ability of the proposed driving system to install the pile within the allowable driving stresses.
- B. No later than the time of delivery of materials to the site, submit steel certificates for review.
- D. Submit pile driving log for each pile driven with recorded blows per inch for the last one foot of driving and blows per foot for the remainder of the driven length. Log should indicate all pertinent data related to the pile driving activity.
- E. Submit details for shop splices in piles, if used.

- F. Provide a minimum of five (5) days' notice to the City prior to driving any piles. Notify the City of any changes in the schedule.

1.4 PRODUCT DELIVERY AND STORAGE

The Contractor shall notify the City twenty-four (24) hours in advance of delivery of steel piles. Contractor guarantees that steel piles shall be handled in such a manner as to not induce stresses which will damage the materials and shall be stored in a safe manner within designated areas provided at the site.

PART 2 - PRODUCTS

2.1 STEEL SECTIONS

- A. Steel Pipe Pile:

The steel pipe pile size and material shall be as specified on the Contract Drawings or equivalent as accepted by the City. Steel material shall be ASTM A252, Grade 3 with a minimum $F_y = 50$ ksi. Pile length shall be as shown on the Contract Drawings.

Pipe piles shall have a minimum wall thickness as noted on the Drawings.

The tips of pipe piles shall be fitted with open-end cutting shoes, Part Number 0-14000, as manufactured by Associated Pile and Fitting, LLC or equivalent accepted by the City, unless noted otherwise.

- B. Welding shall conform to AWS D1.1 Structural Welding Code – Steel.

- C. Protective Coating

Pipe piles shall be shop coated, on outer surfaces only, to a minimum of ten (10) feet below the design dredge depth elevation. Protective coating shall conform to Section 09 97 13 Coating of Steel Waterfront Structures.

PART 3 - EXECUTION

3.1 EQUIPMENT:

- A. Drive piles with an air, diesel, or hydraulic operated impact hammer with sufficient energy and energy transfer characteristics to drive the piles to the required toe elevations and capacity without damaging the pile head. Use care not to injure piles by over driving as would be indicated by rebound of hammer or staggering of pile. Cut off heads of piles accurately in accordance with the Contract Documents after completion of driving.
- B. Rig the pile driver with fixed leads to guide the hammer from highest to lowest points of travel in a manner permitting free vertical movements of the hammer, and

with leads laterally braced to assure firm support of the piles during driving.

- C. The pile is to be located by temporary frames containing members of adequate size to guide and stabilize placement of the pile prior to and during driving. The frames shall be rigidly located such as to keep the pile plumb and in correct position while being driven.

3.2 PILE DRIVING

- A. Drive the piles straight and true at indicated locations, with deviation from the longitudinal axis of not more than 1/4 inch per foot.
- B. Locate the piles within 3 inches of the positions indicated on the Drawings.
- C. Continuously drive each pile to reach the capacity and/or full embedded length called for on the Drawings.
 - 1. Lengths shown on the Drawings are considered average values, and the actual lengths may vary when so accepted by the City.
 - 2. Drive piles to achieve driving resistance penetration and refusal values as specified and as accepted by the City.
- D. Use suitable cushions or driving heads to avoid damage to the piles, developing proper total driving energy, and directing the energy along the longitudinal center of gravity of the pile.
 - 1. Drive piles to their full penetration without bending, rupturing, or severely damaging the piles.
 - 2. If failure in any of the above respects is encountered, pull the pile, and drive a new pile at no additional cost to the City.
 - 3. If a replacement pile fails to develop full driving resistance, pull the replacement pile, and drive a new pile with larger diameter at no additional cost to the City.
- E. Jetting and Pre-drilling
 - 1. Jetting to assist penetration will not be accepted unless accepted by the City and Engineer.
 - 2. Approved pre-drilling to assist penetration may be used where extreme driving resistance is encountered, or where vibrations from driving may be detrimental to adjacent structures.
 - 3. Make pre-drilled bores 80% of tip diameter and to 80% of the depth of penetration, reserving the lower phases of penetration solely for driving.

- F. Where piles are pushed up by pressure from driving of adjacent piles, re-drive as required and at no additional cost to the City.
- G. Record pile driving information, including date of installation, pile number, pile type and installed length, type of hammer and rated energy, date of installation, blow counts or minutes per driven foot/inch, and final tip elevation.

3.3 SAFE LOAD CALCULATION

Calculate ultimate pile capacity using WEAP analysis, and blow count observations. The working load will be the ultimate pile capacity divided by a factor of safety of 2.5.

3.4 HANDLING, CUTTING AND FRAMING

Handle piles carefully, without sudden dropping or excessive bending.

3.5 LENGTH AND LOAD REQUIREMENTS

Required tip elevations and/or minimum ultimate load capacities are as indicated on the Drawings.

END OF SECTION

SECTION 31 63 29

DRILLED CONCRETE PIERS AND SHAFTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

Work included: The work covered by this section of these Specifications consists of furnishing all plant, labor, supervision, equipment, appliances, and materials and performing all operations in connection with the installation of the drilled shafts, all in strict accordance with this Section of the Specifications and the applicable Drawings and subject to the terms and conditions of the Contract. This work includes installing casings, excavating shafts, disposing of all excavated material, and drilling mud, and placing steel reinforcement. The work also includes furnishing and placing Portland cement concrete meeting the performance requirements defined herein to achieve the strength and durability for the application this concrete is used. The intent of this work is for the Contractor to provide reinforced concrete shafts in cylindrically excavated holes which extend a sufficient depth into the soil and/or rock to support the structure and all externally applied loads for which it was designed.

1.2 QUALITY ASSURANCE

1.2.1 Sequencing and Scheduling

Submit a detailed installation plan describing the schedule for drilling and/or excavation, installation of steel reinforcement/king pile and concrete placement with anticipated site conditions so that each excavated shaft is poured the same day that the drilling is performed.

1.2.2 Inspection Criteria

Contractor shall provide a schedule of inspection to the Engineer to minimize delays.

1.2.3 Qualification of Excavation Contractor

An experienced excavation contractor with a minimum of five years' experience, specialized in similar work.

1.3 SUBMITTALS

Installation plan.

Shop drawings.

Drilled shaft diameters.

Top and Bottom of Shaft Elevations.

Concrete mix design.

Concrete compressive strength.

PART 2 – PRODUCTS

NONE

PART 3 - EXECUTION

3.1 PREPARATION:

Protect existing structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, vibration, and other hazards created by drilled shaft foundation operations.

3.2 INSTALLATION

3.2.1 Construction Criteria

Provide equipment for checking the dimensions and alignment of each shaft excavation. Determine dimensions and alignment jointly with the Contractor and Engineer. Measure final shaft depths with appropriate weighted tape measure or other approved method after cleaning.

Tolerances:

- a. Maximum variation of the center of any shaft from the required location shall be 3 inches, measured at the ground surface.
- b. Bottom diameter shall vary between 0 and 6 inches, in any direction.
- c. Maximum variation from plumb shall not exceed 1:40.
- d. Maximum bottom level shall not exceed 2 inches.

3.2.2 Excavation

Accomplish excavation of shaft foundations by standard excavation methods including, but not limited to, conventional augers fitted with soil and/or rock teeth, or under-reaming tools attached to drilling equipment of adequate size, power, torque, and down thrust necessary for the work.

3.2.3 Steel Reinforcement

When practicable, deliver the reinforcement cage assembly or steel member to the job site as a complete unit ready for installation. Clean reinforcement of loose rust, mill scale, earth, and other foreign materials. Do not tack weld crossing reinforcing

bars. Set wire ties with ends directed into concrete, not towards exposed concrete surfaces. Lower reinforcement steel into the hole in such a manner as to prevent damage to the walls of the excavation.

3.2.4 Concrete Placement

Convey concrete from the mixer to place of deposit by best industry methods that prevents segregation and loss of material. Place concrete in a continuous operation and without segregation into excavation.

END OF SECTION

SECTION V
CONSTRUCTION AGREEMENT

CONSTRUCTION AGREEMENT

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

For multi-year contracts or contracts with multiple accounts:

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

THIS AGREEMENT is dated as of the _____ day of _____ in the year 20____, by
(city use only)

and between CITY OF PETALUMA (hereinafter called "CITY") and _____ (hereinafter called "CONTRACTOR").

CITY and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete the WORK as specified or indicated in the CITY'S Contract Documents entitled Petaluma River Turning Basin Float, Pile, and Gangway Replacement - City Project No. C14402010.

ARTICLE 2. COMPLETION OF WORK

The WORK shall be completed to the satisfaction of CITY within Ninty (90) working days from the commencement date stated in the Notice to Proceed. In no event, however, shall the WORK to be performed under this contract be considered to be complete until all construction items called for on the drawings, and specifications have been completed and the contract price paid in full.

ARTICLE 3. LIQUIDATED DAMAGES

A. CITY and the CONTRACTOR recognize that time is of the essence of this Agreement and that the CITY will suffer financial loss if the WORK is not completed within the time specified in Article 2 herein, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage which the CITY will sustain in the event of and by reason of the CONTRACTOR's failure to fully perform the WORK or to fully perform all of its contract obligations that have accrued by the time for completion as specified in Article 2 herein and/or as specified for completion of any scheduled operations or works described in the Special Provisions. It is, therefore, agreed in accordance with California Government Code Section 53069.85 that the CONTRACTOR will forfeit and pay to the CITY liquidated damages in the sum of one-thousand five hundred Dollars (\$1,500) per day for each and every calendar day that expires after the time for completion specified in Article 2 herein and/or as specified

for completion of any scheduled operations or works described in the Special Provisions except as otherwise provided by extension of time pursuant to Article 12 of the General Conditions. It is further understood and agreed in accordance with California Government Code Section 53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time this contract was made, and that the CITY may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the CONTRACTOR.

- B. Liquidated damages will continue to accrue at the stated rate until final completion of the WORK. Accrued liquidated damages may be deducted by the CITY from amounts due or that become due to the CONTRACTOR for performance of the WORK. Liquidated damages may not be waived or reduced by CITY unless expressly waived or reduced in writing by the ENGINEER.

ARTICLE 4. PREVAILING WAGES

- A. Pursuant to California Labor Code Section 1771, CONTRACTOR and any subcontractor shall pay all workers employed in execution of the WORK in accordance with the general rate of per diem wages specified for each craft, classification, or type of worker needed to execute the WORK. Copies of the prevailing rates of per diem wages are on file at the City Clerk's office and shall be made available to any interested party on request.
- B. CONTRACTOR is required to pay all applicable penalties and back wages in the event of violation of prevailing wage law, and CONTRACTOR and any subcontractor shall fully comply with California Labor Code Section 1775, which is incorporated by this reference as though fully set forth herein.
- C. CONTRACTOR and any subcontractor shall maintain and make available for inspection payroll records as required by California Labor Code Section 1776, which is incorporated by this reference as though fully set forth herein. CONTRACTOR is responsible for ensuring compliance with this section. CONTRACTOR and any subcontractor shall maintain and make available for inspection payroll records as required by California Labor Code Section 1776, which is incorporated by this reference as though fully set forth herein. CONTRACTOR is responsible for ensuring compliance with this section. In addition, CONTRACTOR and any subcontractor shall submit certified payroll records to the Labor Commissioner online: <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html>.
- D. CONTRACTOR and any subcontractor shall fully comply with California Labor Code Section 1777.5, concerning apprentices, which is incorporated by this reference as though fully set forth herein. CONTRACTOR is responsible for ensuring compliance with this section.
- E. In accordance with California Labor Code Section 1810, eight (8) hours of labor in performance of the WORK shall constitute a legal day's work under this Agreement. CONTRACTOR and any subcontractor shall pay workers overtime pay as required by

California Labor Code Section 1815. CONTRACTOR and any subcontractor shall, as a penalty to the CITY, forfeit Twenty-Five Dollars (\$25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation so the provisions of Article 3 of Chapter 1 of Part 7, Division 2 of the California Labor Code, which is incorporated by this reference as though fully set forth herein.

ARTICLE 5. CONTRACT PRICE

- A. CITY shall pay CONTRACTOR for completion of the WORK the sum of _____ Dollars (\$_____), based on the bid price of same and in accordance with the Contract Documents.
- B. Notwithstanding any provisions herein, CONTRACTOR shall not be paid any compensation until such time as CONTRACTOR has on file with the City Finance Department a current W-9 form available from the IRS website (www.irs.gov) and has obtained a currently valid Petaluma business license pursuant to the Petaluma Municipal Code.
- C. In no case shall the total contract compensation exceed _____ Dollars (\$_____) without the prior written authorization by the City Manager. Further, no compensation for a section or work program component attached with a specific budget shall be exceeded without the prior written authorization of the City Manager.

ARTICLE 6. BONDS

- A. Before entering upon the performance of the WORK, the CONTRACTOR shall furnish Performance and Labor and Materials Bonds, each in the amount of one hundred percent (100%) of the contract price, as security for the faithful performance and payment of all the CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date of Completion, except as otherwise provided by Law or Regulation or by the Contract Documents. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions.
- B. The CONTRACTOR shall guarantee the WORK to be free of defects in material and workmanship for a period of one (1) year following the CITY's acceptance of the WORK. The CONTRACTOR shall agree to make, at the CONTRACTOR's own expense, any repairs or replacements made necessary by defects in material or workmanship which become evident within the one-year guarantee period. The CONTRACTOR's guarantee against defects required by this provision shall be secured by a Maintenance Bond, in the amount of ten percent (10%) of the contract price, which shall be delivered by the CONTRACTOR to the CITY prior to acceptance of the WORK. The Maintenance Bond shall remain in force for one (1) year from the date of acceptance of the contracted WORK. The CONTRACTOR shall make all repairs and replacements within the time required during the guarantee period upon receipt of written order from

the ENGINEER. If the CONTRACTOR fails to make the repairs and replacements within the required time, the CITY may do the work and the CONTRACTOR and the CONTRACTOR's surety for the Maintenance Bond shall be liable to the CITY for the cost. The expiration of the Maintenance Bond during the one-year guarantee period does not operate to waive or void the one-year guarantee, as set forth herein.

- C. The form of the Performance, Labor and Materials, and Maintenance Bonds are provided by the CITY as part of the Contract Documents. Only such bond forms provided by the CITY are acceptable and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- D. If the surety on any Bond furnished by the CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and surety, which must be acceptable to the CITY.
- E. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of California to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.

ARTICLE 7. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

ARTICLE 8. RETENTION

- A. Pursuant to Section 22300 of the California Public Contract Code, the CONTRACTOR may substitute securities for any money withheld by the CITY to ensure performance under the Contract. At the request and expense of the CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the CITY or with a state or federally chartered bank in California as to the escrow agent, who shall return such securities to the CONTRACTOR upon satisfactory completion of the Contract.
- B. Alternatively, the CONTRACTOR may request and the CITY shall make payment of retentions earned directly to the escrow agent at the expense of the CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investment of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the CONTRACTOR. The CONTRACTOR shall be responsible for paying all fees for the expenses incurred by the escrow account and all expenses of the CITY. These

expenses and payment terms shall be determined by the CITY's Finance Director of his/her designee and the escrow agent. Upon satisfactory completion of the Contract, the CONTRACTOR shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the CITY, pursuant to the terms of this section. The CONTRACTOR shall pay to each subcontractor, not later than 20 days of receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to ensure the performance of the CONTRACTOR.

- C. Securities eligible for investment under Section 22300 shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the CITY.

ARTICLE 9. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between the CITY and the CONTRACTOR concerning the WORK consist of this Agreement and the following attachments to this Agreement:

- Notice Inviting Bids
- Instructions to Bidders
- Bid Forms including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates and affidavits
- Labor and Materials Bond
- Performance Bond
- Maintenance Bond
- General Conditions
- Supplementary General Conditions (if any)
- Specifications
- Special Provisions
- Drawings
- Federal Wage Rates dated _____ (if applicable)
- Form FHWA-1273 (if applicable)
- Addenda (if any)
- Change Orders which may be delivered or issued after Effective Date of the Agreement and are not attached hereto.

There are no Contract Documents other than those listed in this Article 9. The Contract Documents may only be amended by Change Order as provided in Paragraph 3.5 of the General Conditions.

ARTICLE 10. INSURANCE

The applicable insurance requirements, as approved by the City's Risk Manager, are set forth in **Exhibit B**, attached hereto and incorporated by reference herein. [*City use: check one.*]

ARTICLE 11. INDEMNIFICATION

- A. CONTRACTOR shall indemnify, defend with counsel acceptable to CITY, and hold harmless to the full extent permitted by law, CITY and its officers, officials, employees, agents and volunteers from and against any and all alleged liability, loss, damage, claims, expenses and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with CONTRACTOR's performance of the WORK or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the active negligence, sole negligence or willful misconduct of the CITY. Such indemnification by the CONTRACTOR shall include, but not be limited to, the following:
1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the CONTRACTOR, its subcontractors, employees, or agents in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, or agents;
 2. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's, or Supplier's own employees, or agents engaged in the WORK resulting in actions brought by or on behalf of such employees against the CITY and/or the ENGINEER;
 3. Liability or claims arising directly or indirectly from or based on the violation of any Laws or Regulations, whether by the CONTRACTOR, its subcontractors, employees, or agents;
 4. Liability or claims arising directly or indirectly from the use or manufacture by the CONTRACTOR, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement;
 5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the CITY or any other parties by the CONTRACTOR, its subcontractors, employees, or agents;
 6. Liability or claims arising directly or indirectly from the willful misconduct of the CONTRACTOR, its subcontractors, employees, or agents;
 7. Liability or claims arising directly or indirectly from any breach of the obligations assumed in this Agreement by the CONTRACTOR;
 8. Liability or claims arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the CONTRACTOR, Subcontractors, Suppliers, or any of their employees or agents, and;
 9. Liability or claims arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the CITY, the ENGINEER, their consultants, subconsultants, and the officers, directors, employees and agents of each or any of them, to the extent caused by the CONTRACTOR's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous thereto or its performance of the WORK thereon.

- B. The CONTRACTOR shall reimburse the CITY for all costs and expenses, (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court costs of appeal) incurred by said CITY in enforcing the provisions of this Paragraph.
- C. The indemnification obligation under this Article 11 shall be in addition to, and shall not be limited in any way by any limitation on the amount or type of insurance carried by CONTRACTOR or by the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts. The CONTRACTOR's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law.
- D. Pursuant to California Public Contract Code Section 9201, City shall timely notify Contractor of receipt of any third-party claim relating to this Agreement.

ARTICLE 12. DISCLAIMER AND INDEMNITY
CONCERNING LABOR CODE SECTION 6400

By executing this agreement the CONTRACTOR understands and agrees that with respect to the WORK, and notwithstanding any provision in this contract to the contrary, the CONTRACTOR, and/or its privities, including, without limitation, subcontractors, suppliers and other engaged by the CONTRACTOR in the performance of the WORK shall be "employers" for purposes of California Labor Code Section 6400 and related provisions of law, and that neither CITY nor its officials, officers, employees, agents, volunteers or consultants shall be "employers" pursuant to California Labor Code Section 6400 with respect to the performance of the WORK by the CONTRACTOR and/or its privities.

The CONTRACTOR shall take all responsibility for the WORK, shall bear all losses and damages directly or indirectly resulting to the CONTRACTOR, any subcontractors, the CITY, its officials, officers, employees, agents, volunteers and consultants, on account of the performance or character of the WORK, unforeseen difficulties, accidents, or occurrences of other causes predicated on active or passive negligence of the CONTRACTOR or of any subcontractor, including, without limitation, all losses, damages or penalties directly or indirectly resulting from exposure to hazards in performance of the WORK in violation of the California Labor Code. The CONTRACTOR shall indemnify, defend and hold harmless the CITY, its officials, officers, employees, agents, volunteers and consultants from and against any or all losses, liability, expense, claim costs (including costs of defense), suits, damages and penalties (including, without limitation, penalties pursuant to the California Labor Code) directly or indirectly resulting from exposure to hazards in performance of the WORK in violation of the California Labor Code, except such liability or costs caused by the active negligence, sole negligence or willful misconduct of the CITY.

ARTICLE 13. INDEPENDENT CONTRACTOR

It is understood and agreed that in the performance of this Agreement, CONTRACTOR (including its employees and agents) is acting in the capacity of an independent contractor, and not as an agent or employee of the CITY. CONTRACTOR has full control over the means and methods of performing said services and is solely responsible for its acts and omissions, including the acts and omissions of its employees and agents.

ARTICLE 14. SUBCONTRACTORS

CONTRACTOR must obtain the CITY's prior written consent for subcontracting any WORK pursuant to this Agreement. Any such subcontractor shall comply, to the extent applicable, with the terms and conditions of this Agreement. Any agreement between CONTRACTOR and a subcontractor pursuant to this Agreement shall provide that the subcontractor procure and maintain insurance coverage as required herein and which shall name CITY as an additional insured.

ARTICLE 15. COMPLIANCE WITH LAWS/NON-DISCRIMINATION

CONTRACTOR shall comply with all applicable local, state and federal laws, regulations and ordinances in the performance of this Agreement. CONTRACTOR shall not discriminate in the provision of service or in the employment of persons engaged in the performance of this Agreement on account of race, color, national origin, ancestry, religion, gender, marital status, sexual orientation, age, physical or mental disability in violation of any applicable local, state or federal laws or regulations.

ARTICLE 16. NOTICES

All notices required or permitted by this Agreement, including notice of change of address, shall be in writing and given by personal delivery or sent postage prepaid and addressed to the parties intended to be notified, as set forth herein. Notice shall be deemed given as of the date of delivery in person or as of the date deposited in any post office or post office box regularly maintained by the United States Postal Service, unless otherwise stated herein. Notice shall be given as follows:

| | |
|-------|---|
| CITY: | City Clerk City of Petaluma Post Office Box 61 Petaluma, California 94953 Telephone: (707) 778-4360 |
|-------|---|

| | |
|-------------|--------------------------|
| CONTRACTOR: | _____ (Contact Name) |
| | _____ (Business Name) |
| | _____ (Address) |

(City, State, Zip)

(Telephone)

(E-mail)

ARTICLE 17. GOVERNING LAW/VENUE

This Agreement shall be construed and its performance enforced under California law. Venue shall be in the Superior Court of the State of California in the County of Sonoma.

ARTICLE 18. NON-WAIVER

The CITY's failure to enforce any provision of this Agreement or the waiver of any provision in a particular instance shall not be construed as a general waiver of any part of such provision. The provision shall remain in full force and effect.

ARTICLE 19. THIRD PARTY BENEFICIARIES

The Parties do not intend, by any provision of this Agreement, to create in any third party any benefit or right owed by one party, under the terms and conditions of this Agreement, to the other party.

ARTICLE 20. ASSIGNMENT

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

CITY and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

ARTICLE 21. SEVERABILITY

If any term or portion of this Agreement is held to be invalid, illegal, or otherwise enforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, CITY and CONTRACTOR have caused this Agreement to be executed the day and year first above written.

CITY

CONTRACTOR _____

City Manager

By _____
(CORPORATE SEAL)

ATTEST:

Attest: _____

City Clerk

Address for giving notices:

APPROVED AS TO FORM:

City Attorney

Agent for service of process:

License Number

Taxpayer I.D. Number

Petaluma Business Tax Certificate Number

file name:

END OF AGREEMENT

AGREEMENT CERTIFICATE
(if Joint Venture)

STATE OF CALIFORNIA)
) ss:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Principals of the _____
_____ a
joint venture existing under the laws of the State of _____, held
on _____, 20____, the following resolution was duly passed and adopted:

“RESOLVED, that _____,
as _____, of the joint venture, be and is hereby authorized to execute
the Agreement dated _____, 20____, by and between this Joint Venture
and _____ and that his/her execution
thereof, attested by the _____ shall be the official act and deed
of this Joint Venture.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of
_____, 20____.

Managing Partner

(SEAL)

FAITHFUL PERFORMANCE BOND

WHEREAS, the City Council of the City of Petaluma, State of California, and _____ (hereinafter designated as "Principal") have entered into an agreement whereby Principal agrees to install and complete certain designated public improvements, which said agreement, dated _____, 20____, and identified as project _____, is hereby referred to and made a part hereof; and,

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

NOW, THEREFORE, WE, the Principal and _____, duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the City of Petaluma, hereinafter called "City," in the penal sum of _____ Dollars (\$____) lawful money of the United States, for payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors, and administrators, jointly and severally, firmly by these present. The conditions of this obligation are such that if the above-bound Principal, the Principal's heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said agreement and any alteration thereof 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 Petaluma, its officers, agents, employees, and volunteers, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of this obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of this agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise 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 agreement or to the work or to the specifications.

And the said Surety, for value received, hereby stipulates and agrees that upon termination of the Contract for cause, the Obligee reserves the right to refuse tender of the Principal by the Surety to complete the Contract work.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on _____, 20_____.

PRINCIPAL

SURETY

By _____

By _____

Name and Title

Name and Title

Address

City State Zip

Phone Number

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk).

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

END OF FAITHFUL PERFORMANCE BOND

LABOR AND MATERIALS BOND

WHEREAS, the City of Petaluma, State of California, and _____ (hereinafter designated as “Principal”) have entered into an agreement whereby the Principal agrees to install and complete certain designated public improvements, which said agreements, dated _____, 20____, and identified as project _____, is hereby referred to and made a part hereof; and,

WHEREAS, under the terms of said agreement Principal is required before entering upon the performance of the work, to file a good and sufficient payment bond with the City of Petaluma, to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code of the State of California.

NOW, THEREFORE, said Principal and the undersigned, duly authorized to transact business under the laws of the State of California, as corporate surety, are held firmly bound unto the City of Petaluma, and all contractors, subcontractors, laborers, materialmen and other persons employed in the performance of the aforesaid agreement and referred to in the aforesaid Civil Code of the State of California, in the sum of _____ Dollars (\$_____) for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, that said surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Title 15 (commencing with section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

THE SURETY hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said agreement or the specifications accompanying the same shall in any

manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and surety above named, on _____, 20_____.

PRINCIPAL

SURETY

By _____

By _____

Name and Title

Name and Title

Address

City State Zip

Phone

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk)..

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

END OF LABOR AND MATERIALS BOND

MAINTENANCE BOND

WHEREAS, the City Council of the City of Petaluma (“City”) and _____, (hereinafter designated as “Principal”) have entered into an agreement whereby Principal agrees to install and complete certain designated public improvements, which said agreement, dated _____, 20_____, and identified as project _____, is hereby referred to and made a part hereof; and,

WHEREAS, said Principal is required under the terms of said contract to furnish a maintenance bond for the correction of any defects due to defective materials or workmanship in the work performed under said agreement.

NOW, THEREFORE, we the Principal and _____ as Surety, are held and firmly bound unto the City of Petaluma in the penal sum of _____ Dollars (\$_____), lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if, during a maintenance period of one (1) year from the date of acceptance of the contracted work, the Principal upon receiving written notice of a need for repairs which are directly attributable to defective materials or workmanship, shall diligently take the necessary steps to correct said defects within seven (7) days from the date of said notice, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

As part of this obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney’s fees, incurred by the City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of this agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise 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 agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on _____, 20____.

PRINCIPAL

SURETY

By_____

By_____

Name and Title

Name and Title

Address

City State Zip

Phone Number

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent’s power of attorney attached. Also verify that Surety is an “Admitted Surety” (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk).

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

END OF MAINTENANCE BOND

PERFORMANCE BOND MONUMENTATION

KNOW ALL MEN BY THESE PRESENTS: That _____, as Principal, a _____ corporation, and _____ authorized to execute bonds in the State of California, as surety, are held and firmly bound unto the City of Petaluma, Post Office Box 61, Petaluma, California 94953, as Obligee, in the sum of _____ Dollars (\$_____), for which sum we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

THE CONDITION of the above obligation is such that, WHEREAS, the Principal has entered into a contract, dated _____, with the Obligee, to do and perform the following work: MONUMENTS TO BE SET IN CONNECTION WITH _____, City of Petaluma, California.

NOW, THEREFORE, if the said Principal shall well and truly perform the work contracted to be performed under said contract, then this obligation shall be void; otherwise to remain in full force and effect.

As part of this obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

Signed and sealed this _____ day of _____, 20_____.

PRINCIPAL

SURETY

By _____

By _____

Name and Title

Name and Title

Address

City State Zip

Phone

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk)..

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

WAIVER OF BOND REQUIREMENTS

PROJECT: _____

CONTRACTOR: _____

AMOUNT OF AGREEMENT: \$ _____

This statement shall accompany all requests for a waiver of bond requirements. Please set forth the reasons for the waiver of bond requirements. You should explain why the waiver is reasonable to protect the City based upon the services to be provided under the contract.

_____.

Request waiver of: _____ Labor and Materials (Payment) Bond*
 _____ Performance Bond
 _____ Maintenance Bond

*** Labor and Materials Bond is required by law for public works projects requiring expenditure in excess of \$25,000, and may not be waived for such projects.**

Dated: _____ Department _____ Phone Extension: _____

Contract Manager Signature

Printed Name

Department Director Signature

Printed Name

RECOMMENDATION:

Waiver approved Waiver denied

City Attorney

Date

Comments: _____

APPROVAL:

Waiver approved Waiver denied

City Manager Signature

Date

SECTION VI
PROJECT PLANS

DESIGN CRITERIA

1. THE COMPLETED STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE OF THE STATE OF CALIFORNIA, AS APPLICABLE.
2. THE COMPLETED STRUCTURE HAS BEEN DESIGNED TO WITHSTAND THE FOLLOWING DESIGN LIVE LOADS APPLIED IN CONJUNCTION WITH DESIGN DREDGE/MUDLINE ELEVATIONS INDICATED ON THE CONTRACT DRAWINGS:

STEEL PILES:
 DESIGN MUDLINE ELEVATION: -9 FEET (MLLW)
 STEEL FLOAT PILES TIP EL.: -35.3 FEET (MLLW)

CONCRETE:
 CAST-IN- PLACE CONCRETE: $f_c = 4,500$ PSI
 CONCRETE EXPOSURE: CLASSES F2, S0, W1, C1
 W/CM RATIO: 0.45
 REINFORCING BARS: ASTM A615 GR. 60
 EPOXY COATING: ASTM A775
 WELDED WIRE REINFORCEMENT ASTM 1064
 PROVIDE THE FOLLOWING COVER FOR REINFORCEMENT:
 CAST AGAINST EARTH: 3 IN
 EXPOSED TO EARTH, WEATHER, OR WATER:
 NO. 6 THROUGH NO. 18 BAR 3 IN
 NO. 5 BAR, W31, WIRE & SMALLER 3 IN

3. TIDAL DATUM INFORMATION IS TAKEN FROM DATUM OFFSETS TAKEN FROM NOAA V-DATUM CONVERSION STATION ID: 9415252, PETALUMA RIVER ENTRANCE CA, DATED SEP 12, 2016.
4. THE FOLLOWING REFERENCE DOCUMENTS WERE USED IN CONJUNCTION WITH THE SITE INFORMATION:

PETALUMA MARINA TURNING BASIN DOCK INSPECTION REPORT, DATED SEPTEMBER 2021, BY FOTH AND VAN DYKE & ASSOCIATES, INC.

5. THE STRUCTURES HAVE BEEN DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER CONSTRUCTION IS COMPLETE. THE STABILITY OF THE STRUCTURES PRIOR TO COMPLETION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THIS RESPONSIBILITY EXTENDS TO RELATED ASPECTS OF THE CONSTRUCTION ACTIVITY INCLUDING, BUT NOT LIMITED TO, ERECTION METHODS, ERECTION SEQUENCE, CONNECTIONS, TEMPORARY BRACING, FORMS, SHORING, USE OF EQUIPMENT, AND SIMILAR CONSTRUCTION PROCEDURES. REVIEW OF CONSTRUCTION BY THE OWNER AND ENGINEER OF RECORD IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS ONLY. LACK OF COMMENT BY THE OWNER AND ENGINEER OF RECORD WITH REGARD TO CONSTRUCTION PROCEDURES SHALL NOT BE INTERPRETED AS APPROVAL OR ACCEPTANCE OF SUCH PROCEDURES.

GENERAL NOTES:

1. POSSESSION AND USE OF THE MATERIAL CONTAINED ON THESE DRAWINGS IS GRANTED ONLY IN CONNECTION WITH ITS USE AS IT RELATES TO THE TITLED PROJECT, ANY OTHER USE, REPRODUCTION OR DISCLOSURE OF THE INFORMATION CONTAINED HEREON IS EXPRESSLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF FOTH.
2. IF, DURING THE PERFORMANCE OF THE WORK, THE CONTRACTOR FINDS A CONFLICT, ERROR, OR DISCREPANCY IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SO REPORT TO THE ENGINEER OF RECORD IN WRITING AT ONCE. BEFORE PROCEEDING WITH THE WORK AFFECTED THEREBY, THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION OR CLARIFICATION FROM THE ENGINEER OF RECORD. WORK DONE BEFORE THE ENGINEER OF RECORD RENDERS HIS DECISION IS AT THE CONTRACTOR'S SOLE RISK.

3. THE WORK SHALL BE PERFORMED IN A GENERAL SEQUENCE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW, IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE SEQUENCES AND PROCEDURES TO BE USED.
4. THE CONTRACTOR SHALL NOTE ALL APPROVED CHANGES AND OTHER OCCURRENCES AND SUBMIT A FULL SIZE COMPLETE "RECORD DRAWING" SET NOTED AND DATED ON THE DRAWINGS TO THE PROJECT ENGINEER PRIOR TO ACCEPTANCE OF THE WORK.
5. ALL IN-WATER WORK SHALL BE COMPLETED BY NOVEMBER 30, 2023.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL MATERIAL AND WORKMANSHIP FULLY CONFORMS TO THE SPECIFICATIONS, STANDARDS, AND ORDINANCES OF THE CITY OF PETALUMA.
7. STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE BUILDING CODE OF THE STATE OF CALIFORNIA. WORK SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL PERMIT CONDITIONS.
8. SECTIONS AND DETAILS APPLY TO THE SAME AND SIMILAR CONDITIONS UNLESS SPECIFICALLY NOTED OTHERWISE.
9. THE BATHYMETRIC DATA SHOWN ON THIS PLAN WAS GATHERED ON OCTOBER 19, 2022.
10. THE DATUM IS DEFINED RELATIVE TO THE MEAN LOWER LOW (MLLW) WATER SURFACE ELEVATION TIME SERIES FROM THE NOAA PETALUMA RIVER ENTRANCE, STATION# 9415252.
11. ANNUAL HIGH TIDE LINE (AHTL) IS FROM THE NOAA STATION #9414252 ON 1/21/23.
12. COORDINATES ARE BASED ON NAD 83 STATE PLANE CALIFORNIA ZONE II.
13. BATHYMETRIC DATA IS REFERENCED TO PRIMARY BM "USACE PK NAIL" REPORTED AT +10.0 FT. MLLW, AND LOCATED THE PETALUMA MARINA IN PETALUMA, CA.
14. THE HYDROGRAPHIC SURVEY SYSTEM COMPRISED OF A 200KHZ SINGLE BEAM, A 240KHZ RESON 8101 MULTIBEAM, AND LEAD LINES, AS WELL AS HYPACK ACQUISITION SOFTWARE.
15. RTK-GPS POSITION CORRECTIONS WERE SUPPLIED BY KEYNET.
16. SHORELINE, BRIDGES, PIERS, ETC. ARE SCALED FROM ORTHOIMAGERY. ORTHOIMAGERY AND SCALED DATA IS APPROXIMATE UNLESS OTHERWISE NOTED AND SHOULD BE USED AS A GENERAL REFERENCE ONLY.
17. TOPOGRAPHIC INFORMATION SHOWN IS FROM A SURVEY PERFORMED BY CINQUINI & PASSARINO, INC. ON MAY 18, 2023.
18. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THAT TIME. INTERPOLATED INFORMATION FROM BETWEEN SOUNDING RUNS IS NOT GUARANTEED. SHOALS, OBSTRUCTIONS OR OTHER DIFFERING CONDITIONS MAY EXIST BETWEEN THESE RUNS. CONSULT WITH FOTH & VAN DYKE AND ASSOCIATES, INC. FOR MORE DETAILED INFORMATION.

BATHYMETRIC SURVEY NOTES:

1. PROJECT NAME: PETALUMA TURNING BASIN 2022 AD SURVEY
2. PROJECT NUMBER: 20P015.00
3. SURVEY DATE: JUNE 13, 2022
4. SURVEYOR: BAY MARINE SERVICES
5. TRANS./FATH.: 200KHZ SINGLE BEAM, A 240KHZ RESON 8101 MULTIBEAM
6. WEATHER COND: 75°, PARTLY SUNNY
7. PROJECT DATUM: MLLW
8. COOR. SYSTEM: NAD83, CALIFORNIA STATE PLANE ZONE II

9. BENCHMARK: DATA IS REFERENCED TO PRIMARY BM "USACE PK NAIL" REPORTED AT +10.0 FT. MLLW, AND LOCATED THE PETALUMA MARINA IN PETALUMA, CA.
10. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF HYDROGRAPHIC SURVEYS PERFORMED ON THE DATES SHOWN, AND CAN ONLY BE CONSIDERED AS INDICATING THE SEABED CONDITIONS AT THAT TIME.

TOPOGRAPHIC SURVEY NOTES:

1. PROJECT NAME: PETALUMA TURNING BASIN DOCKS
2. PROJECT NUMBER: 10154-23
3. SURVEY DATE: MAY 18, 2023
4. SURVEYOR: CINQUINI & PASSARINO, INC.
5. PROJECT DATUM: MLLW
6. COOR. SYSTEM: NAD83, CALIFORNIA STATE PLANE ZONE II
7. BENCHMARK: B.S. CONTROL POINT NUMBER 230. ELEVATION 15.98 FEET NAVD88.

CONCRETE FLOATS:

1. THE CONCRETE FLOATING DOCK SYSTEM WILL BE PROVIDED TO THE CONTRACTOR BY OWNER FOR INSTALLATION. CONTRACTOR SHALL COORDINATE WITH CONCRETE FLOAT SUPPLIER FOR DELIVERY, INSTALLATION METHODS, AND ANY ADDITIONAL INFORMATION REQUIRED FOR INSTALLATION OF THE CONCRETE FLOATS.
2. THE CONTRACTOR WILL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF DELIVERY OF CONCRETE FLOATS AS PROVIDED BY THE OWNER. FLOATS WILL BE DELIVERED VIA BARGE TO THE PROJECT SITE. CONTRACTOR SHALL RECEIVE DELIVERY OF FLOATS AND GUARANTEE THAT THEY WILL BE HANDLED IN SUCH A MANNER AS TO NOT INDUCE STRESSES WHICH WILL DAMAGE THE MATERIALS AND STORED IN A SAFE MANNER WITHIN DESIGNATED AREAS PROVIDED AT THE SITE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND RECEIVING THE SHIPMENT OF FLOATS FROM BELLINGHAM MARINE, WHERE THEY SHALL BE TRANSFERRED, STORED AND TAKEN INTO THE CONTRACTOR'S POSSESSION FOR INSTALLATION.
4. THE CONTRACTOR SHALL LIFT AND SUPPORT PRECAST FLOATS AT THE LIFTING AND SUPPORTING POINTS INDICATED ON THE MANUFACTURER'S APPROVED SHOP DRAWINGS.
5. THE CONTRACTOR SHALL STORE PRECAST FLOATS OFF THE SEPARATE STACKED PRECAST FLOATS BY BATTENS ACROSS THE FULL WIDTH OF EACH BEARING PROTECT FROM WEATHER, MARRING, DAMAGE, AND OVERLOAD.
6. PRIOR TO ERECTION, AND AGAIN AFTER INSTALLATION, PRECAST FLOATS SHALL BE CHECKED FOR DAMAGE, SUCH AS CRACKING, SPALLING, AND HONEYCOMBING. PRECAST FLOATS THAT DO NOT MEET THE SURFACE REQUIREMENTS SHALL BE REPAIRED PER MANUFACTURER'S APPROVED RECOMMENDATIONS.
7. PRECAST FLOATS SHALL BE ASSEMBLED IN ACCORDANCE WITH THE MANUFACTURER'S APPROVED SHOP DRAWINGS. BRACE PRECAST FLOATS, UNLESS DESIGN CALCULATIONS SUBMITTED WITH THE SHOP DRAWINGS INDICATE BRACING IS NOT REQUIRED. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR MAXIMUM CONSTRUCTION LOADS.
8. PROVIDE ANCHORAGE FOR FASTENING WORK IN PLACE. CONCEAL FASTENERS WHERE PRACTICABLE. MAKE THREADED CONNECTIONS UP TIGHT AND NICK THREADS TO PREVENT LOOSENING.

SELECTIVE DEMOLITION & DISPOSAL:

1. SELECTIVE DEMOLITION AND DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL PERMIT AND BUILDING CODE REQUIREMENTS.
2. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THOSE STRUCTURES AND DERELICT COMPONENTS AS INDICATED ON THE DRAWINGS.
3. SELECTIVE DEMOLITION INCLUDES BUT IS NOT LIMITED TO REMOVAL AND REUSE (WHERE POSSIBLE) OF EXISTING MATERIALS, UTILITIES, AND OTHER COMPONENTS ESSENTIAL FOR A COMPLETE PROJECT.
4. THE CONTRACTOR SHALL TAKE REASONABLE CARE IN REMOVING ELEMENTS SELECTED TO BE DEMOLISHED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DAMAGE OR DESTRUCTION BY THE CONTRACTOR TO EXISTING ELEMENTS DESIGNATED TO REMAIN SHALL BE REPAIRED OR REPLACED IN-KIND AT THE DISCRETION OF THE OWNER AT NO ADDITIONAL COST.
5. ITEMS TO BE REMOVED AND REUSED SHALL BE PLACED IN A STAGING AREA ACCESSIBLE FOR INSPECTION BY THE OWNER AND/OR ENGINEER.
6. PRIOR TO COMMENCEMENT OF SELECTIVE DEMOLITION, THE CONTRACTOR SHALL SUBMIT A DISPOSAL PLAN FOR ITEMS TO BE DEMOLISHED. DEMOLITION MATERIAL DESIGNATED BY THE OWNER TO BE REMOVED FROM THE SITE SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE DEBRIS DISPOSAL PLAN SHALL ACKNOWLEDGE THIS OWNERSHIP AND SHALL IDENTIFY THE MEANS AND METHODS AND FINAL DISPOSITION FOR DISPOSAL MATERIALS.
7. PRIOR TO COMMENCEMENT OF DEMOLITION, THE CONTRACTOR SHALL CLEARLY MARK THE LIMITS OF THE DEMOLITION FOR REVIEW AND APPROVAL BY THE OWNER AND ENGINEER.
8. COMPLETELY REMOVE ITEMS DESIGNATED LEAVING SURFACES CLEAN, SOUND, AND READY TO RECEIVE NEW MATERIALS AS SPECIFIED IN THE CONTRACT DOCUMENTS.
9. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE COURSE OF DEMOLITION.
10. THE CONTRACTOR SHALL SUBMIT A DISPOSAL CERTIFICATE TO THE OWNER'S REPRESENTATIVE CERTIFYING LEGAL AND PROPER DISPOSAL.

DATE: JUNE 2023
 DESIGNED BY: AMIAK
 DRAWN BY: OFF/CM
 CHECKED BY: WPR

PROJECT NO.
 C14402010

CITY OF PETALUMA
 PUBLIC WORKS & UTILITIES
 202 N. McDowell Blvd., PETALUMA, CALIFORNIA, 94954
 PH: 707-778-4546 FAX: 707-778-4506



PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT NOTES, ABBREVIATIONS, & SYMBOLS



June 16, 2023

ISSUED FOR BID

SHEET
G-002
 2 OF 12

| | | | | | | | | |
|---|---|---|---|--|--|---|---|---|
| | A | B | C | D | E | F | G | H |
| | <u>TEMPORARY WORK:</u> | | 5. CONTINUOUSLY DRIVE EACH PILE TO REACH THE CAPACITY AND FULL EMBEDDED LENGTH CALLED FOR ON THE DRAWINGS. | 7. CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR EXCEPT FOR THOSE SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS. | <u>UTILITIES</u> | | | |
| 2 | 1. LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK THAT, UPON COMPLETION, ARE NOT A PART OF THE WORK, SHALL BE FURNISHED, INSTALLED, AND SUBSEQUENTLY REMOVED FROM THE SITE BY THE CONTRACTOR. 2. TEMPORARY WORK SHALL BE SUBJECT TO THE REQUIREMENTS OF THE STATE AND APPLICABLE LOCAL BUILDING CODES. 3. DURING EXECUTION OF THE WORK, THE CONTRACTOR IS REQUIRED TO INSTALL AND MAINTAIN REQUIRED SEDIMENTATION AND EROSION CONTROL MEASURES TO PROTECT ADJACENT WATERWAYS, STREETS, AND PROPERTIES. MEASURES WHICH MAY INCLUDE BUT NOT BE LIMITED TO TEMPORARY BERMS, HAY BALES, SILT FENCES, CONTAINMENT BOOMS, AND TURBIDITY CURTAINS. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN TEMPORARY CONTROLS DURING CONSTRUCTION. TEMPORARY MATERIALS AND EQUIPMENT SHALL CONFORM TO REQUIREMENTS FOR TEMPORARY WORK. | | 6. WITHDRAW PILES THAT ENCOUNTER UNDERGROUND OBSTRUCTIONS SUFFICIENT TO IMPEDE PILE DRIVING. REDRIVE AS CLOSE AS POSSIBLE TO ORIGINAL POSITION, SUBJECT TO REVIEW OF THE OWNER. REMOVE PILES WHICH SPLIT, BROOM, BREAK OR DRIVE OUT OF LINE. DRIVE ANOTHER PILE IN ITS PLACE. PROVIDE AND MAINTAIN NECESSARY LIGHTING AND BARRIERS TO ADEQUATELY ASSURE PUBLIC SAFETY. PROVIDE ADEQUATE SAFEGUARDS TO PROTECT FROM DAMAGE IMPROVEMENTS ON THE WORK SITE AND ON ADJACENT PROPERTIES. | 8. ALL HARDWARE AND CONNECTION TO BE HOT DIPPED GALVANIZED, UNLESS OTHERWISE NOTED. | 1. CONTRACTOR SHALL SUPPLY ALL NECESSARY TEMPORARY UTILITIES FOR CONSTRUCTION INCLUDING WATER, POWER, AND LIGHTING. 2. CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE ENGINEER. 3. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AT 800-642-2444 AT LEAST 2 WORKING DAYS (NOT INCLUDING THE DATE OF NOTIFICATION) BUT NOT MORE THAN 14 DAYS PRIOR TO THE START OF ANY EXCAVATION. 4. CONTRACTOR SHALL VERIFY CONDITION OF ALL EXISTING UTILITIES PRIOR TO REMOVAL AND REPLACEMENT. REQUEST FOR APPROVAL TO SHUTOFF OR REMOVE ANY UTILITIES SHALL BE SUBMITTED TO THE ENGINEER 7 DAYS PRIOR TO WORK. NO UTILITIES SHALL BE REMOVED OR SHUT OFF WITHOUT PRIOR APPROVAL. 5. ANY UTILITIES TEMPORARILY REMOVED OR RELOCATED BY THE CONTRACTOR SHALL BE RESTORED BY THE CONTRACTOR AFTER CONSTRUCTION AND TESTED AFTER RE-INSTALLATION. 6. THE CITY OF PETALUMA SHALL BE NOTIFIED IN A TIMELY MANNER IN ORDER THAT THE PIPE AND CONNECTIONS CAN BE SCHEDULED FOR INSPECTION. 7. SOLAR MARINE-GRADE, WATERPROOF DOCK LIGHTS SHALL BE INSTALLED ON BOTH SIDES OF THE FLOATING DOCK UNITS AT APPROXIMATELY 4'-0" O.C. THE DOCK LIGHTS SHALL HAVE A STEEL OR ALUMINUM FRAME AND BE INSTALLED IN A MANNER NOT TO CONFLICT WITH CLEATS. 8. DOCK LIGHT LOCATION PLAN AND SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR ACCEPTANCE AND APPROVAL. | | | |
| 3 | <u>GEOTECHNICAL NOTES:</u> | | 7. USE SUITABLE CUSHIONS OR DRIVING HEADS TO AVOID DAMAGE TO THE PILES, DEVELOPING PROPER TOTAL DRIVING ENERGY, AND DIRECTING THE ENERGY ALONG THE LONGITUDINAL CENTER OF GRAVITY OF THE PILE. | <u>PROTECTIVE COATING:</u> | | | | |
| | 1. SOIL BORINGS WERE COMPLETED IN MARCH OF 2023 BY MILLER PACIFIC ENGINEERING GROUP. BORING INFORMATION IS PROVIDED AS AN ATTACHMENT TO THE CONTRACT DOCUMENTS. | | 8. DRIVE PILES TO THEIR FULL PENETRATION WITHOUT BENDING, RUPTURING, OR SEVERELY DAMAGING THE PILES. IF FAILURE IN THE ABOVE RESPECTS IS ENCOUNTERED, PULL THE PILE AND DRIVE A NEW PILE AT NO ADDITIONAL COST TO THE OWNER. | 1. MATERIAL USED FOR FACTORY EPOXY COATING OF ALL SCHEDULED SURFACES SHALL BE BAR_RUST 235 MULTI_PURPOSE EPOXY COATING AS MANUFACTURED BY DEVCO COATINGS OR EQUIVALENT ACCEPTED BY THE ENGINEER OF RECORD. 2. FIELD TOUCH_UP COATING SHALL BE IDENTICAL TO FACTORY COATING AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. 3. SURFACES SHALL BE PREPARED IN STRICT ACCORDANCE WITH THE PROTECTIVE COATING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. 4. THE PROTECTIVE COATING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. COATING IS TO BE APPLIED IN TWO COATS TO ACHIEVE AN OVERALL DRY FILM THICKNESS OF 15 MILS. 5. ALL HOLIDAYS OR OTHER IMPERFECTIONS IN THE COATING SHALL BE REMOVED OR REPAIRED AT THE CONTRACTORS EXPENSE PRIOR TO FINAL ACCEPTANCE OF THE WORK. 6. PROTECTIVE COATING TOP COAT OF SURFACES THAT WILL BE SUBMERGED IN SALT WATER SHALL BE BLACK UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR BY THE OWNER. 7. SURFACES THAT WILL BE EXPOSED TO SUNLIGHT AND ABOVE THE WATER SHALL BE COATED WITH A MINIMUM OF 3 MILS OF A COMPATIBLE POLYURETHANE COATING. COLOR OF THIS TOP COAT SHALL BE COORDINATED WITH OWNER. | | | | |
| 4 | <u>FIELD-PROBING:</u> | | 9. JETTING TO ASSIST PENETRATION WILL NOT BE PERMITTED UNLESS ACCEPTED BY THE ENGINEER OF RECORD. PRE-DRILLING WILL NOT BE PERMITTED UNLESS ACCEPTED BY THE ENGINEER OF RECORD, WHEREBY ACCEPTED PRE_DRILLING TO ASSIST PENETRATION MAY BE USED WHERE EXTREME DRIVING RESISTANCE IS ENCOUNTERED, OR WHERE VIBRATIONS FROM DRIVING MAY BE DETRIMENTAL TO ADJACENT STRUCTURES. | <u>NON-SHRINK GROUT:</u> | | | | |
| | 1. THE CONTRACTOR SHALL CONDUCT A FIELD-PROBING PROGRAM, PRIOR TO PILE INSTALLATION, AT THE APPROXIMATE LOCATION OF THE PROPOSED FLOAT PILES. THIS PROBING PROGRAM SHALL DETERMINE IF THE PROPOSED PILE LOCATION SHALL REQUIRE RELOCATION OR IF ROCK SOCKETING SHALL BE REQUIRED IN ORDER TO REACH THE TIP ELEVATION SPECIFIED ON THE PLANS. | | 10. WHERE PILES ARE PUSHED UP BY PRESSURE FROM DRIVING OF ADJACENT PILES, RE-DRIVE AS REQUIRED AND AT NO ADDITIONAL COST TO THE OWNER. | 1. GROUT SHALL BE CEMENT-BASED, NON-MATALLIC, NON-SHRINK GROUT CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS. 2. GROUT SHALL BE TESTED BY AN INDEPENDENT TESTING LABORATORY. GROUT SAMPLES SHALL BE TAKEN EVERY DAY OF GROUTING. | | | | |
| | 2. THE CONTRACTOR'S PROBING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION TO THE SITE. | | 11. THE CONTRACTOR SHALL HAVE A MINIMUM OF ONE (1) ADDITIONAL 16" Ø X 3/8" W.T. STEEL PIPE PILE ON SITE TO ACCOMODATE ANY POTENTIAL SPLICING REQUIRED AS PART OF THIS WORK. | <u>TOLERANCE OF WALKING SURFACES</u> | | | | |
| | 3. UPON COMPLETION OF THE PROBING PLAN, THE CONTRACTOR SHALL SUBMIT RESULTS TO THE ENGINEER FOR CONFIRMATION OF ROCK SOCKET REQUIREMENTS. | | 12. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE DRIVING RECORD WITH THE DATE OF FINAL INSTALLATION AND TIP ELEVATIONS. THIS RECORD SHALL BE SUBMITTED WEEKLY AND SIGNED BY A REPRESENTATIVE OF THE CONTRACTOR. THE CONTRACTOR SHALL KEEP AN ACCURATE SET OF PILE RECORDS INDICATING PILE NUMBER, PILE TYPE AND INSTALLED LENGTH, TYPE OF IMPACT OR VIBRATORY HAMMER AND RATED ENERGY, DATE OF INSTALLATION, FINAL TIP ELEVATION, AND CONTRACTOR'S REPRESENTATIVE NAME AND SIGNATURE. | 1. THE CONTRACTOR SHALL ENSURE A LEVEL TRANSITION BETWEEN ALL WALKING SURFACES. 2. THE MAXIMUM PERMISSIBLE ELEVATION CHANGE BETWEEN WALKING SURFACES SHALL BE ¼ INCH THAT SHALL INCLUDE THE SUM OF ALL FABRICATION AND INSTALLATION TOLERANCES OF ALL STRUCTURAL COMPONENTS THAT MAY INFLUENCE THE FINAL WALKING SURFACE INCLUDING BUT NOT LIMITED TO THE FOLLOWING: PILES, PILE CAPS, DECKING, SHIMS, GROUT, ETC. 3. DECKING ERECTION IS SUBJECT TO SPECIAL INSPECTION TO ENSURE THAT A ¼ INCH MAXIMUM HEIGHT DIFFERENTIAL IS MAINTAINED AT THE TRANSITION BETWEEN ALL WALKING SURFACES. ANY TRANSITION BETWEEN WALKING SURFACES THAT IS GREATER THAN ¼ INCH IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE. | | | | |
| 5 | <u>PILE DRIVING:</u> | | | <u>STRUCTURAL STEEL:</u> | | | | |
| | 1. STEEL PILES SHALL BE DRIVEN WITH AN VIBRATORY HAMMER TO A MINIMUM EMBEDMENT LENGTH AS LISTED BELOW: | | | 1. STRUCTURAL STEEL SHALL COMPLY WITH THE "STEEL CONSTRUCTION MANUAL", LATEST EDITION, PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. 2. WELDING SHALL CONFORM TO THE "STRUCTURAL WELDING CODE - STEEL", AS ADOPTED BY THE AMERICAN WELDING SOCIETY (AWS D1.1). A WELDER CERTIFIED IN ACCORDANCE WITH AWS STANDARDS SHALL PERFORM WELDING. 3. WELDING ELECTRODES SHALL BE E70XX AND COMPLY WITH AWS A5.1 AND AWS A5.5. 4. STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A 572, GRADE 50. STEEL PLATES SHALL CONFORM TO ASTM A572, WITH 50 KSI YIELD. 5. GALVANIZING SHALL CONFORM TO ASTM A 123 OR ASTM A 153, AS APPLICABLE. 6. STEEL SHAPES AND PLATES, SHALL BE EPOXY COATED. STEEL HARDWARE SHALL BE HOT DIPPED GALVANIZED. | | | | |
| | STEEL PILES: 16"Ø X 0.375" WT PIPE PILES TIP ELEVATION: -35.3 FT TOP ELEVATION: 15.0 FT | | | 1. THE CONTRACTOR SHALL ENSURE A LEVEL TRANSITION BETWEEN ALL WALKING SURFACES. 2. THE MAXIMUM PERMISSIBLE ELEVATION CHANGE BETWEEN WALKING SURFACES SHALL BE ¼ INCH THAT SHALL INCLUDE THE SUM OF ALL FABRICATION AND INSTALLATION TOLERANCES OF ALL STRUCTURAL COMPONENTS THAT MAY INFLUENCE THE FINAL WALKING SURFACE INCLUDING BUT NOT LIMITED TO THE FOLLOWING: PILES, PILE CAPS, DECKING, SHIMS, GROUT, ETC. 3. DECKING ERECTION IS SUBJECT TO SPECIAL INSPECTION TO ENSURE THAT A ¼ INCH MAXIMUM HEIGHT DIFFERENTIAL IS MAINTAINED AT THE TRANSITION BETWEEN ALL WALKING SURFACES. ANY TRANSITION BETWEEN WALKING SURFACES THAT IS GREATER THAN ¼ INCH IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE. | | | | |
| | 2. DRIVE PILES WITH AN AIR OR DIESEL OPERATED VIBRATORY HAMMER, WITH SUFFICIENT ENERGY AND ENERGY TRANSFER CHARACTERISTICS TO DRIVE THE PILES TO THE REQUIRED CAPACITY AND TOE ELEVATIONS WITHOUT DAMAGING THE PILE HEAD. USE CAUTION NOT TO INJURE THE PILES BY OVER DRIVING AS WOULD BE INDICATED BY REBOUND OF HAMMER OR STAGGERING OF PILE. CUT OFF HEADS OF PILES ACCURATELY IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AFTER COMPLETION OF DRIVING. | | | 4. THE CONTRACTOR SHALL ENSURE A LEVEL TRANSITION BETWEEN ALL WALKING SURFACES. 5. FENCING AND GATES SHALL BE POWDER COATED WITH A SATIN BLACK POLYESTER-BASEG TGIC POWDER COATING APPLIED TO 2.5 MILS TO ALL FINISHED PIECES. POWDER COATING SHALL CONTAIN A UV FADE INHIBITOR. 6. BOTH GATE AND FENCING SHALL BE 8' HIGH. 7. GATES SHALL BE MINIMUM OF 36" WIDTH AND BE INSTALLED IN COMPLIANCE WITH ADA REQUIREMENTS FOR CLEAR WIDTH AND MINIMUM MANUVERING CLEARANCES. 8. GATES SHALL BE FITTED WITH CHAIN-LINK MESH INSTALLED TO PREVENT TAMPERING WITH LOCKS. 9. LOCKS BY OTHERS. 10. GATES, FENCING, HARDWARE, AND ALL ASSOCIATED COMPONENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. | | | | |
| 6 | 3. DRIVE THE PILES STRAIGHT AND TRUE AT INDICATED LOCATIONS, WITH DEVIATION FROM THE LONGITUDINAL AXIS OF NOT MORE THAN 1/4 INCH PER FOOT. | | | 4. THE CONTRACTOR SHALL ENSURE A LEVEL TRANSITION BETWEEN ALL WALKING SURFACES. 5. FENCING AND GATES SHALL BE POWDER COATED WITH A SATIN BLACK POLYESTER-BASEG TGIC POWDER COATING APPLIED TO 2.5 MILS TO ALL FINISHED PIECES. POWDER COATING SHALL CONTAIN A UV FADE INHIBITOR. 6. BOTH GATE AND FENCING SHALL BE 8' HIGH. 7. GATES SHALL BE MINIMUM OF 36" WIDTH AND BE INSTALLED IN COMPLIANCE WITH ADA REQUIREMENTS FOR CLEAR WIDTH AND MINIMUM MANUVERING CLEARANCES. 8. GATES SHALL BE FITTED WITH CHAIN-LINK MESH INSTALLED TO PREVENT TAMPERING WITH LOCKS. 9. LOCKS BY OTHERS. 10. GATES, FENCING, HARDWARE, AND ALL ASSOCIATED COMPONENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. | | | | |
| | 4. LOCATE THE PILES WITHIN 3 INCHES OF THE POSITIONS INDICATED ON THE DRAWINGS. | | | 4. THE CONTRACTOR SHALL ENSURE A LEVEL TRANSITION BETWEEN ALL WALKING SURFACES. 5. FENCING AND GATES SHALL BE POWDER COATED WITH A SATIN BLACK POLYESTER-BASEG TGIC POWDER COATING APPLIED TO 2.5 MILS TO ALL FINISHED PIECES. POWDER COATING SHALL CONTAIN A UV FADE INHIBITOR. 6. BOTH GATE AND FENCING SHALL BE 8' HIGH. 7. GATES SHALL BE MINIMUM OF 36" WIDTH AND BE INSTALLED IN COMPLIANCE WITH ADA REQUIREMENTS FOR CLEAR WIDTH AND MINIMUM MANUVERING CLEARANCES. 8. GATES SHALL BE FITTED WITH CHAIN-LINK MESH INSTALLED TO PREVENT TAMPERING WITH LOCKS. 9. LOCKS BY OTHERS. 10. GATES, FENCING, HARDWARE, AND ALL ASSOCIATED COMPONENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. | | | | |

DATE: JUNE 2023
 DESIGNED BY: AM/AK
 DRAWN BY: OFF/CM
 CHECKED BY: WPR

PROJECT NO.
 C14402010

CITY OF PETALUMA
 PUBLIC WORKS & UTILITIES
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PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT NOTES, ABBREVIATIONS, & SYMBOLS

SHEET

G-003

3 OF 12



ISSUED FOR BID

June 16, 2023

FLOATING DOCK AND GANGWAY INSTALLATION

1. FLOATING DOCKS AND GANGWAY SHALL BE INSTALLED ACCORDING TO THE PLANS, RECOMMENDATIONS, AND PROCEDURES PROVIDED BY BELLINGHAM MARINE WHICH WILL BE PROVIDED TO THE CONTRACTOR UPON AWARD.

14. THE NUMBER OF ACCESS ROUTES, AND THE NUMBER AND SIZE OF STAGING AREAS, AND THE TOTAL AREA OF THE WORK SITE ACTIVITY WILL BE LIMITED TO THE MINIMUM NECESSARY TO COMPLETE THE PROJECT. THE DOCK WILL ARRIVE VIA BARGE TO MINIMIZE IMPACTS TO THE RIPARIAN ZONE. ANY WORK TO BE PERFORMED LANDSIDE WILL BE LIMITED TO THE LEAST EXTENT POSSIBLE TO MINIMIZE ANY POTENTIAL IMPACTS.
15. EROSION CONTROL MATERIALS (SILT FENCE AND STRAW WATTLES) WILL BE INSTALLED ALONG THE BANK TO PREVENT SEDIMENT FROM WASHING INTO THE RIVER DURING CONSTRUCTION.
16. TOXIC SUBSTANCES, PARTICULARLY WOOD PRESERVATIVES, WILL BE PREVENTED FROM FALLING INTO THE WATER. IN THE EVENT THAT ANY DRILLING OR SAWING OF WOOD TREATED WITH PRESERVATIVES IS PERFORMED, ALL WORK WILL BE CONDUCTED ON LAND AWAY FROM THE RIVER. THE USE OF WOOD TREATED WITH PRESERVATIVES IS NOT ANTICIPATED.
17. IN THE EVENT OF A FORECASTED STORM PRODUCE AT LEAST 0.10 INCH OF PRECIPITATION WITHIN A 24-HOUR PERIOD ALL EROSION CONTROL MATERIALS ARE TO BE LOCATED ON-SITE AND READY TO BE DEPLOYED. NO PHASE OF THE PROJECT WILL BE INITIATED IF EROSION CONTROL MEASURES CANNOT BE COMPLETELY INSTALLED PRIOR TO THE ONSET OF A STORM EVENT PREDICTED BY 72-HOUR WEATHER FORECASTS FROM THE NATIONAL WEATHER SERVICE.
18. STAGING/STORAGE AREAS FOR EQUIPMENT, MATERIALS, FUELS, LUBRICANTS, AND SOLVENTS, WOULD BE LOCATED OUTSIDE OF THE RIPARIAN AREA AND ABOVE THE TOP OF BANK AS FEASIBLE. ALL EQUIPMENT WILL BE MOVED AWAY FROM THE RIPARIAN AREA PRIOR TO REFUELING AND LUBRICATING. THE PROJECT MANAGER WILL ENSURE THAT CONTAMINATION OF HABITAT DOES NOT OCCUR DURING SUCH OPERATIONS DUE TO ACCIDENTAL SPILLS. ALL WORKERS WILL BE INFORMED OF THE IMPORTANCE OF PREVENTING SPILLS AND OF THE APPROPRIATE MEASURES TO TAKE SHOULD A SPILL OCCUR.

19. DURING ALL ACTIVITIES AND ONCE CONSTRUCTION IS OVER, ALL CONSTRUCTION TRASH THAT MAY ATTRACT PREDATORS WILL BE PROPERLY CONTAINED, REMOVED FROM THE WORK SITE, AND DISPOSED OF REGULARLY.
20. ALL TEMPORARILY DISTURBED AREAS WILL BE RESTORED TO PREVIOUS CONDITION AND COVERED WITH NATIVE GRASS SEEDING WHERE APPROPRIATE.
21. NO TREES ARE IDENTIFIED FOR FULL REMOVAL FOR THE PROJECT, HOWEVER IF ANY TREES ARE PERMANENTLY IMPACTED, THEY WILL BE REPLACED BY TREE PLANTING IN THE RIPARIAN ZONE AT A RATIO TO BE DETERMINED IN RESOURCE AGENCY PERMITS (I.E. CDFW 1600 SAA). ONLY NATIVE SHRUBS AND TREES FROM THE PETALUMA RIVER WATERSHED, WILL BE USED FOR REVEGETATION.
22. LIMBING AND TRIMMING OF BRANCHES FOR EQUIPMENT ACCESS WILL BE KEPT TO A MINIMUM AND BE CONDUCTED UNDER THE SUPERVISION OF THE PROJECT MANAGER.
23. ANY WORK DONE IN THE RIPARIAN ZONE THAT WILL DISTURB SOIL, WILL BE TREATED FOR EROSION CONTROL AT THE COMPLETION OF PROJECT. THIS WOULD INCLUDE SPREADING NATIVE GRASS SEEDING AND PLACEMENT OF EROSION CONTROL MATERIALS SUCH AS BIODEGRADABLE EROSION CONTROL BLANKETS AND STRAW WATTLES.
24. NO HEAVY EQUIPMENT WILL BE STORED OR REFUELED IN THE RESOURCE AREAS.
25. CONTRACTOR SHALL MINIMIZE IMPACTS TO COASTAL RESOURCE AREAS AT ALL TIMES DURING THE PROPOSED WORK.

PERMITS
DATE
PENDING

DOCUMENT TITLE
USACE LETTER OF PERMISSION
FILE NO. SPN-2021-00066
CDFW EPIMS NOTIFICATION NO. SON-16617 R3
SFBRWQCB PLACE ID: 875673
NOTE: THE ABOVE PERMITS HAVE BEEN OBTAINED FOR INSTALLATION OF THE CONCRETE FLOATS AND GANGWAY STRUCTURES. ISSUANCE OF PERMITS FOR PILE INSTALLATION ARE PENDING AND WILL BE PROVIDED UPON ISSUANCE.

ISSUED FOR BID

ENVIRONMENTAL IMPACTS:

1. IN ORDER TO REDUCE POTENTIALLY SIGNIFICANT IMPACTS GENERATED BY PILE DRIVING TO LEVELS BELOW SIGNIFICANCE, THE PROJECT PROPONENT SHALL IMPLEMENT A GOOD FAITH EFFORT TO CONDUCT PILE-DRIVING ACTIVITIES WITHIN THE ENVIRONMENTAL WORK WINDOW, WHICH IS OUTSIDE OF THE MIGRATORY PERIOD FOR LISTED FISH SPECIES AND INDICATES AN EXPECTED ABSENCE OF FISH IN THE PROJECT AREA.
2. SILT-CURTAINS SHALL BE UTILIZED DURING ALL PILE DRIVING ACTIVITIES TO LIMIT THE AMOUNT OF SUSPENDED SEDIMENT ENTERING THE WATER COLUMN. IN ACCORDANCE WITH THE SAN FRANCISCO BASIN PLAN WATER QUALITY OBJECTIVE.
3. DRILLING OR SAWING OF WOOD TREATED WITH PRESERVATIVES SHALL BE CONDUCTED ON LAND.
4. STOCKPILING OF MATERIALS, INCLUDING PORTABLE EQUIPMENT, VEHICLES AND SUPPLIES (E.G., CHEMICALS), WILL BE RESTRICTED TO THE DESIGNATED CONSTRUCTION STAGING AREAS, EXCLUSIVE OF ANY RIPARIAN AREAS; REFUELING OF ANY VEHICLES OR EQUIPMENT SHOULD BE DONE AT LEAST 100 FEET AWAY FROM THE RIVER.
5. ORANGE CONSTRUCTION FENCING SHOULD BE PLACED AROUND ALL EXISTING RIPARIAN AND/OR EMERGENT WETLAND VEGETATION TO AVOID POTENTIAL IMPACTS TO THIS SENSITIVE VEGETATION COMMUNITY DURING CONSTRUCTION ACTIVITIES NEAR THE PIER AND GANGWAY. PLACEMENT OF EXCLUSION FENCING SHOULD BE PERFORMED UNDER THE DIRECTION OF A BIOLOGIST TO ENSURE COMPLETE AVOIDANCE OF SENSITIVE RIPARIAN AND WETLAND HABITAT.
6. IN ADDITION TO ORANGE CONSTRUCTION FENCING, SILT FENCE SHOULD BE INSTALLED AND MAINTAINED BETWEEN THE STAGING AREA AND ADJACENT WATERWAY TO PREVENT ANY CONTAMINANTS FROM ENTERING THE WATERWAY.
7. BEST MANAGEMENT PRACTICES SHOULD BE EMPLOYED INCLUDING THE PREPARATION OF SPILL PREVENTION PLAN TO PREVENT DISCHARGE OR SPILLING OF MATERIALS OR LIQUIDS INTO THE ADJACENT WATERWAY OR RIPARIAN HABITAT AREA.
8. REMOVAL OF EXISTING TIMBER PILES SHALL BE PERFORMED WITH A VIBRATORY HAMMER. IF PILE BREAKS DURING THE REMOVAL PROCESS, THE CONTRACTOR SHALL CUT THE PILE BELOW MUDLINE.
9. WORK TO BE PERFORMED BY BARGE MOUNTED CRANE AND SUPPORTING EQUIPMENT AS REQUIRED.
10. THE PROPOSED REPLACEMENT PILES ARE TO BE INSTALLED AND HELD IN PLACE BY A BARGE MOUNTED CRANE IN ORDER TO DRIVE THE PILES.
11. THE PROPOSED REPLACEMENT PILES ARE TO BE DRIVEN WITH A VIBRATORY HAMMER TO THE GREATEST EXTENT POSSIBLE.
12. PILE DRIVING WILL BE CONDUCTED WITHIN THE SHORTEST TIME AS IS PRACTICABLE AND IN COMPLIANCE WITH METHODOLOGY APPROVED BY NMFS AND CDFW.
13. WHERE IT IS PRACTICAL TO DO SO, PROTECTIVE MATERIALS WILL BE USED TO PREVENT MATERIALS FROM ENTERING THE WATERWAY. THIS MAY INCLUDE SILT SCREENS DURING PILE DRIVING AND NETTING WHILE WORK IS PERFORMED ON THE DOCK AND GANGWAYS.

ABBREVIATIONS

| | |
|--------|------------------------------|
| AHTL | ANNUAL HIGH TIDE LINE |
| APPROX | APPROXIMATE |
| BH | BORE HOLE |
| CONC | CONCRETE |
| CONT | CONTINUED |
| Ø | DIAMETER |
| EX | EXISTING |
| FRP | FIBER-REINFORCED PLASTIC |
| IN | INCH |
| L | LENGTH |
| MAX | MAXIMUM |
| MHW | MEAN HIGH WATER |
| MHHW | MEAN HIGHER HIGH WATER |
| MLW | MEAN LOW WATER |
| MLLW | MEAN LOWER LOW WATER |
| MIN | MINIMUM |
| NTS | NOT-TO-SCALE |
| O.C. | ON CENTER |
| ± | PLUS OR MINUS |
| PROP | PROPOSED |
| PSCC | PETALUMA SMALL CRAFT CENTER |
| PTB | PETALUMA TURNING BASIN |
| R | RADIUS |
| TYP | TYPICAL |
| USACE | U.S. ARMY CORPS OF ENGINEERS |
| VAR | VARIES |

| TIDAL STAGE | NAVD88 | (MLLW) | (MLW) |
|-------------|--------|--------|-------|
| MHHW | +6.30 | +6.01 | +5.07 |
| MHW | +5.77 | +5.48 | +4.54 |
| MLW | +1.23 | +0.94 | +0.00 |
| MLLW | +0.29 | +0.00 | -0.94 |
| NAVD88 | +0.00 | -0.29 | -1.23 |

DATUM OFFSETS TAKEN FROM NOAA V-DATUM CONVERSION STATION ID: 9415252, PETALUMA RIVER ENTRANCE CA, DATED SEP 12, 2016

GENERAL SYMBOLS

| EXISTING | PROPOSED | |
|------------------------|------------------------|---|
| --- | --- | PROPERTY LINE |
| --- | --- | SHORELINE |
| -x-x-x- | -x-x-x- | FENCE LINE |
| [Hatched Box] | [Hatched Box] | BUILDINGS |
| ○ | ■ | POWER AND WATER PEDESTAL |
| ○ | ● | STEEL PILES |
| ○ | ● | TIMBER PILES |
| [Cross-hatched Box] | [Cross-hatched Box] | LIMITS OF DEMOLITION |
| [Diagonal-hatched Box] | [Diagonal-hatched Box] | TO BE REMOVED, PROTECTED & RE-INSTALLED |
| ☼ | ☼ | STREET LIGHT |
| ⊕ | ⊕ | FIRE HYDRANT |
| ⊕ | ⊕ | BORING |
| | P# | STEEL PILE DESIGNATION |
| | ☼ | SOLAR MOUNTED DOCK LIGHT |



| NO. | DATE | DESCRIPTION | BY |
|-----|------|-------------|----|
| | | | |
| | | | |

| | |
|---------------------|--------------------------------------|
| PROJECT START | |
| PROJECT END | |
| PROJECT CONTRACTOR | TBD |
| CONTRACTOR'S SUPER. | TBD |
| REGULATORY PERMITS | NA |
| PROJECT MANAGER | CITY OF PETALUMA |
| PROJECT INSPECTOR | FOTH & VAN DYKE AND ASSOCIATES, INC. |
| OTHER | |

DATE: JUNE 2023
DESIGNED BY: AMIAK
DRAWN BY: OFF/CM
CHECKED BY: WPR

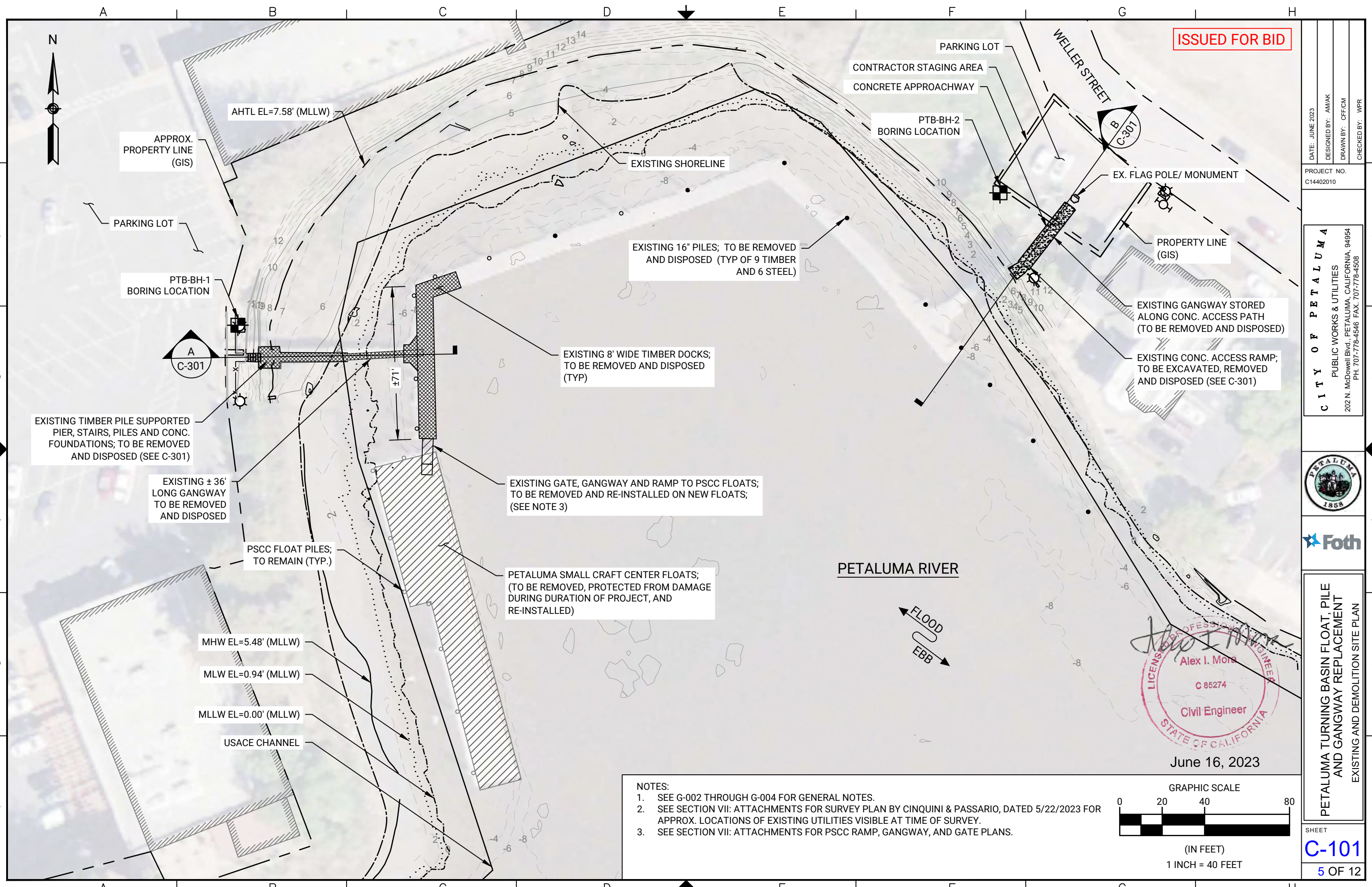
PROJECT NO.
C14402010

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Foth

PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT NOTES, ABBREVIATIONS, & SYMBOLS

SHEET
G-004
4 OF 12



ISSUED FOR BID

DATE: JUNE 2023
 DESIGNED BY: AMIAK
 DRAWN BY: OFF/CM
 CHECKED BY: WPR

PROJECT NO.
 C14402010

CITY OF PETALUMA
 PUBLIC WORKS & UTILITIES
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PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
 EXISTING AND DEMOLITION SITE PLAN

SHEET
C-101
 5 OF 12

AHTL EL=7.58' (MLLW)

APPROX. PROPERTY LINE (GIS)

PARKING LOT

PTB-BH-1 BORING LOCATION

EXISTING TIMBER PILE SUPPORTED PIER, STAIRS, PILES AND CONC. FOUNDATIONS; TO BE REMOVED AND DISPOSED (SEE C-301)

EXISTING ± 36' LONG GANGWAY TO BE REMOVED AND DISPOSED

PSCC FLOAT PILES; TO REMAIN (TYP.)

MHW EL=5.48' (MLLW)

MLW EL=0.94' (MLLW)

MLLW EL=0.00' (MLLW)

USACE CHANNEL

EXISTING SHORELINE

EXISTING 16" PILES; TO BE REMOVED AND DISPOSED (TYP OF 9 TIMBER AND 6 STEEL)

EXISTING 8' WIDE TIMBER DOCKS; TO BE REMOVED AND DISPOSED (TYP)

EXISTING GATE, GANGWAY AND RAMP TO PSCC FLOATS; TO BE REMOVED AND RE-INSTALLED ON NEW FLOATS; (SEE NOTE 3)

PETALUMA SMALL CRAFT CENTER FLOATS; (TO BE REMOVED, PROTECTED FROM DAMAGE DURING DURATION OF PROJECT, AND RE-INSTALLED)

PARKING LOT
 CONTRACTOR STAGING AREA
 CONCRETE APPROACHWAY

PTB-BH-2 BORING LOCATION

EX. FLAG POLE/ MONUMENT

PROPERTY LINE (GIS)

EXISTING GANGWAY STORED ALONG CONC. ACCESS PATH (TO BE REMOVED AND DISPOSED)

EXISTING CONC. ACCESS RAMP; TO BE EXCAVATED, REMOVED AND DISPOSED (SEE C-301)

PETALUMA RIVER

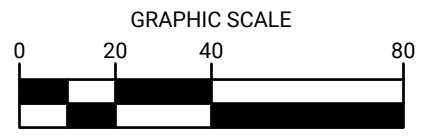
FLOOD
 EBB

Alex I. Mors
 C 85274
 Civil Engineer
 STATE OF CALIFORNIA

June 16, 2023

NOTES:

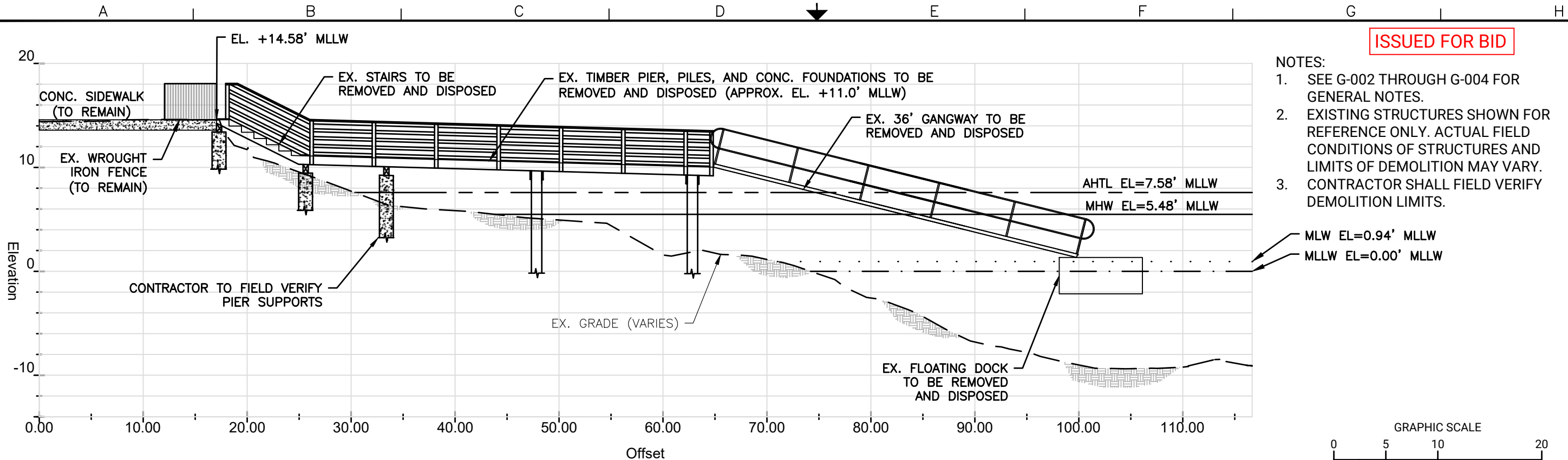
1. SEE G-002 THROUGH G-004 FOR GENERAL NOTES.
2. SEE SECTION VII: ATTACHMENTS FOR SURVEY PLAN BY CINQUINI & PASSARIO, DATED 5/22/2023 FOR APPROX. LOCATIONS OF EXISTING UTILITIES VISIBLE AT TIME OF SURVEY.
3. SEE SECTION VII: ATTACHMENTS FOR PSCC RAMP, GANGWAY, AND GATE PLANS.



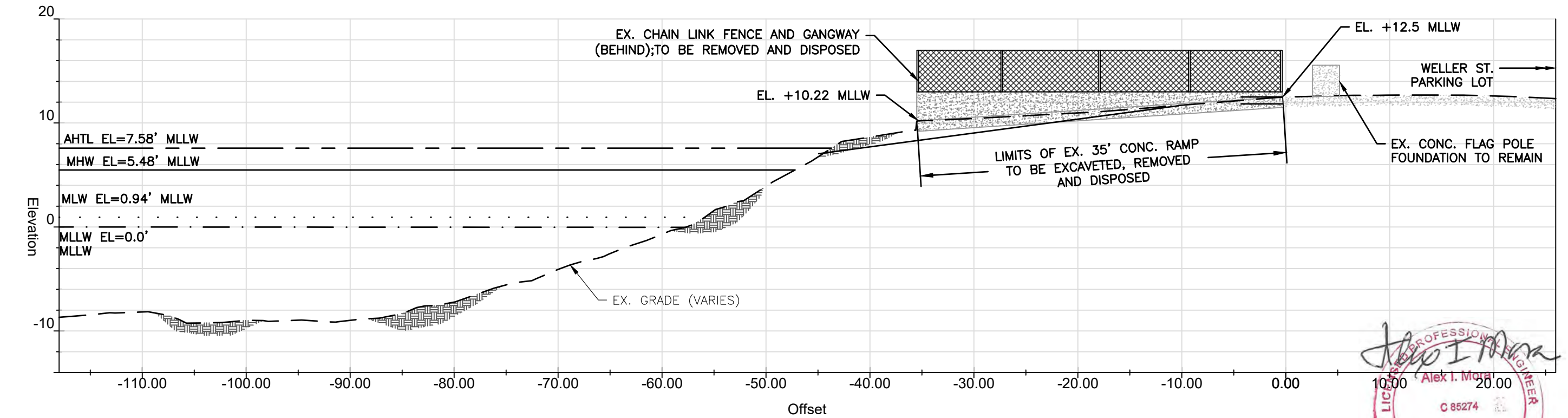
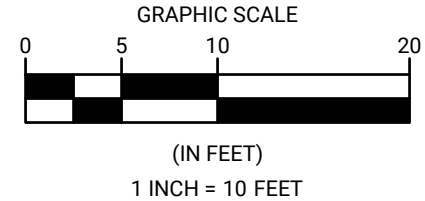
(IN FEET)
 1 INCH = 40 FEET

ISSUED FOR BID

- NOTES:
1. SEE G-002 THROUGH G-004 FOR GENERAL NOTES.
 2. EXISTING STRUCTURES SHOWN FOR REFERENCE ONLY. ACTUAL FIELD CONDITIONS OF STRUCTURES AND LIMITS OF DEMOLITION MAY VARY.
 3. CONTRACTOR SHALL FIELD VERIFY DEMOLITION LIMITS.



A WEST GANGWAY PROFILE
C-301 SCALE: 1" = 10'



B EAST GANGWAY PROFILE
C-301 SCALE: 1" = 10'

Alex I. Mora
 LIC. PROFESSIONAL ENGINEER
 C 85274
 Civil Engineer
 STATE OF CALIFORNIA

DATE: JUNE 2023
 DESIGNED BY: AM/AK
 DRAWN BY: OFF/CM
 CHECKED BY: WPR

PROJECT NO.
 C14402010

CITY OF PETALUMA
 PUBLIC WORKS & UTILITIES
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 PH: 707-778-4546 FAX: 707-778-4508



PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
 EXISTING GANGWAY PROFILES

SHEET

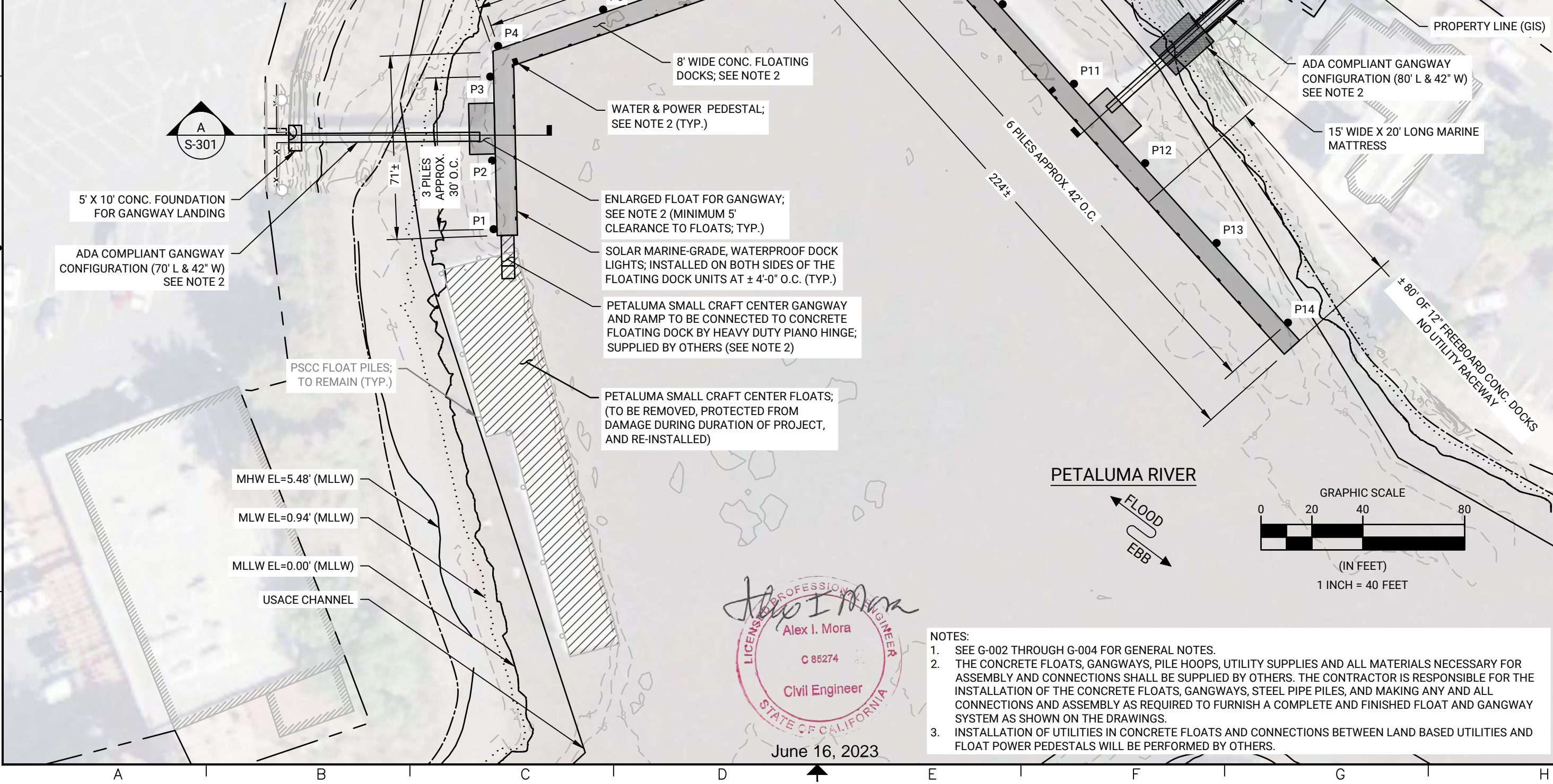
C-301

6 OF 12

June 16, 2023

| STEEL PILE LOCATION TABLE | | |
|---------------------------|--------------|--------------|
| PILE # | NORTHING | EASTING |
| P1 | 1848185.4812 | 6378336.5267 |
| P2 | 1848212.4534 | 6378335.9630 |
| P3 | 1848245.4664 | 6378335.1927 |
| P4 | 1848257.4957 | 6378338.2621 |
| P5 | 1848271.7734 | 6378379.5307 |
| P6 | 1848286.0778 | 6378420.8762 |
| P7 | 1848300.3821 | 6378462.2217 |
| P8 | 1848312.8487 | 6378498.3261 |
| P9 | 1848305.1965 | 6378508.4102 |
| P10 | 1848273.9097 | 6378536.4304 |
| P11 | 1848242.6229 | 6378564.4507 |
| P12 | 1848211.4033 | 6378592.4107 |
| P13 | 1848180.0492 | 6378620.4912 |
| P14 | 1848148.7624 | 6378648.5114 |

NOTE: CONTRACTOR SHALL VERIFY FINAL LOCATION OF PILES PER RESULTS OF PROBING PLAN AND APPROVAL BY ENGINEER.



ISSUED FOR BID

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 CHECKED BY: WPR

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PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
 FLOATING DOCK CONFIGURATION PLAN

SHEET

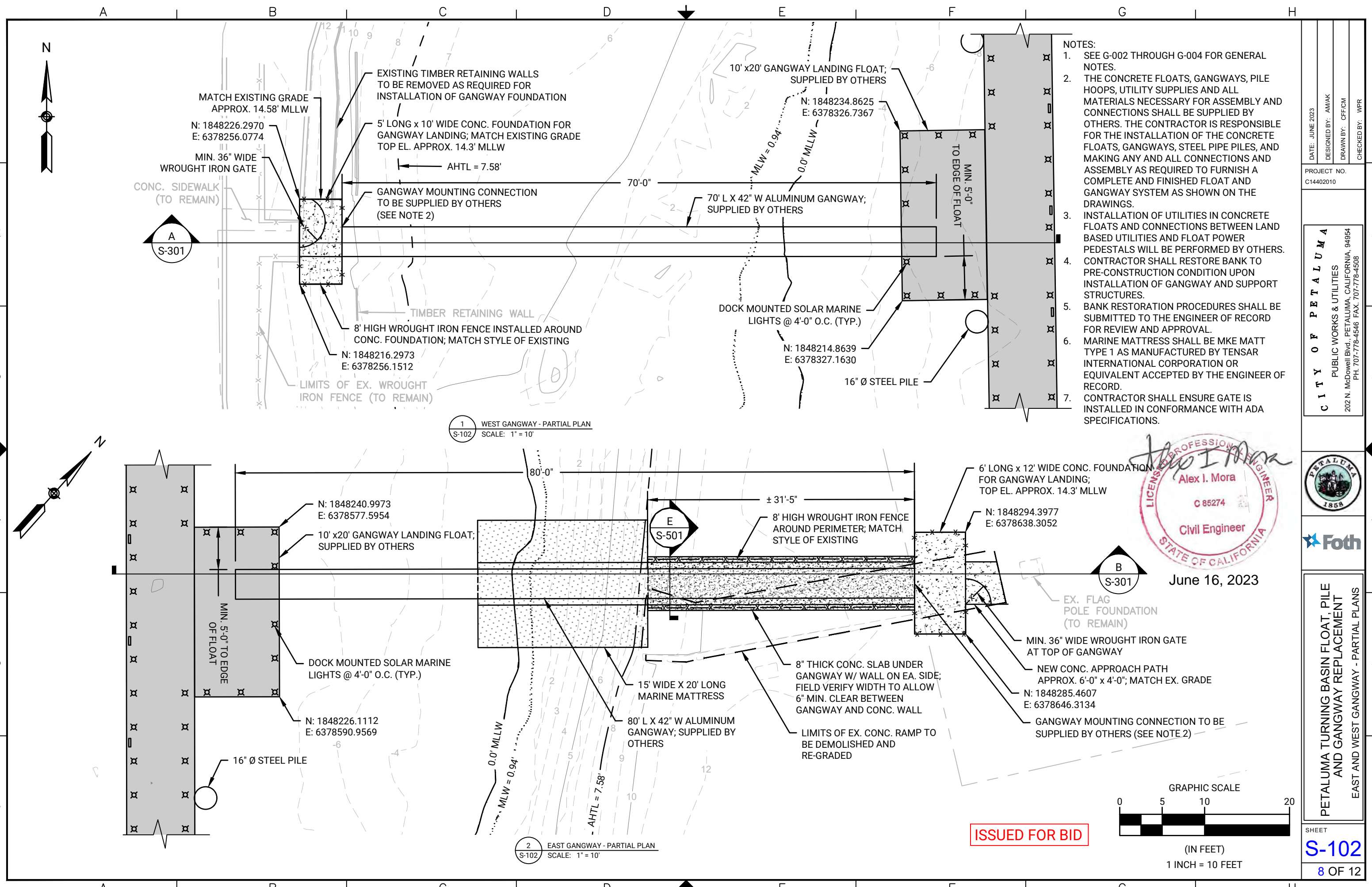
S-101

7 OF 12

Alex I. Mora
 Alex I. Mora
 C 85274
 Civil Engineer
 STATE OF CALIFORNIA

June 16, 2023

- NOTES:
- SEE G-002 THROUGH G-004 FOR GENERAL NOTES.
 - THE CONCRETE FLOATS, GANGWAYS, PILE HOOPS, UTILITY SUPPLIES AND ALL MATERIALS NECESSARY FOR ASSEMBLY AND CONNECTIONS SHALL BE SUPPLIED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE CONCRETE FLOATS, GANGWAYS, STEEL PIPE PILES, AND MAKING ANY AND ALL CONNECTIONS AND ASSEMBLY AS REQUIRED TO FURNISH A COMPLETE AND FINISHED FLOAT AND GANGWAY SYSTEM AS SHOWN ON THE DRAWINGS.
 - INSTALLATION OF UTILITIES IN CONCRETE FLOATS AND CONNECTIONS BETWEEN LAND BASED UTILITIES AND FLOAT POWER PEDESTALS WILL BE PERFORMED BY OTHERS.



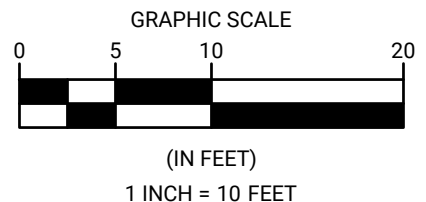
- NOTES:
1. SEE G-002 THROUGH G-004 FOR GENERAL NOTES.
 2. THE CONCRETE FLOATS, GANGWAYS, PILE HOOPS, UTILITY SUPPLIES AND ALL MATERIALS NECESSARY FOR ASSEMBLY AND CONNECTIONS SHALL BE SUPPLIED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE CONCRETE FLOATS, GANGWAYS, STEEL PIPE PILES, AND MAKING ANY AND ALL CONNECTIONS AND ASSEMBLY AS REQUIRED TO FURNISH A COMPLETE AND FINISHED FLOAT AND GANGWAY SYSTEM AS SHOWN ON THE DRAWINGS.
 3. INSTALLATION OF UTILITIES IN CONCRETE FLOATS AND CONNECTIONS BETWEEN LAND BASED UTILITIES AND FLOAT POWER PEDESTALS WILL BE PERFORMED BY OTHERS.
 4. CONTRACTOR SHALL RESTORE BANK TO PRE-CONSTRUCTION CONDITION UPON INSTALLATION OF GANGWAY AND SUPPORT STRUCTURES.
 5. BANK RESTORATION PROCEDURES SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL.
 6. MARINE MATTRESS SHALL BE MKE MATT TYPE 1 AS MANUFACTURED BY TENSAR INTERNATIONAL CORPORATION OR EQUIVALENT ACCEPTED BY THE ENGINEER OF RECORD.
 7. CONTRACTOR SHALL ENSURE GATE IS INSTALLED IN CONFORMANCE WITH ADA SPECIFICATIONS.

1 WEST GANGWAY - PARTIAL PLAN
S-102
SCALE: 1" = 10'

2 EAST GANGWAY - PARTIAL PLAN
S-102
SCALE: 1" = 10'

Alex I. Mora
 LICENSED PROFESSIONAL ENGINEER
 C 85274
 Civil Engineer
 STATE OF CALIFORNIA

June 16, 2023



ISSUED FOR BID

DATE: JUNE 2023
 DESIGNED BY: AMIAK
 DRAWN BY: OFF/CM
 CHECKED BY: WPR

PROJECT NO.
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Foth

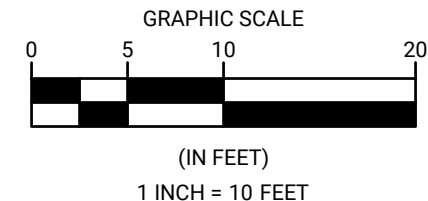
PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
 EAST AND WEST GANGWAY - PARTIAL PLANS

SHEET
S-102
 8 OF 12

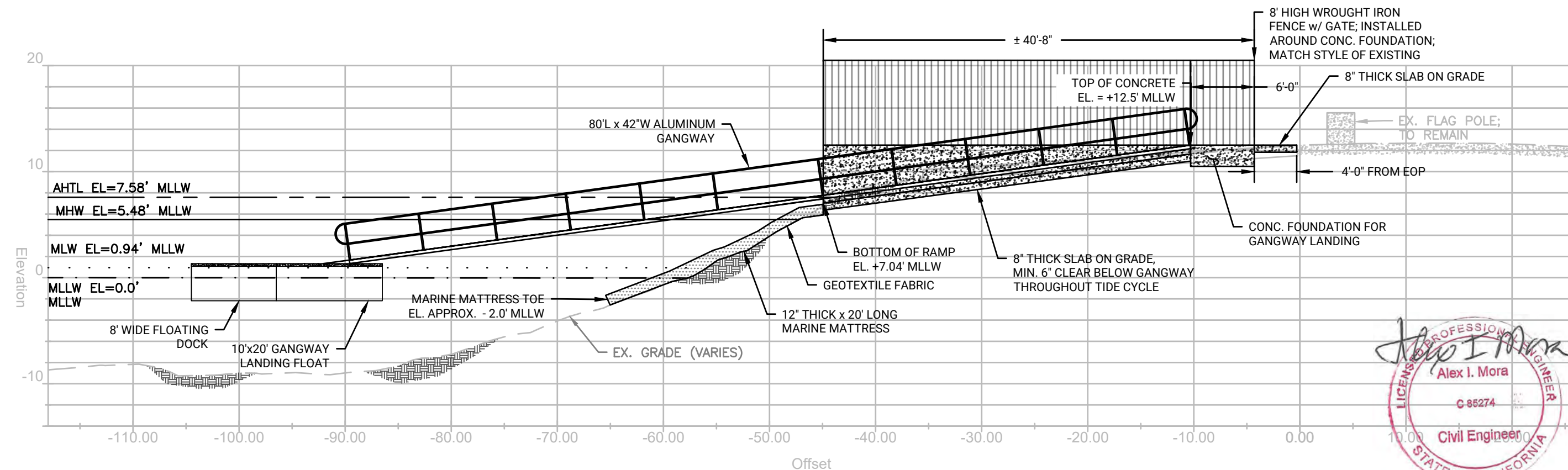
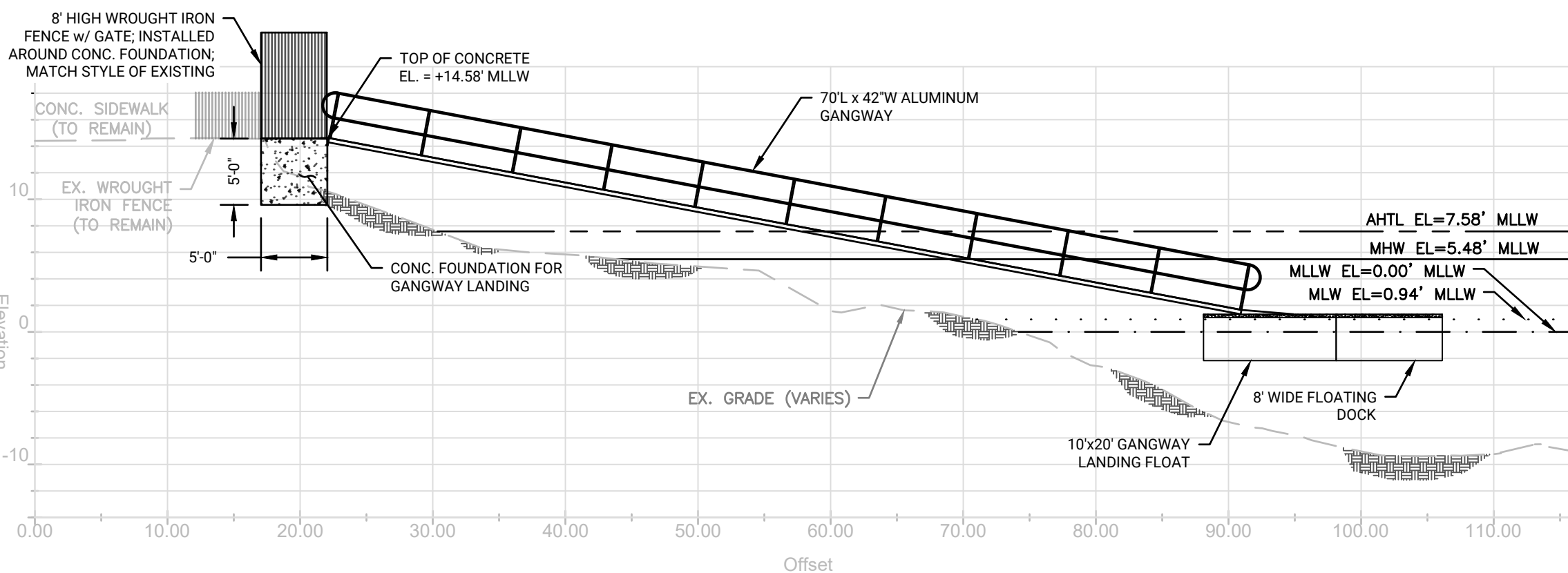
ISSUED FOR BID

NOTES:

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2. THE CONCRETE FLOATS, GANGWAYS, PILE HOOPS, UTILITY SUPPLIES AND ALL MATERIALS NECESSARY FOR ASSEMBLY AND CONNECTIONS SHALL BE SUPPLIED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE CONCRETE FLOATS, GANGWAYS, STEEL PIPE PILES, AND MAKING ANY AND ALL CONNECTIONS AND ASSEMBLY AS REQUIRED TO FURNISH A COMPLETE AND FINISHED FLOAT AND GANGWAY SYSTEM AS SHOWN ON THE DRAWINGS.
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5. BANK RESTORATION PROCEDURES SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL.



A WEST GANGWAY PROFILE
S-301 SCALE: 1" = 10'



B EAST GANGWAY PROFILE
S-301 SCALE: 1" = 10'

Alex I. Mora
 LICENSED PROFESSIONAL ENGINEER
 Alex I. Mora
 C-85274
 Civil Engineer
 STATE OF CALIFORNIA

June 16, 2023

DATE: JUNE 2023
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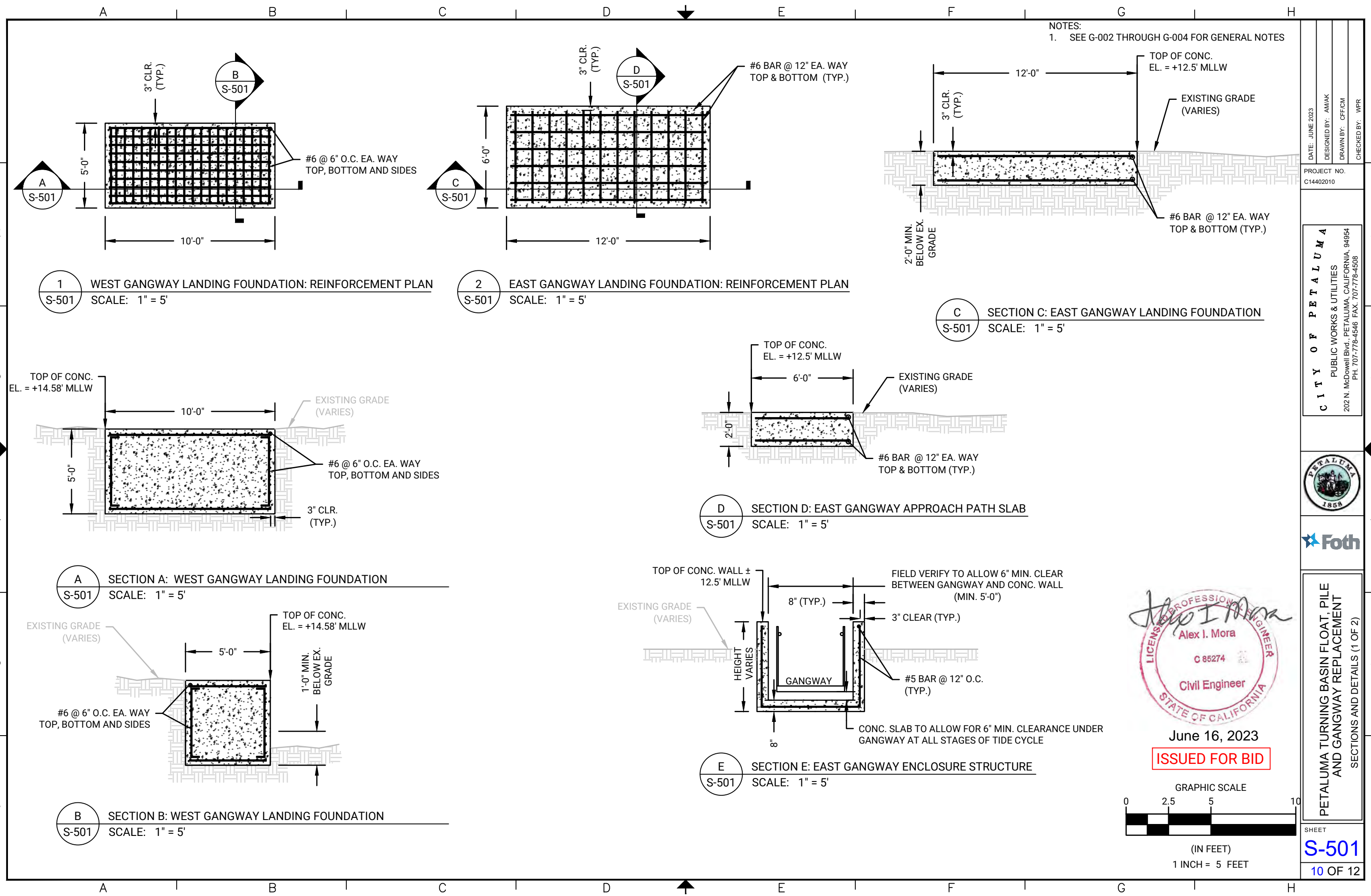


PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
 EAST AND WEST GANGWAY PROFILES

SHEET

S-301

9 OF 12



NOTES:
1. SEE G-002 THROUGH G-004 FOR GENERAL NOTES

DATE: JUNE 2023
DESIGNED BY: AMAK
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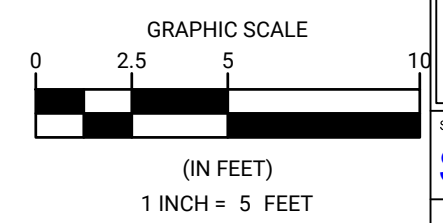
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June 16, 2023

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PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
SECTIONS AND DETAILS (1 OF 2)

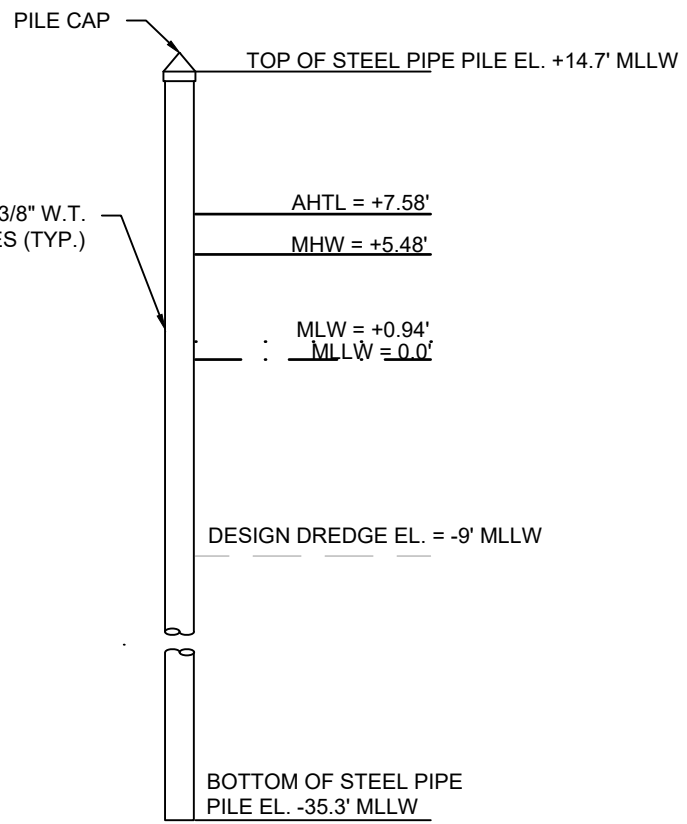
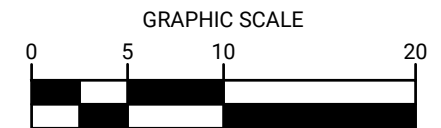
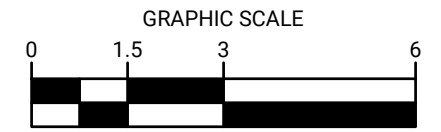
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S-501

10 OF 12

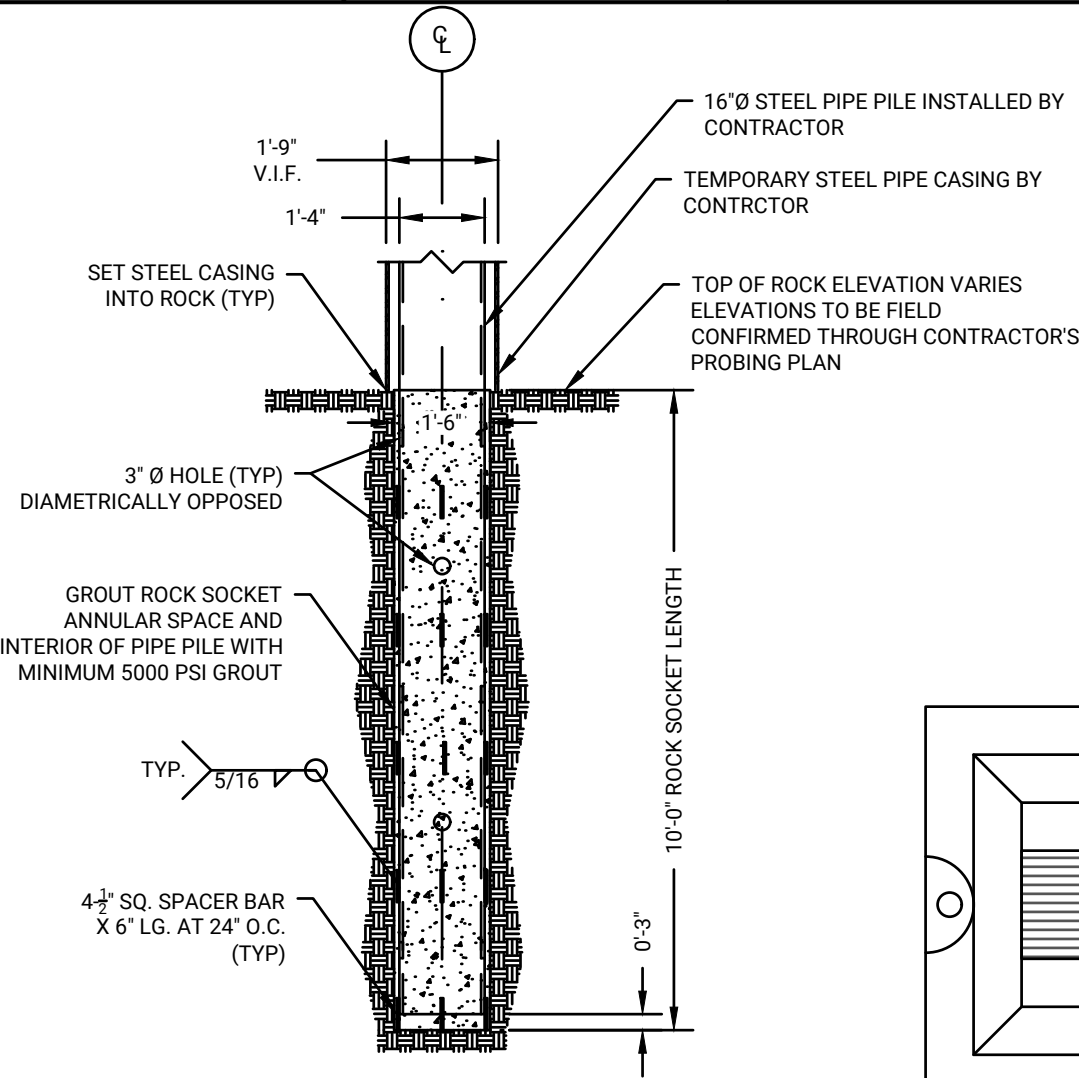
ISSUED FOR BID

NOTES:
1. SEE G-002 THROUGH G-004 FOR GENERAL NOTES

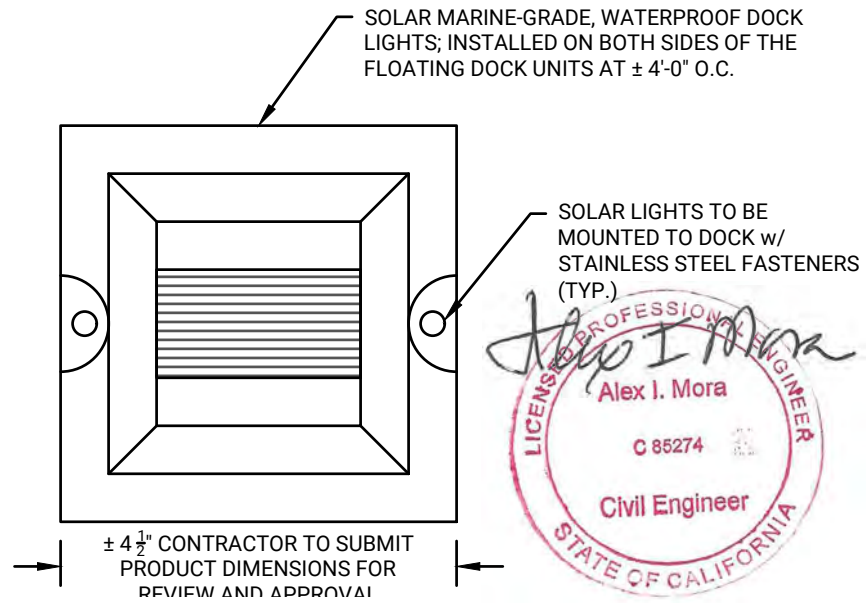


1 TYPICAL PILE DETAIL
S-502 SCALE: 1" = 10'

DETAIL NOTES:
1. STEEL PILES THAT DO NOT REACH REQUIRED TIP ELEVATION SHALL BE GROUTED IN ROCK SOCKET. SEE ROCK SOCKET DETAIL 2/S-502 ON THIS SHEET.



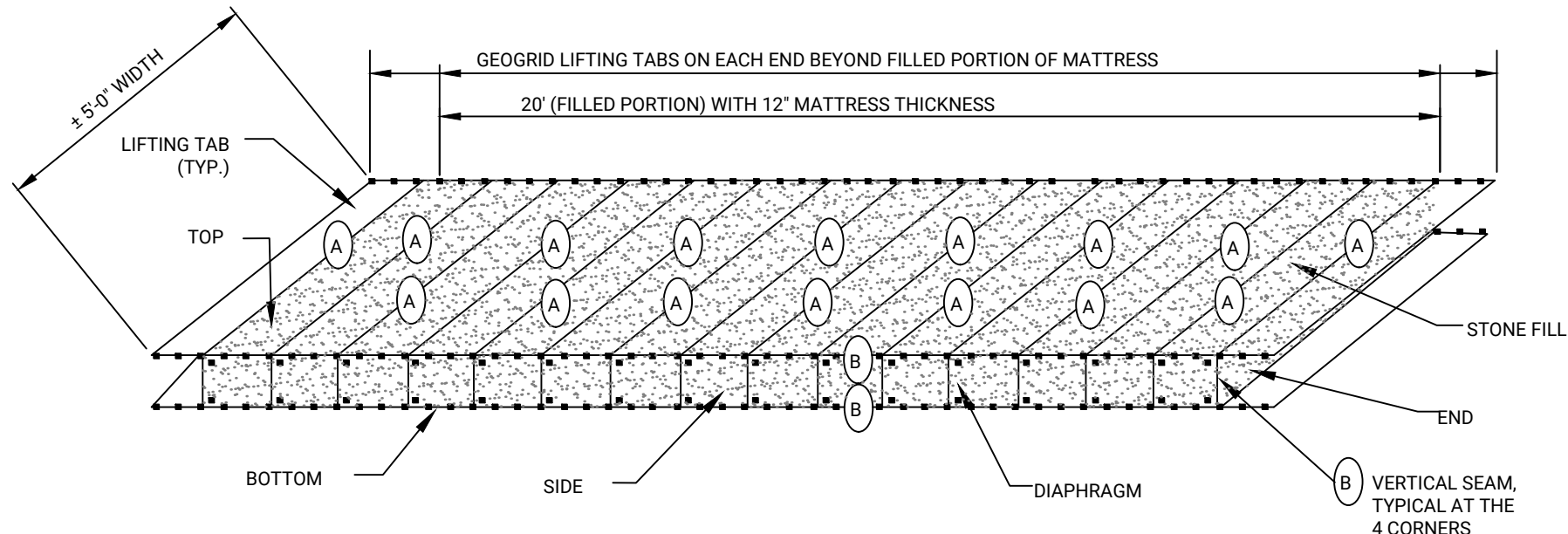
2 ROCK SOCKET DETAIL
S-502 SCALE: 1" = 3'



3 DOCK MOUNTED SOLAR MARINE LIGHTS
S-502 SCALE: NOT TO SCALE

LEGEND:
(A) INDICATES BODKIN CONNECTION USING 3/8" DIAMETER HDPE BODKIN ROD
(B) INDICATES BRAIDED SEAM USING 3/16" DIAMETER HIGH UV HDPE BRAID

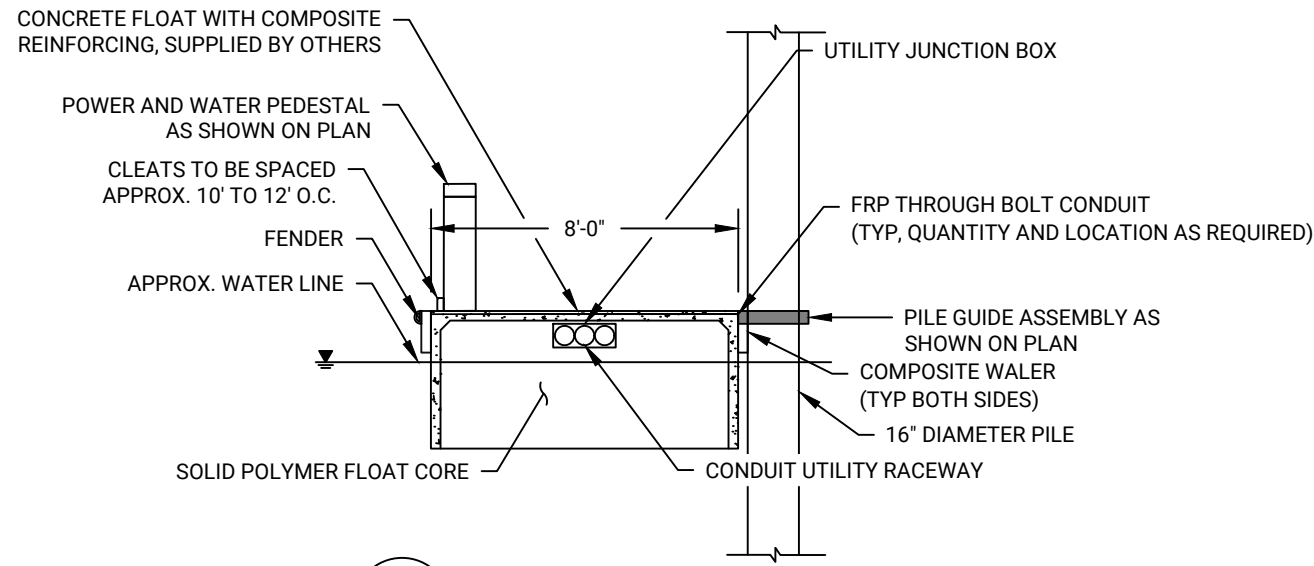
MARINE MATTRESS NOTES:
1. ENDS, TOP, BOTTOM, SIDES AND ANY EXTRA LENGTH USED FOR LIFTING OR ANCHORING PURPOSES SHALL BE COMPOSED OF TENSAR UXTRITON 200 GEOGRID.
2. INTERNAL DIAPHRAGMS SHALL BE COMPOSED OF TENSAR UXTRITON 100 GEOGRID.
3. NOMINAL WIDTH OF UNITS: 5FT (FILLED), 4.3 FT (UNFILLED).
4. TYPICAL THICKNESS (FILLED): 12 INCHES; OPTIONAL THICKNESS: 18 INCHES OR 24 INCHES.
5. PLASTIC CABLES TIES MAY BE USED TO SECURE BODKIN CONNECTORS IN POSITION PRIOR TO TENSIONING OR FILLING OF MATTRESS UNITS.



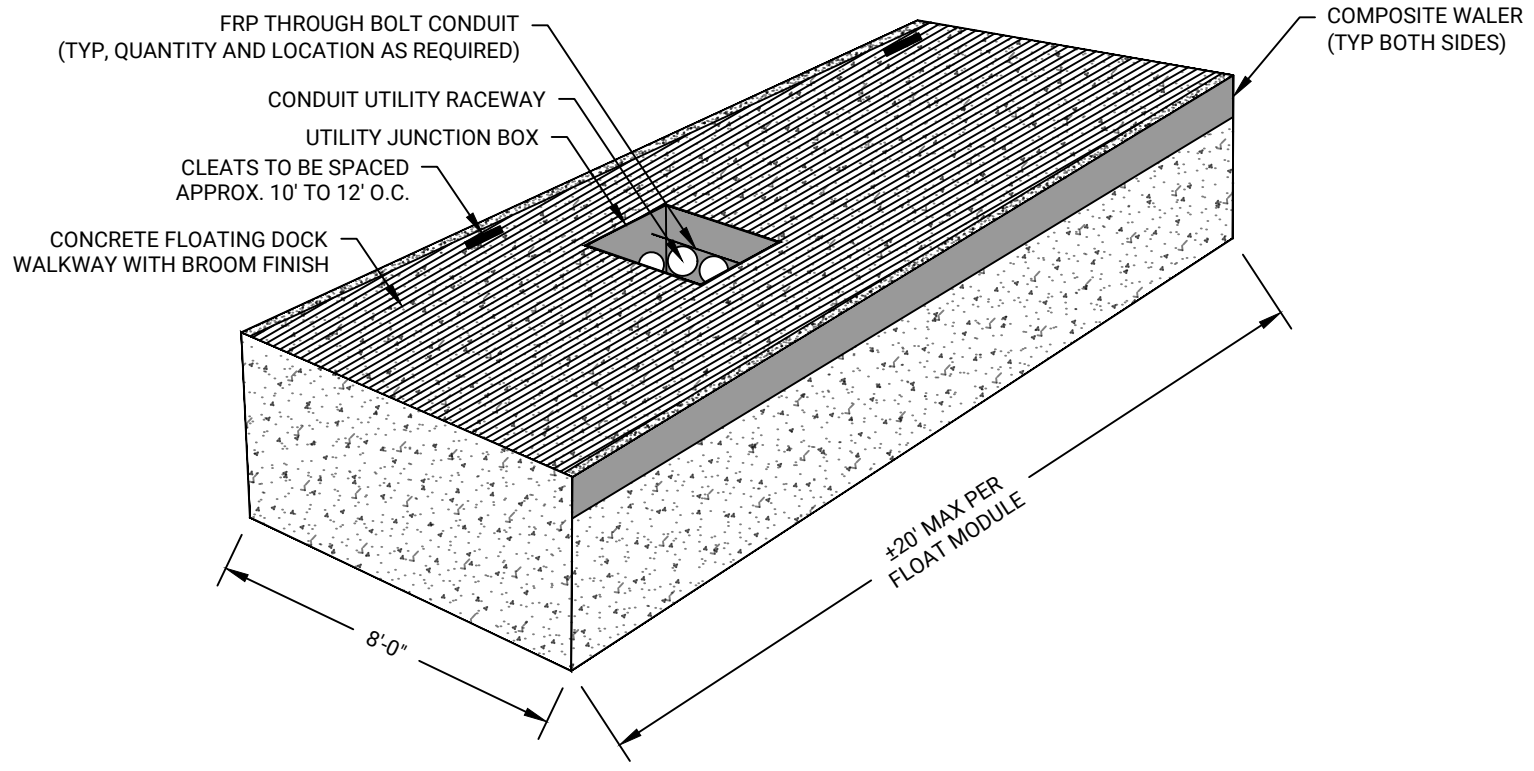
4 MARINE MATTRESS DETAIL
S-502 SCALE: NOT TO SCALE

DATE: JUNE 2023
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CHECKED BY: WPR
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PH: 707-778-4546 FAX: 707-778-4508
Foothold logo
Petaluma logo
Petaluma Turning Basin Float, Pile and Gangway Replacement (2 OF 2)
SECTIONS AND DETAILS
SHEET S-502
11 OF 12

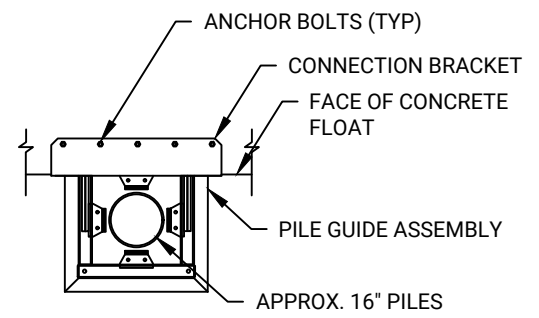
A B C D E F G H



A TYPICAL FLOAT DETAIL (SUPPLIED BY OTHERS)
S-503 SCALE: 5'



B TYPICAL FLOAT DETAIL
S-503 SCALE: 1" = 5'

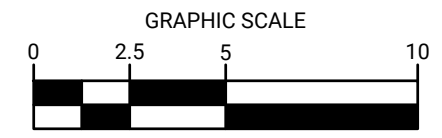


C TYPICAL EXTERIOR PILE GUIDE ASSEMBLY
S-503 SCALE: 1" = 5'



June 16, 2023

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- NOTES:
- SEE G-002 THROUGH G-004 FOR GENERAL NOTES.
 - THE CONCRETE FLOATS, GANGWAYS, PILE HOOPS, UTILITY SUPPLIES AND ALL MATERIALS NECESSARY FOR ASSEMBLY AND CONNECTIONS SHALL BE SUPPLIED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE CONCRETE FLOATS, GANGWAYS, STEEL PIPE PILES, AND MAKING ANY AND ALL CONNECTIONS AND ASSEMBLY AS REQUIRED TO FURNISH A COMPLETE AND FINISHED FLOAT AND GANGWAY SYSTEM AS SHOWN ON THE DRAWINGS.
 - INSTALLATION OF UTILITIES IN CONCRETE FLOATS AND CONNECTIONS BETWEEN LAND BASED UTILITIES AND FLOAT POWER PEDESTALS SHALL BE PERFORMED BY OTHERS.
 - CONTRACTOR SHALL RESTORE BANK TO PRE-CONSTRUCTION CONDITION UPON INSTALLATION OF GANGWAY AND SUPPORT STRUCTURES.

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PETALUMA TURNING BASIN FLOAT, PILE AND GANGWAY REPLACEMENT
FLOATING DOCK DETAILS

SHEET

S-503

12 OF 12

2

3

4

5

6

1

2

3

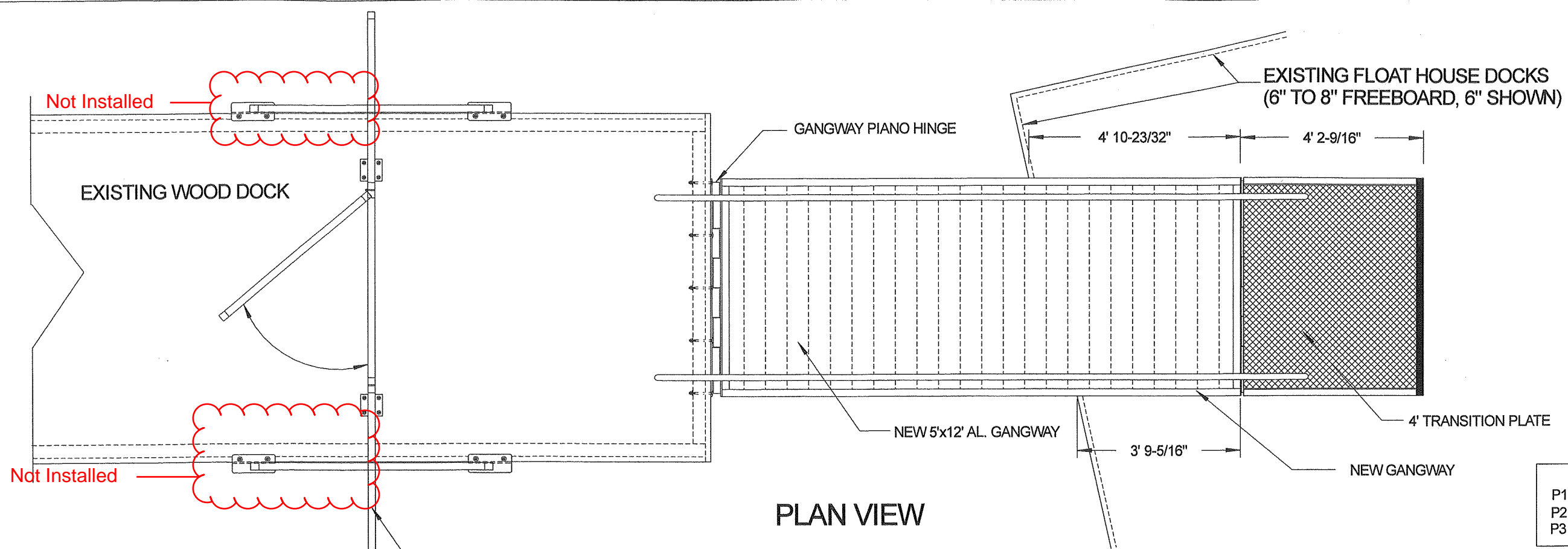
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5

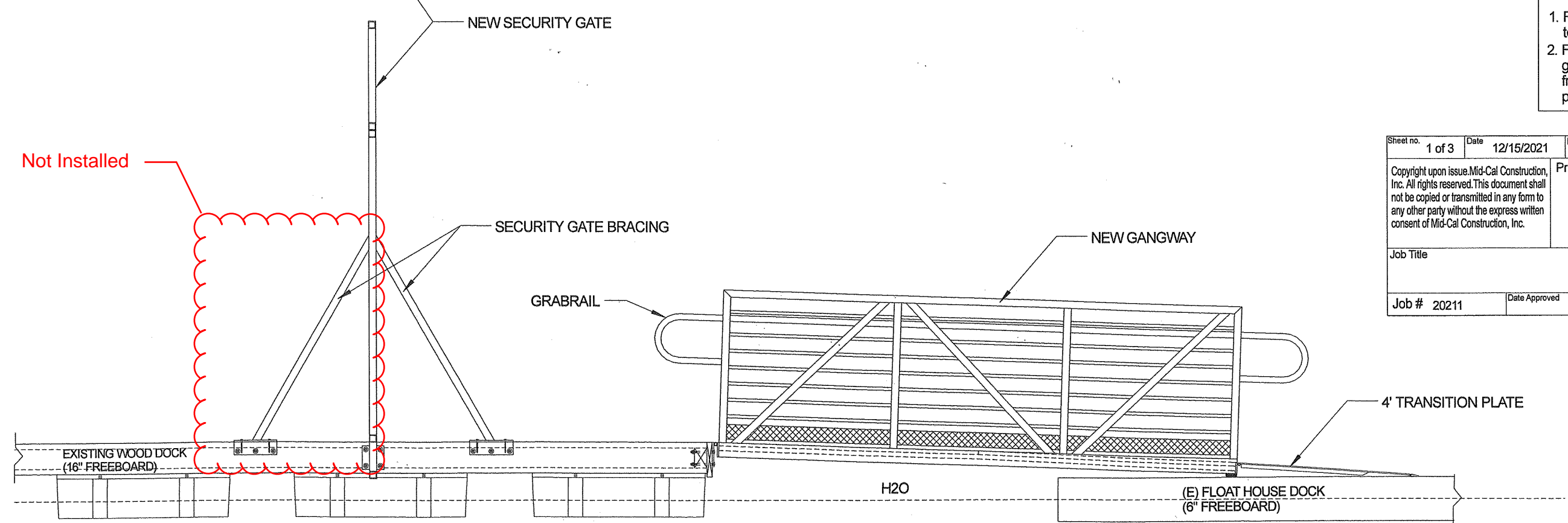
6

A B C D E F G H

SECTION VII
ATTACHMENTS



PLAN VIEW



PROFILE VIEW

Drawing Index

- P1 - PLAN VIEW & PROFILE VIEW
- P2 - GANGWAY SHOP DRAWINGS
- P3 - SECURITY GATE SHOP DRAWINGS

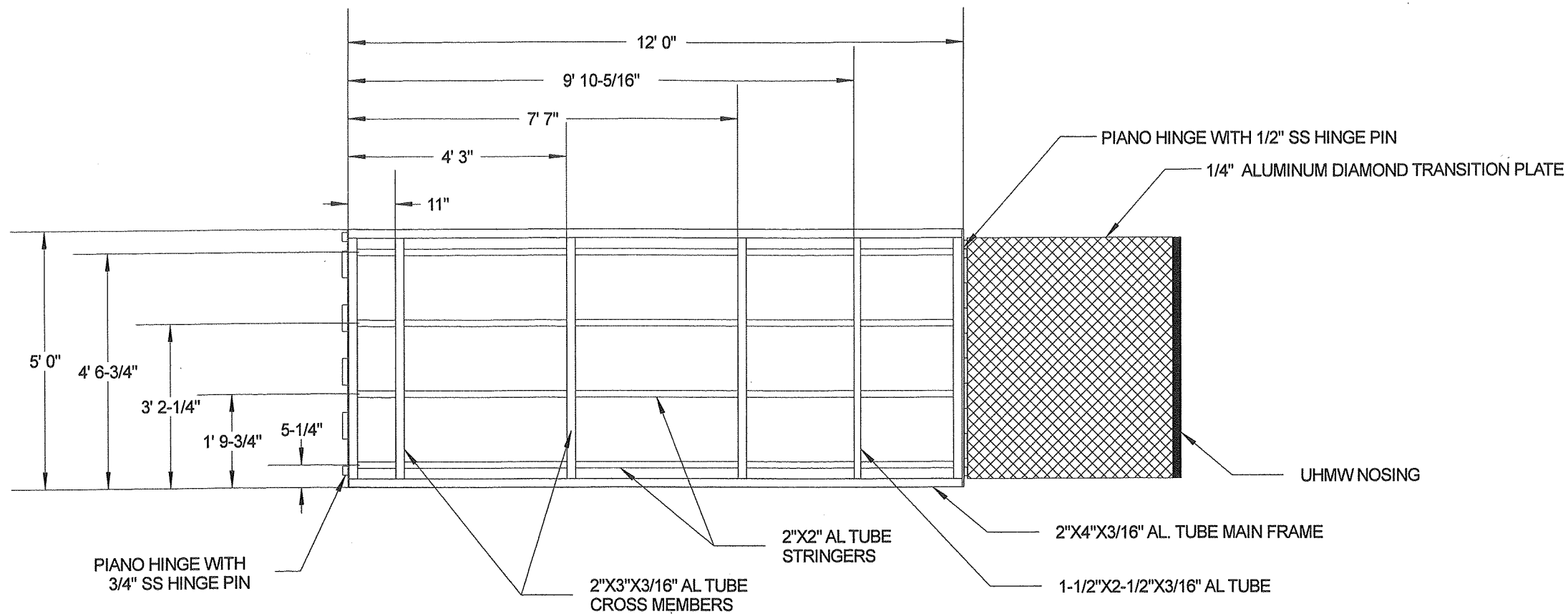
- Project Description**
1. Fabricate and install new security gate to existing wood frame dock.
 2. Fabricate and install new ADA aluminum gangway with transition plate for access from existing wood dock to existing plastic float house docks

| | | | |
|---|-----------------|--|-----------------|
| Sheet no. 1 of 3 | Date 12/15/2021 | Drawn by Rick Pelchat | Scale 3/8" = 1' |
| Copyright upon issue, Mid-Cal Construction, Inc. All rights reserved. This document shall not be copied or transmitted in any form to any other party without the express written consent of Mid-Cal Construction, Inc. | | Project Name CAVANAGH LANDING FLOAT HOUSE 150 Weller Street, Petaluma, Ca. 94952 | |
| Job Title | | Notes: ALUMINUM SECURITY GATE AND GANGWAY | |
| Job # 20211 | Date Approved | Approved by | |

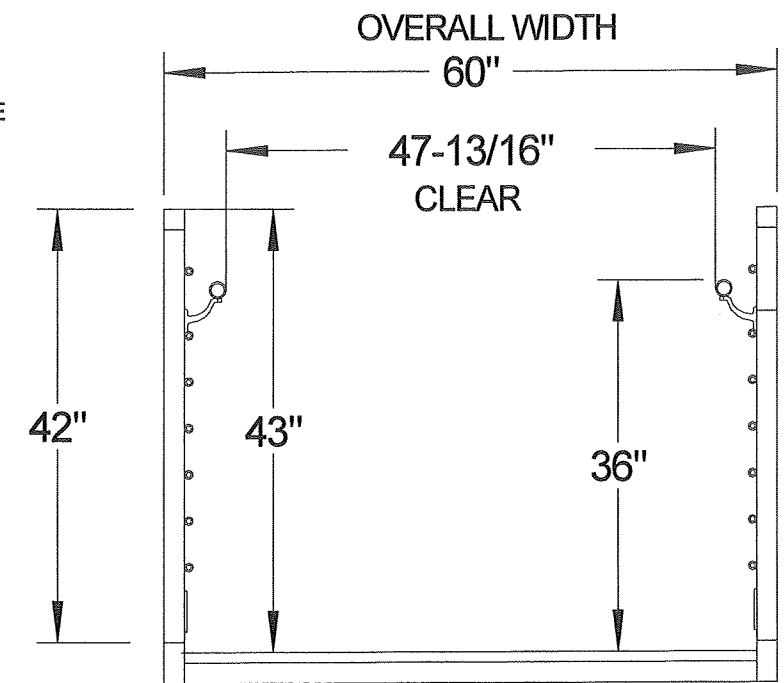
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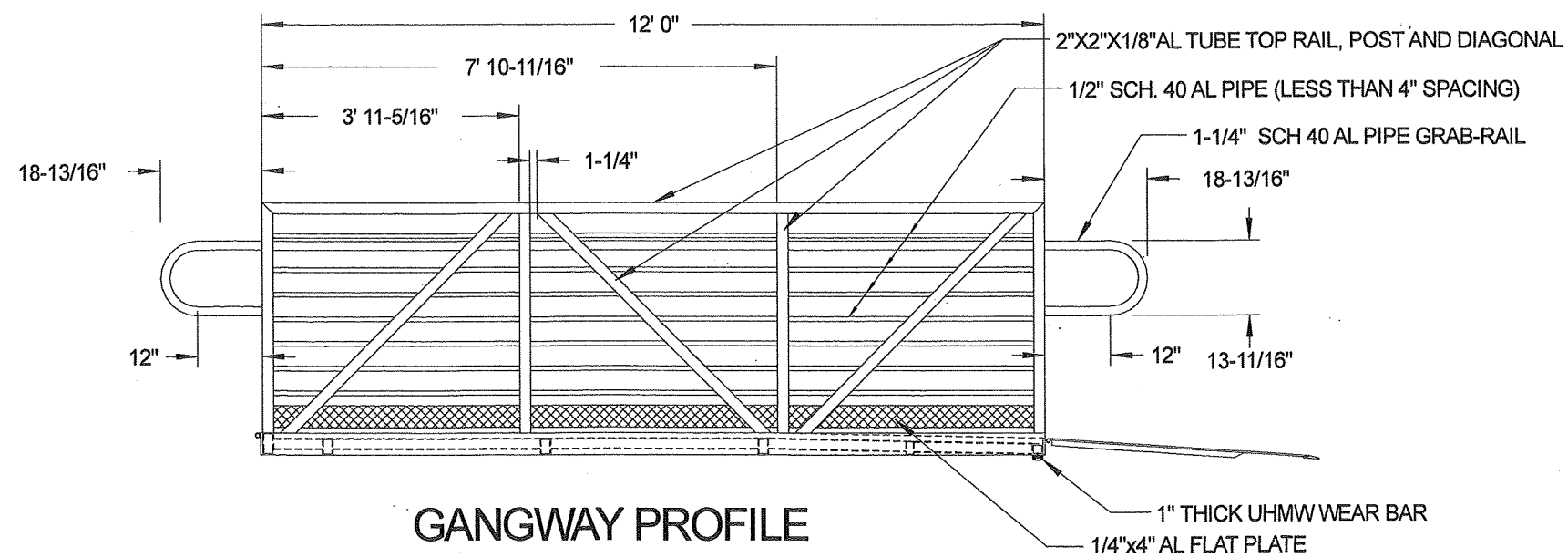
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GANGWAY PLAN VIEW



GANGWAY SECTION NTS

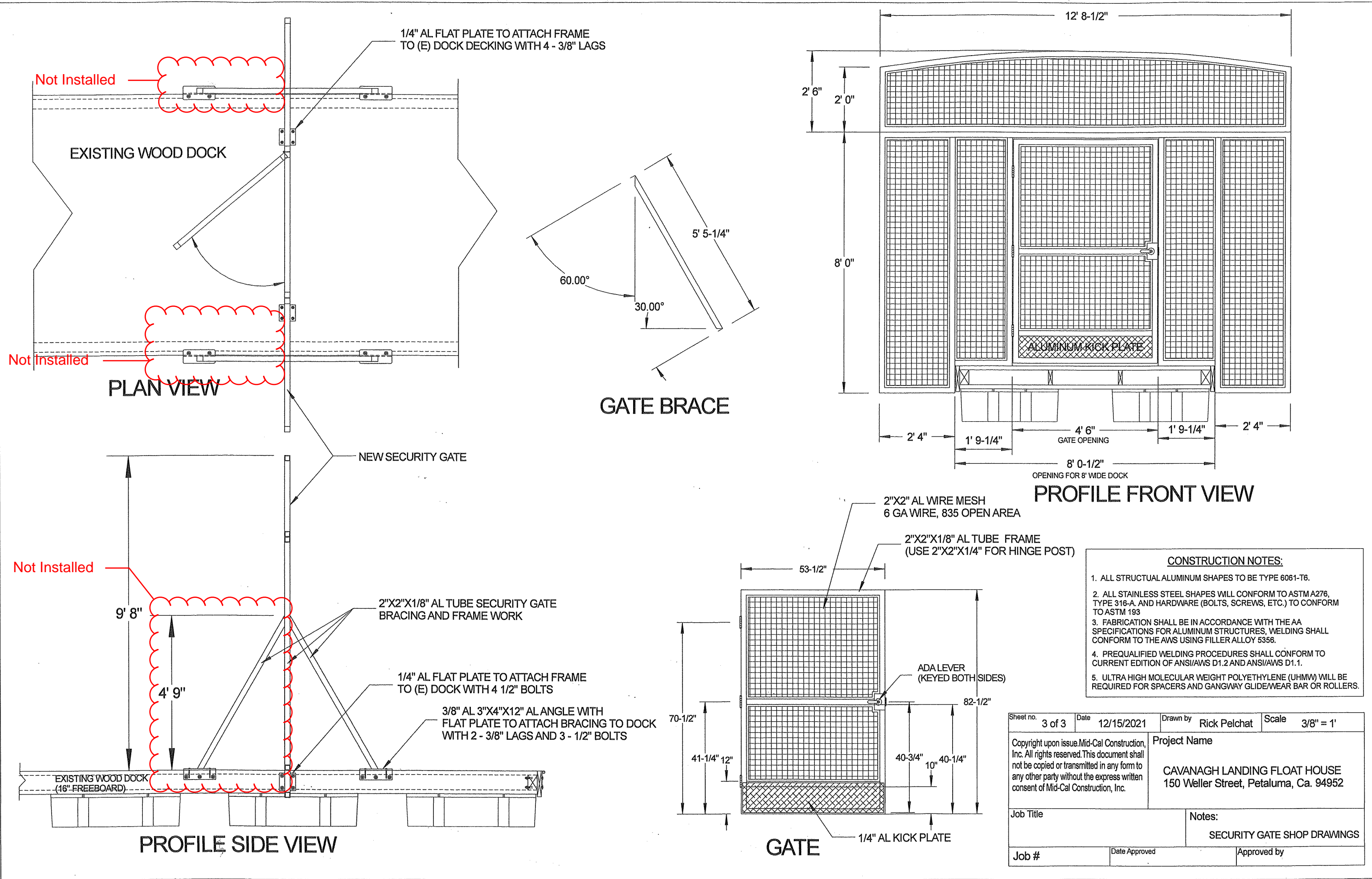


GANGWAY PROFILE

CONSTRUCTION NOTES:

1. ALL STRUCTURAL ALUMINUM SHAPES TO BE TYPE 6061-T6.
2. ALL STAINLESS STEEL SHAPES WILL CONFORM TO ASTM A276, TYPE 316-A, AND HARDWARE (BOLTS, SCREWS, ETC.) TO CONFORM TO ASTM 193
3. FABRICATION SHALL BE IN ACCORDANCE WITH THE AA SPECIFICATIONS FOR ALUMINUM STRUCTURES, WELDING SHALL CONFORM TO THE AWS USING FILLER ALLOY 5356.
4. PREQUALIFIED WELDING PROCEDURES SHALL CONFORM TO CURRENT EDITION OF ANSI/AWS D1.2 AND ANSI/AWS D1.1.
5. ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW) WILL BE REQUIRED FOR SPACERS AND GANGWAY GLIDE/WEAR BAR OR ROLLERS.

| | | | |
|---|-----------------|--|-----------------|
| Sheet no. 2 of 3 | Date 12/15/2021 | Drawn by Rick Pelchat | Scale 3/8" = 1' |
| Copyright upon issue. Mid-Cal Construction, Inc. All rights reserved. This document shall not be copied or transmitted in any form to any other party without the express written consent of Mid-Cal Construction, Inc. | | Project Name CAVANAGH LANDING FLOAT HOUSE 150 Weller Street, Petaluma, Ca. 94952 | |
| Job Title | | Notes: GANGWAY SHOP DRAWINGS | |
| Job # | Date Approved | Approved by | |



Not Installed

Not Installed

Not Installed

1/4" AL FLAT PLATE TO ATTACH FRAME TO (E) DOCK DECKING WITH 4 - 3/8" LAGS

EXISTING WOOD DOCK

PLAN VIEW

NEW SECURITY GATE

9' 8"

4' 9"

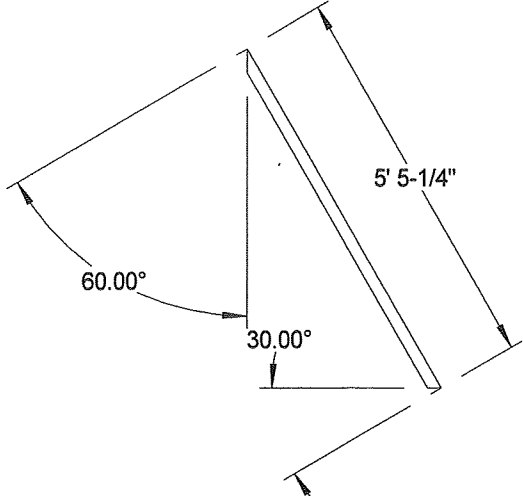
2"X2"X1/8" AL TUBE SECURITY GATE BRACING AND FRAME WORK

1/4" AL FLAT PLATE TO ATTACH FRAME TO (E) DOCK WITH 4 1/2" BOLTS

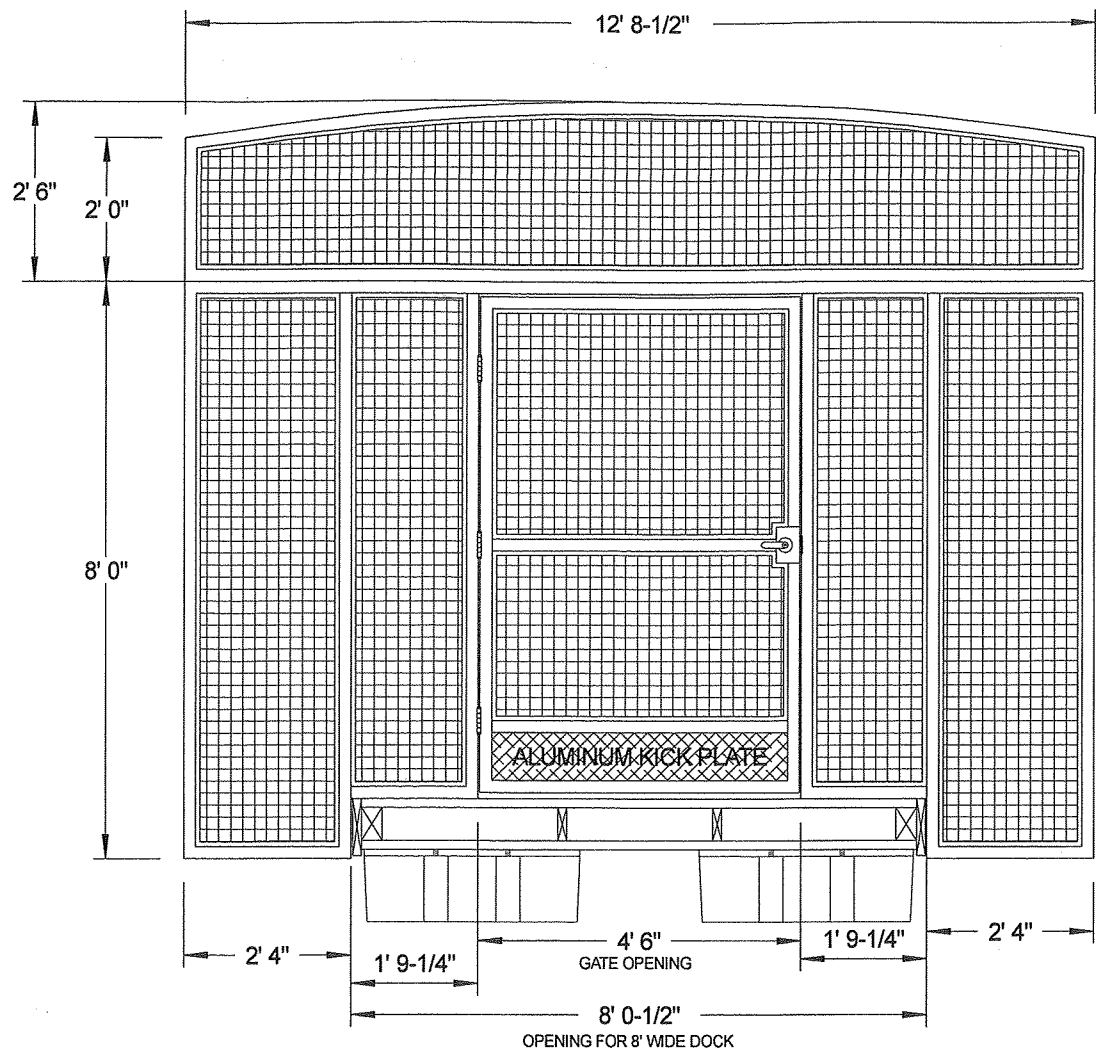
3/8" AL 3"X4"X12" AL ANGLE WITH FLAT PLATE TO ATTACH BRACING TO DOCK WITH 2 - 3/8" LAGS AND 3 - 1/2" BOLTS

EXISTING WOOD DOCK (16" FREEBOARD)

PROFILE SIDE VIEW



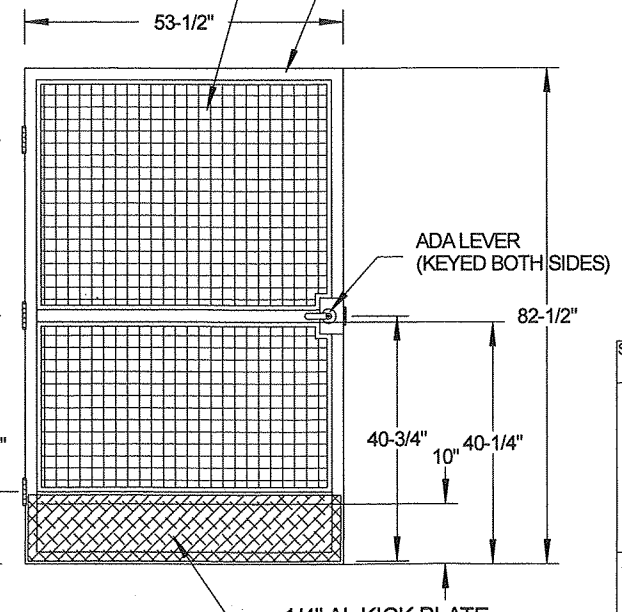
GATE BRACE



PROFILE FRONT VIEW

2"X2" AL WIRE MESH 6 GA WIRE, 835 OPEN AREA

2"X2"X1/8" AL TUBE FRAME (USE 2"X2"X1/4" FOR HINGE POST)



GATE

1/4" AL KICK PLATE

CONSTRUCTION NOTES:

1. ALL STRUCTURAL ALUMINUM SHAPES TO BE TYPE 6061-T6.
2. ALL STAINLESS STEEL SHAPES WILL CONFORM TO ASTM A276, TYPE 316-A, AND HARDWARE (BOLTS, SCREWS, ETC.) TO CONFORM TO ASTM 193
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| | | | |
|---|-----------------|---|-----------------|
| Sheet no. 3 of 3 | Date 12/15/2021 | Drawn by Rick Pelchat | Scale 3/8" = 1' |
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| Job # | Date Approved | Approved by | |



**MILLER PACIFIC
ENGINEERING GROUP**

**GEOTECHNICAL DATA REPORT
CITY OF PETALUMA
PETALUMA RIVER TURNING BASIN IMPROVEMENTS
PETALUMA, CALIFORNIA**

April 28, 2023

Job No. 2332.009

Prepared for:
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CERTIFICATION

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MILLER PACIFIC ENGINEERING GROUP
(a California corporation)

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GEOTECHNICAL DATA REPORT
CITY OF PETALUMA
PETALUMA RIVER TURNING BASIN IMPROVEMENTS
PETALUMA, CALIFORNIA

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GEOTECHNICAL DATA REPORT
CITY OF PETALUMA
PETALUMA RIVER TURNING BASIN IMPROVEMENTS
PETALUMA, CALIFORNIA

1.0 INTRODUCTION

This Geotechnical Data Report (GDR) presents the results of our subsurface exploration and laboratory testing for the planned Petaluma River Turning Basin improvements located in downtown Petaluma, California, as shown on the Site Location Map, Figure 1. The floating docks and ramps are exhibiting evidence of distress and deterioration of various wooden members. Portions of the floating docks have been removed.

Our work was performed in accordance with Purchase Order FV-P00000056 (Version 1) and in accordance with our Master Agreement dated October 21, 2022. The scope of our investigation was determined by Foth and is limited to subsurface exploration with two borings on either side of the Turning Basin, laboratory testing to estimate pertinent engineering properties of the soils encountered during our subsurface exploration, and preparation of this report which provides the logs of our borings and the results of our field and laboratory testing.

2.0 SITE CONDITIONS

2.1 Regional Geology

The project site lies within the Coast Ranges geomorphic province of California. Regional topography within the Coast Ranges province is characterized by northwest-southeast trending mountain ridges and intervening valleys that parallel the major geologic structures, including the San Andreas Fault System. The province is also generally characterized by landsliding and erosion, owing in part to its typically high levels of precipitation and seismic activity.

The oldest rocks in Sonoma County are the sedimentary, igneous, and metamorphic rocks of the Mesozoic-age (225- to 65-million years old) Franciscan Assemblage. Within Sonoma County, Franciscan rocks are in fault contact with marine sedimentary rocks of the Great Valley Sequence, which are of similar age. Locally, a variety of sedimentary and volcanic rocks of Tertiary (1.8- to 65-million years old) and Quaternary (less than 1.8-million years old) age overlie the basement rocks of the Franciscan Assemblage and Great Valley Sequence. The late Miocene to Pliocene-age (approximately 2.6- to 11.6-million years old) Sonoma Volcanics comprise the majority of these rocks.

The site is located in relatively level terrain with slopes along the flanks of the Petaluma River, with riverbanks sloping downward towards the river at approximately 2:1 (horizontal:vertical) or steeper in some locations. Regional geologic mapping by the California Geologic Survey (CGS, 2002) indicates the site is underlain by Holocene-age estuarine deposits (map symbol, Qhbm). These deposits typically consist of soft marine sediments, mainly clay and silt, that are highly compressible and high plasticity. Surrounding areas are mapped as late Holocene-age alluvial

terrace deposits (map symbol Qhty) consisting of moderately to well sorted and moderately to well bedded sand, gravel, silt and clay. Miocene-age Wilson Grove Formation (Twg) is mapped just west of the site consisting of fine-grained marine sandstone. A Geologic Map and descriptions of the mapped geologic units are shown on Figure 2.

2.2 Seismicity

The project site is located within the seismically active San Francisco Bay Area and will therefore experience the effects of future earthquakes. Earthquakes are the product of the build-up and sudden release of strain along a “fault” or zone of weakness in the earth's crust. Stored energy may be released as soon as it is generated or it may be accumulated and stored for long periods of time. Individual releases may be so small that they are detected only by sensitive instruments, or they may be violent enough to cause destruction over vast areas.

Faults are seldom single cracks in the earth's crust, but are typically comprised of localized shear zones which link together to form larger fault zones. Within the Bay Area, faults are concentrated along the San Andreas Fault zone. The movement between rock formations along either side of a fault may be horizontal, vertical, or a combination, and is radiated outward in the form of energy waves. The amplitude and frequency of earthquake ground motions partially depends on the material through which it is moving. The earthquake force is transmitted through hard rock in short, rapid vibrations, while this energy becomes a long, high-amplitude motion when moving through soft ground materials, such as Bay Mud.

2.2.1 Regional Active Faults

The California Geological Survey (previously known as the California Division of Mines and Geology), defines a “Holocene-active fault” as one that has had surface displacement within Holocene time (the last 11,700 years). CGS has mapped various faults in the region as part of their Fault Activity Map of California (CGS, 2010). Many of these faults are shown in relation to the project site on the attached Active Fault Map, Figure 3. The nearest known Holocene-active faults are the Rodgers Creek and San Andreas Faults which are located roughly 8.4 kilometers (5.2 miles) northeast and 23.9 kilometers (14.9 miles) southwest of the site, respectively¹.

2.2.2 Historic Fault Activity

Numerous earthquakes have occurred in the region within historic times. The results of our USGS earthquake search catalogue indicates that at least ten earthquakes with a Richter Magnitude of 5.0 or larger have occurred within 100 kilometers (62 miles) of the site between 1900 and 2023. The approximate locations of many of these earthquakes are shown on the Historic Earthquake Map, Figure 4.

¹ Distances to faults determined using Google Earth KML files showing Quaternary Faults & Folds in the US obtained from USGS website February 2023.

2.2.3 Probability of Future Earthquakes

The site will likely experience moderate to strong ground shaking from future earthquakes originating on any of several active faults in the San Francisco Bay region. Historical records do not directly indicate either the maximum credible earthquake or the probability of such a future event. To evaluate earthquake probabilities in California, the USGS has assembled a group of researchers into the “Working Group on California Earthquake Probabilities” (USGS 2003, 2008, 2013) to estimate the probabilities of earthquakes on active faults. These studies have been published cooperatively by the USGS, CGS, and Southern California Earthquake Center (SCEC) as the Uniform California Earthquake Rupture Forecast, Versions 1, 2, and 3. In these studies, potential seismic sources were analyzed considering fault geometry, geologic slip rates, geodetic strain rates, historic activity, micro-seismicity, and other factors to arrive at estimates of earthquakes of various magnitudes on a variety of faults in California.

Conclusions from the most recent UCERF3 and USGS indicate the highest probability of an earthquake with a magnitude greater than 6.7 originating on any of the active faults in the San Francisco Bay region by 2043 is assigned to the Hayward/Rodgers Creek Fault system. The Rodgers Creek Fault is located approximately 8.4 kilometers (5.2 miles) northeast of the site and is assigned a probability of 33 percent. The San Andreas Fault, located approximately 23.9 kilometers (14.9 miles) southwest of the site, is assigned a 22 percent probability of an earthquake with a magnitude greater than 6.7 by 2043. Additional studies by the USGS regarding the probability of large earthquakes in the Bay Area are ongoing. These current evaluations include data from additional active faults and updated geological data.

2.3 Surface Conditions

The Turning Basin is located in a semi-circular cove within the Petaluma River, just east of Downtown Petaluma. The site is flanked on the north and west sides by the River Plaza commercial development and to the east by an empty grass lot and a two-story, multi-business structure. The Petaluma River enters the turning basin from the south. Large asphalt areas are adjacent to dock access on the west side at the shopping center while a small 3-stall parking lot is located on the east dock access point. Most areas around the site are essentially level with river banks sloping downward towards the Turning Basin as inclinations of about 1.5 to 2:1 (horizontal:vertical). The riverbanks are vegetated with low grasses, medium sized shrubs and some small to medium trees.

3.0 GEOTECHNICAL DATA

3.1 Field Exploration

We explored subsurface conditions along the banks of the Turning Basin on March 16 and 20, 2023 with two borings at the approximate locations shown on Figure 5. Boring 1 was excavated on March 16th on the east side of the Turning Basin using a truck-mounted drill rig with 6-inch hollow-stem augers to a maximum depth of 40.5-feet. Boring 2 was excavated on March 20th on the west side of the Turning Basin using portable hydraulic drilling equipment with 3.5-inch solid and 5-inch hollow stem augers to a maximum depth of 30.75-feet.

Relatively “undisturbed” soil and bedrock samples were obtained by driving a 2.5-inch inside diameter, Modified California Sampler containing thin brass or stainless-steel liners. Disturbed soil and bedrock samples were obtained by driving a 1.4-inch inside diameter Standard Penetration Test (SPT) sampler. The Modified California and SPT samplers generally conform to ASTM D3550 and D1586, respectively. The samplers were driven by a 140-pound automatic hammer falling 30 inches per blow with an average hammer efficiency of 80 percent. The number of blows required to drive the samplers 18 inches was recorded and is reported on the boring logs as blows per foot for the last 12 inches of driving. Where the number of blows for a six-inch interval exceeded 50, the test was terminated and the blow count for the driven portion of the sampler was recorded.

The borings were logged by our Field Engineer and the samples obtained were examined in the field, sealed to prevent moisture loss and transported to our laboratory. Soil and bedrock materials encountered during our exploration were logged and classified by our Field Geologist. We prepared boring logs based on soil descriptions in the field as well as visual examination and testing of the soil samples in our laboratory. Soils and Rock Classification Charts are presented on Figures A-1 and A-2, respectively. The boring logs are presented in Appendix A. The holes were fully grouted with cement grout upon completion.

3.2 Laboratory Testing

We conducted laboratory tests on selected intact samples to classify soils and to estimate engineering properties. The following laboratory tests were conducted in general accordance with the ASTM standard test method cited:

- Laboratory Determination of Water (Moisture Content) of Soil, Rock, and Soil-Aggregate Mixtures, ASTM D 2216
- Density of Soil in Place by the Drive-Cylinder Method, ASTM D2937
- Unconfined Compressive Strength of Cohesive Soil, ASTM D2166
- Amount of Material Finer than the No. 200 Sieve by Washing, ASTM D 1140

The moisture content, dry density and unconfined compression test and percent passing the No. 200 sieve results are shown on the exploratory boring logs.

3.3 Subsurface Conditions

Based on our field exploration, subsurface conditions are generally consistent with the regional geologic mapping. Our borings generally encountered 24- to 30-feet of alternative layers of soft to medium stiff silty soils and loose to medium dense silty sand soils. Weakly cemented, friable, highly weathered siltstone bedrock were observed below the surficial alluvial soils. The bedrock became more competent with depth and grades to moderately cemented, low hardness, weathered sandstone. The depths where bedrock was encountered at the boring locations are summarized in Table 1.

Table 1 – Depth to Bedrock at Boring Locations

| Boring | Approximate Surface Elevation ¹ (feet) | Drilled Depth (feet) | Depth to Bedrock |
|--------|---|----------------------|----------------------|
| B-1 | 14 | 30.75 | 24.0 ft. (Elev. -10) |
| B-2 | 12 | 40.5 | 30.0 ft. (Elev. -18) |

(1) Surface elevations approximated based on contours obtained from the Sonoma County Vegetation Mapping & Lidar Program (sonomavegmap.org) which are based on NAVD 88.

Groundwater was encountered in both borings at depths of about 8.5 to 10.0-feet below ground surface. Because the borings were not left open for an extended period of time, a stabilized depth to groundwater may not have been observed. Groundwater elevations fluctuate seasonally as well as with fluctuations in the tides, and higher groundwater levels may be present during periods of intense rainfall. Groundwater levels are anticipated to correlate with the high tide level. The potential also exists for perched water tables within the surficial soils.

4.0 LIST OF REFERENCES

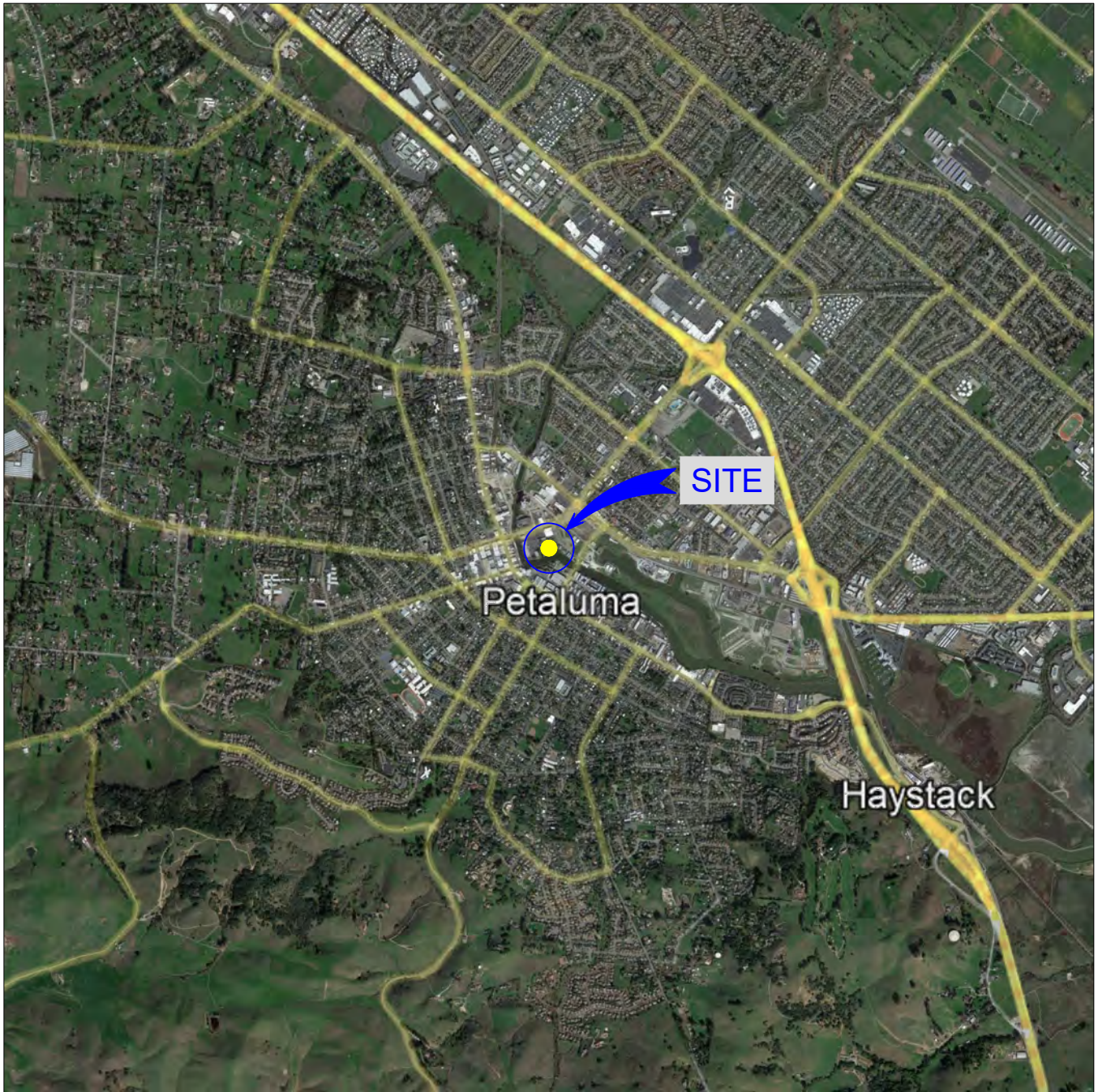
American Society for Testing and Materials, (2019) “2019 Annual Book of ASTM Standards, Section 4, Construction, Volume 4.08, Soil and Rock; Dimension Stone; Geosynthetics,” ASTM, Philadelphia.

California Geological Survey, "Geologic Map of the Petaluma 7.5' Quadrangle, Sonoma and Marin Counties, California: A Digital Database," 2002, Scale 1:24,000.

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United States Geological Survey (2003), “Earthquake Probabilities in the San Francisco Bay Region, 2002 to 2031 – A Summary of Finding,” The Working Group on California Earthquake Probabilities, Open File Report 99-517, 2003.

United States Geological Survey (2008), “The Uniform California Earthquake Rupture Forecast, Version 2,” The 2007 Working Group on California Earthquake Probabilities, Open File Report 2007-1437, 2008.



SITE COORDINATES

LAT. 38.2353°
LON. -122.6378°

SITE LOCATION

N.T.S.



REFERENCE: Google Earth, 2023



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SITE LOCATION MAP

Petaluma River Turning
Basin Improvements
Petaluma, California

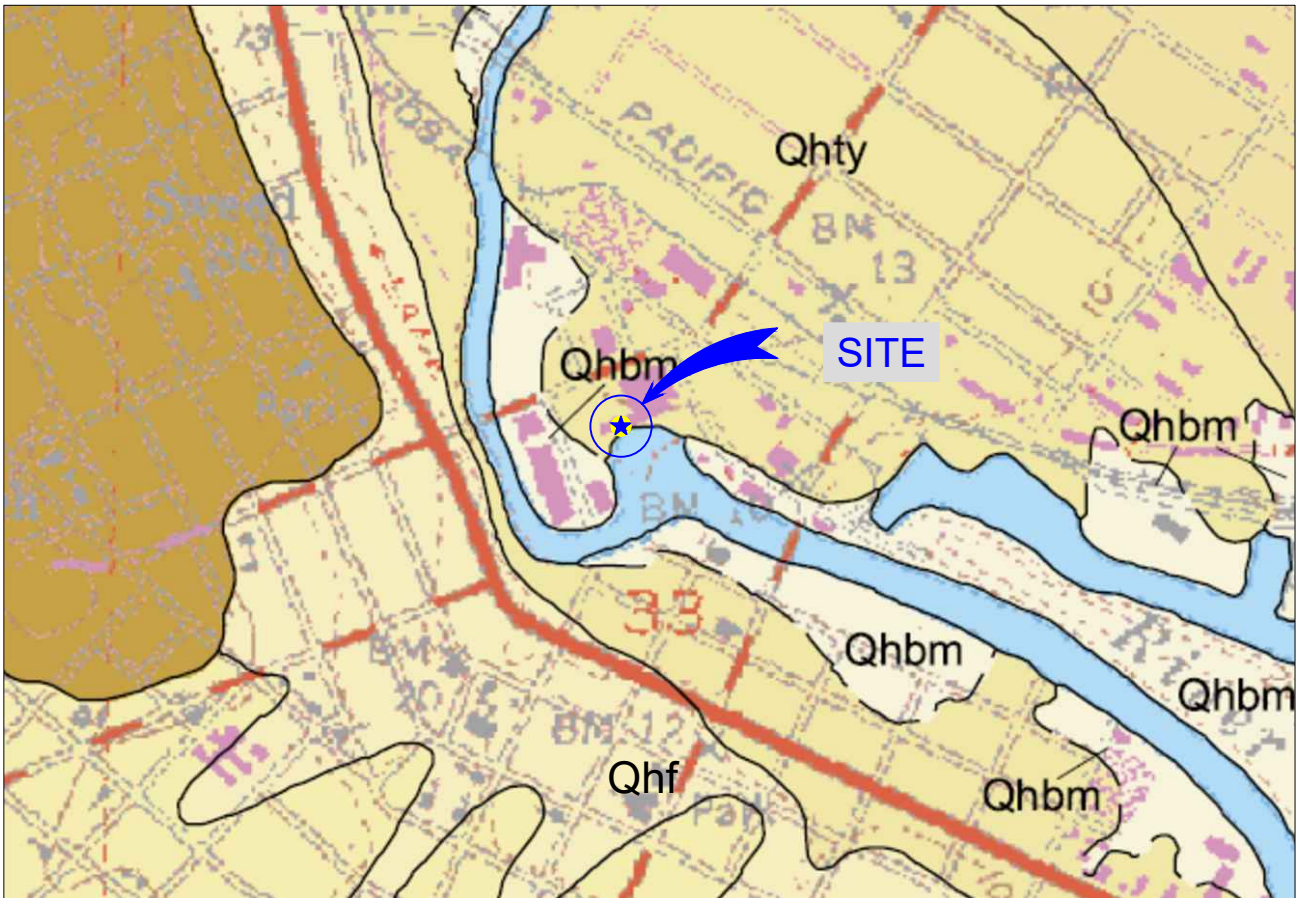
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1
FIGURE

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Project No. 2332.009

Date: 4/13/2023



REGIONAL GEOLOGIC MAP

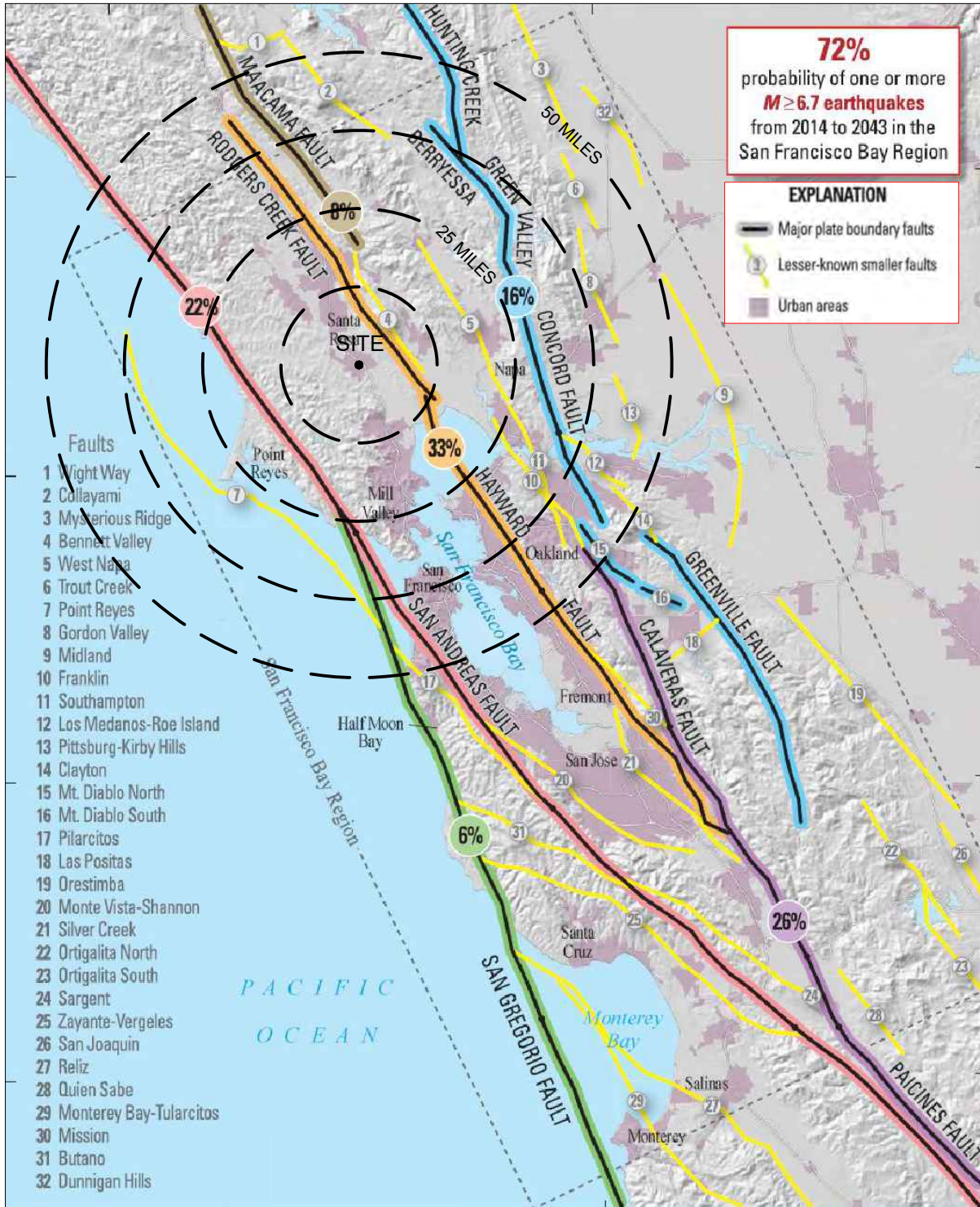


LEGEND

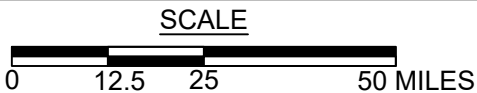
- Qhbm Holocene estuarine deposits: Holocene sediments deposited in a tidal marsh, estuary, delta, or lagoon. Sediments are silts, fine sand peats, and clays.
- Qhf Alluvial Fan Deposits (Holocene): Fine-grained alluvial fan and floodplain overbank deposits composed of predominantly clay with interbedded lenses of coarser alluvium.
- Qhty Latest Holocene terrace deposits: Terrace sediments include sand, gravel silt, with minor clay, moderately to well sorted, and moderately to well-sorted, and moderately to well-bedded.

REFERENCE: Stephen Bezore, "GEOLOGIC MAP OF THE PETALUMA 7.5' QUADRANGLE SONOMA AND MARIN COUNTIES, CALIFORNIA: A DIGITAL DATABASE", VERSION 1.0, Scale 1:24,000

| | | | | | |
|--|---|-----------------------|---|-----------------------------------|---|
| MILLER PACIFIC ENGINEERING GROUP | 504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com | REGIONAL GEOLOGIC MAP | | Drawn _____ Checked <u>NAR</u> | 2 |
| | Petaluma River Turning Basin Improvements Petaluma, California | | Project No. 2332.009 Date: 4/13/2023 | FIGURE | |
| A CALIFORNIA CORPORATION, © 2020, ALL RIGHTS RESERVED FILENAME: 2332.009 SF.dwg | | | | | |



SITE COORDINATES
LAT. 38.2353°
LON. -122.6378°



DATA SOURCE:

1) U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).



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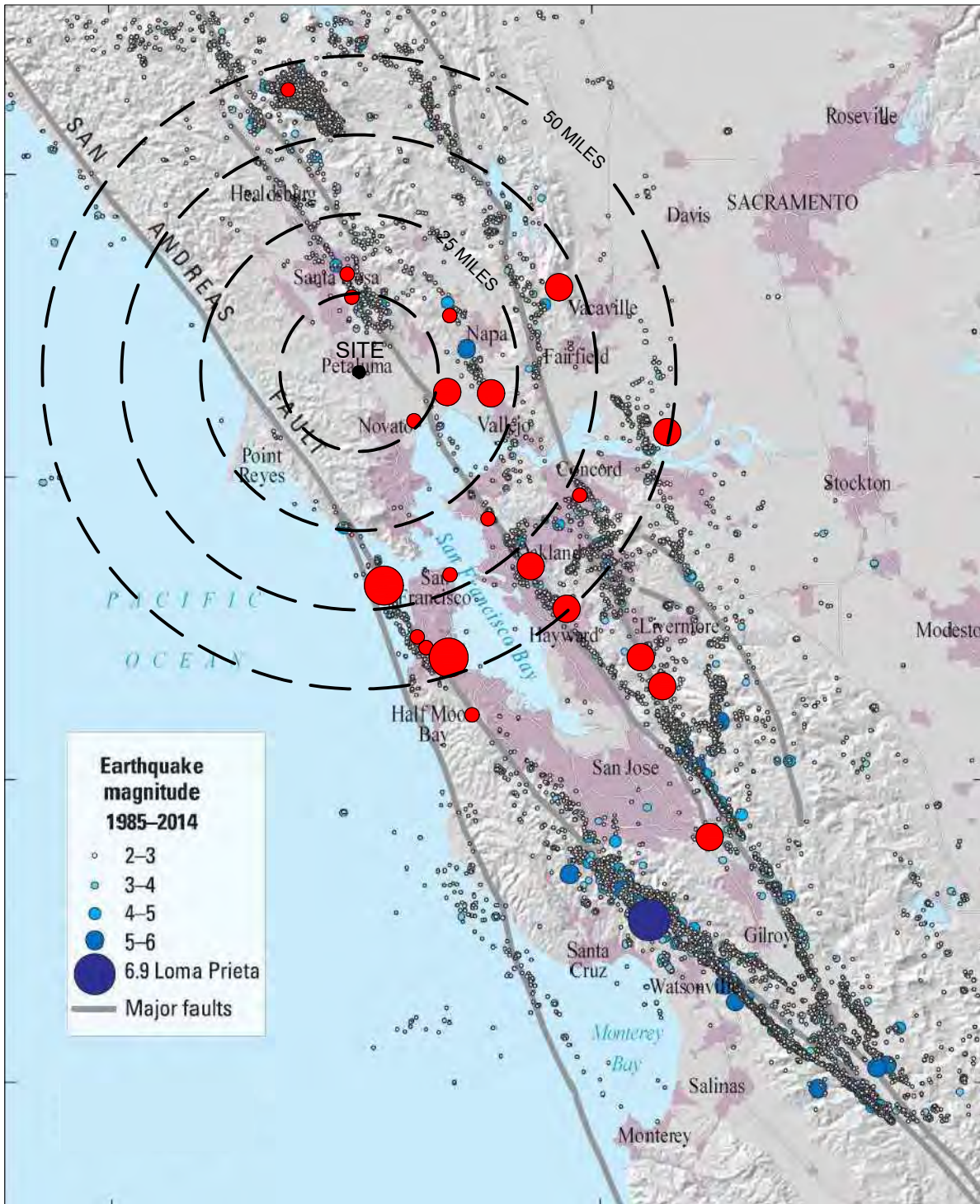
ACTIVE FAULT MAP

Petaluma River Turning
Basin Improvements
Petaluma, California

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3

FIGURE

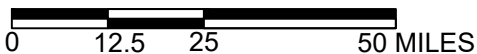


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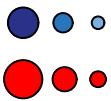
LAT. 38.2353°

LON. -122.6378°

SCALE



LEGEND & DATA SOURCE:



See legend above. U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1). Large circles indicate earthquakes $M > 7.0$, medium circles indicate $6.0 < M < 7.0$ and small circles indicate $5.0 < M < 6.0$. U.S. Geological Survey, Earthquake Catalog Search, <https://earthquake.usgs.gov/earthquakes/search/>. Earthquakes between 1830 and 2021.



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HIISTORIC EARTHQUAKE MAP

Petaluma River Turning
Basin Improvements
Petaluma, California

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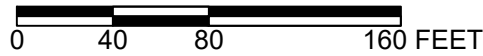
4

FIGURE



SITE PLAN

SCALE



Approximate boring location completed by MPEG, March 2023

REFERENCE: Google Earth, 2023

MPEG
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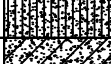
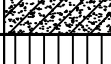





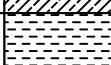

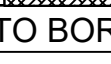
SITE PLAN

Petaluma River Turning
 Basin Improvements
 Petaluma, California

Project No. 2332.009 Date: 4/13/2023

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5
 FIGURE

| MAJOR DIVISIONS | | SYMBOL | DESCRIPTION |
|--|--|---|--|
| COARSE GRAINED SOILS over 50% sand and gravel | CLEAN GRAVEL | GW  | Well-graded gravels or gravel-sand mixtures, little or no fines |
| | | GP  | Poorly-graded gravels or gravel-sand mixtures, little or no fines |
| | GRAVEL with fines | GM  | Silty gravels, gravel-sand-silt mixtures |
| | | GC  | Clayey gravels, gravel-sand-clay mixtures |
| | CLEAN SAND | SW  | Well-graded sands or gravelly sands, little or no fines |
| | | SP  | Poorly-graded sands or gravelly sands, little or no fines |
| | SAND with fines | SM  | Silty sands, sand-silt mixtures |
| | | SC  | Clayey sands, sand-clay mixtures |
| FINE GRAINED SOILS over 50% silt and clay | SILT AND CLAY liquid limit <50% | ML  | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity |
| | | CL  | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |
| | | OL  | Organic silts and organic silt-clays of low plasticity |
| | SILT AND CLAY liquid limit >50% | MH  | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts |
| | | CH  | Inorganic clays of high plasticity, fat clays |
| | | OH  | Organic clays of medium to high plasticity |
| HIGHLY ORGANIC SOILS | PT  | Peat, muck, and other highly organic soils | |
| ROCK |  | Undifferentiated as to type or composition | |

KEY TO BORING AND TEST PIT SYMBOLS






CLASSIFICATION TESTS

| | |
|------|-------------------------------|
| PI | PLASTICITY INDEX |
| LL | LIQUID LIMIT |
| SA | SIEVE ANALYSIS |
| HYD | HYDROMETER ANALYSIS |
| P200 | PERCENT PASSING NO. 200 SIEVE |
| P4 | PERCENT PASSING NO. 4 SIEVE |

STRENGTH TESTS

| | |
|----------|---|
| UC | LABORATORY UNCONFINED COMPRESSION |
| TXCU | CONSOLIDATED UNDRAINED TRIAXIAL |
| TXUU | UNCONSOLIDATED UNDRAINED TRIAXIAL |
| | UC, CU, UU = 1/2 Deviator Stress |
| DS (2.0) | DRAINED DIRECT SHEAR (NORMAL PRESSURE, ksf) |

SAMPLER TYPE

| | | | |
|---|----------------------------|---|--------------------------|
|  | MODIFIED CALIFORNIA |  | HAND SAMPLER |
|  | STANDARD PENETRATION TEST |  | ROCK CORE |
|  | THIN-WALLED / FIXED PISTON | X | DISTURBED OR BULK SAMPLE |

SAMPLER DRIVING RESISTANCE

Modified California and Standard Penetration Test samplers are driven 18 inches with a 140-pound hammer falling 30 inches per blow. Blows for the initial 6-inch drive seat the sampler. Blows for the final 12-inch drive are recorded onto the logs. Sampler refusal is defined as 50 blows during a 6-inch drive. Examples of blow records are as follows:

25 sampler driven 12 inches with 25 blows after initial 6-inch drive

85/7" sampler driven 7 inches with 85 blows after initial 6-inch drive

50/3" sampler driven 3 inches with 50 blows during initial 6-inch drive or beginning of final 12-inch drive

NOTE: Test boring and test pit logs are an interpretation of conditions encountered at the excavation location during the time of exploration. Subsurface rock, soil or water conditions may vary in different locations within the project site and with the passage of time. Boundaries between differing soil or rock descriptions are approximate and may indicate a gradual transition.



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SOIL CLASSIFICATION CHART

Petaluma River Turning
Basin Improvements
Petaluma, California

Project No. 2332.009

Date: 4/28/2023

Drawn _____
Checked NAR

A-1
FIGURE

FRACTURING AND BEDDING

Fracture Classification

Crushed
 Intensely fractured
 Closely fractured
 Moderately fractured
 Widely fractured
 Very widely fractured

Spacing

less than 3/4 inch
 3/4 to 2-1/2 inches
 2-1/2 to 8 inches
 8 to 24 inches
 2 to 6 feet
 greater than 6 feet

Bedding Classification

Laminated
 Very thinly bedded
 Thinly bedded
 Medium bedded
 Thickly bedded
 Very thickly bedded

HARDNESS

Low
 Moderate
 Hard
 Very hard

Carved or gouged with a knife
 Easily scratched with a knife, friable
 Difficult to scratch, knife scratch leaves dust trace
 Rock scratches metal

STRENGTH

Friable
 Weak
 Moderate
 Strong
 Very strong

Crumbles by rubbing with fingers
 Crumbles under light hammer blows
 Indentations <1/8 inch with moderate blow with pick end of rock hammer
 Withstands few heavy hammer blows, yields large fragments
 Withstands many heavy hammer blows, yields dust, small fragments

WEATHERING

| | |
|----------|--|
| Complete | Minerals decomposed to soil, but fabric and structure preserved |
| High | Rock decomposition, thorough discoloration, all fractures are extensively coated with clay, oxides or carbonates |
| Moderate | Fracture surfaces coated with weathering minerals, moderate or localized discoloration |
| Slight | A few stained fractures, slight discoloration, no mineral decomposition, no affect on cementation |
| Fresh | Rock unaffected by weathering, no change with depth, rings under hammer impact |

NOTE: Test boring and test pit logs are an interpretation of conditions encountered at the location and time of exploration. Subsurface rock, soil and water conditions may differ in other locations and with the passage of time.



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ROCK CLASSIFICATION CHART

Petaluma River Turning
 Basin Improvements
 Petaluma, California

Project No. 2332.009

Date: 4/28/2023

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 NAR
 Checked _____

A-2
 FIGURE

| DEPTH | | BORING 1 | | BLOWS / FOOT (1) | DRY UNIT WEIGHT pcf (2) | MOISTURE CONTENT (%) | SHEAR STRENGTH psf (3) | OTHER TEST DATA | DRILL RATE (min/ft) |
|--------|------|----------|------------|------------------|-------------------------|----------------------|------------------------|-----------------|---------------------|
| meters | feet | SAMPLE | SYMBOL (4) | | | | | | |
| 0 | 0 | | | | | | | | |
| 1 | 1 | | | 8 | | | | | |
| 5 | 5 | | | 20 | | | | | |
| 2 | 2 | | | 12 | | | | | |
| 3 | 3 | | | 5 | | | | | |
| 4 | 4 | | | | | | | | |
| 5 | 5 | | | 2 | | | | | |
| 6 | 6 | | | | | | | | .06 |

SILT with Sand (MH)
 Medium Brown, moist, medium stiff, medium to high plasticity silt, with ~20% fine to medium grained sand. [Fill/Alluvium]


Grades with up to 30% fine grained sand.

Sandy SILT (MH)
 Gray, wet, soft, medium to high plasticity silt, with ~30% fine grained sand. [Alluvium]

Silty SAND (SM)

▽ Water level encountered during drilling
 ▽ Water level measured after drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
 (2) METRIC EQUIVALENT DRY UNIT WEIGHT $kN/m^3 = 0.1571 \times$ DRY UNIT WEIGHT (pcf)
 (3) METRIC EQUIVALENT STRENGTH (kPa) = $0.0479 \times$ STRENGTH (psf)
 (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY



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BORING LOG

Petaluma River Turning
 Basin Improvements
 Petaluma, California

Project No. 2332.009 Date: 4/28/2023

Drawn: NAR
 Checked: _____

A-3

FIGURE

| DEPTH | | BORING 1 (CONTINUED) | | BLOWS / FOOT (1) | DRY UNIT WEIGHT pcf (2) | MOISTURE CONTENT (%) | SHEAR STRENGTH psf (3) | OTHER TEST DATA | DRILL RATE (min/ft) |
|--------|------|-------------------------|--|------------------|-------------------------|----------------------|------------------------|-----------------|---------------------|
| meters | feet | SAMPLE | SYMBOL (4) | | | | | | |
| 20 | | | | | | | | | 0.06 |
| | | | Silty SAND (SM) Gray, loose, very fine to fine grained sand, with ~10-15% medium plasticity silt. [Alluvium] | 6 | | 22.2 | | P200 11.1% | |
| 7 | | | | | | | | | 1.33 |
| | | | SILTSTONE Gray, low to moderate hardness, friable, highly weathered, very fine to fine grained. [Bedrock] | 69/3" | | 37.8 | | | |
| 25 | | | | | | | | | |
| 8 | | | | | | | | | 15.1 |
| | | | SANDSTONE Gray to dark blue, low hardness, friable, very fine to fine grained, well cemented, moderately to highly weathered. [Bedrock] | 50/3" | | 27.5 | | | |
| 30 | | | | | | | | | |
| 9 | | | Refusal encountered. Bottom of boring at 30.75-feet. Groundwater encountered at 10.0-feet during drilling. | | | | | | |
| 10 | | | | | | | | | |
| 35 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 40 | | | | | | | | | |

Water level encountered during drilling
 Water level measured after drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
 (2) METRIC EQUIVALENT DRY UNIT WEIGHT $\text{KN/m}^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$
 (3) METRIC EQUIVALENT STRENGTH (kPa) = $0.0479 \times \text{STRENGTH (psf)}$
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 Basin Improvements
 Petaluma, California


Drawn _____
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A-4
 FIGURE

| DEPTH | | BORING 2 | | | | BLOWS / FOOT (1) | DRY UNIT WEIGHT pcf (2) | MOISTURE CONTENT (%) | SHEAR STRENGTH psf (3) | OTHER TEST DATA | DRILL RATE (min/ft) |
|--------|------|----------|------------|---|----|------------------|-------------------------|----------------------|------------------------|-----------------|---------------------|
| meters | feet | SAMPLE | SYMBOL (4) | EQUIPMENT: Truck Mounted B53 Drill Rig with 6.0-inch Hollow Stem Auger | | | | | | | |
| 0 | 0 | | | 2" Asphalt Concrete over 4" Aggregate Base | | | | | | | |
| | | | | SILT with Gravel (MH) Gray, moist, very stiff, medium to high plasticity, with ~25% subrounded gravel up to 2" Ø. [Fill/Alluvium] | 26 | | | | | | |
| 1 | | | | | 32 | | | | | | |
| 5 | | | | Grades to ~10% subrounded gravel up to 2" Ø with ~15% very fine grained sand. | 11 | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | 10 | | | Silty SAND(SM) Light brown, loose to medium dense, very fine to fine grained sand, with 10-15% medium to high plasticity silt. [Alluvium] | 15 | | | | | | |
| 4 | | | | | | | | | | | |
| 15 | | | | Gravelly SAND with Silt (SW-SM) Light brown to medium brown, loose, medium to coarse grained sand, with ~15-20% subrounded gravel up to 1" Ø and ~10% medium to high plasticity silt. [Alluvium] | 18 | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | 20 | | | | | | | | | | |

▽ Water level encountered during drilling
 ▽ Water level measured after drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
 (2) METRIC EQUIVALENT DRY UNIT WEIGHT $kN/m^3 = 0.1571 \times$ DRY UNIT WEIGHT (pcf)
 (3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
 (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY



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Drawn: NAR
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A-5

FIGURE

| DEPTH | | BORING 2 (CONTINUED) | | BLOWS / FOOT (1) | DRY UNIT WEIGHT pcf (2) | MOISTURE CONTENT (%) | SHEAR STRENGTH psf (3) | OTHER TEST DATA | DRILL RATE (min/ft) |
|--------|------|-------------------------|------------|------------------|-------------------------|----------------------|------------------------|-----------------|---------------------|
| meters | feet | SAMPLE | SYMBOL (4) | | | | | | |
| 20 | | | | | | | | | |
| | | | | | | | | | |
| 7 | | | | | | | | | |
| | | | | | | | | | |
| 25 | | | | | | | | | |
| 8 | | | | | | | | | |
| | | | | | | | | | |
| 9 | | | | | | | | | |
| 30 | | | | | | | | | |
| | | | | | | | | | |
| 10 | | | | | | | | | |
| | | | | | | | | | |
| 35 | | | | | | | | | |
| 11 | | | | | | | | | |
| | | | | | | | | | |
| 12 | | | | | | | | | |
| 40 | | | | | | | | | |

 Water level encountered during drilling
 Water level measured after drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
 (2) METRIC EQUIVALENT DRY UNIT WEIGHT $\text{KN/m}^3 = 0.1571 \times \text{DRY UNIT WEIGHT (pcf)}$
 (3) METRIC EQUIVALENT STRENGTH $(\text{kPa}) = 0.0479 \times \text{STRENGTH (psf)}$
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 Petaluma, California

Drawn _____
 NAR
 Checked _____

A-6
 FIGURE

Project No. 2332.009

Date: 4/28/2023

1.7

| DEPTH | | BORING 2 (CONTINUED) | | BLOWS / FOOT (1) | DRY UNIT WEIGHT pcf (2) | MOISTURE CONTENT (%) | SHEAR STRENGTH psf (3) | OTHER TEST DATA | DRILL RATE (min/ft) |
|--------|------|-------------------------|--|------------------|-------------------------|----------------------|------------------------|-----------------|---------------------|
| meters | feet | SAMPLE | SYMBOL (4) | | | | | | |
| 40 | | ☑ | ☒ | 25/1" | | 20.4 | | | |
| | | | <p>SANDSTONE Gray, low hardness, friable, fine to medium grained, well cemented, moderately to highly weathered. [Bedrock]</p> <p>Refusal encountered. Bottom of boring at 40.5-feet. Groundwater encountered at 8.5-feet during drilling.</p> | | | | | | |
| 13 | | | | | | | | | |
| 45 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | 50 | | | | | | | | |
| 16 | | | | | | | | | |
| 55 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | 60 | | | | | | | | |

▽ Water level encountered during drilling
 ▼ Water level measured after drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
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 (3) METRIC EQUIVALENT STRENGTH (kPa) = $0.0479 \times \text{STRENGTH (psf)}$
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A-7
 FIGURE