



HBMWD Surge Tower Demolition Project

Technical Specifications and Contract Documents



December 2018

www.ghd.com



Humboldt Bay Municipal Water District
Surge Tower Demolition Project

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**HUMBOLDT BAY MUNICIPAL
WATER DISTRICT**

Surge Tower Demolition Project

December 2018

Prepared for

Humboldt Bay Municipal Water District
828 Seventh Street
Eureka, California 95501

BOARD OF DIRECTORS

Sheri Woo, President
Neal Latt, Vice President
J. Bruce Rupp, Secretary-Treasurer
Barbara Hecathorn, Director
Michelle Fuller, Director

John Friedenbach, General Manager

Prepared by

GHD Inc.
718 Third Street, Eureka, CA 95501
(707) 443-8326

Humboldt Bay Municipal Water District
Surge Tower Demolition Project

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PART 5 – SUPPORTING DOCUMENTS

Memorandum titled “HBMWD Surge Tower Evaluation,” prepared by GHD, dated September 5, 2012

Memorandum titled “Results of Lead Assessment in Surface Soil, HBMWD – Surge Tower, Samoa Peninsula,” prepared by GHD, dated August 2, 2017

Humboldt Bay Municipal Water District Surge Tower Retrofit Biological Report, prepared by GHD, dated May 2017

PART 6 – PLANS

ADVERTISEMENT FOR BIDS

Humboldt Bay Municipal Water District
Owner

828 Seventh Street
Eureka, CA 95501
Address

Separate sealed bids will be received for the Surge Tower Demolition Project.

A conditional or qualified bid will not be accepted if it modifies the Plans or Specifications or method of work.

There will not be a pre-bid meeting; however, potential bidders are encouraged to visit and familiarize themselves with the site. A site overview can be arranged by contacting Pat Kaspari at GHD Inc. by telephone at (707) 443-8326.

The work consists of the furnishing of all labor, materials, equipment, and supervision for the demolition and removal of the existing industrial water line surge tower and appurtenances, capping the opening that remains in the existing concrete base after surge tower demolition, and capping the surge tower overflow pipe at the ground surface.

Contractors shall submit a Qualifications Statement as a part of their bid consisting of a minimum of three (3) Project Descriptions for projects similar to the scope of work for the Surge Tower Demolition performed within the last ten years. Each Project Description shall include a brief description of the work performed by the Contractor, the original bid price, the final contract amount including change order, and the name, email address and phone number for a reference for the project.

Bids will be received by the General Manager of Humboldt Bay Municipal Water District at the District Office, 828 Seventh Street, Eureka, California, 95501 until 3:00 p.m. Pacific Standard Time, Tuesday, February 12, 2019 and then at said office publicly opened and read aloud.

The Contract Documents are available and can be examined at the following locations:

HBMWD Website: www.hbmwd.com
Humboldt Builders Exchange, Eureka
North Coast Builders Exchange, Santa Rosa
Shasta Builders Exchange, Redding
Valley Contractors Exchange, Chico

Contractors may obtain an electronic copy of the Contract Documents from GHD Inc. for free by emailing a request to Pat Kaspari (pat.kaspari@ghd.com) or Nathan Stevens (nathan.stevens@ghd.com). Hardcopies of the Contract Documents can be obtained at the office of GHD Inc., located at 718 Third Street, Eureka, California, 95501, (707) 443-8326 upon a non-refundable payment of \$50.00 for each set.

Each proposal must be submitted on the prescribed form and accompanied by a certified check or Bid Bond in an amount of not less than 10 percent of the amount bid. Successful bidders will be required to furnish both a Payment Bond and Performance Bond in the full amount of the Contract Price. In accordance with Public Contract Code Section 10263 the Contractor will be allowed to substitute securities for monies normally withheld by the owner to insure performance under this contract.

This is a Public Works Project funded with Federal Emergency Management Agency (FEMA) money. Therefore both CA State prevailing wage rates and Federal prevailing wage rates will be required on this project, whichever wages are higher. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, State of California. The general prevailing wage rates applicable

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to the work are set by the Director of the Department of Industrial Relations.

Humboldt Bay Municipal Water District requires that all contractors and subcontractors working on this project keep certified payroll records in accordance with Labor Code 1776 and submit copies to the District and GHD. All contractors and subcontractors must also furnish electronic certified payroll records directly to the Labor Commissioner (Division of Labor Standards Enforcement).

It shall be mandatory upon the Contractor herein and upon any Subcontractor to pay not less than the said specified rates to all laborers, workers and mechanics employed by them in the execution of the Agreement pursuant to CA Labor Code 1774. The Contractor will be required to comply with any changes in these wage rates as they are updated by the State and/or Federal government at no cost to the Owner.

Attention is directed to the provisions in section 1777.5 and sections 1777.6 of the Labor Code concerning the requirement to employ apprentices by the Contractor or any Subcontractor under it.

The Contractor shall comply with and shall cause his subcontractors to comply with all laws and regulations governing the contractor's and subcontractor's performance on this project including, but not limited to: anti-discrimination laws, workers' compensation laws, and prevailing wage laws as set forth in CA Labor Code, Sections 1720-1861 et seq. and licensing laws, as well as Federal Labor Standards set forth in the Davis-Bacon Act (40 USC 276(a-a5), the Copeland "Anti-Kickback" Act (40 USC 276©; and the Contract Work Hours and Safety Standards Act (CWHSSA) (40 USC 327-333). The contractor is required to include the prevailing wage language in all subcontracts pursuant to CA Labor Code 1775(E)(b)(1). The Contractor shall post, at appropriate conspicuous points on the site of the Project, a schedule showing all the determined general prevailing wage rates.

Pursuant to Senate Bill 854, all contractors bidding on public works projects must register with the Department of Industrial Relations. Contractors are subject to a registration and annual renewal fee. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. Accordingly, all Prime and Subcontractors contained in a bid must provide valid Department of Industrial Relations registration number(s). Failure to provide valid DIR registration numbers in the bid documents shall disqualify the bid.

Sheri Woo
President
Humboldt Bay Municipal Water District

January 9, 2019
Date

PART 1
BIDDING REQUIREMENTS

INFORMATION FOR BIDDERS

Project: Surge Tower Demolition Project

Bid Information. Bids will be received by Humboldt Bay Municipal Water District (herein called the "Owner"), at 828 Seventh Street, Eureka, CA 95501 until the time listed in the Advertisement for Bids; and then at said office publicly opened and read aloud.

Each Bid must be submitted in a sealed envelope, addressed to Humboldt Bay Municipal Water District, 828 Seventh Street, Eureka, CA 95501. Each sealed envelope containing a Bid must be plainly marked on the outside as BID FOR: SURGE TOWER DEMOLITION PROJECT and the envelope should bear on the outside the name of the Bidder, his address, his contractor's license number, and his DIR registration number. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the Owner at Humboldt Bay Municipal Water District, P.O. Box 95, Eureka, CA 95502-0095.

Bids received after the specified opening time will not be considered. The Bidder is solely responsible for timely delivery of his bid.

Pre-Bid Meeting. There will not be a pre-bid meeting; however, potential bidders are encouraged to visit and familiarize themselves with the site. A site overview can be arranged by contacting Pat Kaspari at GHD Inc. by telephone at (707) 443-8326.

Form of Proposal. All bids must be made on the required bid form. All blank spaces for bid prices must be filled in, in ink or typewritten, and the bid form must be fully completed and executed when submitted. Only one copy of the bid form is required.

The Owner may waive any informalities or minor defects or reject any and all bids. Any Bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw a Bid within six (6) months after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder.

Local Conditions. Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the Plans and Specifications including addenda. After bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of Work or of the nature of the Work to be done.

The Contract Documents contain the provisions required for the construction of the project. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the Contract.

Contract Bonds. Each bid must be accompanied by a Bid Bond payable to the Owner, for ten (10) percent of the total amount of the bid. As soon as the bid prices have been compared, the Owner will return the bonds of all except the three lowest responsible bidders. When the Agreement is executed, the bonds of the two remaining unsuccessful bidders will be returned. The Bid Bond of the successful bidder(s) will be retained until the Payment Bond and performance bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a Bid Bond.

A Performance Bond and a Payment Bond, each in the amount of 100 percent of the contract price, with a corporate surety approved by the Owner, will be required for the faithful performance of the Contract.

Attorneys-in-fact who sign Bid Bonds or Payment Bonds and Performance Bonds must file with each bond

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a certified and effective dated copy of their power of attorney.

The party to whom the Contract is awarded will be required to execute the Agreement and obtain the Performance Bond, Payment Bond and required insurance certificates within twenty-one (21) calendar days from the date when Notice of Award is delivered to the Bidder. The Notice of Award shall be accompanied by the necessary Agreement and bond forms. In case of failure of the Bidder to execute the Agreement, the Owner may at his option consider the Bidder in default, in which case the Bid Bond accompanying the proposal shall become the property of the Owner.

The Owner, within twenty-one (21) days of receipt of an acceptable Performance Bond, Payment Bond and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the Owner not execute the Agreement within such period, the Bidder may submit a written notice to withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

Notice to Proceed. The Notice to Proceed shall be issued within twenty-one (21) days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the Owner and Contractor.

If the Notice to Proceed has not been issued within the twenty-one (21) days period or within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

Basis of Award. The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Agreement and to complete the Work contemplated therein.

A conditional or qualified Bid will not be accepted if it modifies the Plans or Specifications or method of Work. The intent is to award the entire job (all Schedules thereunder) to such Contractor or Contractors that will result in the lowest overall total cost to the Owner.

Awards will be made to the lowest, responsive, responsible Bidder(s).

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

The Bidder shall supply the names and addresses of major material suppliers (greater than 10% of total contract amount) and/or fabricators with his bid.

Contract Documents. The Contract Documents under which it is proposed to execute the Work consist of the Plans and all material bound herewith. These Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the proposed Work. Any person contemplating the submission of a proposal shall have thoroughly examined all of the various parts of these Documents, and should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request of the Engineer, in writing at least six (6) working days prior to Bid opening, an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing, in the form of addenda to the Documents and will be furnished to all Bidders receiving a set of the Documents, issued no later than 72 hours prior to bid opening, who shall submit, or indicate receipt of all addenda with their proposals. The Owner will not be responsible for any other explanation or interpretations of said Documents.

Questions regarding the Plans and Specifications shall be submitted in writing to Engineer: Pat Kaspari at GHD Inc., 718 Third Street, Eureka, CA, 95501 or by email at Pat.Kaspari@ghd.com. Replies to such inquiries will be in the form of addenda or clarification that will be sent to all plan holders. Final questions shall be submitted by 3:00 pm on Friday, February 1st. Questions submitted after this time shall not be acknowledged or responded to.

Electronic copies of the contract documents are available on the Builder's Exchange and the District's web site. Hard copies of contract documents may be obtained for \$50 from the office of GHD Inc., as specified in the Advertisement for Bids. The payment will not be refundable.

The Contract Documents are assembled, arranged, and titled generally in conformance with the 16-division format suggested by the Construction Specifications Institute (CSI). Minor variations to the CSI format may be used herein to suit Owner requirements or to better adapt the Documents to particular types of projects.

Portions of these Contract Documents may contain standard preprinted material. The Bidder's attention is called to the Conditions of the Contract which may modify and add to the preprinted material contained herein. Sentences in the Contract Documents which are phrased in mandatory language, but which include no explicit reference to the party who has responsibility for performing the mandated duty, shall be interpreted as imposing responsibility for performance of the duty described on the Contractor. For example, a directive that "the site shall be kept clean" would impose the duty of keeping the site clean on the Contractor.

Each proposal must be submitted on the prescribed form and be accompanied by a certified check or Bid Bond in an amount of not less than 10 percent of the amount bid. Successful bidders will be required to furnish both a Payment Bond and Performance Bond in the full amount of the Contract Price. In accordance with Public Contract Code Section 10263, the Contractor will be allowed to substitute securities for monies normally withheld by the owner to insure performance under this contract.

Where the Bid Proposal for the Work is to be submitted on a unit price basis, unit prices will be accepted on all items of work set forth in the Proposal, except those designated to be paid for as a lump sum. The estimate of quantities of work to be done is tabulated in the Proposal and, although stated with as much accuracy as possible, is approximate only and is assumed solely for the basis of calculation upon which the award of Contract shall be made. Payment to the Contractor will be made on the measurement of the Work actually performed by the Contractor as specified on the Contract Documents. The Owner reserves the right to increase or diminish the amount of any class of Work as may be deemed necessary.

When the Proposal for the Work is to be submitted on a lump sum basis, a single lump sum price shall be submitted in the appropriate place. The total amount to be paid the Contractor shall be the amount of the lump sum in the Proposal, as adjusted for additions or deletions resulting from changes in construction. After award of Contract, the Contractor may be required to break down the lump sum Proposal into unit prices for the various portions to be completed.

All blank spaces in the Proposal form must be filled in, in ink, in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amounts shall govern in cases of discrepancy between the amounts stated in writing and the amounts stated in figures. In case of discrepancy between unit prices and totals, unit prices will prevail.

Any Bid Proposal shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Advertisement for Bid.

The Bidder shall sign his Proposal in the blank space provided therefore. If Bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signature of the officer or officers

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authorized to sign contracts on behalf of the corporation. If Bidder is a co-partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign contracts in behalf of the co-partnership. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Owner prior to opening of Proposals or submitted with the Proposal, otherwise the Proposal will be regarded as not properly authorized.

State and local sales and use taxes, as required by the laws and statutes of the State and its political subdivisions, shall be paid by the Contractor. Prices quoted in the Proposal shall include sales tax unless provision is made in the Proposal form to separately itemize the tax.

Any Bidder may modify his Bid by telegraphic or written communication at any time prior to the scheduled closing time for receipt of bids, provided such communication is received by the Owner prior to the closing time. The telegraphic or written communication should not reveal the bid price but should state the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed Bid is opened.

Each Bidder must inform themselves of the conditions relating to the execution of the Work, and it is assumed that Bidders will inspect the site, site access limitations, subsurface conditions, weather, variations of soil moisture and workability with rainfall, and make themselves thoroughly familiar with all the Contract Documents. The Bidder should check with local contractors regarding local site, surface, subsurface and material conditions and variability. Failure to do so will not relieve the successful Bidder of the obligation to enter into a Contract and complete the contemplated Work in strict accordance with the Contract Documents. The Bidder's attention is called to the General Conditions of the Contract Documents in regards to the Bidder's obligation to verify for himself and to his complete satisfaction all information concerning site and subsurface conditions, and Notice requirements.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) or be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the State of California Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. This project is subject to compliance monitoring and enforcement by the State of California Department of Industrial Relations. Accordingly, all Prime and Subcontractors contained in a bid must provide valid Department of Industrial Relations registration number(s). Failure to provide valid DIR registration numbers in the bid documents shall disqualify the bid.

Both California State prevailing wage rates and Federal prevailing wage rates will be required on this project, whichever wages are higher. The Contractor will be required to comply with any changes in these wage rates as they are updated by the State and/or Federal government at no cost to the Owner.

All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (Division of Labor Standards Enforcement), electronic Certified Payroll Reporting (eCPR) at the DIR, and also directly submit certified payroll and supporting documents to the Humboldt Bay Municipal Water District. The contact information for the Humboldt Bay Municipal Water District is:

Address:	HBMWD Attn: John Friedenbach PO Box 95 Eureka, CA 95502-0095
Business Phone:	(707) 443-5018
Email:	friedenbach@hbmwd.com

Bidders shall inform themselves of, and the Bidder awarded a Contract shall comply with, Federal, State

and local laws, statutes, and ordinances related to the execution of the Work. This requirement includes, but is not limited to, grant requirements as they apply to the Contractor's work, applicable regulations concerning employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, permits, fees, and similar subjects.

The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work.

Attention is directed to the provisions in section 1777.5 and sections 1777.6 of the Labor Code concerning the requirement to employ apprentices by the Contractor or any Subcontractor under it.

The Contractor shall comply with and shall cause his subcontractors to comply with all laws and regulations governing the contractor's and subcontractor's performance on this project including, but not limited to: anti-discrimination laws, workers' compensation laws, and prevailing wage laws as set forth in CA Labor Code, Sections 1720-1861 et seq. and licensing laws, as well as Federal Labor Standards set forth in the Davis-Bacon Act (40 USC 276(a-a5), the Copeland "Anti-Kickback" Act (40 USC 276©; and the Contract Work Hours and Safety Standards Act (CWHSSA) (40 USC 327-333). The contractor is required to include the prevailing wage language in all subcontracts pursuant to CA Labor Code 1775(E)(b)(1). The Contractor shall post, at appropriate conspicuous points on the site of the Project, a schedule showing all the determined general prevailing wage rates.

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BIDDERS' CHECKLIST

This checklist has been prepared and furnished to aid Bidders in including all necessary supporting information with their bid. Bidders' submittals should include, but are not limited to the following:

<u>ITEM</u>	<u>PAGE</u>	<u>CHECKED</u>
1. Bid Proposal	B-9 through B-11	_____
2. List of Subcontractors (Subcontractor Details)	B-12	_____
3. Bid Bond	B-13 through B-14	_____
4. Authority to Sign Bid Proposal (if applicable)	(Attached to Bid Bond)	_____
5. Power of Attorney	(Attached to Bid Bond)	_____
6. Qualifications Statement as described in the Advertisement for Bids	(Attached to Bid)	_____

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BID PROPOSAL

Proposal of _____
(hereinafter called "Bidder"), organized and existing under the laws of the State of California,
doing business as _____*.

To the Humboldt Bay Municipal Water District, a political subdivision of the State of California (hereinafter called "Owner").

In compliance with your Advertisement for Bids, Bidder hereby proposes to perform all Work for the Surge Tower Demolition Project in strict accordance with the Contract Documents, within the time set forth therein, and at the prices stated below.

In the event of a difference between a price quoted in words and a price quoted in figures for the same quotation, the words shall be the amount bid. In the event that the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern and the corrected product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amounts quoted, the individual items amounts shall govern and the corrected total shall be deemed to be the amount bid.

By submission of this bid, each Bidder certifies, and in the case of a joint bid, each party certifies as to his own organization, that his Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Bidder hereby agrees to commence Work under this Contract on or before a date to be specified in the Notice to Proceed and to fully complete the project and pay the liquidated damages as provided in Articles III and IV of the General Conditions.

*Insert "a corporation," "a partnership," or "an individual" as applicable.

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Bidder agrees to perform all the Work described in the Contract Documents for the following prices. Bidder is advised to carefully review all sections of the Plans and Specifications in order to completely understand the Work and all constraints, including the schedule and material requirements.

The following table has been provided for the Bidder's convenience to assist Bidder in quantifying the major components of the Work, and shall in no way be interpreted to be comprehensive. The bid shall be comprehensive and shall include all work associated with the project.

BASE SCHEDULE					
Item No.	Description	Unit	Qt.	Unit Cost	Total Cost
1.	Mobilization / Demobilization	L.S.	1		
2.	Traffic Control	L.S.	1		
3.	Erosion and Sediment Control	L.S.	1		
4.	Site Preparation	L.S.	1		
5.	Equipment Pads for Utility Crossings	L.S.	1		
6.	Demolish, Remove, and Dispose of Existing Surge Tower	L.S.	1		
7.	Cap Concrete Base and Surge Tower Overflow Pipe	L.S.	1		
8.	Restore and Hydroseed Disturbed Areas	L.S.	1		

Bid for Humboldt Bay Municipal Water District Surge Tower Demolition Project for the construction of all the work, including all necessary labor, materials, equipment and sales tax and all other applicable taxes and fees:

TOTAL OF BASE BID (\$ _____)

TOTAL OF BASE BID IN WORDS _____

Receipt of the following Addendum is acknowledged:

The representations made herein are made under penalty of perjury.

Respectfully submitted:

Signature

Title

License Number

Date

License Expiration Date

DIR Registration Number

(SEAL - If Bid is by Corporation)

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

_____ as Principal, and

_____, as Surety, are hereby held and firmly bound unto

Humboldt Bay Municipal Water District _____,

as Owner, in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this ____ day of _____, 20____.

The Condition of the above obligation is such that whereas the Principal has submitted to _____ a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the:

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NOW, THEREFORE,

- (a) If said Bid shall be rejected, or
- (b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid), and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any such extension.

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IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

SEAL:

Principal

By: _____

Title: _____

Surety

By: _____

Title

IMPORTANT - Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

NOTE: Bidder shall provide current "Power of Attorney" for Attorney-in-fact who signs Bid Bond.

PART 2
CONTRACT FORMS

CONTRACT AGREEMENT

THIS AGREEMENT, MADE THIS _____ DAY OF _____, 20____, by and between the Humboldt Bay Municipal Water District, hereinafter called "Owner," and _____, doing business as (an individual), or (a partnership), or (a corporation), hereinafter called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor will commence and complete the Surge Tower Demolition Project.
2. The Contractor will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the project described herein.
3. The Contractor will commence the work required by the Contract Documents within 60 calendar days after the date of the Notice to Proceed and will complete the same within the time provided in Section B-35 of the General Conditions, unless the period for completion is extended otherwise by the Contract Documents.
4. The Contractor agrees to perform all of the work described in the Contract Documents and comply with terms therein for the sum of \$ _____, or as shown in the Bid Schedule.
5. The Contract Documents consist of the Bidding Requirements, Contract Forms, Conditions of the Contract, the Specifications, and the Plans, including all modifications thereof incorporated into the documents before their execution, and including all other requirements incorporated by specific reference thereto. These form the Contract.
6. The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions such amounts as required by the Contract Documents.
7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
8. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, and by North Valley Labor Compliance Services enforcing the Owner's Labor Compliance Program.
9. All Contractors and Subcontractors must furnish electronic certified payroll records directly to the California State Labor Commissioner (Division of Labor Standards Enforcement) via eCPR with the DIR.
10. Pursuant to Senate Bill 854, all contractors bidding on public works projects must register with the California State Department of Industrial Relations.
11. No Contractor or Subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the California State Department of Industrial Relations pursuant to Labor Code section 1725.5.
12. The Contractor shall comply with and shall cause his Subcontractors to comply with all laws and regulations governing the Contractor's and Subcontractors' performance on this project, including, but not limited to: anti-discrimination laws, workers' compensation laws, prevailing wage laws as set forth in CA Labor Code, Sections 1720-1861 et seq. and licensing laws. The Contractor is required to include the prevailing wage language in all subcontracts pursuant to CA Labor Code

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1775(E)(b)(1). The Contractor shall post, at appropriate conspicuous points on the site of the Project, a schedule showing all the determined general prevailing wage rates.

13. The Contractor agrees to comply with Labor Code Section 1775 (Payment of the Prevailing Wage Rates) and Labor Code 1776 (keeping accurate records) and Labor Code 1777.5, placing responsibility for compliance with the statutory requirements for all apprenticeable occupations on the prime contractor. The Contractor shall comply with the requirements imposed by the California Labor Code Sections 1720-1861 regarding public works projects and prevailing wage laws and Sections 16000-16800 of the CA Code of Regulations.
14. In accordance with the provisions of section 1720 et seq. of the Labor Code, the Division of Labor Standards and Research has determined the general prevailing rates or wages and employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in section 1773.1.
15. It shall be mandatory upon the Contractor herein and upon any Subcontractor to pay not less than the said specified rates to all laborers, workers and mechanics employed by them in the execution of the Agreement pursuant to CA Labor Code 1774.
16. Attention is directed to the provisions in sections 1777.5 and 1777.6 along with 230.1, of the CA Labor Code concerning the requirement to employ apprentices by the Contractor or any Subcontractor under it.
17. Each worker required to execute the work must be paid travel and subsistence payments as defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.
18. Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half times the above specified rate of per diem wages, unless otherwise specified.
19. Contractors and any Subcontractors shall be assessed penalties for violating the following labor codes: CA Labor Code 1813 for overtime, 1775 for underpayment of the prevailing wage, and 1776 for inaccurate or incomplete payroll records.
20. In response to Labor Code section 1773.3, the PWC-100 form has been completed by the awarding agency and provided to the Department of Industrial Relations on _____, 20____, (required within five days of the award). This form allows contractors and subcontractors to upload electronic certified payroll records to the Labor Commissioner (required for all projects awarded on or after April 1, 2015).
21. The general prevailing rates of per diem wages, applicable to this contract, are on file at principal office of Owner.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in quadruplicate, each of which shall be deemed an original on the date first above written.

Owner

Title _____

Date _____

Contractor

Title _____

Date _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

Humboldt Bay Municipal Water District
(Name of Owner)

828 Seventh Street, Eureka, CA 95501
(Address of Owner)

hereinafter called Owner, in the penal sum of

_____ Dollars (\$ _____)
in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated _____ DAY OF _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:
Surge Tower Demolition Project

NOW, THEREFORE, If the Principal shall well, truly and faithfully perform its duties, all the undertaking, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during one year (minimum) guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder of the Specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the Specifications.

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PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each one of which shall be deemed an original, this _____ day of _____, 20.

ATTEST:

(Principal) Secretary

Principal

By _____

Address

Witness as to Principal

Address

Surety

ATTEST:

Witness as to Surety

By _____
Attorney-in-Fact

Address

Address

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute Bond.

IMPORTANT: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

Humboldt Bay Municipal Water District
(Name of Owner)

828 Seventh Street, Eureka, CA 95501
(Address of Owner)

hereinafter called Owner, in the penal sum of

_____ Dollars (\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated _____ day of _____, 20, a copy of which is hereto attached and made a part hereof for the construction of:

Surge Tower Demolition Project

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums of said work, and for all wages and fringe benefits of labor, performed in such work, whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulated and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

Humboldt Bay Municipal Water District
Surge Tower Demolition Project

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each one of which shall be deemed an original, this _____ day of _____, 20____.

ATTEST:

(Principal) Secretary

Principal

By _____

Address

Witness as to Principal

Address

Surety

ATTEST:

Witness as to Surety

By _____
Attorney-in-Fact

Address

Address

NOTE: Date of bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

NOTICE OF AWARD

TO: _____

PROJECT: Surge Tower Demolition Project

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for BIDS dated _____ and Information for BIDDERS.

You are hereby notified that your BID has been accepted for items in the amount of _____ Dollars (\$ _____)

You are required by the Information for BIDDERS to execute the Agreement and furnish the required Contractor's certificates of insurance within twenty-one (21) calendar days from the date this Notice is received by you.

If you fail to execute said Agreement and to furnish said INSURANCE within twenty-one (21) days from the date of receipt of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20_____

Owner: Humboldt Bay Municipal Water District

By: _____ Title: General Manager

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

(Name of Contractor)

Dated this _____ day of _____, 20_____

By: _____ Title: _____

NOTICE TO PROCEED

TO: _____

PROJECT: Surge Tower Demolition Project

You are hereby notified to commence work in accordance with the Agreement dated _____, 20____, on or before _____, 20____, and you are to complete the work within _____ consecutive calendar days thereafter. The date of completion of all work is therefore _____, 20____.

You are required to return an acknowledged copy of this NOTICE OF PROCEED to the OWNER.

Dated this _____ day of _____, 20____

Owner: Humboldt Bay Municipal Water District _____

By: _____ Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

(Name of Contractor)

Dated this _____ day of _____, 20____

By: _____ Title: _____

PART 3
GENERAL CONDITIONS

**GENERAL CONDITIONS
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SECTION A DEFINITIONS AND TERMS

A-1 General

Wherever the following abbreviations and terms, or pronouns in place of them, are used in these Conditions and other Contract Documents of which these Conditions are a part, the intent and meaning shall be interpreted as provided below.

A-2 Abbreviations

The following abbreviations may be used in the Contract Documents:

AA	Aluminum Association
AASHO	American Association of State Highway Officials
ABMA	American Boiler Manufacturer's Association
ACI	The American Concrete Institute
AGA	American Gas Association
AGC	Associated General Contractors
AGMA	American Gear Manufacturer's Association
AI	The Asphalt Institute
AIA	American Institute of Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALSC	American Lumber Standards Committee
ANSI	American National Standards Institute, Inc.
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers' Association
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
CCMTC	California Concrete Masonry Technical Committee
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CRSI	Concrete Reinforcement Steel Institute
DFPA	Douglas Fir Plywood Association
DIR	Department of Industrial Relations
ETL	Electrical Testing Laboratory
FEMA	Federal Emergency Management Agency
FS	Federal Specification
HBMWD	Humboldt Bay Municipal Water District
HMGP	Hazard Mitigation Grant Program
ICBO	International Conference of Building Officials
IEEE	The Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IPCEA	Insulated Power Cable Engineers Association
MBMA	Metal Building Manufacturer's Association
MSS	Manufacturers Standardization Society of the Valve and Fitting Industry Standards
NBFU	National Board of Fire Underwriters
NBS	National Buildings Standards
NEC	National Electrical Code

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NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Act of 1970
PCA	Portland Cement Association
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SSPC	Steel Structures Painting Council
SSPWC	Standard Specifications for Public Works Construction
UBC	Uniform Building Code
USPHS	United States Public Health Service
UL	Underwriter's Laboratory
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
USAS	The United States of America Standard Institute
USBR	United States Bureau of Reclamation
WCLIB	West Coast Lumber Inspection Bureau
WIC	Woodwork Institute of California

"Bureau" - United States Bureau of Reclamation

"State" - State of California

"State Standard Specifications" - Standard Specifications issued by the State of California Business and Transportation Agency, Department of Transportation, dated 2010, and as amended, unless a specific edition is referenced.

A-3 Definitions

- a) Acceptance - The formal written acceptance by the DISTRICT of the entire Contract which has been completed in all respects in accordance with the Specifications and any approved modifications.
- b) Addenda - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications by additions, deletions, clarifications or corrections.
- c) As Approved - The words "as approved" unless otherwise qualified, shall be understood to be followed by the words "by the Engineer."
- d) Bid - The offer of the Bidder for the Work when made out and submitted on the prescribed bid form, properly signed and guaranteed. A Bid is also known as a Proposal.
- e) Bid Bond - The cash, cashier's check, certified check, or bidder's bond accompanying the Bid submitted by the bidder, as a guarantee that the Bidder will enter into a Contract with the DISTRICT for the performance of work herein described.
- f) Bidder - Any individual, firm, partnership or corporation submitting a bid for the work contemplated, and acting directly or through a duly authorized representative.
- g) Board of Directors or Board – The Board of Directors of the Humboldt Bay Municipal Water District
- h) Change Orders - A written order to the Contractor authorizing an addition, deletion, or revision in the work within the general scope of the Contract Documents or authorizing adjustment in the Contract price or Contract time.
- i) Claim - A separate demand by the Contractor for (i) a time extension, (ii) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the Contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (iii) an amount the payment of which is disputed by the DISTRICT.

- j) Contract - The written agreement covering the performance of the work and the furnishing of labor, materials, tools and equipment in the construction of the Work. The Contract shall include all Contract Documents and supplemental agreements amending or extending the work contemplated which may be required to complete the Work in a substantial and acceptable manner. Supplemental agreements are written agreements covering alterations, amendments or extensions to the Contract and include Addenda and Contract Change Orders.
- k) Contract Documents - The Contract Documents are any or all of the documents listed in Article I of the Contract.
- l) Contract Price - Total monies payable to the Contractor under the terms and conditions of the Contract Documents.
- m) Contract Time - The numbers of days stated in the Contract Documents for the completion of the Work.
- n) Contractor - The person or persons, firm, partnership or corporation or other entity who has entered into the Contract with the DISTRICT to perform the Work.
- o) Contract Drawings - "Contract Drawings" or "drawings" means and includes:
 - (i) all drawings which have been prepared on behalf of the DISTRICT and which are included in the Contract Documents and all modifying drawings issued by addenda thereto;
 - (ii) all drawings submitted pursuant to the terms of the Contract by the Contractor with his proposal and by the Contractor to the DISTRICT during the progress of the Work when accepted by the Engineer. Except where a specific type of drawing is indicated, the terms "Drawings" and "Plans" are used interchangeably throughout the Contract Documents and the Plans are Drawings as defined above.
- p) County - County of Humboldt, California.
- q) Date of Execution of the Contract - The date on which the Contract is signed by the DISTRICT's authorized representative.
- r) Datum - The figures given in the Specifications or upon the Drawings after the word "Elevation" or an abbreviation of it shall mean NAVD 88 datum unless noted otherwise.
- s) Days - Unless otherwise designated, days as used in the Contract Documents shall mean calendar days.
- t) District - The HUMBOLDT BAY MUNICIPAL WATER DISTRICT, may also be referred to as the DISTRICT or OWNER.
- u) Engineer - Wherever in these documents the word "Engineer" appears, it shall be understood to mean GHD Inc. The Engineer will have final authority as regards to contract administration, field inspection, and related items.
- v) Field Order - A written order effecting a change in the Work not involving an adjustment in the Contract Price or an extension of Contract Time, issued by the Engineer to the Contractor during construction.
- w) His - "His/he" shall include "hers/she", "theirs/they", and "its/it".
- x) Install - "Install" wherever and in whatever manner used shall mean the installation, complete in place of an item.
- y) Notice of Award - The written notice of the acceptance of the Bid from the DISTRICT to the successful Bidder.

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- z) Notice to Proceed - Written communication issued by the DISTRICT to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Work.
- aa) Or Equal - The terms "or equal" or "approved equal" shall be understood to indicate that the "equal" product be the same or better than the product named in function, performance, reliability, quality and general configuration. Determination of equality in reference to the project design requirement will be made by the Engineer.
- bb) District Project Representative – The authorized representative of the DISTRICT who is assigned to the project site or any part of thereof.
- cc) Plans or Specification Drawings - The term "Plans or Specification Drawings" refers to the official Plans, profiles, cross sections, elevations, details, and other working drawings and supplementary drawings, or reproductions thereof, signed by the Engineer, which show the location, character, dimensions, and details of the work to be performed. Plans may either be bound in the same book as the balance of the Contract Documents or bound in separate sets, and are a part of the Contract Documents, regardless of the method of binding.
- dd) Project - The undertaking performed as provided by the Contract Documents.
- ee) Provide - "Provide" wherever and in whatever manner used shall be understood to mean furnish and install.
- ff) Resident Project Representative - Authorized representative of the Engineer who is assigned to the Project or any part thereof.
- gg) Service of Notice - Any notice from one party to the other under the Contract shall be in writing and shall be dated and signed by the party giving such notice or by a duly authorized representative thereof. Any such notice shall not be effective for any purpose whatsoever unless service in the following manner:
 - (i) If the notice is given to the DISTRICT by personal delivery thereof, the DISTRICT'S Project Representative or by depositing the notice in the U.S. mail, enclosed in a sealed envelope addressed to HUMBOLDT BAY MUNICIPAL WATER DISTRICT, P.O. Box 95 (828 Seventh Street), Eureka, CA 95502, postage prepaid, by certified mail return receipt requested.
 - (ii) If the notice is given to the Contractor, by personal delivery to the Contractor or its duly authorized representative at the project site or by depositing in the U.S. mail, enclosed in a sealed envelope address to the Contractor on the Contract Form, postage prepaid, by certified mail, return receipt request.
 - (iii) If the notice is given to the Surety or any other person, by personal delivery to such Surety or other person or by depositing in the U.S. mail, enclosed in a sealed envelope, addressed to the surety or other person at the address of such Surety or other person last communicated to the party giving the notice, postage prepaid, by certified mail return receipt requested.
- hh) Shall or Will - "Shall," or "Will," whenever used to stipulate anything, means shall or will be done or be performed by either the Contractor or the DISTRICT and means that the Contractor or the DISTRICT has thereby entered into a covenant with the other party to do or perform the same.
- ii) Shop Drawing - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, supplier or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.
- jj) Shown - "Shown," "indicated," "detailed," and words of like import, wherever and in whatever manner used, with or without reference to the drawings, means shown, indicated or detailed on the Drawings or Plans.

kk) Specifications - A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship, including the General Conditions and Supplemental General Conditions.

ll) Specified - "Specified," "described," or "noted," wherever and in whatever manner used, means as specified, described or noted in the Contract Documents.

mm) Subcontractors - The term "Subcontractor", as employed herein, includes only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design according to the Plans or Specifications of this Work, .

nn) Substantial Completion - That date as certified by the Engineer when the construction of the Project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it is intended.

The Engineer may, at its sole discretion, issue a written notice of substantial completion for the purpose of establishing the starting date for specific equipment guarantees, and to establish the date that the DISTRICT will assume the responsibility for the cost of operating such equipment. Said notice shall not be considered as final acceptance of any portion of the Work or relieve the Contractor from completing the remaining work within the specified time and in full compliance with the Contract Documents.

oo) Sufficient - "Sufficient," "necessary," or "proper," "acceptable," "satisfactory," "desirable," and words of like import, wherever and in whatever manner used, with or without reference to the Engineer, means sufficient, necessary, proper, acceptable, satisfactory and desirable in the judgment of the Engineer.

pp) Supplementary Conditions - Modifications to General Conditions required by a Federal Agency for participation in the PROJECT and approved by the Agency in writing prior to inclusion in the Contract Documents, or such requirements that may be imposed by applicable State laws.

References to "Supplemental General Conditions" in the General Conditions and elsewhere in the Contract Documents shall be construed to read "Supplementary Conditions."

qq) Supplier - Any person or organization who supplies materials or equipment for the Work, but who does not perform labor at the site.

rr) Time Limits - All time limits stated in the Contract Documents are of the essence of the Contract.

ss) Work - All the work specified, indicated, shown or contemplated in the Contract to construct the improvements, including all alterations, amendments or extensions thereto made by Contract Change Order or other written orders of the Engineer.

tt) Written Notice - "Written Notice" shall be deemed to have been duly served when 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 mail to the last business address known to it who gives the notice.

uu) Whenever in the Specifications or upon the Drawings the words DIRECTED, REQUIRED, PERMITTED, ORDERED, DESIGNATED, PRESCRIBED, or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation or prescription of the Engineer is intended, and similarly the words APPROVED, ACCEPTABLE, SATISFACTORY, or words of like import, shall mean approved or acceptable to, or satisfactory to the Engineer, unless otherwise expressly stated.

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SECTION B GENERAL CONDITIONS

ARTICLE I. SCOPE OF WORK

B-1 Intent of Contract Documents

The intent of the Contract Documents is to prescribe the details for the construction and completion of the Work which the Contractor undertakes to perform in accordance with the terms of the Contract. Where the Specifications and Plans describe portions of the Work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment and incidentals and do all the work involved in performing the Contract in a satisfactory and workmanlike manner, ready for use occupancy or operation by the DISTRICT.

The technical provisions are presented in sections for convenience. However, this presentation does not necessarily delineate trades or limits of responsibility. All sections of the Specifications and Plans are interdependent and applicable to the Project as a whole.

The Contract Documents are complementary, and what is called for in any one shall be as binding as if called for in all.

Anything shown on the Drawings and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Drawings shall have the same effect as if shown or mentioned respectively in both. Any work shown on one drawing shall be construed to be shown in all drawings and the Contractor will coordinate the Work and the Drawings. If any portion of the Contract Documents shall be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence: The DISTRICT-Contractor Contract; the Bid; any Supplementary or Special Conditions; Instructions to Bidders; the General Conditions; the Specifications; the Drawings. Technical Specifications take priority over general Specifications and detail Drawings take precedence over general Drawings. As between schedules and information given on Drawings, the Schedules shall govern. As between figures given on Drawings and the scales measurements, the figures shall govern. As between large-scale Drawings and small-scale Drawings, the larger scale shall govern. Any conflict or inconsistency between or in the Drawings shall be submitted to the Engineer through the DISTRICT'S Project Representative or Resident Project Representative in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's own risk.

B-2 Contractor's Understanding

It is understood and agreed that the Contractor has, by careful examination, satisfied itself as to the nature and location of the Work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, and all other matters which can in any way affect the Work under this Contract. No verbal agreement or conversation with any officer, agent or employee of the DISTRICT, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

Contractor shall comply with all Federal, State, and Local laws and regulations applicable to this scope of work and said project, as well as all permits and environmental conditions established for this project (see section B-13). Contractor is responsible for obtaining and paying for all necessary permits for construction, along with associated inspection fees, except for those permits already obtained by the DISTRICT prior to construction. If a Contractor materially fails to comply with any term of this award, whether stated in a Federal statute or regulation, an assurance, in a State plan or application, a notice of award, or elsewhere, FEMA and/or the DISTRICT may take one or more of the actions outlined in 2 CFR Section 200.338, including termination of the project. Project awards may be terminated for convenience through the procedures outlined in 2 CFR Section 200.339.

B-3 Changes in the Work

The DISTRICT may, at any time, by written order make changes in the Work including but not limited to: (a) changes in the Specifications or Drawings; (b) changes in the sequence, method or manner of performance of the Work; (c) changes in the owner-furnished facilities, equipment, materials, services or site; or (d) changes directing acceleration of the Work. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the Contract an equitable adjustment will be made and the Contract modified in writing accordingly.

Such modification will be in the form of a Contract Change Order which will set forth the work to be done or the method by which the change and cost adjustment, if any, will be determined, and the time of completion of the Work.

To comply with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), material additions or amendments to this scope of work (SOW) may have to be reviewed by all State and Federal agencies participating in the NEPA/CEQA process. NEPA/CEQA compliance for all SOW additions or amendments is essential before the revised SOW can be approved by FEMA or implemented by the DISTRICT. Any construction activities associated with a SOW change, prior to FEMA approval, may be ineligible for reimbursement or match. The Contractor shall obtain approval in writing from the DISTRICT prior to proceeding with any changes of work.

The compensation to be paid for any extra work or change shall be determined in one or more of the following ways or at DISTRICT's sole election:

- a) By unit prices previously approved (unit prices previously approved shall be used in all cases for similar units unless mutually agreed that for some reason they are not applicable);
- b) By estimate and acceptance of an agreed upon lump sum; or
- c) On a time and materials basis involving the actual necessary expenses and other services necessary to complete the Work. In addition, there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual necessary expense to cover the cost of general overhead, general superintendence, other expenses and profit. In the events that items (a) and (b) above are not applicable, then this latter method (c) shall be used. Markup by Subcontractors on their work shall not exceed fifteen percent (15%). Contractor's markup on Subcontractor's work shall not exceed five percent (5%).

The Contractor shall keep full and complete records of the actual cost of such work in the form and manner prescribed by the Engineer and shall permit the Engineer to have access to such records as may be necessary to assist in the determination of the compensation payable for such work.

The Engineer also may at any time by issuing a Field Order make changes in the details of the Work. The Contractor shall proceed with the performance of any change in the Work so ordered by the Engineer unless the Contractor believes that such Field Order entitles it to a change in the Contract Price or Time, or both in which event the Contractor shall give the Engineer written notice thereof within seven (7) calendar days after the receipt of the ordered change. The Contractor shall not execute such changes pending the receipt of an executed change order or further instruction from the DISTRICT.

If the Contractor is delayed in completing by reason of any change made pursuant to this section, the time for completion of the Work shall be extended by change order for a period agreed to, commensurate with such delay. The Contractor shall not be subjected to any claim for liquidated damages for this period of time, but the Contractor shall have no claim for any other compensation for any such delay.

B-4 Procedures and Allowable Costs on Changes

- a) No indirect costs of a Contractor are separately eligible for reimbursement, in compliance with 2 CFR Section 200.410. Such costs are covered by the Subgrantee Administrative Cost allowance

formula provided by 44 CFR Section 206.439(b)(1)(ii).

- b) Contractors are referred to the State HMGP administrative plan for project cost overrun regulations. If project costs exceed the approved federal share, the DISTRICT must contact the Governor's Authorized Representative (GAR). The GAR will evaluate requests for cost overruns. Written determination of cost overrun eligibility in accordance with 2 CFR 328 shall be submitted by the GAR to the FEMA Regional Director. Contractor is hereby notified that such notifications and approvals may necessitate project delays, which will be reviewed and approved with the Contractor via a contract Change Order.
- c) All changes which affect the cost or time of the construction of the project must be authorized by means of a Change Order. The Change Order will include extra work, work for which quantities have been altered from those shown in the bidding schedule, as well as decreases or increases in the quantities of installed units which are different than those shown in the bidding schedule because of final measurements. All changes should be recorded on a Change Order as they occur. Each Change Order must contain complete and detailed justification for all items addressed by the Change Order.
- d) If the change in or addition to the Work will result in an increase in the contract sum, the DISTRICT shall have the right to require the performance thereof in any of the following ways, at DISTRICT's sole election:
- (i) By unit prices previously approved (unit prices previously approved shall be used in all cases for similar units unless mutually agreed that for some reason they are not applicable);
 - (ii) By estimate and acceptance of an agreed upon lump sum; or
 - (iii) On a time and materials basis involving the actual necessary expenses and other services necessary to complete the work. In addition, there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual necessary expense to cover the cost of general overhead, general superintendence, other expenses and profit. In the events that items (a) and (b) above are not applicable, then this latter method (c) shall be used. Markup by Subcontractors on their work shall not exceed fifteen percent (15%). Contractor's markup on Subcontractor's work shall not exceed five percent (5%).
- e) If the DISTRICT elects to have the Change in the Work performed on a lump sum basis, such election shall be based on a lump sum proposal which shall be submitted by the Contractor within ten (10) calendar days of the DISTRICT's request therefor. Request for a lump sum proposal shall not be deemed an election to have the Work performed on a lump sum basis. The Contractor's proposal shall be itemized and segregated by labor and materials for the various components of the change (no aggregate labor total will be acceptable) and shall be accompanied by signed proposals of any Subcontractors which will perform any portion of the change, and of any persons who will furnish materials or equipment for incorporation therein. The proposal shall also include the Contractor's estimate of the time required to perform said changes or additional work.

The portion of the proposal relating to labor, whether by the Contractor's forces or the forces of any of its Subcontractors, may include reasonably anticipated gross wages of Job Site labor, including foremen, who will be directly involved in the Change in the Work (for such time as they will be so involved), plus payroll costs (including premium costs of overtime labor, if overtime is anticipated, social security, Federal or State unemployment insurance taxes and fringe benefits required by collective bargaining agreements entered into by the Contractor or any such Subcontractor in connection with such labor) and up to fifteen percent (15%) of such anticipated gross wages, but not payroll costs, as overhead and profit for the Contractor or any such Subcontractor, as applicable (such overhead and profit to include all supervision except foremen.)

The portion of the proposal relating to materials may include the reasonably anticipated direct costs to the Contractor or to any of its Subcontractors of materials to be purchased for incorporation in the Change in the Work, plus transportation and applicable sales or use taxes

and up to fifteen percent (15%) of such anticipated gross wages, but not payroll costs, as overhead and profit for the Contractor or any such Subcontractor, as applicable (such overhead and profit to include all supervision except foremen.)

The portion of the proposal relating to materials may include the reasonably anticipated direct costs to the Contractor or to any of its Subcontractors of materials to be purchased for incorporation in the Change in the Work, plus transportation and applicable sales or use taxes and up to fifteen percent (15%) of said direct material costs as overhead and profit for the Contractor or any such Subcontractor (such overhead and profit to include all small tools), and may further include the Contractor's and any of its Subcontractors' reasonably anticipated rental costs in connection with the Change in the Work (either actual rates or discounted local published rates), plus up to five percent (5%) thereof as overhead and profit for the Contractor or any such Subcontractors, as applicable. If any of the items included in the lump sum proposal are covered by unit prices contained in the Contract Document, the DISTRICT may, if it requires the Change in the Work to be performed on a lump sum basis, elect to use these unit prices in lieu of the similar items included in the lump sum proposal in which event and appropriate deduction will be made in lump sum amount prior to the application of any allowed overhead and profit percentages. No overhead and profit shall be applied to any unit prices.

The lump sum proposal may include up to five percent (5%) of the amount which the Contractor will pay to any of its Subcontractors for the Change in the Work as a commission to the Contractor.

- f) In the event that the Contractor fails to submit its proposal within the designated period, the Engineer may direct the Contractor to proceed with the Change or Addition to the Work and the Contractor shall so proceed. The Engineer shall determine the reasonable costs and time to perform the Work in question, which determination when approved by DISTRICT shall be final and binding upon the Contractor.
- g) In the event that the parties are unable to agree as to the reasonable costs and time to perform the change in or addition to the Work based upon the Contractor's proposal and the Engineer and DISTRICT do not elect to have the change in the Work performed on a time and material basis, the Engineer and DISTRICT shall make a determination of the reasonable cost and time to perform the Change in the Work, based upon their own estimates, the Contractor's submission or combination thereof. A Change Order shall be issued for the amount of costs and time determined by the Engineer and the DISTRICT and shall become binding upon the Contractor unless the Contractor submits its protest in writing to the DISTRICT within thirty (30) calendar days of the issuance of the Change Order. The DISTRICT has the right to direct the Contractor in writing to perform the Change in the Work which is the subject of the Change Order. Failure of the parties to reach agreement regarding the costs and time of the performing the Change in the Work and/or any pending protest shall not relieve the Contractor from performing the Change in the Work promptly and expeditiously.
- h) If the DISTRICT elects to have the Change in the Work performed on a time and material basis, the same shall be performed, whether by the Contractor's forces or the forces of any of its Subcontractors or Sub-subcontractors, at actual costs to the entity or entities performing the Change in the Work (without any charge for administration, clerical expense, supervision or superintendence of any nature whatsoever, including foremen, or the costs, use or rental of tools or plant), plus fifteen percent (15%) thereof as the total overhead and profit to the entity or entities actually performing the change (except that this fifteen percent (15%) shall not be applied against any payroll costs, defined herein with respect to lump sum proposals). If the entity or entities actually performing the work are Subcontractors or Sub-subcontractors, the Contractor shall be allowed five percent (5%) of the total charge of the performing entity or entities (including mark-up) as Contractor's mark-up. No other mark-ups shall be allowed hereunder. The Contractor shall submit to the DISTRICT daily work and material tickets, to include the identification number assigned to the Change in the Work, the location and description of the Change in the Work, the classification of labor employed (and names and social security numbers), the material used, the

equipment rented (not tools) and such other evidence of cost as the DISTRICT may require. The DISTRICT may require authentication of all time and material tickets and invoices by persons designated by the DISTRICT for such purpose. The failure of the Contractor to secure any required authentication shall, if the DISTRICT elects to treat it as such, constitute a waiver by the Contractor of any claim for the cost of that portion of the Change in the Work covered by a non-authenticated ticket or invoice; provided, however, that the authentication of any such ticket or invoice by the DISTRICT shall not constitute an acknowledgment by the DISTRICT that the items thereon were reasonably required for the Change in the Work.

- i) No overhead and profit will be paid by the DISTRICT on account of a Change in the Work except as specifically provided in this Section B-4. Overhead and Profit, as allowed under this paragraph, shall be deemed to include all costs and expenses which the Contractor or any of its Subcontractors may incur in the performance of the Change in the Work and which are not otherwise specifically recoverable by them pursuant to this paragraph.
- j) The Contractor shall not be entitled to any amount for indirect costs, damages or expenses of any nature, including, but not limited to, so-called "impact" costs, labor inefficiency, wage, material or other escalations beyond the prices upon which the proposal is based and to which the parties have agreed pursuant to the provisions of this section, and which the Contractor, its Subcontractors and Sub-subcontractors or any other person may incur as a result of delays, interferences, suspensions, changes in sequence or the like, for whatever cause, whether reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable, arising from the performance of any and all Changes in the Work performed pursuant to this section. It is understood and agreed that the Contractor's sole and exclusive remedy in such event shall be recovery of its direct costs as compensable hereunder and an extension of the time of the Contract, but only in accordance with the provisions of the Contract Documents.

The Contractor agrees that it shall not be entitled to claim damages for anticipated profits on any portion of work that may be deleted. The amount of any adjustment for work deleted shall be estimated at the time deletion of work is ordered and the estimated adjustment will be deducted for the subsequent monthly pay estimates.

The DISTRICT reserves the right to contract with any person or firm other than the Contractor for any or all extra work.

B-5 Unilateral Change in or Addition to the Work

Notwithstanding the above, the DISTRICT, directly or through the Engineer, may direct the Contractor in writing to perform changes in or additions to the scope of the Contract. The Contractor shall perform such work and the parties shall proceed pursuant to the provisions of Section B-4.

B-6 Differing Site Conditions

The Contractor shall promptly, and before the following conditions are disturbed, notify the DISTRICT in writing of any:

- a) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25118 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; or
- b) Subsurface or latent physical conditions at the site differing from those indicated in the Contract Documents; or
- c) Unknown 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.

The Engineer shall thereupon promptly investigate the conditions. If the Engineer finds that they do involve hazardous waste, or do materially differ and cause any decrease or increase in the Contractor's cost or time of performance, it will issue a Change Order as appropriate. Any increase or decrease in the cost of the Work or the time for performance shall be adjusted in the manner provided herein for adjustments as to extra and/or additional work and changes. The procedures applicable to claims per extra costs shall then apply.

In accordance with 36 CFR Part 800, in the event a potential historic property or cultural resource is discovered during construction activities, the Contractor must cease work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the discovered property/resource. Construction activities in the area of the discovery shall not resume until the DISTRICT concludes consultation with the State Historic Preservation Officer (SHPO) for treatment of the discovery.

B-7 Claims for Extra Costs

- a) The Plans for Work show the conditions as they are supposed or believed by the Engineer to exist, but it is neither intended nor to be inferred that the conditions as shown thereon constitute a representation by the DISTRICT or its officers that such conditions are universally existent nor shall the DISTRICT or any of its officers or representatives be liable for any loss sustained by the Contractor as a result of any variance between conditions as shown on the Plans and alternate conditions revealed during the progress of the Work, or otherwise.
- b) The DISTRICT assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefor is assumed by the DISTRICT.
- c) It is hereby mutually agreed that the Contractor shall not be entitled to the payment of any additional compensation for any cause, including any act, or failure to act, by the Engineer or the DISTRICT, or the happening of any event, thing or occurrence, unless the Contractor shall have given the Engineer due written notice of potential claims as hereinafter specified.
- d) The written notice of potential claims shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. Except as provided in Section B-6, the notice as above required shall be given to the Engineer at least 48 hours prior to the time that the Contractor commences performance of the work giving rise to the potential claim for additional compensation. If such notice is not given, the Contractor shall be barred from making any such claim for extra compensation.
- e) The Contractor may submit a claim to the Engineer concerning any matter for which a protest under Section B-3 or a notice of potential claim is filed within sixty (60) calendar days following the submission of said protest or notice, unless, due to the nature of the claim or the uncompleted state of the work, it is impracticable to determine the amount or the extent of the claim within such period, in which case a claim may be submitted at the earliest time thereafter that such determination can be made, but in no event later than the final release by the Contractor provided for in Section B-71. The claims shall set forth clearly and in detail, for each item of additional compensation claimed, the reasons for the claim, reference to applicable provisions of the Specifications, the nature and the amount of the cost involved, the computations used in determining such costs, and all pertinent factual data. The Contractor shall maintain complete and accurate records of the cost or any portion of the Work for which additional compensation is claimed, and shall provide the Engineer with copies thereof, as required.
- f) The Engineer will, within a reasonable time after submission of the Contractor's claim, make decisions in writing on all claims of the Contractor. All such decisions of the Engineer shall be final unless the Contractor shall within ten (10) calendar days after receipt of the Engineer's decision, file with

the Engineer a written protest, stating clearly and in detail the basis thereof. Such protest will be forwarded promptly by the Engineer to the DISTRICT, which will issue a decision upon each such protest, and the DISTRICT's decision will be final. Pending such decision, the Contractor shall proceed with its work in accordance with the determination or instructions of the Engineer. It is hereby agreed that the Contractor's failure to protest the Engineer's determination or instructions, within ten (10) calendar days from and after the Engineer's determinations or instructions, shall constitute a waiver by the Contractor of all its rights to further protest, judicial or otherwise.

- g) It is the intention of this Section that the differences between the parties, arising under and by virtue of the Contract, be brought to the attention of the Engineer at the earliest possible time in order that such matters may be settled, if possible or other appropriate action promptly taken. The Contractor hereby agrees that it shall have no right to additional compensation for any claim that may be based on any act, failure to act, event, thing or occurrence for which no written notice of potential claim as herein required was timely filed.
- h) In the event of an emergency endangering life or property, the Contractor shall act as stated in Section B-62 herein, and after execution of the emergency work shall present an accounting of labor, materials and equipment in connection therewith. The procedure for any payment that may be due for emergency work will be as specified in Section B-3 herein.

B-8 Disputes

Except as otherwise specifically provided in the Contract Documents, the Engineer will initially decide all claims of the Contractor and all disputes arising under and by virtue of the Contract. Such claim or dispute will be processed and decided by the Engineer as soon as practicable after its submission and the submission or availability of any additional information necessary to its decision. If the Contractor is dissatisfied with the Engineer's decision, the Contractor may, within fifteen (15) calendar days from the date of the Engineer's decision, follow the procedures set forth in Section B-55. If the Contractor fails to follow the procedures set forth in Section B-55 within the fifteen (15) calendar day period, then the Engineer's decision shall be final, conclusive and binding on the Contractor.

B-9 Guarantee

- a) In addition to warranties, representations and guarantees stated elsewhere in the Contract Documents, the Contractor unconditionally guarantees all materials and workmanship furnished hereunder, and agrees to replace at its sole cost and expense, and to the satisfaction of the Engineer and the DISTRICT, any and all materials which may be defective or improperly installed.
- b) The Contractor shall repair or replace to the satisfaction of the Engineer any or all such work that may prove defective in workmanship or materials, ordinary wear and tear excepted, together with any other work which may be damaged or displaced in so doing.
- c) In the event of failure to comply with the above stated conditions within a reasonable time, the DISTRICT is authorized to have the defect repaired and made good at the expense of the Contractor who will pay the costs and charges therefor immediately upon demand, including any reasonable management and administrative costs, and engineering, legal and other consultant fees incurred to enforce this section.
- d) The signing of the Contract by the Contractor shall constitute execution of the above guarantees. Except as otherwise provided in this Contract, the guarantees and warranties shall remain in effect through the one-year maintenance warranty period specified in the Performance Bond.

ARTICLE II. CONTROL OF WORK

B-10 Authority of the Engineer

- a) The Engineer is the representative of the DISTRICT and has full authority to interpret the Contract Documents, to conduct the construction review and inspection of the Contractor's performance, and to decide questions which arise during the course of the work and its decisions on these matters shall be final and conclusive. The Engineer has the authority to reject all work and materials which do not conform to the Contract Documents, and has the authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract.

If at any time the Contractor's work force, tools, plant or equipment appear to the Engineer to be insufficient or inappropriate to secure the required quality of work or the proper rate of progress, the Engineer may order the Contractor to increase their efficiency, improve their character, to augment their number or to substitute other personnel, new tools, plant or equipment, as the case may be, and the Contractor shall comply with such order.

- b) Neither the failure of the Engineer to demand such increase of efficiency, number, or improvement, nor the compliance by the Contractor with the demand, shall relieve the Contractor of its obligation to provide quality work at the rate of progress necessary to complete the Work within the specified time.
- c) The Engineer shall have the authority to make minor changes in the Work, not involving extra costs, and not inconsistent with the purposes of the Work.
- d) Any order given by the Engineer, not otherwise required by the Contract Documents to be in writing shall, on request of the Contractor, be given or confirmed by the Engineer in writing.
- e) Whenever work, methods of procedure, or any other matters are made subject to direction or approval, such direction or approval will be given by the Engineer.
- f) The Engineer shall not be responsible for the construction means, controls techniques, sequences procedures or construction safety.
- g) It is expressly agreed and understood that GHD Inc. will have no liability whatsoever resulting from the obligations entered into under the Contract except as provided in any scope of work agreement between GHD Inc. and the DISTRICT; that the DISTRICT must look solely to the Contractor for the furnishing of the Work; that the Contractor must look solely to the DISTRICT for payment; and that the DISTRICT and the Contractor must look solely to each other for the enforcement of any claims or liabilities arising under or by reason of the Contract.

B-11 Drawings

- a) Drawings furnished herewith are for bidding purposes. The Engineer will furnish the Contractor additional copies of the Contract Documents and full-size plans. Additional copies may be obtained by paying the actual cost of reproduction. The Contractor shall have no claim for excusable delay on account of the failure of the Engineer to deliver such drawings unless the Engineer shall have failed to deliver the same within fourteen (14) calendar days after receipt of written demand therefor from the Contractor. The Contractor shall keep one copy of said drawings, in good order, available to the Engineer and its representatives, and convenient to the working site. The Contractor shall maintain on the job site and make available to the Engineer on request, one current full-sized marked-up set of design drawings which accurately indicate all variations in the completed work that differ from the design information shown on the Plans. If the Contractor, in the course of the Work, finds any discrepancy between the Drawings and the physical condition of the locality, or any errors or omissions in the Drawings, or in the layout as given by points and instructions, it shall be the Contractor's duty to inform the Engineer in writing, and the Engineer will promptly verify the same. Any work done after such discovery, until

authorized, will be done at the Contractor's risk. All Drawings, Specifications, and copies thereof furnished by the Engineer are the property of the Engineer and shall not be reused on other work and, with the exception of the signed Contract sets, are to be returned to the Engineer, on request, at the completion of the Work. All models are the property of the DISTRICT. The Contractor may be furnished additional instructions and detail drawings by the Engineer as necessary to carry out the work required by the Contract Documents.

The additional drawings and instructions thus supplied, will become part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

- b) The Drawings shall be supplemented by such shop drawings prepared by the Contractor as are necessary to adequately control the Work. No changes shall be made by the Contractor in any shop drawings after they have been reviewed by the Engineer.
- c) Shop Drawings for any structure shall include, but not be limited to: stress sheets, anchor bolt layouts, shop details, and erection plans, which shall be reviewed and accepted by the Engineer before any such work is performed.
- d) Contractor agrees that shop drawings processed by the Engineer are not Contract Change Orders; that the purpose of shop drawings submitted by the Contractor is to demonstrate to the Engineer that the Contractor understands the design concept, that it demonstrates its understanding by indicating which equipment and material it intends to furnish and by detailing the fabrication methods it intends to use.
- e) It is expressly understood, however, that favorable review of the Contractor's shop drawings shall not relieve the Contractor of any responsibility for accuracy of dimensions and details, or for mutual agreements of dimensions and details. It is mutually agreed that the Contractor shall be responsible for agreement and conformity of its shop drawings with the Specifications. Contractor further agrees that if deviations, discrepancies or conflicts between shop drawings and Specifications are discovered either prior to or after shop drawings are processed by the Engineer, the Specifications shall control and shall be followed.
- f) Unless otherwise stated, the Engineer shall have thirty (30) calendar days from the date of receipt of shop drawings for review.
- g) Full compensation for furnishing all shop drawings shall be considered as included in the prices paid for the Contract items of Work to which such drawings relate and no additional compensation will be allowed therefor. Any cost related to the Engineer's review of any particular set of shop drawings more than twice, due to incompleteness or unacceptability, shall be borne by the Contractor, and the DISTRICT reserves the right to withhold such costs from payments due the Contractor.
- h) When submitted for the Engineer's review, Shop Drawings shall bear the Contractor's certification that he has reviewed, checked and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents.
- i) That Portion of the Work requiring a shop drawing or sample submission shall not begin until the shop drawing or submission has been approved by the Engineer. A copy of each approved shop drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer.
- j) Acceptance by the Engineer of any drawing, method of work, or any information regarding materials and equipment the Contractor proposes to furnish shall not relieve the Contractor of his responsibility for any errors therein and shall not be regarded as an assumption of risks or liability by the Engineer or DISTRICT, or any officer or employee thereof, and the Contractor shall have no claim under the Contract on account of the failure or partial failure or inefficiency or insufficiency of

any plan or method or 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 his own full responsibility, the plan or method of work proposed, or furnishing the materials and equipment proposed.

B-12 Construction Staking and Surveys

The Contractor shall furnish land surveys deemed necessary for locating the principal component parts of the Work.

B-13 Permits and Regulations

Permits, licenses, and easements of a temporary or permanent nature, necessary for the prosecution of the Work shall be secured and paid for by the Contractor, including associated costs of inspection, except as noted in Section B-32, and herein.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as shown on the Plans and described in the Specifications. It shall promptly notify the Engineer in writing of any specification at variance therewith and any necessary changes shall be adjusted as provided in the Contract for Changes in the Work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations and without such notice to the Engineer, it shall bear all costs arising therefrom.

B-14 Conformity with Contract Documents and Allowable Deviations

Work and materials shall conform to the lines, grades, cross sections, dimensions and material requirements, including tolerances, shown on Contract Documents. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Engineer shall be the sole judge as to whether the work or materials deviate from the Specifications and Plans, and its decision as to any allowable deviations therefrom shall be final and conclusive.

Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered as described in Section B-28. The Contractor may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in the opinion of the Engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the Engineer may approve its substitution and use by the Contractor. Any cost differential shall be deductible from the Contract Price and the Contract Documents shall be appropriately modified by Change Order. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the Project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time.

B-15 Coordination and Interpretation of Contract Documents

- a) The Contract Documents are complementary and a requirement occurring in one is as binding as though occurring in all.
- b) In the event of conflict between the Plans and the Technical Specifications, the Technical Specifications shall govern, except that, where items are shown on the Plans and are not specifically included in the Technical Specifications, the Plans shall govern.
- c) Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Specifications and Plans, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to them as part of the Contract.

In the event of any doubt or question arising respecting the true meaning of the Specifications and Plans, reference shall be made to the Engineer, whose decision thereon shall be final and conclusive.

- d) In the event of any discrepancy between any plans and the figures written thereon, the figures shall be taken as correct. Detailed drawings shall prevail over general drawings.
- e) Any reference made in these Specifications or on the plans to any Specification, standard, method, or publication of any scientific or technical society or other organization shall, in the absence of a specific designation to the contrary, be understood to refer to the Specification, standard, method, or publication in effect as of the date that the Work is advertised for Bids.

B-16 Subcontracts

- a) In accordance with 2 CFR Section 200.213, the Contractors must not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."
- b) The attention of the Contractor is directed to the provisions of Public Contract Code sections 4100-4113, regarding subcontracting and said provisions are by this reference incorporated herein and made a part hereof.
- c) Each Subcontract shall contain a suitable provision for the suspension or termination thereof should the Work be suspended or terminated or should the Subcontractor neglect or fail to conform to every provision of the Contract Documents insofar as such provisions are relevant. No Subcontractor or supplier will be recognized as such, and all persons engaged in work will be considered as employees of the Contractor, and the Contractor will be held responsible for their work, which shall be subject to the provisions of the Contract Documents. The Contractor shall be fully responsible to the DISTRICT for the acts or omissions of its Subcontractors and of the persons either directly or indirectly employed by him. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the DISTRICT. If a legal action, including arbitration and litigation, against the DISTRICT is initiated by a Subcontractor or Supplier, the Contractor shall reimburse the DISTRICT for the amount of legal, engineering and all other expenses incurred by the DISTRICT in defending itself in said action.
- d) The DISTRICT and the Engineer reserve the right to approve all Subcontractors. Such approval shall be a consideration to the awarding of the Contract and unless notification to the contrary is given to the Contractor prior to the signing of the Contract, the list of Subcontractors which is submitted with its proposal will be deemed to be acceptable.

B-17 Cooperation of Contractors

- a) Should construction be under way by other forces or by other contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to said limits, the Contractor shall cooperate with all such other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.
- b) When two or more contractors are employed on related or adjacent work, each shall conduct its operation in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to work, to persons or property caused to the other by its operations, and for loss caused the other due to its unnecessary delays or failure to finish the Work within the time specified for completion.

B-18 Superintendence

- a) The Contractor shall designate in writing before starting work an individual as authorized representative who shall have the authority to represent and act for the Contractor. This authorized representative shall be present at the site of the work at all times 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.
- b) The Contractor is solely responsible, at all times, for the superintendence of the Work and for its safety and progress.
- c) Whenever the Contractor or its authorized representative is not present on any particular part of the Work where it may be desired to give direction, orders will be given by the Engineer, which shall be received and obeyed by the superintendent or foreman who may have charge of the particular work in reference to which the orders are given.
- d) Any order given by the Engineer, not otherwise required by the Specifications to be in writing, will on request of the Contractor, be given or confirmed by the Engineer in writing.

B-19 Inspection of Work

- a) Unless otherwise provided, all equipment, materials, and work shall be subject to inspection and testing by the Engineer. The Engineer will observe the progress and quality of the Work and determine, in general, if the Work is proceeding in accordance with the intent of the Contract Documents. The Engineer shall not be required to make comprehensive or continuous inspections to check the quality of the Work, and it shall not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work. Visits and observations made by the Engineer shall not relieve the Contractor of its obligation to conduct comprehensive inspections of the Work and to furnish proper materials, labor, equipment and tools, and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.
- b) Whenever the Contractor varies the period during which work is carried on each day, it shall give due notice to the Engineer so that proper inspection may be provided. Any work done in the absence of the Engineer shall be subject to rejection. Proper facilities for safe access for inspection to all parts of the Work shall at all times be maintained for the necessary use of the Engineer and other agents of the DISTRICT, and agents of the Federal, State, or Local governments at all reasonable hours for inspection by such agencies to ascertain compliance with laws and regulations.
- c) One or more inspectors may be assigned to observe the Work and to act in matters of construction under this Contract. It is understood that inspectors shall have the power to issue instructions and make decisions within the limitations of the authority of the Engineer. Such inspection shall not relieve the Contractor of its obligation to conduct comprehensive inspections of the work, to furnish proper materials, labor, equipment and tools, and perform acceptable work, and to provide adequate safety precautions in conformance with the intent of the Contract.
- d) The Engineer and its representatives and the DISTRICT and its Representative shall at all times have access to the Work wherever it is in preparation or progress, and the Contractor shall provide safe and convenient facilities for such access and for inspection. If the Specifications, the Engineer's instructions, laws, ordinances, or any public authority require any material, equipment or work to be specifically tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection, and if the inspection is by an authority other than the DISTRICT, of the time fixed for inspection. Inspections by the Engineer will be made promptly and, where practicable, at the source of supply.
- e) Work performed without inspection may be required to be removed and replaced under proper

inspection and the entire cost of removal and replacing, including the cost of DISTRICT-furnished materials used in the Work, shall be borne by the Contractor, regardless of whether or not the Work exposed is found to be defective. Examination of questioned work, other than that installed without inspection, may be ordered by the Engineer and, if so ordered, the work must be uncovered by Contractor. If such work is found to be in accordance with the Contract Documents, the DISTRICT will pay the cost of re-examination and replacement. If such work is found to be not in accordance with the Contract Documents, the Contractor shall pay such cost unless it can show that the defect in the work was caused by another Contractor, and in that event the DISTRICT will pay such costs.

- f) The inspection of the Work shall not relieve the Contractor of its obligation to fulfill the Contract as herein prescribed, or in any way alter the standard of performance provided by the Contractor, and defective work shall be made good and unusable materials may be rejected, notwithstanding that such work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. If the Work or any part thereof shall be found defective, Contractor shall, within ten (10) calendar days, make good such defect in a manner satisfactory to the Engineer. If the Contractor shall fail or neglect to make ordered repairs of defective work or to remove the condemned materials from the Work within ten (10) calendar days after direction by the Engineer in writing, the DISTRICT may make the ordered repairs, or remove the condemned materials, and deduct the cost thereof from any monies due the Contractor.
- g) The Contractor shall furnish promptly without additional charge all facilities, labor and materials reasonably needed by the Engineer for performing all inspection and tests. Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.
- h) Where any part of the Work is being done under an encroachment permit or building permit, or is subject to Federal, State, County or City codes, laws, ordinances, rules or regulations, representatives of the government agency shall have full access to the Work and shall be allowed to make any inspection or tests in accordance with such permits, codes, laws, ordinances, rules, or regulations. Costs of inspection will be paid by Contractor. If advance notice of the readiness of the Work for inspection by the governing agency is required, the Contractor shall furnish such notice to the appropriate agency.
- i) The Engineer may inspect production of the material, or the manufacture of products at the source of supply. Plant inspection, however, will not be undertaken until the Engineer is assured of the cooperation and assistance of both the Contractor and the material producer. The Engineer or its authorized representative shall have free entry at all times to such parts of the plant as concerns the manufacture or production of the materials. Adequate facilities shall be furnished free of charge to make the necessary inspection. The DISTRICT assumes no obligation to inspect materials at the source of supply.
- j) Forty-eight (48) hours prior to work being accomplished, the Contractor will notify the Engineer of the proposed working hours to accomplish the work for that day. Overtime and shift work may be established as a regular procedure by the Contract and with the written permission of the Engineer. Such permission may be revoked at any time. No work other than overtime and shift work established as a regular procedure shall be done between the hours of 7 p.m. and 7 a.m., nor on Saturdays, Sundays, or legal holidays, except such work as is necessary for the proper care and protection of the work already performed or except in case of an emergency.

All costs for the overtime inspection, including those occurring as a result of overtime and shift work established as a regular procedure, shall be paid for by the Contractor. Overtime inspection shall include inspection required during holidays, Saturdays, Sundays, and any weekday between the hours of 7 p.m and 7 a.m. Such costs will include, but will not necessarily be limited to, engineering, inspection, general supervision and other expenses which are directly chargeable to the overtime work. All such charges shall be deducted by the DISTRICT from payment due the Contractor.

- k) A prefinal inspection of the Work will be made by the DISTRICT and the Engineer. This inspection shall be made as soon as practical after Contractor has notified the DISTRICT in writing that the Work is ready for this inspection. The prefinal inspection shall be made prior to acceptance of any portion of the Work as being substantially complete and prior to filing the Notice of Completion.

A final inspection of all the Work will be made by the DISTRICT, Engineer, and Contractor.

B-20 Tests

The DISTRICT shall perform or witness all tests specified or required by the Technical Specifications. The responsibility for payment for these tests is also outlined in the Technical Specifications. In general, and unless explicitly stated otherwise, the Contractor is responsible for the performance of all test required, and the payment for such tests is to be included in the Bid Item to which it relates. No additional payment will be made for the required testing. The Engineer will direct the Contractor to perform such tests as it deems necessary to determine the quality of work or compliance with Contract Documents. The Contractor shall furnish promptly without additional charge all facilities, labor, and material reasonably required for performing safe and convenient tests as may be required by the Engineer. The Contractor shall not be required to reimburse the DISTRICT for tests performed by the DISTRICT or Engineer above and beyond those outlined in the plans or specifications. If samples of materials are submitted which fail to pass the specified tests, the Contractor shall pay for all subsequent tests.

B-21 Removal of Rejected and Unauthorized Work and Materials

- a) All work or materials which have been rejected shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed it for such removal, replacement, or remedial work.
- b) Any work done beyond the lines and grades shown on the plans or established by the Engineer or any extra work done without written authority will be considered as unauthorized work and will not be paid for. Upon order of the Engineer, unauthorized work shall be remedied, removed, or replaced at the Contractor's expense.
- c) Upon failure of the Contractor to comply with any order of the Engineer made under this Section, the DISTRICT may cause rejected or unauthorized work to be remedied, removed or replaced, and may deduct the costs therefor from any monies due or to become due the Contractor.
- d) If following the installation of any equipment furnished hereunder, defects requiring correction by the Contractor are found, the DISTRICT shall have the right to operate such unsatisfactory equipment and make reasonable use thereof until the equipment can be shut down for correction of defects without injury to the DISTRICT.

B-22 Deductions for Uncorrected Work

If the Engineer deems it inexpedient to correct work damaged or not done in accordance with the Contract, an equitable deduction from the Contract price shall be made therefor, and such sum may be withheld by DISTRICT from Contractor's payment.

B-23 Equipment and Plants

- a) If equipment is acquired by the contractor under this project and paid for by the DISTRICT, the use and disposition of the equipment shall be in compliance with 2 CFR Section 200.313.
- b) Only equipment and plants suitable to produce the quality of work and materials required will be permitted to operate on the project.
- c) Plants will be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity to insure the production of sufficient material to carry the Work to completion within the time limit.

- d) The Contractor shall provide adequate and suitable equipment and plants to meet the above requirements, and when ordered by the Engineer, shall remove unsuitable equipment from the Work and discontinue the operation of unsatisfactory plants.
- e) The Contractor shall identify each piece of its equipment, other than hand tools, by means of an identifying number plainly stenciled or stamped on the equipment at a conspicuous location, and shall furnish to the Engineer a list giving the description of each piece of equipment and its identifying number. In addition, the make, model number and empty gross weight of each unit of compacting equipment shall be plainly stamped or stenciled in a conspicuous place on the unit. The gross weight shall be either the manufacturer's rated weight or the scale weight.
- f) In the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the DISTRICT, shall promptly remove any part or all of its equipment and supplies from the property of the DISTRICT. If the Contractor fails to do so, the DISTRICT shall have the right to remove such equipment and supplies at the expense of the Contractor.

B-24 Character of Worker

The Contractor shall employ only competent Subcontractors or skillful workers to do the work. If any Subcontractor, or person employed by the Contractor or any Subcontractor shall fail or refuse to carry out the directions of the DISTRICT or its agents or shall appear to the DISTRICT or its agents to be incompetent or to act in a disorderly or improper manner, it shall be removed from the project Work immediately on the requisition of the DISTRICT or its agents, and such person shall not again be employed on the Work. Such discharge shall not be the basis for any claim for compensation or damages against the DISTRICT, or any of its officers or agents.

B-25 Separate Contracts

The DISTRICT reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate its work with the other contractor's work.

If any part of the Contractor's work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results. The Contractor's failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of its work, except as to defects which may develop in the other contractor's work after the execution of its work.

To insure the proper execution of its subsequent work, the Contractor shall measure work already in place and shall at once report to the Engineer any discrepancy between the executed work and the Drawings.

The DISTRICT may perform additional Work related to the Project by himself, or he may let other contracts containing provisions similar to these. The Contractor will afford the other contractors who are parties to such contracts (or the DISTRICT, if the District is performing the additional Work itself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of Work and shall properly connect and coordinate his Work with theirs.

If the performance of additional Work by other contractors or the DISTRICT is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional Work. If the Contractor believes that the performance of such additional Work by the DISTRICT or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Section B-7 of this Contract.

B-26 Materials, Services and Facilities

- a) Unless otherwise specifically stated in the Contract Documents, the Contractor shall furnish all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature on all of the facilities necessary for the execution and completion of the Work. Unless otherwise specified, all materials shall be new and shall be manufactured, handled, and installed in a workmanlike manner to insure completion of the Work in accordance with the Contract Documents. The Contractor shall, upon request of the Engineer, furnish satisfactory evidence as to the kind and quality of materials.
- b) Where materials are to be furnished by the DISTRICT, the type, size, quantity and location at which they are available will be stated in the Contract Documents.
- c) Manufacturers' warranties, guarantees, instruction sheets and parts listed, which are furnished with certain articles or materials incorporated in the Work, shall be delivered to the Engineer before acceptance of the Contract.
- d) Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- e) Materials, supplies and equipment shall be in accordance with samples submitted by the Contractor and approved by the Engineer.
- f) Materials, supplies or equipment to be incorporated into the Work shall not be purchased by the Contractor or the Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.
- g) The completed Work shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items required by the State and Federal (OSHA) industrial safety authorities and applicable local and national codes. Further, any features of the Work subject to such safety regulations shall be fabricated, furnished, and installed in compliance with these requirements. Prior to performing Work specified herein, the Contractor shall request an inspection by a State Industrial Safety representative for the purpose of determining that the facilities provided are in compliance with the State and Federal safety requirements. Any facilities which are deemed necessary by official response following the above safety inspection shall be added or corrected as required as a part of the Contract Work. However, no payment will be made to the Contractor for such changes or additions to equipment furnished under this Contract since it is a requirement of these Specifications that such equipment be manufactured or fabricated in such a manner as to be in conformance with all Federal, State, and local safety requirements. The Contractor shall notify all manufacturers, equipment suppliers, and Subcontractors of the provisions of this article.
- h) In approving equipment for installation in the project, the DISTRICT and Engineer assume no responsibility for injury or claims resulting from failure of the equipment to comply with applicable National, State, and local safety codes or requirements, or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials.
- i) All materials incorporated into the job shall be new, especially purchased for the project unless otherwise specified or agreed in writing. Unless otherwise noted, any equipment offered shall be current modifications which have been in successful regular operation under comparable conditions for a period sufficient to determine the reliability of the product. This time requirement, however, does not apply to minor details nor to thoroughly demonstrated improvements in design or in materials of construction.
- j) Whenever the Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market from firms of established good

reputation, or, if not ordinarily carried in stock, shall conform to the usual standards of first-class materials or articles of the kind required with due consideration of the use to which they are to be put. In general, the work performed shall be in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.

- k) If there is a residual inventory of unused supplies exceeding \$5,000 in total fair market value upon completion of the Project, and if the supplies are not needed for any other federally sponsored programs or projects, the Contractor shall notify the DISTRICT and provide unused supplies to the location and at the time arranged, for unloading and storage. The DISTRICT shall compensate the grant awarding agency for its share (2 CFR Section 200.314).

B-27 Storage of Materials

Materials shall be so stored as to ensure the preservation of their quality and fitness for the Work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground, and they shall be placed under cover. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the owner or lessee.

Electrical equipment, devices, and motors shall be placed in dry and warm storage as approved by the Engineer.

All equipment and materials which are not to be painted (such as aluminum and stainless steel) and all factory finished or coated equipment and materials which are not to be painted, that are installed prior to completion of adjacent work, shall be completely covered and protected.

Articles or materials to be incorporated in the Work shall be stored in such a manner as to insure the preservation of their quality and fitness for the Work, and to facilitate inspection.

B-28 Trade Names and Alternatives

For convenience in designation in the Specifications and Plans, certain articles or materials to be incorporated in the Work may be designated under a trade name or the name of a manufacturer and its catalog information. The use of an alternative article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the following requirements:

- a) The burden of proof as to the quality and suitability of alternatives shall be upon the Contractor and it shall furnish all information necessary as required by the Engineer. The Engineer shall be the sole judge as to the quality and suitability of alternative articles or materials and its decision shall be final.
- b) Whenever the Specifications and Plans permit the substitution of a similar or equivalent material or article, no tests or action relating to the approval of such substitute material or article will be made until the request for substitution is made in writing by the Contractor accompanied by complete data as to the equality of the material or article proposed. Such request by the Contractor must be made within thirty-five (35) calendar days after award of Contract.

B-29 Certificate of Compliance

- a) A Certificate of Compliance shall be furnished prior to the use of any materials for which the Technical Specifications require that such a certificate be furnished. In addition, when so authorized in the Specifications, the Engineer may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance. The Certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved comply in all respects with the requirements of the Contract. A Certificate of Compliance shall be furnished with each lot of material delivered to the Work and the lot so certified shall be clearly identified in the Certificate.

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- b) All materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents and any such material not conforming to such requirements will be subject to rejection whether in place or not.
- c) The DISTRICT reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance.
- d) The form of the Certificate of Compliance and its disposition shall be as directed by the Engineer.

B-30 Assignment

The Contractor shall not assign the Contract or sublet it as a whole or in part without the prior written consent of the DISTRICT, nor shall the Contractor assign any monies due, or to become due to it hereafter, without the prior written consent of the DISTRICT.

B-31 Use of Completed Portions, Right to Operate Unsatisfactory Equipment or Facilities

- a) The DISTRICT may, at any time, and from time to time, during the performance of the Work, enter the work site for the purpose of installing any necessary work by the DISTRICT labor or other contracts, and for any other purpose in connection with the installation of facilities. In doing so, the DISTRICT shall endeavor not to interfere with the Contractor and the Contractor shall not interfere with other work being done by or on behalf of the DISTRICT.
- b) If, prior to completion and final acceptance of all the Work, the DISTRICT takes possession of any structure or facility (whether completed or otherwise) comprising a portion of the Work with the intent to retain possession thereof (as distinguished from temporary possession contemplating the return to the Contractor), then, while the DISTRICT is in possession of the same, the Contractor shall be relieved of liability for loss or damage to such structure other than that resulting from the Contractor's fault or negligence. Such taking of possession by the DISTRICT's shall not relieve the Contractor from any provisions of this Contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure or facility.
- c) If, following installation of any equipment or facilities furnished by the Contractor, defects requiring correction by the Contractor are found, the DISTRICT shall have the right to operate such unsatisfactory equipment or facilities and make reasonable use thereof until the equipment or facilities can be shut down for correction of defects without injury to the DISTRICT.

B-32 Lands for Work, Right-of-Way Construction Roads

- a) The DISTRICT will provide the lands, easements, rights-of-way, and/or encroachment permits necessary or other rights to enter and work on lands necessary for the performance of the Work. Other permits and licenses are addressed by sections B-13 and B-49. Should the Contractor find it advantageous to use any additional land for any purpose whatever, the Contractor shall provide for the use of such land at its expense. The Engineer shall be furnished with a copy of written agreements or otherwise be notified in writing of additional working space which is acquired. Nothing herein contained and nothing marked on the Plans shall be interpreted as giving the Contractor exclusive occupancy of the territory provided by the DISTRICT. When two or more contracts are being executed at one time on the same or adjacent land in such a manner that work on one contract may interfere with that on another, the Engineer shall decide which contractor shall cease work, and which shall continue, or whether the work on both contracts shall progress at the same time and in what manner, and the decision of the Engineer shall be final and binding. When the territory of one contract is the necessary or convenient means of access for the performance of another contract, such privilege of access or any other reasonable privilege may be granted by the Engineer to the contractor so desiring, to the extent, amount, in the manner, and

at the time permitted. No such decision as to the method or time of conducting the work or the use of territory shall be the basis of any claim for delay or damage.

- b) Lands, easements or rights-of-way to be furnished by the DISTRICT for construction operations will be specifically shown on the Plans.
- c) The Contractor shall construct and maintain all roads necessary to reach the various parts of the Work and for the transportation thereto of construction material and personnel. The cost of constructing and maintaining such roads shall be borne by the Contractor.

B-33 District's Right to Audit and Preservation of Records

- a) The DISTRICT is responsible for obtaining audits in accordance with the Single Audit Act of 1996, in compliance with 2 CFR Section 200 Subpart F. The Contractor shall facilitate the completion of such an audit as it relates to the Contractor's work on this project.
- b) The Contractor shall maintain books, records and accounts of all costs in accordance with generally accepted accounting principles and practices. The DISTRICT, the Comptroller General of the United States, and its authorized representatives shall have the right to audit the books, records and accounts of the Contractor under any of the following conditions:
 - (i) The Contract is terminated for any reason in accordance with the provisions of the Contract Documents in order to arrive at equitable termination costs;
 - (ii) In the event of a disagreement between the Contractor and the DISTRICT over the amount due the Contractor under the terms of the Contract;
 - (iii) To check or substantiate any amounts invoiced or paid which are required to reflect the costs of the Contractor, or the Contractor's efficiency or effectiveness under this Contract or in connection with extras, changes, claims, additions, backcharges, or others, as may be provided for in this Contract; and/or
 - (iv) If it becomes necessary to determine the DISTRICT's rights and the Contractor's obligations under the Contract or to ascertain facts relative to any claim against the Contractor which may result in a charge against the DISTRICT;
 - (v) To determine any difference in cost occasioned by a permissible substitution;
 - (vi) To make audits, examinations, excerpts, and transcriptions pertinent to the loan financing on this project.
 - (vii) For any other reason in the DISTRICT's sole judgment.
- c) If any of the conditions stated in paragraph B-33(b) are satisfied, Contractor shall provide the DISTRICT (or its representatives), unlimited, reasonable access during working hours to the Contractor's books and records under the conditions stated above. The DISTRICT's audit rights shall be liberally construed in the DISTRICT's favor.
- d) The Contractor, from the effective date of final payment or termination hereunder, shall preserve and make available to the DISTRICT for a period of three (3) years thereafter, at all reasonable times at the office of the Contractor (but without any charge to the DISTRICT), all its books, records, documents, photographs, micro-photographs, and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work hereunder.
- e) In accordance with 2 CFR Section 200.512, financial and programmatic records related to expenditure of funds on grant-supported projects shall be maintained at least 3 years following the date the grantee submits its final expenditure report on the project.
- f) The DISTRICT will make all payments required of it under this Contract subject to audit, under circumstances stated above, which audit may be performed at the DISTRICT's option, either during the Contract time period or during the record retention time period. Regardless of authorization, approval or acceptance, signatures or letters which are given by the DISTRICT and are part of the DISTRICT's control systems or are requested by the Contractor, the payments

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made under this Contract shall not constitute a waiver or agreement by the DISTRICT that it accepts as correct the billings, invoices or other charges on which the payments are based. If the DISTRICT's audit produces a claim against the Contractor, the DISTRICT may pursue all its legal remedies even though it has made all or part of the payments required by this Contract.

- g) If any audit by the DISTRICT or its representative discloses an underpayment by the DISTRICT pursuant to the terms of the Contract Documents, the DISTRICT shall have the duty to pay any amount found by the audit to be owed to the Contractor. If such audit discloses an overpayment, the Contractor shall have the obligation to reimburse the DISTRICT for the amount of the overpayment. The DISTRICT's right to claim reimbursement from the Contractor of any overpayment shall not be terminated or waived until three years after the completion of the DISTRICT's audit or upon the termination of audit rights under paragraph B-33, whichever date is later. The obligation of the Contractor to make reimbursements hereunder shall not terminate except as provided by law.

The DISTRICT's right to audit and the preservation of records shall terminate at the end of three (3) years after the date final payment is made or termination of the Contract. The Contractor shall include this "Right to Audit and Preservation of Records" clause in all subcontracts issued by it shall require the same to be inserted by all lower tier Subcontractors in their subcontracts, for any portion of the Work. Should Contractor fail to include this clause in any such contract or lower tier contract, or otherwise fail to insure the DISTRICT's rights hereunder, Contractor shall be liable to the DISTRICT for all costs, expenses and attorney's fees which the DISTRICT may have to incur obtaining or attempting to obtain an audit or inspection of or the restoration of records which otherwise have been available to the DISTRICT from said persons under this clause. Such audit may be conducted by the DISTRICT or its authorized representative.

ARTICLE III. PROGRESS AND COMPLETION OF WORK

B-34 Progress Schedule

The Contractor shall submit to the DISTRICT such schedules of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data, where applicable, as are required by the Contract Documents for the Work to be performed.

Prior to the first partial payment estimate, the Contractor shall submit construction progress schedules showing the order in which it proposes to carry on the Work, including dates at which it will start the various parts of the WORK, estimated date of completion of each part and as applicable:

- a) The dates at which special detail drawings will be required; and
- b) Respective dates for submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies, and equipment.
- c) The Contractor shall also submit a schedule of payments that it anticipates it will earn during the course of the Work.

The progress schedules shall be submitted regularly and shall cover a time period satisfactory to the Engineer. The Contractor shall also forward to the Engineer, with the request for progress payment each month, a summary report of the progress of the various parts of the Work under the Contract in the shops and in the field, stating the existing status, rate of progress, estimated time of completion, and cause of delay, if any. If the Work is behind the submitted schedule, the Contractor shall submit in writing a plan acceptable to the DISTRICT and Engineer for bringing the Work up to schedule.

B-35 Commencement and Progress of the Work and Time of Completion

Prior to the start of construction, the DISTRICT will conduct a preconstruction conference. At the conference, the DISTRICT will review the planned development with the Engineer, Contractor, and other interested parties. Items to be reviewed include materials, equipment, rights-of-way, schedules and all arrangements for prosecuting the Work.

The Contractor shall begin work within **twenty one (21) calendar days** after receiving a Notice to Proceed and shall diligently prosecute the work to completion within **sixty (60) calendar days**. Engineer shall have the right to specify the locations where Contractor shall start and proceed with the Work.

B-36 Suspension of Work

- a) The Engineer may at any time, by notice in writing to the Contractor, suspend any part of the Work for such period of time as may be necessary to prevent improper execution of the Work on the project by the Contractor, its Subcontractors or agents, and the Contractor shall have no claim for damages or additional compensation on account of any such suspension.
- b) The DISTRICT may at any time suspend any part or all of the Work upon ten (10) calendar days written notice to the Contractor, who shall thereupon discontinue all Work suspended except for all operations to prevent loss or damage to Work already executed as may be directed by the Engineer. In the event a part of the Work is suspended, the Contractor, if the suspension is not through its fault or the fault of its Subcontractors or agents, shall be paid on the same basis as Extra Work for costs of work performed in accordance with such orders of the Engineer during such suspension, provided that this shall not include any cost pertaining to Work not suspended by said notice. Work shall be resumed by the Contractor after such suspension on written notice from the DISTRICT. In the event of suspension of the entire Work by the DISTRICT, the Contractor, if the suspension is not through fault of the Contractor or the fault of its Subcontractors or agents, shall be paid the sum of \$500.00 for each calendar day during which the entire Work shall have been suspended. Said sum is hereby mutually agreed upon as fixed and liquidated damages in full settlement of all costs and expenses, losses and damages resulting to the Contractor from

such suspension. Work shall be resumed by the Contractor after such suspension on written notice from the DISTRICT.

- c) In the event of any suspension of the Work in whole or in part under subsection (b) above, the Contractor shall be entitled to an extension of time wherein to complete the Work to the extent of the delay caused the Contractor thereby.
- d) In the event the entire Work shall be suspended by order of the DISTRICT, as hereinabove provided, and shall remain so suspended for a period of sixty (60) consecutive days, through no fault of the Contractor, and notice to resume the Work shall not have been served on the Contractor as hereinabove provided, Contractor may, at its option, by written notice to the DISTRICT, terminate the Contract in the same manner as if the termination had been initiated by the DISTRICT, and the DISTRICT shall have no claim for damages because of such termination of the Contract.
- e) If, through no act or fault of the Contractor, the Work is suspended for a period of more than ninety (90) calendar days by the DISTRICT or under an order of Court or other public authority, or the Engineer fails to act on any request for payment within thirty (30) calendar days after it is submitted, or the DISTRICT fails to pay the Contractor substantially the sum approved by the Engineer or any final award by arbitration or litigation within sixty (60) calendar days of its approval and presentation, then the Contractor may, after ten (10) calendar days from delivery of a written notice to the DISTRICT and the Engineer, terminate the Contract and recover from the DISTRICT payment for all Work executed and all expenses sustained.

In addition and in lieu of terminating the Contract, if the Engineer has failed to act on a request for payment or if the DISTRICT has failed to make any payment as aforesaid, the Contractor may upon ten (10) calendar days written notice to the DISTRICT and the Engineer stop the Work until he has been paid all amounts then due, in which event and upon resumption of the Work, Change Orders shall be issued for adjusting the Contract Price or extending the Contract Time or both to compensate for the costs and delays attributable to the stoppage of the Work.

If the performance of all or any portion of the Work is suspended, delayed, or interrupted as a result of a failure of the DISTRICT or Engineer to act within the time specified in the Contract Documents, or if no time is specified, within a reasonable time, an adjustment in the Contract Price or an extension of the Contract Time, or both, shall be made by Change Order to compensate the Contractor for the costs and delays necessarily caused by the failure of the DISTRICT or Engineer.

If the Contractor intends to file a claim for additional compensation for a delay caused by the DISTRICT or Engineer at a particular time, he shall file a Notice of Claim with the DISTRICT within seven (7) calendar days of the beginning of the occurrence. The Notice of Claim shall be in duplicate, in writing, and shall state the circumstances and the reasons for the Claim, but need not state the amount. No Claim for additional compensation will be considered unless a Notice of Claim has been filed with the DISTRICT within the time and in the manner stated above. Contractor's failure to file a claim shall constitute a waiver.

B-37 Termination For Default - Damages For Delay - Timely Extension

- a) The Contractor shall at all times employ such force, plant, materials, and tools as will be sufficient, in the opinion of the Engineer, to prosecute the Work at not less than the rates fixed under the terms of the Contract and to complete the Work or any part thereof within the time limits fixed therein. If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will ensure the completion within the time specified in the Contract, or any extension thereof, or fails to complete said Work within such time, the DISTRICT may, after giving ten (10) calendar days written notice to the Contractor, terminate its right to proceed with the Work or such part of the Work as to which there has been delay.
- b) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting

damage if:

- (i) The delay in the completion of the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to Acts of God, acts of the public enemy, acts of the DISTRICT, acts of another contractor in the performance of a Contract with the DISTRICT, fires, floods, excluding site flooding due to groundwater, epidemics, quarantine restrictions, unusually severe weather, as determined by the Engineer; and
 - (ii) The Contractor shall, within 48 hours of the start of the occurrence, give notice to the DISTRICT of the cause of the potential delay and an estimate of the possible time extension involved. The Contractor, within seven (7) calendar days from the beginning of any such delay (unless the Engineer grants further period of time before the date of final payment under the Contract), notifies the Engineer in writing of the causes of delay and requests an extension of time.
 - (iii) The Engineer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when, in its judgment, the findings of fact justify such an extension, and its findings of fact shall be final and conclusive on the parties.
- c) A request for an extension of time, or the granting of an extension of time, shall not constitute a basis for any claim against the DISTRICT for additional compensation or damages unless caused by the DISTRICT or another contractor employed by the DISTRICT.
- d) If the Contractor should be adjudged bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed for the Contractor on account of its insolvency and not be discharged within ten (10) calendar days after its appointment, or if the Contractor should fail to make prompt payments to Subcontractors or suppliers, or should it persistently disregard laws, ordinances, or the instructions of the Engineer, or otherwise commit a substantial violation of any provisions of the Contract, the DISTRICT may, after giving ten (10) calendar days written notice to the Contractor, terminate the Contract and the Contractor's right to proceed with the Work.
- e) No extension of time will be considered for time lost due to weather conditions normal to the area. Unusual weather conditions, if determined by the Engineer to be of a severity that could not be predicted, may be considered as cause for an extension of Contract completion time.
- f) Delays in delivery of equipment or material purchased by the Contractor or his Subcontractors shall not be considered as a just cause for delay. The Contractor shall be fully responsible for the timely ordering, scheduling, expediting delivery, and installation of all equipment and materials.
- g) The rights and remedies of the DISTRICT provided in this section are in addition to any of the rights and remedies provided by law or under this Contract.
- h) In addition to the DISTRICT's rights under this section, if at any time before completion of the work under the Contract, it shall be determined by the DISTRICT that reasons beyond the control of the parties hereto render it impossible or against the interests of the DISTRICT to complete the Work, or if the Work shall be stopped by an injunction of a court of competent jurisdiction or by order of any competent authority, the DISTRICT may, upon ten (10) calendar days written notice to the Contractor, discontinue the Work and terminate the Contract. Upon service of such notice of termination, the Contractor shall discontinue the Work in such manner, sequence, and at such times as the Engineer may direct. The Contractor shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the Work thus dispensed with, nor any other claim except for the Work actually performed up to the time of discontinuance, including any extra work ordered by the Engineer to be done, nor for any claim for liquidated damages in accordance with the provisions of Section B-39.

B-38 Rights of DISTRICT Upon Termination

- a) In the event the right of the Contractor to proceed with the Work, or any portion thereof, has been terminated because of the fault of the Contractor and the Contractor has been given ten (10) calendar days' notice to cure such fault and has not done so, the DISTRICT may take over the Work and prosecute the same to completion by contract or any other method the DISTRICT deems expedient, and may take possession of and utilize in completing the Work such materials, appliances, equipment and plant as may be on the site of the Work and necessary therefor. Whether or not the Contractor's right to proceed with the Work is terminated, it and its sureties shall be liable for all damages including costs of managerial and administrative services, engineering, legal and other consultant fees, sustained or incurred by the DISTRICT in enforcing the provisions of Section B-37 and in completing or causing to complete the Contract Work.
- b) Upon termination the Contractor shall not be entitled to receive any further payment until the Work is finished. If upon completion of the Work the total cost to the DISTRICT, including engineering, legal and other consultant fees, costs of managerial and administrative services, construction costs, and liquidated damages shall be less than the amount which would have been paid if the Work had been completed by the Contractor in accordance with the terms of the Contract, then the difference shall be paid to the Contractor in the same manner as the final payment under the Contract. If the total cost incurred by the DISTRICT on account of termination of the Contract and subsequent completion of the Work by the DISTRICT by whatever method the DISTRICT may deem expedient shall exceed said amount which the Contractor would otherwise have been paid, the Contractor and its sureties shall be liable to the DISTRICT for the full amount of such excess expense.
- c) The rights and remedies of the DISTRICT provided in this section are in addition to any of the rights and remedies provided by the law or under this Contract.

B-39 Failure to Complete the Work in the Time Agreed Upon - Liquidated Damages

- a) Liquidated Damages - It is agreed by the parties to the Contract that time is of the essence; and that in case all the Work is not completed before or upon the expiration of the time limit as set in the Bid, Contract and Progress Schedule, or within any time extensions that may have been granted, damage will be sustained by the DISTRICT; and that it may be impracticable to determine the actual amount of damage by reason of such delay; and it is, therefore, agreed that the Contractor shall pay to the DISTRICT as damages the amount of \$750.00 per day for each and every day's delay in finishing the Work in excess of the number of days specified. The parties expressly agree that this liquidated damage clause is reasonable under the circumstances existing at the time the Contract was made. The DISTRICT shall have the right to deduct the amount of liquidated damages from any money due or to become due the Contractor.
- b) In addition, the DISTRICT shall have the right to charge to the Contractor and to deduct from the final or progress payments for the Work the actual cost to the DISTRICT of legal, engineering, inspection, superintendence, and other expenses, which are directly chargeable to the Contract and which accrue during the period of such delay, except that the cost of final inspection and preparation of the final estimate shall not be included in the charges.
- c) Exclusions - Notwithstanding the provisions of subsection (a), the Contractor shall not be liable for liquidated damages or delays caused by the removal or relocation of utilities when such removal or relocation is the responsibility of the DISTRICT or the owner of the utility under Government Code Section 4215.

B-40 Clean-up

During the progress of the Work, the Contractor shall maintain the site and related structures and equipment in a clean, orderly condition and free from unsightly accumulation of rubbish. Upon completion of Work and before the final estimate is submitted, the Contractor shall at its own cost and expense

remove from the vicinity of the Work all plants, buildings, rubbish, unused work materials, concrete forms, and temporary bridging and other like materials, belonging to it or used under its direction during the construction, and in the event of its failure to do so, the same may be removed by the DISTRICT after ten (10) calendar days notice to the Contractor, such removal to be at the expense of the Contractor. Where the construction has crossed yards or driveways, they shall be restored by the Contractor to the complete satisfaction of the Engineer, at the Contractor's expense.

ARTICLE IV. LEGAL RELATIONS AND RESPONSIBILITY

B-41 Compliance with Laws - Permits, Regulations, Taxes

Contractor is an independent contractor and shall at its sole cost and expense comply with all laws, rules, ordinances and regulations of all governing bodies having jurisdiction over the Work, obtain all necessary permits and licenses therefor, pay all manufacturers' taxes, sales taxes, use taxes, processing taxes, and all Federal and State taxes, insurance and contributions for social security and unemployment which are measured by wages, salaries or any remuneration paid to Contractor's employees, whether levied under existing or subsequently enacted laws, rules or regulations. Contractor shall also pay all property tax assessments on materials or equipment used until acceptance by the DISTRICT. If any discrepancy or inconsistency is discovered in the Plans or Specifications, or in this Contract in relation to any such law, rule, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the Engineer in writing. It shall also protect and indemnify the DISTRICT, the Engineer, and all of the DISTRICT's officers, agents, and servants against any claim or liability arising from or based upon the violation of any such law, rule, ordinance, regulation, order or decree, whether by the Contractor itself or by its employees. Particular attention is called to the following:

- a) Without limitation, materials furnished and performance by Contractor hereunder shall comply with Safety Orders of the Division of Industrial Safety, State of California, Federal Safety regulations of the Bureau of Labor, Department of Labor; and any other applicable Federal regulations.

The Contractor, upon request, shall furnish evidence satisfactory to the DISTRICT and Engineer that any or all of the foregoing obligations have been or are being fulfilled. The Contractor warrants to the DISTRICT that it is licensed by all applicable governmental bodies to perform this Contract and will remain so licensed throughout the progress of the Work, and that it has, and will have, throughout the progress of the Work, the necessary experience, skill and financial resources to enable it to perform this Contract.

Government code section references shall be interpreted to be the most recent applicable version.

B-42 Prevailing Wage

- a) The Contractor shall forfeit as penalty to the DISTRICT not more than Two Hundred Dollars (\$200) for each calendar day or portion thereof for each worker (whether employed by the Contractor or Subcontractor) paid less than the stipulated prevailing rates for any Work done under the Contract in violation of the provisions of the Labor Code and in particular, Section 1775.
- b) The DISTRICT will not recognize any claims for additional compensation because of the payment of the wages set forth in the Contract Documents. The possibility of wage increases is one of the elements to be considered by the Contractor in determining its proposal, and will not under any circumstances be considered as the basis of a claim against the DISTRICT or the Engineer.
- c) The Contractor shall at all times keep posted at the jobsite current wage rates in effect for this Work.
- d) This is a Public Works Project funded with Federal (FEMA) and State of California Proposition 84 grant money. Therefore both CA State prevailing wage rates and Federal wage rates will be required on this project, whichever wages are higher. The DISTRICT requires that all contractors and subcontractors working on this project keep certified payroll records in accordance with California Labor Code 1776 and submit copies to the DISTRICT.
 - (i) In accordance with the provisions of section 1720 et seq. of the Labor Code, the Division of Labor Standards and Research has determined the general prevailing rates or wages and employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in section 1773.8.
 - (ii) It shall be mandatory upon the Contractor herein and upon any Subcontractor to pay not less

than the said specified rates to all laborers, workers and mechanics employed by them in the execution of the Agreement pursuant to CA Labor Code 1774.

- (iii) Attention is directed to the provisions in section 1777.5 and sections 1777.6 of the Labor Code concerning the requirement to employ apprentices by the Contractor or any Subcontractor under it. The Contractor shall submit documentation to the DISTRICT confirming compliance with these requirements.
- (iv) The Contractor shall comply with and shall cause his subcontractors to comply with all laws and regulations governing the contractor's and subcontractor's performance on this project including, but not limited to: anti-discrimination laws, workers' compensation laws, and prevailing wage laws as set forth in CA Labor Code, Sections 1720-1861 et seq. and licensing laws, as well as Federal Labor Standards set forth in the Davis-Bacon Act (40 USC 276(a-a5), the Copeland "Anti-Kickback" Act (40 USC 276(c); and the Contract Work Hours and Safety Standards Act (CWHSSA) (40 USC 327-333). The contractor is required to include the prevailing wage language in all subcontracts pursuant to CA Labor Code 1775(E)(b)(1). The Contractor shall post, at appropriate conspicuous points on the site of the Project, a schedule showing all the determined general prevailing wage rates.
- (v) The Contractor agrees to comply with Labor Code Section 1775 (Payment of the Prevailing Wage Rates) and Labor Code 1776 (keeping accurate records) and Labor Code 1777.5, placing responsibility for compliance with the statutory requirements for all apprenticeable occupations on the prime contractor. The Contractor shall comply with the requirements imposed by the California Labor Code Sections 1720 through 1861 regarding public works projects and prevailing wage laws and sections 16000-16800 of the CA Code of Regulations.
- (vi) Each worker needed to execute the work must be paid travel and subsistence payments as defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.
- (vii) Holiday and overtime work when permitted by law shall be paid for at a rate of at least one and one-half times the above specified rate of per diem wages, unless otherwise specified.
- (viii) Contractors and any Subcontractors shall be assessed penalties for violating the following labor codes; CA Labor Code 1813 for overtime, 1775 for underpayment of the prevailing wage, and 1776 for inaccurate or incomplete payroll records.

B-43 Labor Compliance

Pursuant to Labor Code section 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

- a) On each job site that is subject to compliance monitoring and enforcement by the Department of Industrial Relations under this subchapter, the prime contractor shall post a Notice containing the following language:

"This public works project is subject to monitoring and investigative activities by the Division of Labor Standards Enforcement (DLSE), Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and to all contractors and other persons having access to the job site to enable the DLSE to ensure compliance with and enforcement of prevailing wage laws on public works projects."

"The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public

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works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the DLSE.”

Local Office Contact Information:

Telephone Number: 844-522-6734
Address: BOFE – Public Works
Attn: Complaints Unit
2031 2031 Howe Ave, Suite 100
Sacramento, CA 95825

“Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the DLSE may take legal action against those responsible.”

“Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.”

“For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at www.dir.ca.gov/dlse/PublicWorks.html.”

Attention is directed to Section 1735 of the Labor Code, which reads as follows:

- a) No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status of such persons, except as provided in Section 12940 of the Government Code, and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.

Federal Equal Opportunity Clauses from 41 CFR 60 1.4(b) also apply. See Part 4 for detailed outline of Federal requirements. See Part 5 for required Non-discrimination Form.

B-44 Eight-Hour Day Limitation

- a) In accordance with the provisions of the Labor Code, and in particular, Sections 1810 to 1815 thereof, inclusive, eight hours labor shall constitute a day's work, and no worker, in the employ of said Contractor, or any Subcontractor, doing or contracting to do any part of the Work contemplated by this Contract, shall be required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of those provisions; provided that subject to Labor Code Section 1815, a worker may perform work in excess of either eight (8) hours per day or forty (40) hours during any one week upon compensation for all hours worked in excess of eight (8) hours per day or forty (40) hours during any one week at not less than one and one-half times the basic rate of pay.
- b) The Contractor and each Subcontractor shall also keep an accurate record showing the names, addresses, social security numbers, work classifications, 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 the Contractor and by the Subcontractor in connection with the work specified herein, which record shall be open at all reasonable hours to the inspection of the DISTRICT, State and Federal officers and agents; and it is hereby further agreed that, except as provided in (a) above, the Contractor shall forfeit as a penalty to the DISTRICT the sum of one

hundred dollars (\$100) for each worker employed in the performance of this Contract by it or by any Subcontractor under it for each calendar day during which such worker is required or permitted to labor more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of Sections 1810 through 1815.

B-45 Compliance with State Requirements for Employment of Apprentices

The Contractor's attention is directed to Section 1777.5 through 1777.2 of the Labor Code; provisions of those Sections pertaining to employment of registered apprentices are hereby incorporated by reference into these Specifications. As applicable, the Contractor or any Subcontractor employed by it in the performance of the Contract work shall take such actions as necessary to comply with the provisions of Section 1777.5. Contractor shall provide the DISTRICT copies of applicable forms or equivalent: DAS 140 – Public Works Contract Award Information; CAC2 – Training Fund Contributions; and any other communications relating to apprentices on public works projects. Contractor shall be solely liable for any and all fines assessed by the DIR or other agency or entity for non-compliance with any prevailing wage requirements.

B-46 Underground Utilities

In accordance with Government Code Section 4215, the Contractor shall be compensated for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating existing main or trunkline utility facilities not indicated in the Contract Plans and Specifications with reasonable accuracy, and for the equipment on the project necessarily idled during such work; provided that the Contractor shall first notify the Engineer before commencing work on locating, repairing damage to, removing or relocating such utilities.

B-47 Water Pollution

The Contractor shall exercise every reasonable precaution to protect streams, lakes, reservoirs, and other waters of the State and/or United States from pollution with fuels, oils, bitumens, calcium chloride, and other harmful materials and shall conduct and schedule its operations so as to avoid or minimize muddying and silting of said streams, lakes, reservoirs, and water bodies. Care shall be exercised to preserve vegetation beyond the limits of construction. The Contractor shall comply with Section 5650 of the California Fish and Wildlife Code, the National Pollution Discharge Elimination System (NPDES), State of California Construction General Permit, and all other applicable permits, statutes and regulations relating to the prevention and abatement of water pollution.

B-48 Payment of Taxes

The Contract prices paid for the Work shall include full compensation for all taxes which the Contractor is required to pay, whether imposed by Federal, State, or local governments.

B-49 Permits and Licenses

Except as otherwise provided in this Contract, the Contractor shall procure all permits and licenses, pay all charges and fees, including but not limited to inspection fees, and give all notices necessary and incident to the lawful prosecution of the Work.

Procurement procedures shall be in conformance with 2 CFR Section 200.320.

B-50 Patents

The Contractor shall pay all applicable royalties and license fees and assume all costs arising from the use of patented materials, equipment and devices. The Contractor shall defend all suits or claims for infringement of any patent rights and save the DISTRICT and Engineer and their duly authorized representatives harmless from loss on account thereof, except that the DISTRICT shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified; however if the Contractor has reason to believe that the design, process or

product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Engineer.

This project is funded by a Federal Emergency Management Agency (FEMA) Grant. As such, in accordance with 2 CFR Section 200.315, FEMA reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

- a) The copyright in any work developed under a grant, subgrant, or contract under a grant or subgrant; and
- b) Any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support.

B-51 Public Convenience

- a) This section defines the Contractor's responsibility with regard to convenience of the public and public traffic in connection with its operations.
- b) The Contractor shall so conduct its operations as to offer the least possible obstruction and inconvenience to the public and it shall have under construction no greater length or amount of work than it can prosecute properly with due regard to the rights of the public.
- c) Spillage resulting from hauling operations along or across any publicly traveled way shall be removed immediately by the Contractor at its expense.
- d) Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners.
- e) Water shall be supplied if ordered by the Engineer for the alleviation or prevention of dust nuisance as provided in the Contract Documents.
- f) In order to expedite the passage of public traffic through or around the Work and where ordered by the Engineer, the Contractor shall install signs, lights, flares, barricades, and other facilities for the sole convenience and direction of public traffic. Also, where directed by the Engineer, the Contractor shall provide and station competent flagpersons whose sole duties shall consist of directing the movement of public traffic through or around the Work. The cost of furnishing and installing such signs, lights, flares, barricades, and other facilities, and the cost of providing and stationing such flagpersons, all for the convenience and direction of public traffic, will be considered as included in the Contract price and no additional compensation will be allowed.
- g) Flagpersons and guards, while assigned to traffic control, shall perform their duties and shall be provided with the necessary equipment in accordance with the current "Instructions to Flagmen" of the California Department of Transportation. The equipment shall be furnished and kept clean and in good repair by the Contractor at its expense.

B-52 Safety

- a) General - The Contractor shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to all applicable Federal, State, and local laws, ordinances, and codes, and to the rules and regulations established by the California Division of Industrial Safety, and to other rules of law applicable to the Work.
- b) The services of the Engineer in conducting construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's work methods, equipment, bracing or scaffolding or safety measures, in, on, or near the construction site, and shall not be construed

as supervision of the actual construction nor make the Engineer or the DISTRICT responsible for providing a safe place for the performance of work by the Contractor, Subcontractors, or suppliers; or for access, visits, use work, travel or occupancy by any person.

- c) The Contractor shall carefully instruct all personnel working in potentially hazardous work areas as to the potential dangers and shall provide such necessary safety equipment and instruction as is necessary to prevent injury and damage to property. The Contractor shall appoint for the duration of this Contract, a qualified supervisor employee to develop and/or supervise the Contractor's job safety program that will effectively implement the safety provisions of the above agencies.
- d) The Contractor, as a part of his safety program, shall maintain at its office or other well-known place at the job site, safety equipment applicable to the Work as prescribed by the aforementioned authorities, all articles necessary for giving first aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of persons (including employees) who may be injured on the job site.
- e) If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and the DISTRICT. In addition, the Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the site, giving full details and statements of witnesses.
- f) If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.
- g) All work and materials shall be in strict accordance with all applicable State, Federal and local laws, rules, regulations, and codes.
- h) Nothing in this Contract is to be construed to permit work not conforming to governing law. When Contract Documents differ from governing law, the Contractor shall furnish and install the higher standards called for without extra charge. All equipment furnished shall be grounded and provided with guards and protection as required by safety codes. Where vapor-tight or explosion-proof electrical installation is required by law, this shall be provided.
- i) Shoring and Trench Safety Plan - Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent support, and the Contractor shall comply with this law.
- j) Trenching and Worker Protection - In accordance with Section 6705 of the State Labor Code, the Contractor shall submit to the DISTRICT specific plans to show details of provisions for worker protection from caving ground. Not less than thirty (30) calendar days before beginning excavation for any trench or trenches five (5) feet or more in depth required under this Contract, the Contractor shall furnish to the Engineer working drawings of its trench safety plan. The trench safety plan working drawings shall be detailed plans showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground. If such plan varies from the shoring system standards established by the Construction Safety Orders of the California Department of Industrial Relations or the Federal Safety and Health Regulations for Construction of the Occupational Safety and Health Administration, Department of Labor, the plan shall be prepared by a registered civil or structural engineer. In no event shall the Contractor use a shoring, sloping, or protective system less effective than that required by said Construction Safety Orders, or less effective than that required by said Federal Safety and Health Regulations for Construction. Submission of this plan in no way relieves the Contractor from the requirement to maintain safety in all operations performed by it or its Subcontractors.
- k) Hazardous Wastes and Unforeseen Conditions - In accordance with Section 7104 of the State Public Contract Code, if the Work contemplated hereunder involves digging trenches or other earthwork activities, the Contractor shall promptly, and before the following conditions are disturbed, notify

the DISTRICT, in writing, of any: (i) 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; (ii) Subsurface or latent physical conditions at the site differing from those indicated; or (iii) 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. The DISTRICT 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 under the procedures described herein. In the event that a dispute arises between the DISTRICT 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 herein, but shall proceed with all Work to be performed hereunder. 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 DISTRICT and Contractor.

- I) The Contractor shall perform all Work in a fire-safe manner. He shall supply and maintain onsite adequate firefighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable Federal, State, and local fire prevention regulations and where the regulations do not cover, with applicable parts of the National Fire Prevention Standard for "Safeguarding Building Construction Operations," (NFPA No. 241).

B-53 Protection of Person and Property

- a) The Contractor shall take whatever precautions are necessary to prevent damage to all existing improvements, including above ground and underground utilities, trees, shrubbery that is not specifically shown to be removed, fences, signs, mailboxes, survey markers and monuments, buildings, structures, the DISTRICT's property, adjacent property, and any other improvements or facilities within or adjacent to the Work. If such improvements or property are injured or damaged by reason of the Contractor's operations, they shall be replaced or restored, at the Contractor's expense, to a condition at least as good as the condition they were in prior to the start of the Contractor's operations.
- b) The Contractor shall adopt all practical means to minimize interference to traffic and public inconvenience, discomfort or damage. The Contractor shall protect against injury any pipes, conduits or other structures, crossing the trenching or encountered in the Work and shall be responsible for any injury done to such pipes or structures, or damage to property resulting therefrom. The Contractor shall support or replace any such structures without delay and without any additional compensation to the entire satisfaction of the Engineer. All obstructions to traffic shall be guarded by barriers illuminated at night. The Contractor shall be responsible for all damage to persons and property directly or indirectly caused by its operations and, under all circumstances, the Contractor must comply with the laws and regulations of the County and the State of California relative to safety of persons and property and the interruption of traffic and the convenience of the public within the respective jurisdictions.
- c) The Contractor is cautioned that it must replace all improvements in rights-of-way and within the public streets to a condition equal to what existed prior to the Contractor's entry onto the job.
- d) Type and time of construction required at any road subject to interference by Contract work will be determined by those authorities responsible for maintenance of said road. It shall be the responsibility of the Contractor to determine the nature and extent of all such requirements, including provision of temporary detours as required; however, the construction right-of-way obtained by the DISTRICT at affected roadways will be adequate for provision of all required detours. As required at any road crossing, the Contractor shall provide all necessary flagpersons, guardrails, barricades, signals, warning signs and lighting to provide for the safety of existing roads and detours. Immediately after the need for temporary detours ceases, or when directed, the

Contractor shall remove such detours and perform all necessary cleanup work, including replacement of fences, and removal of pavement. Included shall be all necessary replacement of existing roadway appurtenances, grading work, soil stabilization and dust control measures, as required and directed. The cost of all work specified under this Section shall be borne by the Contractor.

- e) The Contractor shall examine all bridges, culverts, and other structures over which it will move its materials and equipment, and before using them, it shall properly strengthen such structures where necessary. The Contractor shall be responsible for any and all injury or damage to such structures caused by reason of its operations.

B-54 Responsibility for Repair of Facilities

All public or private facilities, including but not limited to structures, telephone cables, roadways, parking lots, private drives, levees and embankments disturbed during construction of the Work shall be repaired and/or replaced by the Contractor to match facilities existing prior to construction. In addition, the Contractor shall be responsible for any settlement damage to such facilities or adjoining areas for a period of one year after acceptance of such required facilities.

The Contractor's attention is directed to the many water services crossing the road. It is the Contractor's responsibility to protect these laterals and repair damage. DISTRICT crews are not available to repair water services disturbed by construction.

B-55 Resolution of Construction Claims

- a) For any claim arising under this Contract, the following procedures will apply:
- (i) The claim must be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the day of final payment. Nothing in this subsection is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth elsewhere in this Contract.
- b) The Contractor shall proceed with the Work in accordance with the Plans and Specifications and determinations and instructions of the Engineer during the resolution of any claims disputes.

B-56 DISTRICT's Repair

In the event the Contractor refuses or neglects to make good any loss or damage for which the Contractor is responsible under this Contract, the DISTRICT may itself, or by the employment of others, make good any such loss or damage, and the cost and expense of doing so, including any reasonable engineering, legal and other consultant fees, and any costs of administrative and managerial services, shall be charged to the Contractor. Such costs and expenses may be deducted by the DISTRICT from claims for payment made by the Contractor for Work completed or remaining to be completed.

B-57 Antitrust Claim Assignment

In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to this Contract, the Contractor and all subcontractors shall offer and agree to assign to the DISTRICT all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or subcontract. This assignment shall be made and become effective at the time the DISTRICT tenders final payment to the Contractor, without further acknowledgement by the parties.

B-58 Waiver of Right to Rescind For Material Breach

The Contractor agrees that it can be adequately compensated by money damages for any breach of this

Humboldt Bay Municipal Water District
Surge Tower Demolition Project

Contract which may be committed by the DISTRICT and hereby agrees that no default, act, or omission of the DISTRICT or the Engineer, except for failure to make progress payments as required by Section B-68, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of this Contract or (unless the DISTRICT shall so consent or direct in writing) to suspend or abandon performance of all or any part of the Work. The Contractor hereby waives any and all rights and remedies to which it might otherwise be or become entitled, save only its right to money damages.

B-59 Contractor's License Notice

Contractors are required by law to be licensed and regulated by the contractors' state license board which has jurisdiction to investigate complaints against contractors of a complaint if filed within three (3) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the registrar, Contractors' state license board, 9835 Goethe Road, Sacramento, California. Mailing address: P.O. Box 26000, Sacramento, California 95826.

ARTICLE V. INSURANCE AND LIABILITY

B-60 Insurance

- a) Neither the Contractor nor any Subcontractors shall commence any work until all required insurance has been obtained at their own expense. Such insurance must have the approval of the DISTRICT as to limit, form, and amount, and shall be placed with insurers with a current A.M. Best's rating of no less than A:VII.
- b) Any insurance bearing on adequacy of performance shall be maintained after completion of the project for the full guarantee period.
- c) Prior to execution of the Contract, the Contractor shall furnish the DISTRICT with original endorsements effecting coverage for all policies required by the Contract. The Contractor shall not permit any Subcontractor identified in the Designation of Subcontractors form to commence work on this project until such Subcontractor has furnished the DISTRICT with original endorsements effecting coverage for all insurance policies required by the Contract. The endorsements shall be signed by a person authorized by the insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the DISTRICT. As an alternative to the DISTRICT's forms, the Contractor's insurer may, subject to the approval of the DISTRICT, provide complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by this paragraph. The Contractor agrees to furnish one copy of each policy to the DISTRICT, and additional copies as requested in writing, certified by an authorized representative of the insurer.
- d) All of the Contractor's policies shall contain an endorsement providing that written notice shall be given to the DISTRICT at least sixty (60) calendar days prior to termination, cancellation, or reduction of coverage in the policy.
- e) Any policy or policies of insurance that the Contractor elects to carry as insurance against loss or damage to its construction equipment and tools shall include a provision therein providing a waiver of the insurer's right to subrogation against the DISTRICT and the Engineer.
- f) The requirements as to the types, limits, and the DISTRICT's approval of insurance coverage to be maintained by the Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under the Contract.
- g) In addition to any other remedy the DISTRICT may have, if the Contractor or any of the Subcontractors fails to maintain the insurance coverage as required in this Section, the DISTRICT may obtain such insurance coverage as is not being maintained, in form and amount substantially the same as required herein, and the DISTRICT may deduct the cost of such insurance from any amounts due or which may become due the Contractor under this Contract.
- h) The Contractor and all Subcontractors shall, at their expense, maintain in effect at all times during the performance or work under the Contract not less than the following coverage and limits of insurance, which shall be maintained with insurers and under forms of policy satisfactory to the DISTRICT. The maintenance by the Contractor and all Subcontractors of the following coverage and limits of insurance is a material element of this Contract. The failure of the Contractor or any Subcontractor to maintain or renew coverage or to provide evidence of renewal may be treated by the DISTRICT as a material breach of this Contract.
 - (i) Worker's Compensation and Employer's Liability Insurance.
 - a. Worker's Compensation – The Contractor shall Provide, during the life of this Contract, workers' compensation insurance for all of the employees engaged in Work under this Contract, on or at the Project site, and, in case any of sublet Work, the Contractor shall require each subcontractor similarly to provide workers' compensation insurance for all the latter's employees as prescribed by State law. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the Contractor's insurance. In

case any class of employees engaged in work under this Contract, on or at the Project site, is not protected under the Workers' Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor is required to secure payment of compensation to his employees in accordance with the provisions of Section 3700 of the Labor Code. The Contractor shall file with the DISTRICT certificates of its insurance protecting workers and shall provide certificates at any time upon request. Company or companies providing insurance coverage shall be acceptable to the DISTRICT, if in the form and coverage as set forth in the Contract Documents.

- b. Contractor shall assume the immediate defense of and indemnify and save harmless the DISTRICT and its officers and employees, agents, and consultants from all claims, loss, damage, injury, and liability of every kind, nature, and description brought by any person employed or used by Contractor, or any subcontractor, to perform the Work under this contract regardless of responsibility or negligence. Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. The Workers' Compensation Policy shall be endorsed with a waiver of subrogation in the favor of the DISTRICT for all work performed by the Contractor, its employees, agents and subcontractors.
 - c. The Contractor and all Subcontractors shall maintain insurance to protect the Contractor or Subcontractor from all claims under Worker's Compensation and Employer's Liability Acts, including Longshoremens and Harbor Worker's Act. Such coverage shall be maintained, in type and amount, in strict compliance with all applicable State and Federal statutes and regulations. The Contractor shall execute a certificate in compliance with Labor Code Section 1861.
- (ii) Claims Against DISTRICT - If an injury occurs to any employee of the Contractor or any of the Subcontractors for which the employee or its dependents, in the event of its death, may be entitled to compensation from the DISTRICT under the provisions of the said Acts, or for which compensation is claimed from the DISTRICT, there will be retained out of the sums due the Contractor under this Contract, an amount sufficient to cover such compensation as fixed by said Acts, until such compensation is paid or it is determined that no compensation is due. If the DISTRICT is required to pay such compensation, the amount so paid will be deducted and retained from such sums due, or to become due the Contractor.
- (iii) Commercial General Liability and Automobile Liability Insurance - the Contractor shall provide and maintain the following commercial general liability and automobile liability insurance:
- a. Coverage – coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:
 - i. Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 0001)
 - ii. Insurance Services Office (ISO) Business Auto Coverage (Form CA 0001), covering Symbol 1 (any auto)
 - b. Limits – the Contractor shall maintain limits no less than the following:
 - i. General Liability - Five million dollars (\$5,000,000) per occurrence or the full per occurrence limits of the policies available, whichever is greater for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit or products-completed operations aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2503, or ISO CG 2504, or insurer's equivalent endorsement provided to DISTRICT) or the general aggregate limit and products-completed operations aggregate limit shall be twice the required occurrence limit.
 - ii. Automobile Liability - One million dollars (\$1,000,000) for bodily injury and property damage each accident limit.
 - c. Required Provisions - the general liability, auto liability and excess liability policies are to contain, or be endorsed to contain, the following provisions:
 - i. The DISTRICT, its directors, officers, employees, and authorized volunteers are

to be given insured status at least as broad as ISO endorsement CG 2010 11 85; or both CG 20 10 10 01 and CG 20 37 04 13 (or the CG 20 10 04 13 (or earlier edition date) specifically naming all of the DISTRICT parties required in this agreement, or using language that states "as required by contract"). All Subcontractors hired by Contractor must also have the same forms or coverage at least as broad; as respects (via CG 20 38 04 13): 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; and automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the DISTRICT, its directors, officers, employees, or authorized volunteers.

- ii. It is understood and agreed to by the parties hereto and the insurance company(s), that the Certificate(s) of Insurance and policies shall so covenant and shall be construed as primary, and the DISTRICT insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory using the ISO endorsement CG 20 01 04 13 or coverage at least as broad.
 - iii. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the DISTRICT, its directors, officers, employees, or authorized volunteers.
 - iv. 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.
 - v. Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the DISTRICT.
- d. Such liability insurance shall indemnify the Contractor and his/her sub-contractors against loss from liability imposed by law upon, or assumed under contract by, the Contractor or his/her sub-contractors for damages on account of such bodily injury (including death), property damage, personal injury, completed operations, and products liability.
- e. The general liability policy shall cover bodily injury and property damage liability, owned and non-owned equipment, blanket contractual liability, completed operations liability, explosion, collapse, underground excavation, and removal of lateral support.
- f. The automobile liability policy shall cover all owned, non-owned, and hired automobiles.
- g. All of the insurance shall be provided on policy forms and through companies satisfactory to the DISTRICT.
- h. The comprehensive general and automobile liability insurance coverage shall also include the following:
- i. Provision or endorsement naming the DISTRICT, the Engineer and its consultants, and each of their officers, employees, and agents, each as additional insureds in regards to liability arising out of the performance of any work under the Contract and providing that such insurance is primary insurance as respects the interest of the DISTRICT and Engineer and that any other insurance maintained by the DISTRICT and Engineer is excess and not contributing insurance with the insurance required hereunder.
 - ii. "Cross Liability" or "Severability of Interest" clause.
 - iii. Provision or endorsement stating that such insurance, subject to all of its other terms and conditions, applies to the liability assumed by the Contractor under the Contract, including, without limitation, that set forth in Section B-61, Indemnity and Litigation Costs.
 - iv. Provision or endorsement stating that any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the DISTRICT, its officers, officials, employees, or volunteers.

i) Deductibles and Self-Insured Retentions - Insurance deductibles or self-insured retentions must be

declared by the Contractor, and such deductibles and retentions shall have the prior written consent from the DISTRICT. At the election of the DISTRICT the Contractor shall either 1) reduce or eliminate such deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses. Policies containing any self-insured retention (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named or additional insureds, co-insurers, and/or insureds other than the First Named Insured.

- j) Acceptability of Insurers - Any insurance carrier providing insurance coverage required by the Contract Documents shall be admitted to and authorized to do business in the State of California unless waived, in writing, by the DISTRICT Risk Manager. Carrier(s) shall have an A.M. Best rating of not less than an A-: VII or better.
- k) Responsibility for Work - Until the completion and final acceptance by the DISTRICT of all the work under and implied by this agreement, the work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore and make good all injuries, damages, re-erectations, and repairs occasioned or rendered necessary by causes of any nature whatsoever.
- a. The Contractor shall provide and maintain builder's risk insurance (or installation floater) covering all risks of direct physical loss, damage or destruction to the work in the amount specified in the General Conditions, to insure against such losses until final acceptance of the work by the DISTRICT. Such insurance shall insure at least against the perils of fire and extended coverage, theft, vandalism and malicious mischief, and collapse. The DISTRICT, its directors, officers, employees, and authorized volunteers shall be named insureds on any such policy. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for the DISTRICT or be construed as relieving the Contractor or his/her subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to final acceptance of the work by the DISTRICT.
 - b. The Contractor shall waive all rights of subrogation against the DISTRICT, its directors, officers, employees, or authorized volunteers.
- l) Evidences of Insurance - Prior to execution of the agreement, the Contractor shall file with the DISTRICT a certificate of insurance (Acord Form 25 or equivalent) signed by the insurer's representative evidencing the coverage required by this agreement. Such evidence shall include an additional insured endorsement signed by the insurer's representative and evidence of waiver of rights of subrogation against the DISTRICT (if builder's risk insurance is applicable). Such evidence shall also include (1) attached additional insured endorsements with primary & non-contributory wording, (2) Workers' Compensation waiver of subrogation, and (3) a copy of the CGL declarations or endorsement page listing all policy endorsements, and confirmation that coverage includes or has been modified to include Required Provisions 1-5 above. The DISTRICT reserves the right to obtain complete, certified copies of all required insurance policies, at any time. Failure to continually satisfy the Insurance requirements is a material breach of contract.
- m) Continuation of Coverage - The Contractor shall, upon demand of the DISTRICT deliver evidence of coverage showing continuation of coverage for at least (10) years after completion of the project. Contractor further waives all rights of subrogation under this agreement. When any of the required coverages expire during the term of this agreement, the Contractor shall deliver the renewal certificate(s) including the general liability additional insured endorsement and evidence of waiver of rights of subrogation against the DISTRICT (if builder's risk insurance is applicable) to the DISTRICT at least ten (10) days prior to the expiration date.
- n) Subcontractors - In the event that the Contractor employs other contractors (Subcontractors) as part of the work covered by this agreement, it shall be the Contractor's responsibility to require and confirm that each sub-contractor meets the minimum insurance requirements specified above. The Contractor shall, upon demand of the DISTRICT, deliver to the DISTRICT copies such policy or policies of insurance and the receipts for payment of premiums thereon.

- o) 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.
- p) The DISTRICT reserves the right to modify these insurance requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage or other circumstances.

B-61 Indemnity and Litigation Cost

- a) Promptly upon execution of the Contract, the Contractor specifically obligates itself and hereby agrees to protect, hold free and harmless, defend and indemnify the DISTRICT, the Engineer and its consultants, and each of their officers, officials, employees and agents, from and against any and all liability, penalties, costs, losses, damages, expenses, causes of action, claims or judgments, including without limitation attorneys' fees and other costs of litigation, which arise out of or are in any way connected with the Contractor's, or its Subcontractors' or suppliers', performance of Work under this Contract or failure to comply with any of the obligations contained in the Contract. This indemnity shall not extend, however, to attorney fees and costs incurred by the DISTRICT in prosecuting or defending against the Contractor in any proceeding under Section B-8, and shall imply no reciprocal right of the Contractor in any action on the contract pursuant to California Civil Code section 1717 or section 1717.5. To the extent legally permissible, this indemnity and hold harmless agreement by the Contractor shall apply to any acts or omissions, whether active or passive, on the part of the Contractor or its agents, employees, representatives, or Subcontractor's agents, employees and representatives, resulting in liability, irrespective of whether or not any acts or omissions of the parties to be indemnified hereunder may also have been a contributing factor to the liability, except such loss or damage which was caused by the active negligence, sole negligence or willful misconduct of the DISTRICT.
- b) In any and all claims against the DISTRICT or the Engineer and its consultants, and each of their officers, employees and agents by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under Worker's Compensation statutes, disability benefit statutes or other employee benefit statutes.
- c) Each party to this Contract has been represented by counsel in the negotiation and execution of this Contract.

B-62 Protection of Work

- a) The Contractor shall be responsible for the care of all work until completion and final acceptance; and the Contractor shall, at its own expense replace damaged or lost material and repair damaged parts of the Work or the same may be done at the Contractor's expense by the DISTRICT and the Contractor and its sureties shall be liable therefore. The Contractor shall make its own provisions for properly storing and protecting all material and equipment against theft, injury, or damage from any and all causes. Damaged material and equipment shall not be used in the Work. The Contractor shall take all risks from floods and casualties except as provided by law, and shall make no charge for the restoration of such portions of the Work as may be destroyed or damaged by flood or other casualties or because of danger from flood or other casualties or for delays from such causes. The Contractor may, however, be allowed a reasonable extension of time on account of such delays, subject to the conditions hereinbefore specified. The Contractor shall not be responsible for the cost, in excess of five percent (5%) of the contracted amount, of repairing or restoring damage to the Work, if the damage was proximately caused by an earthquake in excess of a magnitude of 3.5 on the Richter Scale or by tidal waves; provided that the Work damaged was built in accordance with accepted and applicable building standards, and the Plans and Specifications of the DISTRICT.
- b) The Contractor shall effectively secure and protect adjacent property and structures, livestock, crops,

and other vegetation. If applicable, the Contractor shall open fences on or crossing the right-of-way and install temporary gates of sound construction thereon so as to prevent the escape of livestock. Adjacent fence posts shall be adequately braced to prevent the sagging or slackening of the wire. Before such fences are opened, the Contractor shall notify the owner or tenant of the property and, where practicable, the opening of the fence shall be in accordance with the wishes of said owner or tenant. The Contractor shall be responsible that no loss or inconvenience shall accrue to the owner or tenant by virtue of its fences having been opened or the gate not having been either shut or attended at all times. Where special types of fences are encountered, the Contractor shall install temporary gates made of similar materials and of suitable quality to serve the purposes of the original fences. In all cases where the Contractor removes fences to obtain work room, it shall provide and install temporary fencing as required, and on completion of construction shall restore the original fence to the satisfaction of the Engineer. All costs of providing, maintaining and restoring gates and fencing shall be borne by the Contractor. It shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority or local conditions.

- c) The Contractor shall use extreme care during construction to prevent damage from dust to crops and adjacent property. The Contractor, at its own expense, shall provide adequate dust control for the right-of-way and take other preventive measures as directed by the Engineer.
- d) The Contractor shall be responsible for all damage to any property resulting from trespass by the Contractor or its employees in the course of their employment, whether such trespass was committed with or without the consent or knowledge of the Contractor.
- e) The Contractor shall see that the work site is kept drained and free of all ground water and any other water which may impede the progress or execution of the Contract work.
- f) The Contractor shall be responsible for any damage caused by drainage or water runoff from construction areas and from construction plant areas. In an emergency affecting the safety of life, or of the Work, or of adjoining property, the Contractor, without special instruction or authorization from the Engineer, is hereby permitted to act at the Contractor's discretion to prevent such threatened loss or injury, and it shall so act without appeal if so instructed or authorized. Any compensation claimed by the Contractor on account of emergency work shall be determined as specified under Section B-3. Should the Engineer deem an emergency condition to exist, the Contractor shall immediately do those things and take those steps ordered by the Engineer. The decision of the Engineer in this respect shall be final and conclusive. Any claims for compensation made by the Contractor on account of emergency work shall be determined as specified under Section B-3.
- g) Except as provided by Government Code Section 4215, the Contractor shall be responsible for the removal, relocation and protection of all public and private utilities, including irrigation facilities in the nature of utilities, located on the site of the construction project if and to the extent that the same are identified in the Contract Documents, and the Contractor shall not be entitled to any extension of time or claim for damages for extra compensation in connection therewith. If and to the extent that such utilities or facilities are not identified in the Contract Documents, as between the Contractor and the DISTRICT, the DISTRICT will be responsible for the cost of their removal, relocation or protection, as the case may be, but the Contractor shall perform any such work in conformance with applicable provisions of Sections B-3 and B-4, if so directed by the Engineer and in such situation the Contractor shall not be responsible for delay in completion of the project caused by the failure of the DISTRICT or the owner of the utility to provide for such removal or relocation. If the Contractor, while performing the Contract, discovers utility or irrigation facilities not identified by the DISTRICT in the Contract Documents, it shall immediately notify the Engineer in writing.
- h) Subject to the provisions of this Section, where the Work to be performed under the Contract crosses or otherwise interferes with existing streams, watercourses, canals, farm ditches, pipelines, drainage channels, or water supplies, the Contractor shall provide for such watercourse or

pipelines and shall perform such construction during the progress of the Work so that no damage will result to either public or private interests, and the Contractor shall be liable for all damage that may result from failure to so provide during the progress of the Work.

B-63 No Personal Liability

Neither the DISTRICT, the Engineer, nor any of their other officers, agents, or employees nor any other public office shall be personally responsible for any liability arising under the Contract, except such obligations as are specifically set forth herein.

ARTICLE VI. MEASUREMENT AND PAYMENT

B-64 Measurement of Quantities

- a) Where the Contract provides for payment on a lump sum price basis, the Contractor shall submit a price breakdown to the Engineer immediately after award of the Contract. The price breakdown as agreed upon between the Contractor and the Engineer shall be used for preparing future estimates for partial payments to the Contractor and shall list the major items of Work and a price for each item. Overhead and other general costs and profit shall be prorated to each item so that the total of all items equals the lump sum price. The price breakdown shall be subject to the approval of the Engineer and Contractor may be required to verify the prices for any or all items.

Where the Contract provides for payment on a unit price basis, the quantities of work performed will be computed by the Engineer on the basis of measurements taken by the Engineer.

- b) Whenever the estimated quantities of Work to be done and materials to be furnished under this Contract are shown in any of the documents including the Proposal, they are given for use in comparing bids and the right is especially reserved, except as herein or otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the DISTRICT to complete the Work contemplated by this Contract and such increase or diminution shall in no way violate this Contract, nor shall any such increase or diminution give cause for claims, liability for damage or adjustment to the Contract time bid price.

B-65 Scope of Payment

- a) The Contractor shall accept the compensation provided in the Contract as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed Work and for performing all Work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the acceptance by the DISTRICT and for all risks of every description connected with the prosecution of the Work, also for all expenses incurred in consequence of the suspension or discontinuance of the Work as provided in the Contract; and for completing the Work according to the Specifications and Plans. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.
- b) No compensation will be made in any case for loss of anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as provided in such agreements.

B-66 Progress Estimate

At the end of each month where work was performed, the Contractor will submit to the Engineer a partial payment estimate filled out and signed by the Contractor covering the Work performed during the period covered by the partial pay estimate and supported by such data as the Engineer may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the DISTRICT, as will establish the DISTRICT'S title to the material, and equipment and protect its interest therein, including, applicable insurance. The Engineer will within seven (7) calendar days after receipt of each partial payment estimate either recommend payment to the DISTRICT or return the estimate to the Contractor indicating in writing its reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial pay estimate.

Payroll certification forms provided by the Contractor and fully executed shall be filed with the Engineer at the time of submission of each partial payment estimate and also when the claim for final payment is submitted. Wage Report forms shall be completed and submitted as set forth in Parts 4 and 5.

B-67 Progress Payments

- a) The Contractor is made aware that the DISTRICT will approve all partial payments.
- b) Upon receipt of an undisputed, properly submitted progress estimate from the Contractor, recommended by the Engineer, the DISTRICT shall act in accordance with the following:
 - (i) Each payment request shall be reviewed by the DISTRICT as soon as practicable after receipt for the purpose of determining that the progress estimate is a proper payment request.
 - (ii) 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 (7) calendar 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 DISTRICT to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the DISTRICT exceeds the ten-day return requirement set forth herein.
- d) The DISTRICT will pay the Contractor ninety-five percent (95%) of the amount of each progress estimate within sixty (60) calendar days after receipt of an undisputed, properly submitted progress estimate from the Contractor, recommended by the Engineer. If the DISTRICT fails to pay an undisputed progress estimate within the allotted sixty (60) calendar days, the DISTRICT shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (s) of Section 685.010 of the Code of Civil Procedures. Five percent (5%) of amount of each estimate shall be retained by the DISTRICT until final completion and acceptance of all Work under Contract.
- e) When, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the Contract, or when in its judgment the total amount of the work done since the last estimate amounts to less than \$1,000, no pay estimate will be prepared and no progress payment will be made.
- f) No progress estimate or payment shall be considered to be an approval or acceptance of any work, materials, or equipment. Estimated amounts and values of work done and materials and equipment furnished will be conformed with actual amounts and values as they become available in subsequent progress estimates, progress payments and the final estimate and payment. All estimates and payments will be subject to correction in subsequent progress estimates and payments and the final estimate and payment.
- g) The DISTRICT requires that any payments due to Subcontractors for a portion of the Work satisfactory completed shall be made by Contractor to Subcontractors within thirty (30) calendar days of DISTRICT's payment to Contractor. Failure to make such payments in a timely fashion may result in the DISTRICT issuing future progress payments by joint check to the Contractor and Subcontractors.
- h) It is mutually agreed between the parties to the Contract that no payments made under the Contract, including progress payments and the final payment, shall be evidence of the performance of the Contract, either wholly or in part, and no payment shall be construed to be an acceptance of any defective or incomplete work or improper materials.

B-68 Liens and Stop Notices

The Contractor agrees to keep the Work, the site of the Work and all monies held by the DISTRICT free and clear of all liens and stop notices related to labor and materials furnished in connection with the Work, if permitted by law. Furthermore, the Contractor waives any right it may have to file any type of lien or stop notice in connection with the Work. Notwithstanding anything to the contrary contained in the

Contract documents, if any such lien or stop notice is filed or there is evidence to believe that lien or stop notice may be filed at any time during the progress of the Work or within the duration of this Contract, the DISTRICT may refuse to make any payment otherwise due the Contractor or may withhold any payment due the Contractor a sum sufficient in the opinion of the DISTRICT to pay all obligations and expenses necessary to satisfy such lien or stop notice. The DISTRICT may withhold such payment unless or until the Contractor, within ten (10) calendar days after demand therefor by the DISTRICT, shall furnish satisfactory evidence that the indebtedness and any lien or stop notice in respect thereof has been satisfied, discharged and released of record, or that the Contractor has legally caused such lien or stop notice to be released of record pending the resolution of any dispute between the Contractor and any person or persons filing such lien or stop notice. If the Contractor shall fail to furnish such satisfactory evidence within ten days of the demand therefor, the DISTRICT may discharge such indebtedness and deduct the amount thereof, together with any and all losses, costs, damages and attorney's fees suffered or incurred by the DISTRICT from any sum payable to the Contractor under the Contract documents, including but not limited to final payment and retained percentage. This Section shall be specifically included in all Subcontracts and purchase orders entered into by the Contractor.

B-69 Final Acceptance and Date of Completion

Whenever the Contractor shall deem all Work under this Contract to have been completed in accordance therewith, it shall so notify the Engineer in writing, and the Engineer shall promptly ascertain whether the Work has been satisfactorily completed and, if not, shall advise the Contractor in detail and in writing of any additional work required. When all the provisions of the Contract have been fully complied to the satisfaction of the Engineer, he shall proceed with all reasonable diligence to determine accurately the total value of all Work performed by the Contractor at the prices set forth in the Contract or fixed by Change Orders, and the total value of all extra work, all in accordance with the Contract. The Engineer will then certify to said final estimate and to the completion of the Work, and will file copies thereof with the DISTRICT and the Contractor. The date of completion shall be the date upon which the DISTRICT makes its formal written acceptance of the Work.

B-70 Final Payment

Within ten (10) calendar days after the date of completion, the DISTRICT will file in the Office of the County Recorder, a Notice of Completion of the Work herein agreed to be done by the Contractor. On the expiration of thirty-five (35) calendar days after the recordation of such Notice of Completion the difference between said final estimate and all payments theretofore made to the Contractor shall be due and payable to the Contractor, subject to any requirements concerning the furnishings of a maintenance bond, and excepting only such sum or sums as may be withheld or deducted in accordance with the provisions of this Contract. All prior certifications upon which partial payments may have been made, being merely estimates, shall be subject to correction in the final certificate.

B-71 Final Release

Final payment to the Contractor in accordance with the final estimate is contingent upon the Contractor furnishing the DISTRICT with a signed written release of all claims against the DISTRICT arising by virtue of the Contract. Disputed Contract claims in stated amounts may be specifically excluded by the Contractor from the operation of the release. The release shall be in substantially the following form:

WAIVER AND RELEASE UPON FINAL PAYMENT

The undersigned has been paid in full by the DISTRICT for all labor, services, equipment and material furnished to the DISTRICT on the _____ Improvements located at _____, California, and does hereby waive and release the DISTRICT, its officers, agents, and employees, from all claims and liability to the Contractor arising out of, or in any way connected with, the Contract, except for the disputed contract claims specified below:

Notice of Disputed Claim

Amount of Claim

\$ _____

Dated: _____

(Name of Contractor)

By: _____
(Title)

Any payment, however, final or otherwise shall not release the Contractor or its sureties from obligations under the Contract Documents or Performance and Payment Bonds.

B-72 Right to Withhold Payments

- a) In addition to all other rights and remedies of the DISTRICT hereunder and by virtue of the law, the DISTRICT may withhold or nullify the whole or any part of any partial or final payment to such extent as may reasonably be necessary to protect the DISTRICT from loss on account of:
- (i) Defective work not remedied, irrespective of when any such work be found to be defective;
 - (ii) Claims or liens filed or reasonable evidence indicating probable filing of claims or liens including, but not limited to claims under Sections 1775, 1776, or 1777.7 of the Labor Code;
 - (iii) Failure of the Contractor to make payments properly for labor, materials, equipment, or other facilities, or to Subcontractors and/or suppliers;
 - (iv) A reasonable doubt that the Work can be completed for the balance then unearned;
 - (v) A reasonable doubt that the Contractor will complete the Work within the agreed time limits;
 - (vi) Costs to the DISTRICT resulting from failure of the Contractor to complete the Work within the proper time; or
 - (vii) Damage to Work or property.
 - (viii) Damage to another Contractor.
 - (ix) Performance of Work in violation of the Terms of the Contract Documents.
 - (x) Where work on unit items is substantially complete, but lacks cleanup and/or other corrections ordered by the Engineer, amounts shall be deducted from the unit prices in partial payment estimates to amply cover such cleanup and correction.
 - (xi) Failure to file required Equal Opportunity and Affirmative Action forms.
- b) Whenever the DISTRICT shall, in accordance herewith, withhold any monies otherwise due the Contractor, written notice of the amount withheld and the reasons therefore will be given the Contractor. After the Contractor has corrected the enumerated deficiencies, the DISTRICT will promptly pay to the Contractor the amount so withheld. When monies are withheld to protect the DISTRICT against claims or liens of mechanics, material men, Subcontractors, etc., the DISTRICT may at its discretion permit the Contractor to deliver a surety bond in terms and amount

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satisfactory to the DISTRICT, indemnifying the DISTRICT against any loss or expense, and upon acceptance thereof by the DISTRICT, the DISTRICT shall release to the Contractor monies so withheld.

B-73 Waiver of Interest

The DISTRICT shall have no obligation to pay and the Contractor hereby waives the right to recover interest with regard to monies which the DISTRICT is required to withhold by reason of judgment, order, statute or judicial process.

B-74 Satisfaction of Claims and Liens

Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the DISTRICT, a complete release of all liens and claims arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as it has knowledge or information the releases and receipts include all the labor and material for which a lien or claim could be filed; but the Contractor may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Engineer, to indemnify the DISTRICT against any lien or claim. If any lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the DISTRICT all monies that the latter may be compelled to pay in discharging such a lien, or claim, including all costs and reasonable attorney's fees.

PART 4 SPECIFICATIONS

SECTION 01 10 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 PROJECT INFORMATION

- A. Project Location: The project is located on the Samoa Peninsula in Humboldt County, CA, approximately two (2) miles west of Eureka, CA. A vicinity map is provided on the cover sheet of the Contract Drawings that illustrates the location of the project. The design drawings provide information regarding the limits of the project and its topography.
- B. Owner: Humboldt Bay Municipal Water District (HBMWD), 828 Seventh Street, Eureka, CA 95501.
- C. Owner's Technical Representative: GHD Inc., referred to in Technical Specifications as "Engineer."

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. General
 - 1. The Contract Documents describe the Work to be performed under this Contract, which includes, but is not limited to, furnishing all tools, equipment, materials, supplies, and manufactured articles for the Project. It shall also include the furnishing of all transportation and services, including fuel, power, water, and essential communications necessary for the performance of all labor, work, or other operations required for the performance of the Contract in accordance with the Contract Documents.
 - 2. The Contractor should carefully review all sections of the Specifications in order to completely understand the Work and all constraints including schedule, environmental, permit and material requirements.
 - 3. Contractor is encouraged to proceed in an orderly and expeditious manner based on the constraints shown on the Drawings and described in the Specifications. All Work is to be constructed in strict accordance with the Contract Drawings and Specifications and subject to the terms and conditions of the Contract.
- B. The Contractor shall completely review, be familiar with, and adhere to the terms of all permits and agency approvals for this project and comply with all other applicable Local, State, and Federal laws and regulations. Refer to section 01 57 00 – Environmental Requirements for more information regarding permit requirements.

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- C. Compliance with County permits: The Contractor is responsible for obtaining, and paying any associated fees, including but not limited to inspection fees, and complying with any relevant County encroachment, building, and grading permits needed for the proposed construction activities, including, but not limited to building, grading, traffic and encroachment permits related to the delivery and hauling of construction equipment and materials, and traffic control measures. The Contractor must follow all pertinent Caltrans requirements for hauling large vehicles or equipment to the project site. To determine requirements for the specific vehicles to be used, see the web site at <http://www.dot.ca.gov/hg/traffops/permits>. If a county road is used for heavy equipment transport or wide loads, pertinent clearances with the Humboldt County Department of Public Works must be obtained.
- D. Hours of construction shall be limited to between 7:00 am and 7:00 pm Monday through Friday, and 7:00 am to 7:00 pm on Saturdays. No construction shall be allowed on Sundays or holidays, except in an emergency.
- E. Technical Data and Other Reports:
1. *Surge Tower Retrofit Biological Report*, prepared by GHD, Inc. (GHD) dated May 2017.
 2. Memorandum titled *Results of Lead Assessment in Surface Soil*, prepared by GHD dated August 2, 2017.
 3. Memorandum titled *HBMWD Surge Tower Evaluation* prepared by GHD and dated September 5, 2012.
 4. Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against HBMWD or the Engineer, or any of their Related Entities with respect to:
 - a. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by the Contractor, and safety precautions and programs incident thereto; or
 - b. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - c. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretation, opinions, or information.
- F. Contractor's Duties:
1. Except as specifically noted, provide and pay for:

- a. Labor, materials, and equipment.
 - b. Tools, construction equipment, and machinery.
 - c. Water and utilities required for construction.
 - d. All other facilities and services necessary for proper execution and completion of Work.
2. Pay legally required sales, business, consumer, and use taxes.
 3. Conform to the requirements of the project permits.
 4. Secure and pay for, as necessary for proper execution and completion of the Work, all other applicable permits and licenses.
 5. Give required notices.
 6. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities, which bear on performance of the Work.
 7. Promptly submit written notice to the Engineer of observed variance of Contract Documents from legal requirements.
 8. If any Subcontractor or person employed by the Contractor shall appear to the Engineer to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the requisition of the Engineer, and such person shall not again be employed on the project site.

1.3 CONTRACT DESCRIPTION

A. General:

1. Project will be constructed under a general construction contract. The limits of Work are shown in the Contract Drawings and described in these Contract Documents. It will be the Contractor's responsibility to coordinate their activities to resolve conflicts. In the case that there are discrepancies between Drawings and Specifications, Specifications take precedence over drawings.
2. All risk of loss, damage or diminution to the Work shall rest with the Contractor until final acceptance of the Work by HBMWD.

B. Notify the Owner's Representative at least fourteen (14) calendar days prior to beginning work.

C. Work conducted includes, but is not limited to:

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1. Prepare and submit submittals listed in Section 01 33 00 – Submittal Procedures for review and acceptance by the Engineer and HBMWD.
2. Mobilization of construction equipment.
3. Implement traffic control devices.
4. Install erosion, sediment, and water pollution control BMPs, if necessary.
5. Site preparation including any necessary vegetation clearing.
6. Install equipment pads over existing utility crossings where necessary.
7. Mobilization of crane to be used for tower demolition.
8. Demolition of existing surge tower and off-haul disposal.
9. Demolition of existing above ground surge tower overflow line and off-haul disposal.
10. Install new blind flange on exposed tower inlet and concrete base.
11. Install new blind flange on surge tower overflow line at the ground level.
12. Paint exposed outlet pipe and flanges.
13. Plant, seed, and mulch disturbed areas.
14. Final site clean-up, demobilization, and remove traffic control devices, erosion, sediment, and water pollution control BMPs.

1.4 SPECIAL CONSTRUCTION REQUIREMENTS

- A. At the project location, the Contractor, including, but not limited to, all employees, subcontractors, equipment, tools, staging, stockpiles, is restricted to the limits of disturbance shown on the Plans. Any ingress/egress to adjacent parcels is strictly prohibited.
- B. A preliminary construction sequence is presented below.
- C. Biological restrictions: Prior to the start of construction, the Contractor shall notify the Owner and Engineer so that a HBMWD-supplied qualified biologist may conduct environmental surveys regarding special status species.
- D. Refer to section B-35, Commencement and Progress of the Work and Time of Completion, in the General Conditions for project timing.
- E. Specific Sequence and Constraints:

1. The Contractor shall note that only certain constraints are addressed in this section. All Work, whether or not addressed here, shall be governed by applicable parts of this section, and schedules and procedures further submitted for approval.
2. The first order of business is submission of submittals. Complete submittals for all items to be incorporated into the Work shall be made no later than fifteen (15) calendar days following receipt of Notice to Proceed unless noted otherwise in these Specifications.
3. The Contractor shall include all Work described in these Specifications in the construction schedule. The sequence and constraints identified in this section, and all other applicable sections of these Specifications, shall be followed in the construction of the Work. However, alternatives to these sequences and constraints may be submitted by the Contractor for review by the Engineer.

1.5 PROJECT MEETINGS

- A. Section 01 30 00 – Administrative Requirements: Preconstruction Meeting, Progress Meetings, and Close-Out Meetings.

1.6 WORK PLAN

- A. The Contractor shall submit for review and approval, a Work Plan that shall summarize the Contractor's approach to completing the Work included in the Contract. The intent of the Plan is to demonstrate how the Contractor will approach and quantify the work to be completed and demonstrate compliance with the Plans and Specifications. This submittal covers several Technical Specifications as well as the Plans and it is the Contractor's responsibility to understand the requirements of the contract, and how the Plans and Specifications relate to one another and to this submittal.
- B. The Contractor's Work Plan shall be provided as a submittal as a first order of business prior to mobilization. The plan shall be kept up to date during the project and shall be revised as necessary as the project progresses. The plan shall be reviewed at the regular construction progress meetings.
- C. At a minimum, the Contractor's Work Plan should clearly describe the Contractor's proposed approach and schedule to conduct the following work.
 1. Mobilization and Site Preparation
 - a. Describe the strategy for mobilization and site preparation including any vegetation clearing, equipment staging, proposed access locations, and other preparation for the Contractor to prepare for the Work.
 - b. Type and size of equipment to be used, including weight.

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- c. If the proposed equipment will cross existing buried utilities, the Contractor must provide trench plate protection/bridging as required for equipment loading, but not less than HS-20 loads. Contractor shall submit shop drawings identifying location, plating to be used, and equipment loading.

2. Isolation of Industrial Line and Dewatering

- a. The Surge Tower and the existing Industrial Water Reservoir, which is located immediately adjacent to it, are interconnected. The level of the water in the reservoir and the Tower are equal when the isolation valve is open. Prior to the work, the District shall draw down the level of the water in the Industrial Water Reservoir and the Surge Tower as low as possible, then close the valve between the Surge Tower and the Reservoir. The Surge Tower will then be left isolated from the rest of the system during the course of the work; however, the Contractor shall assume the valves do not fully seat, and that there is potential for water to leak into the Surge Tower during the performance of the work and the Contractor shall be responsible for the control and disposal of this water.
- b. Submit a Dewatering Plan, for approval and prior to any equipment entering the Project site, that describes the strategy for dewatering the surge tower and water remaining in the isolated main. Show the proposed location for the water to be discharged, and describe the dissipation approach. See Section 31 23 20 – Dewatering for discharge to the existing Surge Tower Overflow Tank.
 - i. Pumped water shall be discharged to a stable area for containment/settling/filtration to contain and reduce turbidity before any flow is released back to any surrounding area to avoid subsequent erosion and transport of sediment. See Section 31 23 20 – Dewatering for discharge to the existing Surge Tower Overflow Tank.
 - ii. Pumps shall be placed in flat areas and be well away from active drainages that could transport sediment laden water off-site. Refuel pumps in an area that is 100-feet away from a drainage, wetlands, or water body. When circumstances do not permit this, refueling of sedentary equipment will use containment pads and basins, and absorbent pads while refueling within 100-feet of a drainage or water body. Hazardous materials (fuels, lubricants, solvents, etc.) will not be stored within 100-feet of a drainage or water body. Spill control kits will be available at the project site at all times and construction personnel trained in the proper spill control procedures. In no case shall sediment laden, or any contaminated water, be discharged directly to any waterway.

- iii. Include a listing of the pumps and generator equipment to be used.
- 3. Demolition of Surge Tower
 - a. Describe the strategy for the demolition of the existing surge tower in accordance with the Contract Drawings and Specifications, or submit a Proposed Alternative Plan.
 - b. Refer to Section 31 10 13 – Demolition and Disposal for more information related to the demolition of the existing surge tower.
 - c. Provide the disposal facility to be used for any excess cleared material and demolition debris removal.
 - 3. Installation of Blind Flange
 - a. Refer to Sections 09 90 00 – Paints and Coatings for required submittals related to capping the existing surge tower inlet and outlet.
 - 4. Demobilization and Site Cleanup
 - a. Describe the strategy for demobilization at the conclusion of the job including cleanup, removal of temporary facilities, and other work associated with job closeout.

1.7 SPECIAL TECHNICAL SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The General Requirements and Technical Specifications are organized into Divisions and Sections using the TechSpec “Master Format” numbering system.
 - 1. Section Identification: The General Requirements and Special Technical Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Contract Documents are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the General Requirements and Technical Specifications sections to determine numbers and names of sections in the Contract Documents.
- B. Specification Content: The Special Technical Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

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1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words “shall,” “shall be,” or “shall comply with,” depending on the context, are implied where a colon (:) is used within a sentence or phrase.
3. Specification requirements are to be performed by the Contractor unless specifically stated otherwise.
4. General Requirements: Requirements of Sections in the General Requirements apply to the Work of all Sections in the Specifications.
5. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:
 - a. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - b. Abbreviations: Materials and products are identified by abbreviations and scheduled on Drawings.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 15 00

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 GENERAL

- A. Unless otherwise specified in other individual sections of these Specifications, quantities of Work shall be determined from measurements or dimensions in horizontal planes.
- B. Units of measurement shall be in accordance with U.S. Standard Measures.
- C. See General Conditions for provisions related to progress payments and payment schedule to the contractor.

1.2 MATERIALS

- A. The measurement and payment items are listed below:
 - 1. The payments to the Contractor are based on the following items. It is the intent that the scope of the description of the following items encompasses the entire scope of the Work as shown on the Contract Drawings and described in the Specifications. The bid amounts shall be for complete in place installations.

BASE BID SCHEDULE

Item 1 – Mobilization/Demobilization

Measurement for this item shall be on a lump sum basis. This Work covers all Contractor costs and effort associated with mobilizing equipment, materials, and labor to the project site as well as demobilization of same for both the base bid schedule and any additive bid schedules if awarded. Items covered by this include, but are not limited to, bonds, insurance, contracting and administrative costs, permitting and permit compliance costs, costs associated with temporary facilities, storage areas, and utilities, final testing, submittal of manufacturer's written material, punch list items, repairs of damaged property, site cleanup, debris disposal and receipt submittal, and project maintenance and warranty.

When 10 percent of the total original Contract amount is earned from bid items, excluding amounts paid for materials on hand, 90 percent of the amount of the bid price for mobilization, or 10 percent of the total Contract amount, whichever is least, will be paid for mobilization. Upon completion of all Work on the project, payment of the balance of the bid amount for mobilization will be paid.

Item 2 – Traffic Control

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to develop traffic control plans as needed for the Contractor's proposed work, equipment, materials hauling and construction. This includes, but is not limited to, submitting a traffic control

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plan for review by the owner, submittal of any necessary encroachment permit paperwork and fees to the County, providing notification to adjacent property owners as necessary, implementing traffic control measures during construction, and updating as needed during the construction process. The cost includes permit fees, signage, flaggers, and other equipment and personnel to meet traffic control requirements. This item shall be paid for based on the overall percent complete of construction.

Item 3 – Erosion and Sediment Control

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to providing planning, execution, monitoring, and management of applicable best management practices as required by the Regional Water Quality Control Board and local jurisdiction for the Contractor's Operations. This Work covers all Contractor costs and effort associated with providing water pollution and sediment control measures including, but not limited to, erosion and sediment control measures such as silt fences, fiber rolls, and stabilized construction entrances, as well as the ongoing maintenance throughout construction. Final site restoration and hydroseeding of all disturbed areas is covered under a separate bid item. This item shall be paid for based on the overall percent complete of construction.

Item 4 – Site Preparation

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to clear and prepare the site within the limits shown on the Drawings, as necessary to facilitate the Contractor's construction techniques to meet the intent of the Drawings. This bid item includes, but is not limited to, any necessary permits and approvals, monitoring, utility locating, and vegetation clearing.

Item 5 – Equipment Pads for Utility Crossings

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to design and furnish load bearing equipment pads, if necessary, to be used for crossing existing buried pipes as required by the Contract Drawings and Specifications. Items covered by this include, but are not limited to design, construction, providing, installing and removal of equipment pads if deemed necessary.

Item 6 – Demolish, Remove, and Dispose of Existing Surge Tower

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to deconstruct, remove, and dispose of the surge tower and appurtenances (e.g. all internals and the above ground surge tower overflow pipe). Items covered by this include, but are not limited to, dewatering, fabrication of lifting attachment, removal and disposal of material containing lead (see Specification 02 83 00 for more information), deconstruction of surge tower and appurtenances, disposal/recycling of waste, and providing documentation of final disposal location.

Item 7 – Cap Concrete Base and Surge Tower Overflow Pipe

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to cap the opening in the concrete base that is left upon removal of the surge tower, as well as capping the surge tower overflow line at the ground level, as shown on the Contract

Drawings and described in the Specifications. Items covered by this include, but are not limited to, cutting existing pipes, installing the blind flanges on the existing tower inlet (at concrete base) and surge tower overflow line at the ground level, coating the exposed pipe outlet and flanges, and cleanup.

Item 8 – Restore and Hydroseed Disturbed Areas

Measurement for this item shall be on a lump sum basis. Payment shall include full compensation for all materials, labor, equipment, and supervision necessary to furnish hydroseeding supplies and equipment and hydroseed all disturbed areas. Items covered by this include, but are not limited to applying hydroseed mixture and straw to all disturbed areas at the conclusion of the work.

END OF SECTION

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SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Pre-installation meetings.
- E. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements and locations of existing piping infrastructure and other existing utilities are compatible with demolition plan.
- C. Investigate utility locations in the vicinity of the work. Contact utility providers and verify the type, size, and location of utilities. Conduct field location methods such as ground penetrating radar and potholing to locate utilities that may be in conflict with the work.
- D. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- E. After Owner acceptance of work, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Engineer will schedule Kick-off meeting after Notice of Award.
- B. Attendance Required: Owner, Engineer, Contractor and major subcontractors.
- C. Agenda Example:
 - 1. Distribution of Contract Documents.
 - 2. Submission of list of Subcontractors, schedule of values, and progress schedule.

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3. Designation of personnel representing parties in Contract and Engineer.
 4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 5. Scheduling.
 6. Use of premises by Owner and Contractor.
 7. Owner's requirements.
 8. Construction facilities and controls provided by Owner.
 9. Temporary utilities provided by Owner (none)
 10. Testing (provided by contractor)
 11. Survey (provided by contractor).
 12. Security and housekeeping procedures.
 13. Site Safety (responsibility of contractor)
 14. Application for payment procedures.
 15. Procedures for testing.
 16. Procedures for maintaining record documents.
 17. Requirements for start-up of equipment.
- D. Record minutes and distribute copies within two working days after meeting to participants, with two copies to Engineer, Owner, and those affected by decisions made.

1.4 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum of bi-weekly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Owner, job superintendent, major subcontractors and suppliers, Engineer as appropriate to agenda topics for each meeting.
- D. Agenda Example:
 1. Review minutes of previous meetings.

2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems impeding planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- E. Record minutes and distribute copies within two working days after meeting to participants, with two copies to Engineer, Owner, and those affected by decisions made.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION – Not Used

END OF SECTION

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SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All components of the Contract Documents apply to this section including but not limited to drawings and provisions of the Contract, including Mandatory Contract Provisions, General Provisions, Special Provisions, General Requirements and Technical Specifications.

1.2 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 - Measurement and Payment.

1.3 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
 - 2. Submittals Schedule.
 - 3. Daily construction reports.
 - 4. Material location reports.
 - 5. Field condition reports.
 - 6. Special reports.
- B. Related Sections in General Requirements: All technical specification sections in the General Requirements (01 10 00 through 01 78 10) support work in this specification and should be referenced and considered and integrated and supporting document during the execution of this work.

1.4 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources. Predecessor

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activity is an activity that must be completed before a given activity can be started.

- B. Event: The starting or ending point of an activity.
- C. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to HBMWD.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- D. Milestone: A key or critical point in time for reference or measurement.

1.5 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified or necessary to demonstrate capabilities and experience.
- B. Submittals shall comply with the requirements of Section 01 33 00 Submittal Procedures including providing a Submittals Schedule: Submit five (5) copies of the schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal for all required submittals.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for HBMWD's final release or approval.
- C. Contractor's Construction Schedule: Shall be prepared in a Gantt Chart, critical path format.
 - 1. Submit five (5) printed copies of initial schedule in black-line print, large enough to show entire schedule for entire construction period.
 - 2. Submit an electronic copy of schedule in pdf format labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

1.6 QUALITY ASSURANCE

- A. A Quality Control program shall be developed, scheduled and maintained in compliance with the guidelines and requirements of General Provisions Section 100 and Technical Specification Section 01 40 00 Quality Requirements.

1.7 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate subcontractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports. The Contractor shall secure and identify time commitments from subcontractors, vendors and suppliers for performing critical elements of the Work from parties involved.
- C. Auxiliary Services: Provide auxiliary services requested, including access to Project Site and use of temporary facilities and utilities including temporary lighting.

PART 2 PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Submittals shall be provided in accordance with the requirements and guidelines of Technical Specification Section 01 33 00 Submittal Procedures.
- B. Preparation: Submit a schedule of submittals, arranged in chronological order using dates required by the construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, storage, and delivery when establishing dates and timelines.
 - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 - 2. Submit concurrently with Contractors Construction Schedule. Include submittals required during the first sixty (60) days of construction. Clearly identify those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture, delivery or fabrication times.
 - 3. Update Submittal Schedule: Update and submit the submittal schedule concurrently with the periodic updates of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion. Contract completion date shall not be changed by submission of a schedule that shows an early or late completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each component or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than thirty (30) days, unless specifically allowed by HBMWD.
 - 2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than sixty (60) days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, storage and delivery.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 01 33 00 Submittal Procedures and "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for HBMWD's administrative procedures necessary for certification of Substantial Completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on the schedule by phase.
 - 2. Work by HBMWD: Include a separate activity for each portion of the Work performed by HBMWD.
 - 3. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Technical Specification section 01 10 00 Summary. Delivery dates indicated stipulate the earliest possible delivery date.
 - 4. HBMWD-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Technical Specification section 01 10 00 Summary. Delivery dates indicated stipulate the earliest possible delivery date.

5. Work Restrictions: Include and show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Temporary utilities.
 - i. Installation and removal of temporary access.

6. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Deliveries.
 - e. Demolition.
 - f. Tests and inspections.
 - g. Adjusting.
 - h. Establishment.
 - i. Startup and placement into final use and operation.

- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to:
 - a. Notice to Proceed.
 - b. Substantial completion of improvements.
 - c. Final completion of improvements.
 - d. Occupancy of improvements.

- e. Warranty periods and interim inspections.
- E. Cost Correlation: At the beginning of the schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
- F. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within ten (10) calendar days of Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three (3) months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within time bar.

2.4 REPORTS

- A. Daily Construction Reports: Contractor shall prepare a daily construction report recording the following information concerning events at Project site:
 - 1. Site safety concerns or accidents.
 - 2. List of subcontractors at Project site.
 - 3. List of separate contractors at Project site.
 - 4. Approximate count of personnel at Project site.
 - 5. High and low temperatures and general weather conditions.
 - 6. Meetings and significant decisions.
 - 7. Unusual events (refer to special reports).
 - 8. Stoppages, delays, shortages, and losses.
 - 9. Meter readings and similar recordings.
 - 10. Emergency procedures.
 - 11. Orders and requests of authorities having jurisdiction.

12. Change Orders received and implemented.
 13. Construction Change Directives received.
 14. Services connected and disconnected.
 15. Equipment or system tests and startups.
 16. Partial Completions and occupancies.
 17. Inspections and tests including test samples.
 18. Substantial Completions authorized.
- B. Material Location Reports: At weekly intervals, the Contractor shall prepare a comprehensive list of materials delivered to and stored at Project Site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, the Contractor shall prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

- A. General: Submit special reports directly to HBMWD or Engineer within two (2) working days of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise HBMWD in advance when these events are known or predictable.

PART 3 EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At weekly intervals, update the schedule to reflect actual construction progress and activities. Issue schedule one (1) calendar day **BEFORE** each regularly scheduled progress meeting.

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1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, duration, actual starts and finishes, and activity duration.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved the schedule to HBMWD, Engineer, affected subcontractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Proposed products list.
- C. Product data.
- D. Shop drawings.
- E. Samples.
- F. Design data.
- G. Test reports.
- H. Certificates.
- I. Manufacturer's instructions.
- J. Manufacturer's field reports.
- K. Erection drawings.
- L. Construction photographs.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form.
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and deliver to Engineer. Coordinate submission of related items.

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- F. For each submittal for review, allow 15 working days excluding delivery time to and from Contractor.
- G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Engineer review stamps.
- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.3 PROPOSED PRODUCTS LIST

- A. Within 15 working days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.4 PRODUCT DATA

- A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus three copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Section 01 77 00 - Closeout Procedures.

1.5 SHOP DRAWINGS

- A. Shop Drawings: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. All submittals shall be completed electronically in pdf format and copies submitted as directed by the Owner or Engineer.
- D. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
 - 1. Include signed and sealed calculations to support design.
 - 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Section 01 77 00 - Closeout Procedures.

1.6 SAMPLES

- A. Samples: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 - 1. Submit to Engineer for aesthetic, color, or finish selection.
 - 2. Submit samples of finishes from full range of manufacturers' standard colors, in custom colors selected, textures, and patterns for Engineer selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit number of samples specified in individual specification sections; Engineer will retain two samples.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in specification section.

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- H. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00 - Execution Requirements and Section 01 77 00 - Closeout Procedures.

1.7 DESIGN DATA

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.8 TEST REPORTS

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.9 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer's, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.11 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Engineer's benefit as contract administrator or for Owner.
- B. Submit report in duplicate within 15 working days of observation to Engineer for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.12 ERECTION DRAWINGS

- A. Submit drawings for Engineer's benefit as contract administrator or for Owner.

- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

1.13 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Engineer.
- B. Each month submit photographs with Application for Payment.
- C. Photographs: Digital color photographs with resolution suitable for printing at 8-1/2" by 11" size.
- D. Take five site photographs from differing directions and locations, and five interior photographs of structures indicating relative progress of the Work, three working days maximum prior to submitting an Application for Payment.
- E. Identify each print on front. Identify name of Project, contract number, orientation of view, date and time of view.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

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**Humboldt Bay Municipal Water District
SUBMITTAL TRANSMITTAL FORM**

Date:	Contract Title: Surge Tower Demolition Project GHD Job #: 11136640
To: GHD, Inc. 718 Third Street Eureka, CA. 95501 pat.kaspari@ghd.com Attention: Patrick Kaspari, PE Phone: (707) 443-8326 Fax: (707) 267-2289	From: Submitted By: Signature:

Spec Section	Submittal No.	Rev. No.	Qty.	Subject of Shop Drawing or Submittal	Review Action

Engineer's Review Comments:

Signature: _____ **Date:** _____

Review Action Explanation:

NET: Reviewed, No Exceptions Taken MCN: Make Corrections Noted (no resubmission required) R&R: Revise/Resubmit REJ: Rejected

Shaded areas  for Engineer use only.

This review is only for general conformance with the design concept and the information given in the Construction Documents. Notations made on the submittals during this review do not relieve the Contractor from compliance with the requirements of the construction documents, including without limitation, the plans and specifications, and all applicable laws and codes. Review of that specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods techniques, sequences and procedures of construction; and coordination of the Work with all other trades and performing all Work in a safe and satisfactory manner. This review is not for constructability or Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto. This review is subject to all provisions of the Contract Documents.

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SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances.
- C. References.
- D. Mock-up requirements.
- E. Testing and inspection services.
- F. Manufacturers' field services.
- G. Examination.
- H. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

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- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.5 MOCK-UP REQUIREMENTS

- A. Tests will be performed under provisions identified in this section and identified in respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be the comparison standard for remaining Work.
- D. Where mock-up has been accepted by Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by Engineer.

1.6 TESTING AND INSPECTION SERVICES

- A. Employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.
 - 1. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time specialist and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.

- B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Engineer.
 - 1. Laboratory Staff: Maintain full time specialist on staff to review services.
 - 2. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Engineer.
- D. Reports will be submitted by independent firm to Engineer and Contractor, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 - 1. Submit final report indicating correction of Work previously reported as non-compliant.
- E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Engineer. Payment for re-testing or re-inspection will be by Contractor.
- H. Agency Responsibilities:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
 - 3. Perform specified sampling and testing of products in accordance with specified standards.
 - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 5. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.

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6. Attend preconstruction meetings and progress meetings.
- I. Agency Reports: After each test, promptly submit one copy of report to Engineer, Contractor, and authority having jurisdiction. When requested by Engineer, provide interpretation of test results. Include the following:
 1. Date issued.
 2. Project title and number.
 3. Name of inspector.
 4. Date and time of sampling or inspection.
 5. Identification of product and specifications section.
 6. Location in Project.
 7. Type of inspection or test.
 8. Date of test.
 9. Results of tests.
 10. Conformance with Contract Documents.
 - J. Limits On Testing Authority:
 1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency or laboratory may not approve or accept any portion of the Work.
 - K. Agency or laboratory has no authority to stop the Work.

1.7 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 20 working days in advance of required observations. Observer is subject to approval of Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

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SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Temporary lighting for construction purposes.
 - 3. Temporary water for construction/dust control.
 - 4. Temporary sanitary facilities.
- B. Construction Facilities:
 - 1. Vehicular access.
 - 2. Parking.
 - 3. Progress cleaning and waste removal.
 - 4. Project identification.
 - 5. Traffic regulation.
 - 6. Fire prevention facilities.
- C. Temporary Controls:
 - 1. Barriers.
 - 2. Security.
 - 3. Water control.
 - 4. Dust control.
 - 5. Erosion and sediment control.
 - 6. Noise control.
 - 7. Pest control.
 - 8. Pollution control.
 - 9. Rodent control.

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- D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

- A. Provide and pay for power service required from portable generators as needed for construction operation. There is no available power at the site.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain temporary lighting for construction operations as may be needed to achieve minimum lighting level of 2 watt/sq ft .
- B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide and maintain 0.25 watt/sq ft HID lighting to interior work areas after dark for security purposes if applicable.
- D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.
- E. Maintain lighting and provide routine repairs.

1.4 TEMPORARY WATER FOR CONSTRUCTION/DUST CONTROL

- A. The District will provide the Contractor water for construction operations including as needed for dust control, etc.
- B. Contractor to coordinate with Owner on connection point and shall provide backflow assembly for connection to source water.
- C. Contractor to provide all necessary hoses, piping, etc. for transferring water from point of connection to point of use.

1.5 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.6 VEHICULAR ACCESS

- A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of width and load bearing capacity to accommodate unimpeded traffic for construction purposes, if applicable. Remove temporary access road at completion of project and restore site to pre-existing condition.
- B. Construct temporary bridges and culverts to span low areas and allow unimpeded drainage if required.
- C. Extend and relocate vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow if required.

- D. Location as shown on Drawings.
- E. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning space between and around combustible materials.
- F. Provide means of removing mud from vehicle wheels before entering streets. Comply with any other requirements of project permits

1.7 PARKING

- A. Locate as approved by Engineer.
- B. When site space is not adequate, provide additional off-site parking.
- C. Tracked vehicles not allowed on paved areas.
- D. Do not allow heavy vehicles or construction equipment in parking areas.
- E. Permanent Pavements and Parking Facilities:
 - 1. Prior to Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.
 - 2. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
- F. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, and mud
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- G. Removal, Repair:
 - 1. Remove temporary materials and construction at Substantial Completion.
 - 2. Remove underground work and compacted materials to depth of 2 feet; fill and grade site as specified.
 - 3. Repair facilities damaged by use, to specified condition.

1.8 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from work areas.

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- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.
- E. Free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids if applicable.
- F. Restore area.

1.9 TRAFFIC REGULATION

A. Haul Routes:

- 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
- 2. Confine construction traffic to designated haul routes.
- 3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

B. Traffic Signs And Signals:

- 1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
- 2. Provide, operate, and maintain traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
- 3. Relocate as Work progresses, to maintain effective traffic control.
- 4. See typical traffic control requirements within the design set.

C. Removal:

- 1. Remove equipment and devices when no longer required.
- 2. Repair damage caused by installation.
- 3. Remove post settings to depth of 2 feet.

1.10 FIRE PREVENTION FACILITIES

- A. Designate area on site where smoking is permitted. Provide approved ashtrays in designated smoking areas.

- B. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.
- C. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.
 - 1. Provide one fire extinguisher at each stair on each floor of buildings under construction if applicable.
 - 2. Provide minimum one fire extinguisher in every construction trailer and storage shed.
 - 3. Provide minimum one fire extinguisher in every piece of construction equipment or service truck.

1.11 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Keep the public and other unauthorized personnel away from work. Cover excavations with plates when not managed by contractor's personnel. Provide other types of barriers as needed to control construction areas.
- C. Provide protection for plants designated to remain. Replace damaged plants.

1.12 SECURITY

- A. Security Program:
 - 1. Protect Work and existing premises from theft, vandalism, and unauthorized entry.
 - 2. Initiate program at project mobilization.
 - 3. Maintain program throughout construction period until Owner occupancy.
- B. Entry Control:
 - 1. Restrict entrance of persons and vehicles into Project site.
 - 2. Prepare list of authorized persons and allow entrance only to authorized persons.
 - 3. Maintain log of visitors, make available to Owner on request.

1.13 WATER CONTROL

- A. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

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1.14 DUST CONTROL

- A. Shall be in accordance with the North Coast Unified Air Quality Management District (NCUAQMD).
- B. Execute Work by methods to minimize raising dust from construction operations.
- C. Provide positive means to prevent air-borne dust from dispersing into atmosphere including water and containment.

1.15 EROSION AND SEDIMENT CONTROL

- A. Any required sediment and erosion control Best Management Practices (BMP) will be in conformance with the latest version of the CASQA BMP Handbook for the project site appropriate to the phase of construction and the time of year. BMPs are to be employed as appropriate to minimize erosion and prevent sediment discharge from the site. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize surface area of bare soil exposed at one time. Provide straw mulch, coir rolls, silt fences, and other means of controlling runoff and erosion.
- C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.16 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.17 PEST CONTROL

- A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work.

1.18 POLLUTION CONTROL

- A. Implement approved pollution control measures as detailed in the Project Environmental Protection Plan if applicable.
- B. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

- C. Comply with pollution and environmental control requirements of authorities having jurisdiction.
- D. Do not dispose of volatile wastes or oils in storm or sanitary drains or on the ground.
- E. Do not allow waste materials to be washed into streams or bodies of water.

1.19 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to minimum depth of 2 feet. Grade site as indicated on Drawings.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

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SECTION 01 55 50

TEMPORARY TRAFFIC CONTROL SYSTEMS

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. The Contractor shall provide all materials, equipment, and labor necessary to furnish, place, and maintain temporary traffic control systems, including construction and maintenance area traffic control devices and flaggers as required to perform the Work in accordance with this Section, and all other appurtenant Work, complete in place, as shown on the Contract Drawings and as specified herein. It is anticipated that this work will largely consist of facilitating the movement of equipment and demolition debris onto and off of New Navy Base Road from the project site.
- B. The contractor is responsible for obtaining and paying for all traffic and encroachment permits, including but not limited to inspection fees, related to the delivery and hauling of construction equipment and materials, and traffic control measures and devices. The contractor must follow all pertinent state and local requirements for transporting large vehicles and equipment to the project site.
- C. The contractor is responsible for temporary placement, maintenance and removal of temporary traffic control devices and signs in accordance to these plans and the approved traffic management plan. If signs are placed in the county right-of-way (row), the contractor shall be responsible for applying for and securing the necessary encroachment permit(s) and paying all associated fees, including any County inspection fees. If signs are to be placed on private property, the contractor shall receive permission from the Engineer and property owner prior to placement.
- D. The Contractor will be responsible for repair of any damage to roads resulting from the construction ingress/egress and hauling activity. The post-project condition shall meet or exceed pre-project conditions and, if necessary, be repaired to the satisfaction of the Engineer at Contractors expense.
- E. Work Specified in this Section
 - 1. Review of proposed Work areas to determine temporary traffic control requirements.
 - 2. Verification of temporary traffic controls with the Engineer prior to implementation.
 - 3. Maintenance of traffic control during the Work.
 - 4. Monitoring traffic control during the Work to determine necessary changes required to maintain adequacy.
 - 5. Maintenance of traffic control during non-work hours to maintain adequacy.
 - 6. Removal of temporary traffic control systems after completion of the Work.

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1.2 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 - Measurement and Payment.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. General Provisions, Section B-51 Public Convenience.
- B. Humboldt County Public Works Encroachment Permit Application.
- C. State of California, Department of Transportation (Caltrans) Specifications and Standards
 - 1. Standard Specifications
 - a. Section 7 Legal Relations and Responsibility
 - b. Section 12 Construction Area Traffic Control Devices
 - 2. California Manual on Uniform Traffic Control Devices, Current Edition (California MUTCD)
- D. Commercial Standards
 - 1. State of California, Division of Industrial Safety, Department of Industrial Relations.
 - 2. Safety Orders of the Division of Industrial Safety, Department of Industrial Relations of the State of California, current edition.

1.3 SUBMITTALS

- A. In addition to the submittal requirements of Section 01 33 00 "Submittal Procedures," the Contractor shall provide the following at least ten (10) working days prior to any work in or on public roadways or private right-of-ways and shall meet with the approval of the Engineer:
 - 1. The contractor shall provide a Traffic Control Plan for review and approval by the Engineer. The Traffic Control Plan shall conform to the provisions on the plans, these specifications, the County encroachment permit provisions and shall be a living document, subject to modification and updated as project conditions change. If changes are made to the traffic plan, Contractor shall submit and allow 10 working days for plan review and approval by the Engineer and the County. The traffic plan shall be specific to the proposed activities that will occur on the existing roads:
 - a. Traffic plan shall be developed and implemented in accordance to the latest edition of the California manual on uniform traffic control devices (MUTCD) and all other pertinent state and local requirements. The traffic plan shall include, but is not limited to, the proposed average daily traffic (ADT), duration of work, haul routes, sign placement, and frequency of on-site meetings to be performed to review and update the traffic plan.

- b. Specific details for construction staging, including the location and limits of the work zone. The Contractor is responsible for installing temporary signs with respect to their work and add any additional signs as necessary and in accordance to the plans.
 - c. Locations of all encroachments.
 - d. Plans for protection of the public from construction-related hazards.
 - e. Lane closures and traffic routing including consideration of construction-related trucking routes.
 - f. Lane closure markings, barricade locations, and sign locations showing the necessary signing, methods of delineation and channelization and reference to the appropriate Caltrans standards and California MUTCD details for all affected roads.
 - g. Dimensions of lanes affected by traffic control that will be open to traffic.
 - h. Dimensions and locations of signs and cone tapers.
 - i. Identification of side streets and driveways affected by construction and show how they will be handled.
 - j. Detail of how public transit will be handled through the construction area.
 - k. Time periods of lane closures and detours.
2. No work except for installation of project identification signs will be allowed to commence prior to approval of the Traffic Control Plan.
 3. A "Letter of Responsibility," on company letterhead, indicating the names and telephone numbers of at least three different persons who shall be available to be contacted in case of emergency at any time during the life of the contract. Said persons must have decision-making authority within the company.

PART 2 PRODUCTS

2.1 GENERAL

- A. All construction area stationary and portable sign panels, lights, barricades, and traffic control devices shall be the product of a commercial sign or safety device manufacturer conforming to the requirements of Section 12, "Construction Area Traffic Control Devices," of the Caltrans Standard Specifications, unless otherwise specified in this Section, shown on the Drawings, and/or as directed by the Engineer.

B.

PART 3 EXECUTION

3.1 GENERAL

- A. No work shall commence until the Traffic Control Plan, including traffic control signing, has been approved by the Engineer and the County, if an encroachment permit is required.
- B. The Contractor shall take all necessary precautions for the protection of the Work and the safety of its employees and the public. Traffic shall be maintained through the construction or maintenance zone in accordance with Sections 7-1.08, 7-1.09 and 12 of the Caltrans Standard Specifications and Section 01 10 00 - Summary of Work.
- C. Field changes to traffic control plans shall be approved by the Engineer and County prior to installation.
- D. The Contractor shall provide all appropriate traffic control measures in accordance with this Section prior to start of construction in the public right-of-way or in any area adjacent to the street right-of-way where public safety is affected.
- E. All construction area signs, lights, barricades, and traffic control devices shall be furnished, installed, maintained, and removed in conformance with the latest edition of the California MUTCD. Additional or alternate signs may only be used when specifically authorized by the Engineer.
- F. The Contractor shall monitor traffic and safety conditions and maintain adequate traffic control measures during both work and non-work hours in order to maintain compliance with the requirements of this Section.
- G. If a hazardous condition is observed and the Engineer notifies the Contractor either directly or by telephone, the Contractor shall correct the condition immediately. If the Contractor fails to correct the hazardous condition immediately, the HBMWD reserves the right to call in a local contractor to perform the necessary work needed to improve public safety. The cost incurred shall be billed to the Contractor. Should the Engineer point out any inadequacy of warning and protective measures, such action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety nor abrogate his obligation to furnish and pay for these devices.
- H. All construction area signs, lights, barricades, and temporary traffic control devices shall be completely removed from the roadway when not in use. Locations and methods of storing traffic control equipment adjacent to the roadway between interrupted use shall require prior approval of the Engineer.
- I. Unless noted otherwise on the plans, the Contractor shall completely remove all temporary signs, striping and/or delineators and restore the pavement, as necessary, upon removal or relocation of any temporary traffic controls or detours constructed as part of the Work.

- J. Temporary traffic control measures shall be in effect only during work hours. Normal traffic routing shall be reestablished at the end of each workday.
- K. Contractor shall conduct his operation as to offer the least possible obstruction and inconvenience to the public, and he shall have under construction no greater amount of work than he can prosecute properly with due respect to the rights of the public. Contractor shall provide personal advance notice to each affected resident or business informing him of impending work and provide ample time to remove vehicles and estimated time of driveway closure. This shall be accomplished by delivering a notice to all houses or businesses to be affected by the impending work. The notice shall be typed and signed by the contractor or his designated superintendent. The format and contents of the notice shall be approved by the Engineer prior to commencement of the Work.
- L. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners. Convenient access to driveways, houses, and buildings along the line of the work shall be maintained and temporary approaches to crossings or intersecting roads shall be provided and kept in good condition.
- M. Whenever the Contractor's operations create a condition hazardous to the public, furnish, erect, and maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents or damage or injury to the public.
- N. Should the Contractor appear to be neglectful or negligent in furnishing warning and protective measures as above specified, the Engineer may direct attention to the existence of hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor at his expense, without cost to HBMWD. Should the Engineer point out any inadequacy of warning and protective measures, such action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety nor abrogate his obligation to furnish and pay for these devices.
- O. Under no circumstances shall access to businesses or residences be held up more than fifteen (15) minutes at any one time. The Contractor may coordinate with property and business owners to schedule work so that longer delays do not adversely affect residents or business owners to their satisfaction. In addition, Contractor shall give personal notice to all affected property owners as specified in paragraph M, hereinbefore. Before closing any street to through traffic, Contractor shall obtain prior approval from the Engineer seven (7) calendar days in advance of closure. Contractor shall at all times provide access to public facilities such as schools, etc. and make provisions for passage of emergency vehicles.
- P. Contractor shall maintain vehicular access to private driveways adjoining the site all stages of the work. Vehicle delays shall be no longer than fifteen minutes. Delays longer than fifteen minutes must be approved by the Engineer.

3.2 USE OF COUNTY RIGHT OF WAY AND PUBLIC ROADS

- Q. The contractor will be responsible for repair of any damage to roads resulting from the construction activities. The post-project road conditions shall meet or exceed pre-project conditions and, if necessary, be repaired to the satisfaction of the Engineer and HBMWD at contractor's expense. The Engineer will video document the roads within the project area prior to commencement.

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- R. Site visibility must be maintained at each road entrance in conformance with county code.
- S. Temporary lane closure traffic control to be consistent w/ lane closure for low volume, two lane roads per current edition of Caltrans manual of traffic controls and in conformance with the project specifications.
- T. Trucks leaving the Work Area shall have tires free of sediment to prevent/minimize sediment from being tracked onto public roadways.
- U. All public roads impacted by the construction activities shall be cleared of all sediment and debris on a daily basis or as directed by the Engineer.
- V. All active construction areas, application areas and roads shall be watered at a rate sufficient to keep soil moist and prevent formation of wind-blown dust.
- W. Private driveways shall not be used at any time during construction.

END OF SECTION

SECTION 01 57 00

ENVIRONMENTAL REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes: Permit Compliance, Spill Prevention, Dust Control, Tire Tracking Prevention

1.2 RELATED SECTIONS

- A. Section 31 10 13 – Demolition and Disposal
- B. Document – Surge Tower Retrofit Biological Report, Humboldt Bay Municipal Water District, May 2017

1.3 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 - Measurement and Payment.

1.4 SUBMITTAL REQUIREMENTS

- A. Submit in accordance with Section 01 33 00 – Submittal Procedures.
- B. Spill Prevention and Response Plan:
 - 1. A minimum of ten (10) working days prior beginning of site work, the Contractor shall prepare and submit for approval by the Engineer, a Spill Prevention and Response Plan to regulate the use of hazardous and toxic materials, such as fuels and lubricants for construction equipment. The Engineer will review, approve, and oversee implementation of the Spill Prevention and Response Plan.
 - a. The Contractor's Spill Prevention and Response Plan must include:
 - 1) spill cleanup procedures; 2) worker training; and 3) impact avoidance measures.
 - b. As part of the Plan, the Contractor shall indicate fueling areas for equipment and shall be a minimum of 100 feet away from waters unless the Contractor receives written permission from the Engineer.
- C. Tire Tracking Control Plan:
 - 1. A minimum of ten (10) working days prior to the beginning of site work, the Contractor shall prepare and submit for approval by the Engineer, a Tire Tracking Control Plan for all trucks and construction equipment, which enter and leave the construction site during the project.

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- a. As part of the Plan, the Contractor shall indicate means of removing sand, mud, vegetation, rhizomes/roots, and seeds from vehicle wheels and under carriage before entering and exiting the construction site onto County or private roadways through installation of stable rock construction entrances, steel grates, tire cleaning stations and routine street sweeping/vacuuming and as necessary to maintain the roads free of sediment.
- b. Roads utilized as part of the project shall be monitored by the Contractor on a daily basis for sediment tracking and other materials due to construction activities, and swept in a timely manner, as needed to prevent suspension of material which has a tendency to become airborne, or that could wash off into waterways. Roads shall be left clean at the end of each working day; cleaning operations shall not create water runoff or dust.
- c. The Plan shall include the location, size, maintenance and removal of such controls and designated monitoring periods and personnel to minimize sediment tracking onto roads.
- d. Full compensation for conforming to the provisions for developing and adhering to the Tire Tracking Control Plan shall be considered as included in prices paid for the various contract items of work involved and no additional compensation shall be allowed.

D. Dust Prevention Plan:

1. A minimum of ten (10) working days prior to the beginning of site work, the Contractor shall prepare and submit for approval by the Engineer, a Dust Prevention Plan for all construction activities that have the potential to generate visible dust.
 - a. Construction activities include, but not limited to grubbing, stripping, excavation, hauling, travel on gravel roads, and sediment placement on application areas.
 - b. At a minimum the submittal shall include the water source(s), proposed spray/application methods, frequency of watering, location, possible tarping of haul trucks, designated monitoring periods and personnel to prevent visible dust in accordance to these specifications and project permits.
 - c. Full compensation for conforming to the provisions for developing and adhering to the Dust Prevention Plan shall be considered as included in prices paid for the various contract items of work involved and no additional compensation shall be allowed.

1.5 PRECONSTRUCTION SURVEYS

A. Migratory Nesting Bird Survey

1. The Contractor shall notify the Engineer and HBMWD at least two (2) weeks prior to commencement of any construction so that a HBMWD-supplied qualified biologist can conduct a Migratory Nesting Bird Survey.
2. In the event there is a nesting bird within the limits of construction, or the project lies within a bird-specific buffer zone, the Contractor shall not perform any construction activities until the nest has been cleared or after August 15th, whichever is sooner.
3. The delay in construction due to a migratory nesting bird in the vicinity shall not incur any additional cost to the District.

B. Rare Plant Survey

1. The Contractor shall notify the Engineer and HBMWD at least two (2) weeks prior to commencement of any construction so that a HBMWD-supplied qualified biologist can conduct a Rare Plant Survey.
2. In the event there is a rare plant within the limits of construction or buffer areas, Construction activities will avoid harming the plant. If plants cannot be avoided an appropriate mitigation plan will be established in consultation with CDFW or USFWS depending on the status of the species.
3. The delay in construction due to a rare plant in the vicinity shall not incur any additional cost to the District.

1.6 GENERAL PROJECT-WIDE MEASURES

- A. Any required sediment and erosion control Best Management Practices (BMP) will be in conformance with the latest version of the CASQA BMP Handbook for the project site appropriate to the phase of construction and the time of year. BMPs are to be employed as appropriate to minimize erosion and prevent sediment discharge from the site.
- B. Contractor shall comply with all provisions of any additional federal, state and local permits necessary to complete the project.
- C. The Contractor is responsible to conduct the work in accordance with all project permits and environmental documents. The measures outlined in this section and in the other Contract documents are the only ones that the District is currently aware of. Work windows specified in the various project permit conditions may conflict within one another, therefore the most restrictive windows shall be exercised and as shown in the schedule on the plans.
- D. It is the responsibility of the Contractor to obtain and pay for all necessary local, federal and state permits not previously obtained by the District. The Contractor is responsible to verify that the District has obtained all necessary local, federal and state permits (as required), copies of which must be provided to the Engineer prior to construction start. Contractor will maintain a copy of all permits at the Project site.
- E. The Contractor shall comply with all other permit conditions, including construction windows, restrictions on work approach related to special status species and, buffer

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zones related to special status species, pre-construction and construction clearance surveys, daily site clearances, and construction monitoring.

- F. If special status species are identified during the pre-construction surveys, all personnel working on site will be required to participate in a short briefing by the Engineer and qualified biologist about the 1) presence of federally and state- listed bird, fish, amphibian, reptile, mammalian, and plant species at the site, 2) avoidance areas; 3) construction windows and effects on sequencing of work; 4) buffers between construction activities and breeding/nesting areas; and 5) pre-construction and construction clearance surveys and construction monitoring requirements prior to initiating and continuing work in construction work areas, including the potential necessity for trapping or seining and relocation; 6) Need to halt work if potential special status species located by Contractor or representative and notify Engineer before proceeding with work; 7) Requirements for minimizing other environmental impacts, including noise, traffic, etc.; and 8) The possible presence of archaeological or cultural resources and need to halt work if suspected archaeological or historic resources are found and notify the Engineer before proceeding with work.
- G. Procedures regarding Encountering Human Remains. Human remains may be encountered, given the reported presence of prehistoric sites in the vicinity. If human graves or remains are encountered, the following measures shall be implemented:
 - 1. The Contractor will halt the work in the vicinity
 - 2. The County Coroner will be notified. At the same time, a qualified archaeologist will be contacted to evaluate the situation.
 - 3. The Engineer will be notified.
 - 4. If human remains are of Native American origin, the Coroner will notify the Native American Heritage Commission within 24 hours of identification (916) 653 – 4082
- H. Procedures regarding Archeological and Cultural Sensitive Resources: Surface surveys have not detected cultural materials within the limits of planned excavation. However if any items of potential cultural or archeological significance are encountered during excavation operations, construction within this area shall be halted immediately, and the Contractor shall notify the archeologist/Engineer. The Contractor is advised that if any archaeological findings are discovered during construction that the monitor or archaeologist has the authority to slow or stop construction activities as they deem necessary.
- I. Hazardous Materials
 - 1. Work Cessation in the Event Suspected Hazardous Materials are Encountered. Project construction Contractors shall stop all work in the area of any suspected soil or groundwater contamination, or any unearthing of storage drums or other potential sources of hazardous materials/wastes. The Contractor shall then comply with relevant sections of the General Conditions and Technical Specifications.
- J. Avoidance of Impacts to Nesting Birds and Rare Plants

1. Nesting bird clearance surveys will be conducted by the biologist prior to any site disturbance between the start of construction and August 15th.
2. Special status species surveys will be conducted by the biologist prior to any site disturbance and during the entire duration of the Project.
3. All construction related disturbance will not occur until area is cleared of nesting birds and special status species and contractor shall not claim delay.
4. If surveys identify active nests or special status species, the Contractor shall cooperate with the Engineer and that appropriate exclusion zones are implemented around the nests and maintained until nesting has completed or until special status species can be relocated.
5. Scheduling of required clearance surveys: At the start of construction, the Contractor will be required to provide an updated construction schedule. On a weekly basis, the contractor, Engineer, and biologist will meet and discuss the status of the project and updates to schedules. Clearance surveys will be scheduled with the basis of this revised weekly schedule. The contractor will not be allowed to start construction until all the approved clearance surveys have been performed. It is the responsibility of the contractor to provide the biologist an updated schedule that allows for adequate time to schedule the clearance surveys required.

J. General Impact and Avoidance Measures

1. Employees will strictly limit their activities, vehicles, equipment, and materials to the designated temporary impact areas, staging areas, and work areas.
2. To avoid attracting predators, the action area will be kept clean of trash. All food-related trash items will be enclosed in sealed containers and removed daily from the action areas. Trash will be bagged and removed from the site and properly disposed of at the close of each workday to avoid attracting ravens, crows, or other potential predators.
3. No pets associated with construction personnel will be allowed on the action area.
4. All equipment maintenance and staging, and dispensing of fuel, oil, and coolant, will occur within the staging area. Equipment will be checked for leaks prior to leaving the staging area and repaired as necessary.
5. Crews shall not attempt to feed, harass, or otherwise intentionally interact with any listed species or nesting birds.

L. Noise

1. Semi-stationary equipment (e.g., generators, compressors, etc.) shall be located as far as possible from residences near the project site or shielded if feasible.
2. Equipment muffler/maintenance requirements shall be implemented.

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3. Equipment and on-site trucks used for construction shall be equipped with mufflers or other appropriate sound reducing equipment.
4. Impact tools such as jack hammers used for project construction would be hydraulically or electrically powered when feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools.

M. Air Quality

1. All exposed surfaces (parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered as necessary during windy periods when dust is generated.
2. Idling times shall be minimized by shutting off equipment when idling for more than five minutes.
3. All construction equipment shall be maintained and properly tuned in accordance with manufacturers specifications.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 AIR QUALITY AND DUST CONTROL

- A. The Contractor shall adhere to all project permits and shall utilize BMPs to minimize fugitive dust generation and assure compliance with North Coast Unified Air Quality Management District Rule 104 Section 4.0 regarding the control of fugitive dust.
- B. Unimproved access or unpaved haul roads, material stock piles, excavated and graded areas, and areas of exposed soil on the construction site shall be sprinkled with water or otherwise treated to fully suppress dust when and where dust becomes a problem. Sources of water for dust control are provided above.
- C. At the discretion of the Engineer, construction may be prohibited during periods of high winds (>15 mph), which have the potential to result in the generation of windblown dust and sediment not reasonably controllable with standard watering techniques.
- D. When not in use or unattended, construction equipment and vehicles will be shut down, locked up, and not left idling.
- E. Equipment and vehicles shall also be tuned and maintained in accordance with manufactures' specifications to avoid excessive emissions.
- F. All equipment shall operate with factory-equipped mufflers.
- G. Water active staging areas as needed for dust control. All active construction areas and sediment application areas shall be watered at a rate sufficient to keep soil moist and prevent formation of wind-blown dust.

- H. Contractor shall use water trucks or spray from hoses to control dust created by outdoor work operations during entire period of the Contract as directed by Engineer and stipulated in Specifications; Contractor shall satisfactorily control dust created by operations to the satisfaction of the Engineer.

END OF SECTION

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SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.
- F. Equipment electrical characteristics and components.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.
- D. Materials and equipment are to be new.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- D. Arrange deliveries of materials in accordance with construction schedules; coordinate to avoid conflict with work and conditions at the site. Deliver materials in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible. Contractor is encouraged to obtain materials in biodegradable or recyclable/reusable packaging which uses the minimum amount of packaging possible.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.
- D. The Contractor is encouraged to submit for approval products made out of recycled or environmentally responsible materials.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Engineer will consider requests for Substitutions only within a reasonable number of calendar days after issuance of the Notice to Proceed. Delays due to the failure of the Contractor to order the products specified in a timely manner is not a reason for approval of a substitution and shall not result in any additional costs to the Owner.

- B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for Substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit four copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 - 3. Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

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SECTION 01 70 00

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All components of the Contract Documents apply to this section including but not limited to drawings and provisions of the Contract, including Mandatory Contract Provisions, General Provisions, Special Provisions, General Requirements and Technical Specifications.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering.
 - 3. General installation of products.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
 - 7. Correction of the Work.
- B. Related Sections in General Requirements: All technical specification sections in the General Requirements (01 10 00 through 01 78 10) support work in this specification and should be referenced and considered and integrated and supporting document during the execution of this work.

1.3 SUBMITTALS

- A. Landfill and/or Recycling Facility Receipts: Submit copy of receipts issued by landfill and/or recycling facility.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

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3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence, location, size and materials of utilities, site conditions, buildings, environmentally sensitive areas, points of access and other construction affecting the Work.

3.2 PREPARATION

- A. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- B. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to the Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on form provided by the Engineer (Request for Information, RFI).

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation property/easement boundaries and existing benchmarks. If discrepancies are discovered, notify the Engineer and HBMWD immediately.

3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, property corners, and similar reference points as required before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of HBMWD. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to the Engineer and HBMWD before proceeding.
 - 2. Replace at no additional cost to HBMWD, lost or destroyed permanent benchmarks, property corners, and control points promptly. Base replacements on the original survey control points.

3.5 INSTALLATION

- A. Comply with manufacturer's and supplier's written instructions and recommendations for installing products in applications indicated.

- B. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- D. Tools and Equipment: Do not use tools or equipment that produce harmful noise or vibration levels.
- E. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous or otherwise harmful to the health of employees or tenants.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- D. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- E. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- F. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.
- G. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's and supplier's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

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- A. Repair or remove and replace defective construction.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting grades and alignments.
- B. Restore permanent facilities used during construction to their specified condition.

END OF SECTION

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All components of the Contract Documents apply to this section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Inspection procedures.
 2. Project Record Documents.
 3. Operation and maintenance manuals.
 4. Warranties.
 5. Instruction of HBMWD personnel.
 6. Final cleaning.
- B. Related Sections in General Requirements: All technical specification sections in the General Requirements (01 10 00 through 01 78 20) support work in this specification and should be referenced and considered and integrated and supporting document during the execution of this work.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 2. Advise HBMWD of pending insurance changeover requirements.
 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Prepare and submit Project Record Documents and other final record information.
 5. Deliver tools, spare parts, extra materials, and similar items to location designated by HBMWD. Label with manufacturer's or supplier's name and model number where applicable.
 6. Submit changeover information related to HBMWD's occupancy, use, operation, and maintenance.

7. Complete final cleaning requirements, including surface restoration.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, the Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. The Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by HBMWD, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three (3) copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize items applying to each space by major element.
 2. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of HBMWD.
 - d. Name of Contractor.
 - e. Page number.

1.5 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for HBMWD 's reference during normal working hours.
- B. Record Drawings: See Section 01 78 10 - Project Record Documents.
- C. Record Specifications: See Section 01 78 10 - Project Record Documents.
- D. Record Product Data: See Section 01 78 10 - Project Record Documents.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion

- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Provide additional copies of each warranty and extended warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and anti-pollution regulations.
- B. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on HBMWD's property. Do not discharge volatile, harmful, or dangerous materials into drainage or sanitary sewer systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

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SECTION 01 78 10

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All components of the Contract Documents apply to this section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Product Data.
- B. Related Sections in General Requirements: All technical specification sections in the General Requirements (01 10 00 through 01 78 20) support work in this specification and should be referenced and considered and integrated and supporting documentation provided upon completion of the work.

1.3 SUBMITTALS

- A. Record Drawings: Contractor shall submit one (1) set of marked-up Record Prints to HBMWD no later than 20 calendar days after the Notice of Substantial Completion is issued.
- B. Record Product Data: Contractor shall submit one (1) copy of each Product Data submittal.
 - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.

PART 2 PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Drawings: Maintain and submit one (1) set of blue- or black-line white prints of the Contract Drawings and one (1) set of Shop Drawings.

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1. Preparation: Mark Record Drawings to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Revisions to lines and grades of proposed improvements.
 - d. Revisions to locations of planted improvements and other habitat features.
 - e. Changes made by Change Order or Field Work Directive.
 - f. Changes made following HBMWD's written orders.
 - g. Details not on the original Contract Drawings.
 - h. Field records for variable and concealed conditions.
 - i. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Field Work Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

- B. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where the Engineer determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
 - 1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
 - 2. Consult with the Engineer for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Drawings: Organize Record Drawings and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of HBMWD.
 - e. Name of Contractor.

2.2 RECORD PRODUCT DATA

- A. Preparation: Submit one (1) copy of each Product Data Submittal. Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Drawings, and Product Data where applicable.

2.3 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual

performance of the Work. Bind or file miscellaneous records and identify each so they are suitable for continued use and reference.

PART 3 EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for HBMWD's reference during normal working hours.
- C. Record documents shall be reviewed to confirm that information is current and accurate prior to each payment request. Failure to maintain accurate and up to date record documents shall be cause for withholding or deducting payment to the Contractor until in the HBMWD's judgement, the record documents are made current and accurate.

END OF SECTION

SECTION 02 83 00

REMOVAL AND DISPOSAL OF MATERIAL CONTAINING LEAD

PART 1 GENERAL

1.1 SUMMARY OF LEAD-RELATED WORK

A. General

1. This work may involve disturbance of finishes at the project site that are known or assumed to contain low levels of lead.
 - a. Surface coatings generally representative of paint present at the project site were collected to evaluate specific painted project site features for the presence of lead. Various sampled surface coatings were reported to contain low levels of lead. The highest level measured = 21 mg/kg, which does not meet the definitions of lead-based paint or lead-containing paint.
 - b. For testing performed and analytical results, see memorandum titled *HBWMD Surge Tower Evaluation* prepared by GHD Inc. (GHD) and dated September 5, 2012.
 - c. Surface coatings at the project site shall be understood to be subject to applicable governmental regulations concerning lead.
 - d. Lead was found present in the surface soil around the tower; however no soil disturbing activities are anticipated so no further action is required concerning the handling or disposal of soil as related to this project. For testing performed and analytical results, see memorandum titled *Results of Lead Assessment in Surface Soil* prepared by GHD and dated August 2, 2017.
2. The Contractor is solely responsible for determining and implementing applicable lead regulations, including California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) worker protection requirements, including Title 8 of the California Code of Regulations, Section 1532.1 (8 CCR 1532.1) in a manner that protects Contractor personnel, District personnel, the public, and the environment from potential lead or other hazardous material exposure resulting from Contractor work in association with this project.
3. Contractor shall furnish all labor, materials, services, insurance and equipment which are specified, shown or reasonably implied for effective containment, dust suppression, cleaning, impaction, transport, and disposal of lead from the project site.
4. The work includes the proper containment, removal, transport, and disposal of the following lead-contaminated materials associated with lead-related construction activities including, but not limited to, the following:

- a. All materials used for work area preparation
 - b. All discarded personal protective equipment
 - c. All other potentially contaminated materials
 - d. All lead contaminated waste and debris
- B. Upon completion of Contractor's work, all interior and exterior surfaces located within the Contractor's scope of work are to be free of visible lead-containing debris and/or lead-dust hazards.
- C. All work shall be supervised by experienced persons trained, knowledgeable and qualified in the techniques of lead containing material impaction, proper handling, disposal requirements and the subsequent cleaning of lead-contaminated areas.

1.2 RELATED SECTIONS

- A. Section 09 91 00 – Paints and Coatings

1.3 RELATED DOCUMENTS

- A. Memorandum titled *HBWMD Surge Tower Evaluation* prepared by GHD and dated September 5, 2012.
- B. Memorandum titled *Results of Lead Assessment in Surface Soil* prepared by GHD and dated August 2, 2017.

1.4 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 – Measurement and Payment.

1.5 REFERENCES

- A. Work at the project site is understood to meet the Cal/OSHA definition of construction work [1532.1(a)] and includes the planned impaction of paint that has detectable levels of lead, thus, is subject to regulation by governmental agencies and standards, including those denoted below.
 - 1. Code of Federal Regulations (CFR)
 - a. 29 CFR 1926, Construction Standards
 - b. 40 CFR Parts 261, 265, and 268, Hazardous Waste Management
 - c. 40 CFR Part 745, Lead: Identification of Dangerous Levels of Lead
 - d. 40 CFR Part 745, Subpart E Lead Renovation, Repair and Painting Program
 - e. 49 CFR Parts 172, 173, 178, 179, Hazardous Material Transportation
 - 2. California Code of Regulations (CCR)
 - a. 8 CCR Division 1, Chapter 4, Construction Safety Orders

- b. 8 CCR 1532.1, Lead in Construction
- c. 8 CCR 1537, Welding, Cutting, and Heating of Coated Metals
- d. 8 CCR 1531, Respiratory Protection
- e. 17 CCR Division 1, Chapter 8, Accreditation/Certification, and Work Practices in Lead-Related Construction
- f. 22 CCR Division 4.5, Environmental Health Standards for Management of Hazardous Waste

1.6 DEFINITIONS

- A. Definitions specific to the work of this section:
- 1. Abatement – Hazardous materials related construction undertaken for the purpose of eliminating or reducing existing recognized hazardous materials related hazards. Title 17 CCR, Division 1, Chapter 8 defines abatement as any set of measures designed to reduce or eliminate lead hazards or lead-based paint for public and residential buildings, but does not include containment or cleaning.
 - 2. Accreditation – Accreditation means that California Department of Public Health (CDPH) has reviewed and finds acceptable a training provider’s written application for accreditation, and has conducted and finds acceptable, an on-site audit as specified in Title 17 CCR, Division 1, Chapter 8, subsection 35078(e). Accredited training provider means any individual, corporation, partnership or other unincorporated association or public entity to which the Department has granted accreditation or provisional accreditation to offer lead-related construction courses and continuing education instruction.
 - 3. Action Level (AL) – Cal/OSHA employee exposure level for airborne concentrations of lead of 30 micrograms per cubic meter of air (30 µg/m³) calculated as an eight-hour time-weighted average (TWA) per CCR Title 8, Section 1532.1 Lead (8 CCR 1532.1[b]).
 - 4. Air Monitoring – The process of measuring the air contaminant (e.g. lead) content of a specified volume of air in a stated period of time. The purpose of air monitoring is to determine compliance with regulatory occupational and specified environmental exposure limits for airborne contaminants.
 - 5. Cal/OSHA – The State of California Department of Industrial Relations, Division of Occupational Safety and Health.
 - 6. CDPH – The State of California Department of Public Health.
 - 7. Certified Lead Supervisor – A certified lead supervisor is an individual who has received a certificate or an interim certificate from CDPH as a “certified lead supervisor.”

8. Certified Lead Worker– A certified lead supervisor is an individual who has received a certificate or an interim certificate from CDPH as a “certified lead worker.”
9. Clearance Inspection – A clearance inspection means an on-site limited investigation, as described in Chapter 15: Clearance, sections II-VI, “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,” U.S. Department of Housing and Urban Development, June 1995.
10. Competent Person – An onsite supervisor who has been formally trained in lead-related construction and who is capable of identifying lead hazards, substandard and improper lead hazard controls, procedures, practices, and conditions and who has sufficient experience and authority to take prompt corrective measures to take corrective action.
11. Containment – Protective physical barriers and associated means and methods used to contain airborne contaminant dust within the work area and prevent contamination of surfaces and grounds below and adjacent to areas where a hazardous material is being disturbed.
12. Contractor – the appropriately-licensed contractor, including contractor personnel and/or affiliates, selected to remove the hazardous materials at the project site.
13. Hazardous Lead Waste – Lead-containing debris shall be classified as hazardous due to the characteristic of toxicity, as determined by testing in accordance with the California Code of Regulations, Title 22, Division 4.5. Any substance(s) listed in Chapter 11 Section 66261.24 at concentrations greater than the applicable listed Soluble Threshold Limit Concentration (STLC) or Total Threshold Limit Concentration (TTLC) is considered hazardous waste and may need to be further characterized by the Toxicity Characteristic Leaching Procedure (TCLP) in accordance with 40 CFR 261 and other tests prior to disposal as a hazardous waste.
14. Hazardous Waste – Waste material that is listed or meets the criteria for hazardous waste as set forth in California Code of Regulations (CCR), Title 22, and Article 9 (see below). At minimum, with regard to the work project, the following shall be considered to be hazardous wastes associated with lead containing paint with respect to this section:
 - a. Paint waste or other debris that has been classified as hazardous due to the characteristics of toxicity, as determined by testing in accordance with CCR, Title 22, Div. 4.5.
 - b. Any substance listed in Chapter 11, Section 66261.24 at concentrations greater than its listed Soluble Threshold Limit Concentration (STLC) of 5.0 part per million (ppm) or Total Threshold Limit Concentration (TTLC) of 1000 ppm. If the STLC or TTLC values are exceeded, the lead related waste will need to be further characterized by the Toxicity Characteristics Leaching Procedure (TCLP) in accordance with 40 CFR 261.

15. HEPA Vacuum Equipment – High efficiency particulate air (HEPA) filtered vacuuming equipment with a filter system capable of collecting and retaining lead dust. Filters shall be certified to be of 99.97% efficiency for retaining particles of 0.3 microns diameter or larger.
16. HUD – United States Department of Housing and Urban Development.
17. Intact LCP/LBP Components – LCP/LBP components (including equipment) removed substantially intact with LBP firmly adhering to the surface.
18. Lead Based Paint (LBP) – Paint that contains greater than or equal to 0.5 percent lead by weight, or 5,000 ppm, when analyzed by atomic absorption spectroscopy (AAS) or inductively coupled plasma-atomic emissions spectroscopy (ICP-AES) or 1.0 milligrams of lead per square centimeter (mg/cm²) as determined by x-ray fluorescence (XRF) testing or laboratory analysis, or as identified by plan. Untested paints or coatings must be presumed to contain LBP. The presence of LBP triggers specific CDPH rules for residential and public buildings. LBP triggers certain Cal/OSHA pre-job notification requirements, if quantity thresholds are exceeded.
19. Lead Containing Paint – Consumer Product Safety Commission (CPSC) definition of a paint or finish coating with a lead content of greater than 0.009 percent by weight (90 ppm). Note: Cal/OSHA regulation requires compliance with worker protection rules when impacting paint or material containing lead at any detectable level. Untested paints must be presumed to contain lead at Lead Based Paint (LBP) levels (see LBP definition, below).
20. Lead Containing Material – Any material, other than a paint or coating, with a lead content of 0.5 percent (5,000 ppm) or greater. Lead containing material may pose occupational and environmental hazards depending on lead content (level), operation or process, amount of disturbance, and other factors.
21. Lead Contaminated Dust – Lead-contaminated dust means dust that contains an amount of lead equal to, or in excess of:
 - a. Forty micrograms per square foot (40 µg/ft²) for interior floor surfaces; or
 - b. Two hundred and fifty micrograms per square foot (250 µg/ft²) for interior horizontal surfaces; or
 - c. Four hundred micrograms per square foot (400 µg/ft²) for exterior floor and exterior horizontal surfaces.
22. Lead Contaminated Soil – Lead-contaminated soil means bare soil that contains an amount of lead equal to, or in excess of, four hundred parts per million (400 ppm) in children’s play areas and one thousand parts per million (1000 ppm) in all other areas.

23. Lead Hazard – Lead hazard means deteriorated lead-based paint, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisance which may result in persistent and quantifiable lead exposure.
24. Lead Paint Surface Preparation – The process of conducting surface preparation by means of sandblasting prior to selective or general work or painting. Where the surface is being prepared for painting, lead-related work controls apply for any additional surface preparation required for painting. Also referred to as lead paint stabilization.
25. Lead Related Construction – Any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and clean-up, that, by using or disturbing lead containing material or soil, may result in significant exposure of adults or children to lead.
26. Lead Related Waste – Paint chips, vacuum dust, and debris, used cleaning articles, wastewater, plastic sheets and other disposable items used during lead/chromium containing paint impaction are considered lead contaminated waste or suspect hazardous waste pending further characterization.
27. Parts Per Million (ppm) – A common unit used to denote the lead concentration of surface coatings. Note: ppm is equivalent to milligrams per kilogram (mg/kg).
28. Permissible Exposure Limit (PEL) – This is the highest level of a regulated contaminant in air that an employee can be permitted to be exposed to in an eight hour work day without respiratory protection. For longer work days, the PEL is lowered and can be determined by dividing 400 by the number of hours worked per day. When the PEL is exceeded, action must be taken to lower the exposure level and protect the worker per the applicable regulation.
 - a. PEL (lead) – An exposure to airborne lead of 50 micrograms of lead per cubic meter of air (50 µg/m³), averaged over an 8-hour workday referred to as a time weighted average (TWA).
29. Personal Protective Equipment (PPE) – Coveralls, respirators, gloves, eye and hearing protection, hardhats and/or other personal equipment worn by individuals for the purpose of shielding from exposure to potentially hazardous materials or site conditions.
30. Presumed Lead-Based Paint – Presumed lead-based paint means paint or surface coating affixed to a component in or on a structure constructed prior to January 1, 1978. Presumed lead-based paint does not include paint or surface coating that has been tested and found to contain an amount of lead less than one milligram per square centimeter (1.0 mg/cm²) less than half of one percent (0.5%) by weight, or less than 5,000 ppm.

31. Qualified Person – The specially trained individual to be responsible for conducting air sampling, calibration of air sampling pumps, evaluating sampling results, and conducting respirator fit tests. This role is often assigned to the Competent Person.
32. Regulated Area – A designated and controlled area in which hazardous material impaction or hazardous materials–impacted work activities are undertaken or which may become contaminated as a result of such actions. A regulated area, also known as a work area, is a controlled area delineated by barrier tape (or similar means) at minimum and signage to restrict access to Authorized Personnel. In some instances, a higher degree of physical isolation and control may be required and specified.
33. Removal – Procedures specified as necessary to remove and clean–up hazardous materials, paint and debris with heavy metal contamination or components with heavy metal containing coatings from the designated areas and to dispose of these materials at an acceptable site in accordance with Federal, State and Local Regulations.
34. Trigger Task – Operation, process or task specifically identified by Cal/OSHA Lead Standard - 8 CCR 1532.1 as a potential lead exposure hazard requiring certain protective measures to be implemented prior to obtaining the results of an initial exposure assessment. Trigger tasks include, but are not limited to, any of the following tasks when materials or paints that contain lead are present and will be disturbed:
 - a. Manual work
 - b. Manual scraping or sanding
 - c. Heat gun applications
 - d. Use of power tools for cleaning or removal
 - e. Rivet busting
 - f. Abrasive blasting and clean-up of spent abrasive
 - g. Welding, cutting or torch burning
35. Transportation Storage Disposal (TSD) Facility – An USEPA or State permitted facility for transportation, storage, and disposal of hazardous wastes.
36. USEPA – United States Environmental Protection Agency.
37. USEPA RRP – United States Environmental Protection Agency Lead Renovation, Repair and Painting Program (RRP) regulation (40 CFR 745, Subpart E) establishes standard lead-safe work practices, training/certification requirements for entities conducting renovation and/or demolition work within pre-1978 housing, child care facilities and kindergartens.
38. Visually Clean – Free of visible dust, paint chips, dirt, debris, or films removable by vacuuming or wet cleaning methods specified. For outside

soil or ground cover areas, visually clean shall mean free of construction or paint debris, chips or dust distinguishable from the initial soil or ground conditions.

39. Washroom – A room or area established outside the work area for hand washing at minimum. Where the lead PEL is exceeded, the washroom shall contain a shower facility with hot and cold water and a water filtering system.

1.7 SUBMITTALS AND NOTICES

Requirements are as set forth in the contract for items required to be submitted under this section. Prior to the start of work at the project site, but not fewer than 14 calendar days prior to the planned commencement of work, the Contractor shall submit copies of the following documentation to the Engineer:

- A. Work Procedure and Lead Compliance Submittal
 1. Contractor shall submit the following to the Engineer prior to the start of work applicable to these specifications and in conjunction with the submittals required under Section 31 10 13 - Demolition and Disposal:
 - a. Detailed work plan describing the methods to be used including products, work procedures, tools and equipment, and lead containment and contamination controls and clean-up methods.
 - b. Cal/OSHA lead compliance plan for controlling worker exposure to lead.
 - c. Name and training documentation for the Competent Person responsible for lead compliance.
 - d. Plan for disposal of lead-contaminated wastes generated by this work in accordance with all applicable Federal, State and Local regulations

1.8 CONTRACTOR'S COMPLIANCE AND QUALITY ASSURANCE

- A. Competent Person
 1. The Contractor shall have a Competent Person onsite at all times while Lead-Related Construction involving a trigger task is in progress. The Contractor's Competent Person shall communicate and coordinate with the Owner with regard to work schedules, inspections, daily submittals, and compliance issues.

PART 2 PRODUCTS

2.1 PROTECTIVE COVERING

- A. Polyethylene sheets (poly) used onsite shall be fire resistant and of 6 mil thickness.

- B. Other reinforced impervious plastic sheeting products (10 mil thickness minimum) as may be required for use as drop cloths protection of grounds, flatwork and other surfaces.

2.2 TAPE

- A. Self-adhesive tape capable of sealing joints of adjacent sheets of polyethylene sheeting and for attachment of polyethylene sheeting to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions.

2.3 DISPOSAL CONTAINERS FOR HAZARDOUS WASTE

- A. Provide six (6) mil thick polyethylene sheeting, six (6) mil leak-tight polyethylene bags and other impervious containers or drums as required by applicable regulations.
- B. Provide labels for all waste container as all waste shall be labeled as hazardous or presumed hazardous waste unless proven otherwise by appropriate sampling and laboratory analysis unless otherwise noted.
- C. All hazardous waste shipping containers shall meet applicable DOT requirements.

2.4 WARNING SIGNS AND LABELS

- A. Caution Signs
 - 1. Signs are to be large enough to be readable from a distance and include the following phrase in minimum two-inch high letters:

CAUTION LEAD HAZARD
KEEP OUT UNLESS AUTHORIZED
 - 2. Signs shall be posted at each approach to each lead or abatement regulated area or area where lead-related construction work is conducted.

- B. Cal/OSHA Lead Warning Signs
 - 1. Signage including the following phrase shall be posted at the entrance to each regulated area:

DANGER
LEAD WORK AREA
MAY DAMAGE FERTILITY OR THE UNBORN CHILD
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM
DO NO EAT, DRINK OR SMOKE IN THIS AREA

- C. Labels

1. Hazardous waste shall be labeled according to Federal, State and Local regulations including but not limited to the California Code of Regulations, Title 22, Chapter 30 and the United States Department of Transportation 49 CFR Parts 172, 173, 178 and 179.

2.5 PERSONAL PROTECTIVE EQUIPMENT

- A. Personal protective equipment shall comply with the requirements of 8 CCR 1532.1, Lead.
- B. Minimum protective clothing and equipment for trigger tasks pending initial exposure monitoring and any operation known to exceed the PEL shall consist of disposable, full-body coveralls, disposable boots, gloves, or equivalent in accordance with ANSI Z41. Sleeves at wrists and cuffs at ankles shall be secure.
- C. All disposable clothing worn during each work shift shall be removed prior to exiting the regulated area and shall be properly segregated and placed in containers for proper waste characterization. The Contractor shall bear full responsibility for additional costs associated with waste profiling and disposal if wastes are not properly segregated.
- D. Eye protection and hard hats shall be available and worn at all times and shall conform to ANSI 87.1 and ANSI 89.1
- E. The Contractor shall provide Authorized Visitors with suitable disposable protective clothing, headgear, respirators, and footwear whenever authorized visitors are required to enter the regulated area.

2.6 RESPIRATORS

- A. For trigger tasks pending initial exposure assessment results and any operation known to exceed the PEL, provide workers with personally issued respiratory equipment approved by NIOSH and suitable for the lead exposure level in the regulated area and any other airborne contaminate hazards present.

2.7 TOOLS AND EQUIPMENT

- A. Provide suitable tools for the removal of LCP and lead contamination including HEPA vacuums, HEPA exhaust units, ground fault circuit interrupters (GFCIs), ladders, scaffold, and garden sprayers.
- B. All tools and equipment brought onsite shall be clean and free of lead and other hazardous material contaminants. HEPA vacuums shall be labeled with a lead warning label and dedicated to lead-impacted construction work to prevent commingling of lead wastes with asbestos or other vacuum wastes.
- C. Provide enough support equipment, including but not limited to lumber, nails, hardware, shower stalls, hoses, plumbing, drain pans, sump pumps, and waste water storage drums to construct and operate the required hand washing system and, where required, a portable Wash Room with showers.

PART 3 EXECUTION

3.1. GENERAL

- A. All work impacting known or presumed lead containing material must be accomplished in conformance with these specifications, applicable regulations and provisions of the contract documents. Contractor shall be solely responsible for compliance with applicable State and Federal lead and hazardous waste exposure, containment and disposal requirements. In addition to the lead hazard controls of these specifications, the applicable requirements for selective demolition, surface preparation, painting, restoration, patching, and repair shall be adhered to.
- B. Public and worker warning and safety information to be posted: Inside the designated construction area, post signs at all approaches to the lead removal or trigger task regulated area entrance to read:

CAUTION LEAD HAZARD
KEEP OUT UNLESS AUTHORIZED

- C. In addition, post the Cal/OSHA Lead Hazard Warning Poster at the immediate regulated area entrance where trigger tasks are conducted unless monitoring results show airborne exposure levels to be below PEL.

3.2. GENERAL WORK AREA PREPARATION

- A. The following requirement apply to lead-impacted work involving trigger tasks or other work that is likely or known to disturb material containing lead in a manner that will generate lead containing dust and debris within the regulated area.
 - 1. Exterior Areas:
 - a. For demolition, debris clean-up, and paint stabilization activities:
 - 1) Cover and protect ground and/or horizontal surfaces within regulated area as to contain the lead hazard within the established work area.
 - 2) Extend groundcover from a sufficient distance beyond the work activity, as needed, to contain all lead-related construction debris within the containment.
 - 2. Seal all seams and secure plastic to prevent undesired movement. Where lead-containing material removal is likely to generate airborne dust or paint chips, devise a suitable containment to control such dust and prevent dispersal by wind.
 - 3. Provide a designated entry/exit point to regulated areas suitable for workers to properly decontaminate and exit from the regulated area as specified herein. Install lead caution and warning signage as specified above and provide at minimum a hand washing facility.
 - 4. Lead-related construction work shall not initially proceed until the Engineer or Inspector has checked and approved regulated area preparations.

3.3. WORKER PROTECTION AND DECONTAMINATION

- A. The Contractor shall use only workers trained and medically qualified for the assigned lead work and respirator usage for trigger tasks or other work known or reasonably expected to generate airborne exposures to lead in excess of the AL or PEL.
- B. Medically-qualified shall mean that the worker who perform trigger tasks, abatement or other Lead-Related Construction tasks likely to exceed the AL, has had at minimum biological monitoring and a medical evaluation for use of respiratory protection in accordance with 8 CCR 1532.1 (j).
- C. If the AL is anticipated to exceeded on any project for 30 days or more per year, the employee shall be enrolled in an occupational medical exam for lead exposure and periodic biological monitoring per 8 CCR 1532.1 (j) (2) and (3).
- D. Each worker shall have successfully completed lead training in accordance with 8 CCR 1532.1 (l). All workers shall have had a minimum lead hazard communication training tailored to their particular job assignments.
- E. All workers and their supervisors performing lead-related construction work anticipated or determined to exceed the AL are required to have formal documented training in lead hazards meeting 8 CCR 1532.1 (l) (2).
- F. Where the workers and their supervisors are assigned work that is determined or reasonably expected to exceed the PEL, both the workers and their supervisors shall be trained by a Department of Public Health (CDPH) accredited training provider for lead related construction and certified as lead workers and supervisors by CDPH.
- G. All tools and equipment shall be decontaminated by HEPA vacuuming and/or wet wiping prior to being taken out of the regulated area. Tools and equipment with inaccessible internals shall be externally wet-wiped, bagged and sealed prior to being removed from the regulated area.
- H. Workers shall not eat, drink, smoke, apply cosmetics or chew gum or tobacco within the work area.

3.4. SURFACE PREPARATION

- A. Prepare the surface for welding or cutting as required to limit worker and environmental exposure to lead during the welding or cutting process.
- B. Prepare the surface for the primer coating in accordance with the painting specifications of this contract.
- C. Feather the coating edge transitions from substrate to coatings and from one coat to the next to obtain a smooth, clean, adhered surface for painting.

3.5. CLEANING AND DECONTAMINATION OF WORK AREAS

- A. Perform the following clean-up procedures daily:
 - 1. Clean regulated areas until they are free of loose dust and debris using HEPA and/or wet-wiping after pick-up of large debris.
 - 2. Wet debris with a fine mist of water and collect and containerize the material. All material to be properly segregated, double bagged or containerized, sealed, and moved to a designated, secure, waste storage area for waste characterization.
 - 3. At the end of each work day the Contractor's Competent Person shall inspect work performed to ensure the work has been completed and no visible dust or residue remains on the areas removed and/or in the regulated area. OWNER's Representative shall be included in that inspection process when and if they request inclusion.

- B. Final Clean up and Decontamination of Regulated Areas:
 - 1. At completion of lead-related construction work involving trigger tasks or task which produce lead-containing dust and debris, perform cleaning as follows:
 - a. Clean all regulated areas where lead-related construction was performed by vacuuming all surfaces with a HEPA vacuum followed by wet-wiping using methods and materials sufficient to prevent cross contamination.
 - b. Disassemble and remove containment barriers at each regulated area location after cleaning as specified above. Place containment construction material debris into waste bags and remove to the temporary waste storage area.
 - c. Place containment membranes and plastic sheeting and waste rags in labeled six mil plastic bags or containers, seal and store in a designated, secure, waste storage area for waste characterization.

- C. The cleaning procedure employed by the Contractor shall prevent spread of contamination and effectively clean surfaces, while producing minimal waste.

- D. All tools and equipment potentially contaminated with lead shall be decontaminated prior to exiting the regulated area and/or appropriately containerized to avoid dispersion of lead to other areas of the project site.

3.6. LEAD CONTAMINATION OF THE ENVIRONMENT

- A. Contractor shall take such measures as necessary to prevent lead contamination of the environment including the deposition of the lead containing coating of the surge tower to the surrounding area during the dismantling, loading and disposal of the surge tower.

- B. In the event that removed lead-containing material, dust, or debris is not properly contained within the regulated area and thereby migrates outside established

barriers, the Contractor shall stop work immediately, notify OWNER immediately, and commence clean-up and decontamination procedures as described herein or directed by OWNER.

3.7. WASTE STORAGE, SEGREGATION, AND CHARACTERIZATION

- A. The Contractor shall provide for secure onsite temporary storage of lead-containing material and/or related waste. Waste storage location, equipment, containers and methods are subject to prior approval by OWNER.
- B. Intact LCP components are not normally considered to be hazardous wastes and may often be removed and disposed of as non-hazardous construction wastes. However, it is the Contractor's sole responsibility to ensure the waste produced by the Contractor's means and methods is properly characterized and disposed of.
- C. The Contractor shall be responsible for secure onsite temporary storage for known or suspect hazardous LBP paint chip, dust/debris, and clean-up related waste. Contractor is also responsible for segregating wastes into appropriate waste streams based on waste characterization, sampling, and disposal requirements.
- D. As needed, and as determined by Contractor according to applicable State and Federal regulatory requirements, waste streams shall be tested by the Contractor using the following lead testing protocol thresholds for determination of hazardous waste characterization:

Table 1 – California Environmental Protection Agency (Cal/EPA) Testing Protocol for Lead

Laboratory Analytical Method for Determination of Lead Content	Hazardous Waste Threshold	Waste Characterization
Total Threshold Limit Concentration (TTLC)	≤50 ppm	Non-Hazardous Waste
Total Threshold Limit Concentration (TTLC)	>50 ppm - ≤1,000 ppm	Run STLC
Total Threshold Limit Concentration (TTLC)	>1,000 ppm	California Hazardous Waste, Run TCLP
Soluble Threshold Limit Concentration (STLC)	≤5 mg/L	Non-Hazardous Waste
Soluble Threshold Limit Concentration (STLC)	>5 mg/L	California Hazardous Waste, Run TCLP

Table 2 – USEPA Testing Protocol for Lead

Laboratory Analytical Method	Hazardous Waste Threshold	Waste Characterization
Toxicity Characteristic Leaching Procedure (TCLP)	>5 mg/L	RCRA Hazardous Waste
Toxicity Characteristic Leaching Procedure (TCLP)	≤5 mg/L	Non-RCRA Hazardous Waste

- E. Based on the above testing protocols, any representative waste stream having a soluble lead concentration greater than or equal to five ppm lead as determined by STLC or TCLP analyses or any waste greater than or equal to 1,000 ppm lead using the TTLC analysis shall be considered a lead hazardous waste. If the TTLC result for a waste stream is less than 50 ppm lead, then no further testing is required for the sampled waste stream unless the waste changes in character or composition.
- F. Composite representative samples shall be taken of each waste stream category generated and shall be composited into one sample for analysis. A minimum of four composite samples shall be taken to represent each category of waste generated. It will be the responsibility of the Contractor to ensure representative samples are taken from each category of segregated waste.
- G. Each category of suspect hazardous waste shall be tested and characterized according to requirements of the selected permitted waste disposal site.
- H. If other hazardous constituents are known or suspected to be present, the testing shall also include those substances or conditions.
- I. The waste shall be packaged, stored, handled, transported and disposed of for each category of waste generated based on the testing results and regulatory protocol.
- J. All testing shall be performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) established by CDPH.
- K. The cost of all waste characterization or waste profiling required by the approved landfill will be the responsibility of the Contractor.
- L. In the event that OWNER determines that the waste is not properly segregated, the mixed waste stream shall be considered hazardous. The Contractor shall be responsible for the costs associated with any additional testing required.
- M. The Contractor shall bear full responsibility for additional costs associated with waste disposal and characterization if waste is not properly segregated as required herein.

3.8. HAZARDOUS WASTE DISPOSAL

- A. Site Storage and Handling
 - 1. The Contractor shall pay strict attention to the requirements of 40 CFR 262 and 265 and Title 22, Division 4.5 for the onsite handling of hazardous waste, with special attention given to the time of storage, amount of material stored at any one time, use of proper containers, and personnel training
 - 2. All hazardous waste shall be stored in secure, locked, labeled, sealed impervious containers and not placed on the unprotected ground.
 - 3. All containers shall be shielded adequately to prevent dispersion of the debris by wind or rain and shall be labeled as hazardous waste.
 - 4. Any evidence of improper storage shall be cause for immediate shutdown of the project until a corrective action is taken.
- B. The exterior of waste containers shall be cleaned using a HEPA vacuum and/or wet-wiping prior to removing them from the work area.
- C. Wastes shall not be treated or processed in an attempt to mitigate the waste streams hazardous characteristics; as such treatment is prohibited by RCRA.
- D. The Contractor shall arrange to have the lead hazardous waste transported from the site in accordance with the requirements of 40 CFR 263 and 264, and disposed of properly in accordance with 40 CFR 268, 8 CCR Articles 40 and 41, 49 CFR Parts 172, 173, 178, and 179 and Title 22, Chapter 30, Articles 5, 6, 6.5 and 8.
- E. The Contractor shall submit to OWNER the Name, Class, and USEPA ID Number of the waste disposal site(s) to be used for each waste category that has been determined by testing to exceed the hazardous waste thresholds provided in State and Federal regulations.
- F. The Contractor shall prepare hazardous waste shipping manifests for review by OWNER. Upon waste or material pickup by the selected waste transporter, manifests shall be signed by OWNER and copies retained to verify that all steps of the handling and disposal process have been completed properly.
 - 1. Copies of the fully completed manifests and landfill weight tickets shall be provided to OWNER.
- G. The Contractor shall be responsible for all costs associated with transportation and disposal of all wastes generated as the result of this work.
- H. No waste characterized as hazardous waste or originating from a waste stream characterized as hazardous shall be stored onsite for more than 90 days prior to being properly transported for disposal.
- I. All equipment, materials, and waste generated on this project must be removed offsite to their proper locations by the Contractor within 7 calendar days from completion of all abatement and lead-impacted construction work.

- J. Containers to be loaded for transportation from the storage area must be removed by workers who have entered from uncontaminated areas, dressed in clean coveralls.

3.9. ALTERNATIVE PROCEDURES

- A. If specified procedures cannot be utilized, a request shall be made in writing to OWNER providing details of the problem encountered and recommended alternatives.
- B. Alternative procedures shall provide equivalent or greater employee protection than procedures that are replaced.

3.10. STOP WORK ORDERS

- A. OWNER has the authority to stop work if it is determined that conditions or procedures are not in compliance with the specifications and/or applicable regulations; to the extent of potential endangerment of state employees, the public or environment.
- B. The work stoppage shall remain in effect until conditions have been corrected, corrective measures have been taken to the satisfaction of OWNER and the Contractor has received written approval from OWNER to recommence work.
- C. All standby time and testing costs required to correct the above mentioned problems shall be borne solely at the Contractor's expense.
- D. Examples of conditions that might result in a work stoppage include but are not limited to:
 - 1. Uncontrolled visible emissions which escape the established regulated area or breach physical protective barriers within the regulated area.
 - 2. Ambient airborne levels of lead outside the construction area at more than 15 µg/m³ of lead averaged over an eight-hour work period. Measurement of the ambient airborne lead levels may be made outside the immediate regulated area and at the nearest areas occupied by unprotected personnel or the public.
 - 3. Waste storage area left unsecured and/or improper containment of lead hazardous waste.
 - 4. Lead surface contamination outside the regulated area above clearance or pre-start background levels, whichever is higher as determined by wipe tests.

3.11. PROJECT CLOSEOUT

- A. Prior to approval of final payment request, the Contractor must provide the following information:
 - 1. Copies of all hazardous waste manifests, profile sheets and weight tickets for all hazardous wastes.

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2. Copies of all required environmental air monitoring results.
3. Copies of all outstanding daily submittals not previously submitted to OWNER.

END OF SECTION

SECTION 05 50 00

MISCELLANEOUS METALS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes shop fabricated metal items:

1. Structural steel for blind flange.

B. Related Sections:

1. Section 09 90 00 – Paints and Coatings

1.2 MEASUREMENT AND PAYMENT

A. Refer to Section 01 15 00 – Measurement and Payment.

1.3 REFERENCES

A. ASTM International:

1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
3. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
4. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
5. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.
6. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts.
7. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A992/A992M - Standard Specification for Structural Steel Shapes.
9. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
10. ASTM F436 - Standard Specification for Hardened Steel Washers.

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11. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.

B. American Water Works Association

1. AWWA C-115/A21.15-Standard for Flanged Ductile Iron Pipe

C. American Welding Society:

1. AWS D1.1 - Structural Welding Code - Steel.

D. National Ornamental & Miscellaneous Metals Association:

1. NOMMA Guideline 1 - Joint Finishes.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal requirements.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

C. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.

1.5 QUALITY ASSURANCE

A. Finish joints in accordance with NOMMA Guideline 1.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept metal fabrications on site in labeled shipments. Inspect for damage.

C. Protect metal fabrications from damage by exposure to weather.

1.7 FIELD MEASUREMENTS

A. Verify field measurements are as on shop drawings.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

A. Steel Plate: ASTM A36/A36M.

1. Gasket for sealing exposed pipe: Plain Rubber, Styrene Butadiene Copolymer (SBR), full faced, min. 1/4-inch thickness, AWWA C115/A21.15, Appendix A, Section A.2
 - B. Nuts: ASTM A563 Grade A.
 1. Finish: Painted per 09 90 00.
 - C. Washers: ASTM F884, HV and ANSI B18.22.1 Type A Plain.
 1. Finish: Painted per 09 90 00.
 - D. Welding Materials: AWS D1.1; type required for materials being welded.
 - E. Protective Paint Coating: refer to Section 09 90 00 – Paints and Coatings.
- 2.2 ANCHOR BOLTS
- A. Anchor Rods: AISI 1038.
 1. Hilti HIT-HY 200, HIT-Z Threaded Rod
 2. Furnish with nut and washer, hot-dip galvanized and coated per 09 90 00.
- 2.3 FABRICATION
- A. Fit and shop assemble items in largest practical sections, for delivery to site.
 - B. Fabricate items with joints tightly fitted and secured.
 - C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
 - D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
 - E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
- 2.4 FACTORY APPLIED FINISHES - STEEL
- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
 - B. Do not prime surfaces in direct contact with concrete or where field welding is required.
 - C. Prime paint items with two coats except where galvanizing is specified.
 - D. Galvanizing: ASTM A123/A123M; hot dip galvanize after fabrication.

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- E. Galvanizing for Fasteners, Connectors, and Anchors:
 - 1. Hot-Dipped Galvanizing: ASTM A153/A153M.
 - 2. Mechanical Galvanizing: ASTM B695; Class 50 minimum.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify field conditions are acceptable and are ready to receive Work.
- C. Verify minimum thickness of gasket to ensure watertight seal.

3.2 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Make provisions for erection stresses. Install temporary bracing to maintain alignment, until permanent bracing and attachments are installed.
- C. Field weld components indicated on Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. Obtain approval of Engineer prior to site cutting or making adjustments not scheduled.
- F. After erection, touch up welds, abrasions, and damaged finishes with prime paint or galvanizing repair paint to match shop finishes.

END OF SECTION

SECTION 09 90 00

PAINTS AND COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation, furnishing, and application of paint and special protective coatings for the exposed metal surfaces and the newly installed blind flanges.

1.2 RELATED SECTIONS

- A. 05 50 00 – Miscellaneous Metals

1.3 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 – Measurement and Payment

1.4 REFERENCES

- A. Reference Standards: Obtain and use the most current specified reference standards, coating manufacturer's product data sheets and application guides.
- B. 29 CFR, Code of Federal Regulations
 - a. Title 29 Occupational Safety and Health Administration (OSHA), U.S. Department of Labor
 - b. Title 40 Environmental Protection Agency
- C. National Sanitation Foundation (NSF)
 - 1. ANSI/NSF 61 - Drinking Water System Components - Health Effects
- D. American Society for Testing and Materials (ASTM)
 - 1. ASTM D 16 - Terminology Relating to Paint, Varnish, Lacquer, and Related Products
- E. SSPC, Steel Structures Painting Council, the Society for Protective Coatings
 - 1. SSPC Painting Manual Volume 1 - Good Painting Practice
 - 2. SSPC Guide 6 - Containing Debris Generated During Paint Removal Operation
 - 3. SP1 Solvent Cleaning
 - 4. SP2 Hand Tool Cleaning
 - 5. SP3 Power Tool Cleaning
 - 6. SP6 Commercial Blast Cleaning

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7. SP10 Near-White Blast Cleaning
 8. SP11 Power Tool Cleaning to Bare Metal
 9. PA3 A Guide to Safety in Paint Applications
- F. National Association of Corrosion Engineers (NACE)
1. NACE – SP0188 (Standard Practice Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates)
 2. NACE Publication 6D-173 A Manual for Painter Safety
- G. Only use the most current reference standards.

1.5 SUBMITTALS

- A. Product Data:
1. Submit manufacturer's most current product data for each coating, including generic description, complete technical data, surface preparation, and application instructions. Include schedule of material and thickness of each coat.
 2. Material Safety Data Sheets (MSDS) for all applicable materials including coatings.
 3. Certification that materials in contact with potable water have been approved according to NSF/ANSI 61/Standards.
- B. Certificates: Submit manufacturer's certification that coatings comply with specified requirements and are suitable for intended application.
- C. Color Samples: Submit manufacturer's color samples showing full range of standard colors for selection by Owner.
- D. Qualifications of Coating Contractor. Submit the following:
1. Copy of California Contractor's license.
 2. Department of Industrial Relations registration number.
 3. Written certification that each applicator performing Work on the projects is trained and qualified to perform the Work.
 4. Written certification from the Contractor that they are qualified to apply the coating system specified.
- E. Warranty: Submit manufacturer's and applicator's warranty statements for approval.

1.6 PERMITS, CERTIFICATES, LAWS AND ORDINANCES

- A. The Contractor shall, at their own expense, procure all permits, certificates, and licenses required of by law for the execution of the work. The Contractor shall comply with all Federal, State, Air Quality District, County, City or District laws,

ordinances, or rules and regulations relating to the performance of the work.

- B. Without limiting the general aspects or other requirements of this specification, all surface preparation, coating and painting of surfaces shall conform to applicable standards and practices as set forth by the National Association of Corrosion Engineers (NACE), Steel Structures Painting Council (SSPC), American Water Works Association (AWWA), and coating manufacturer's printed instructions. If any requirements of this specification conflict with a referenced standard, the more stringent requirement shall apply.

1.7 QUALITY ASSURANCE

- A. Do not use or retain contaminated, outdated, or diluted materials for coating operations. Do not use materials from previously opened containers.
- B. Use only products of the approved Manufacturers. Use products of one manufacturer in any one resurfacing system with compatible materials. Provide same material product for touch up as for original material.
- C. Make available all locations and phases of the work for access by the Owner, Inspector, or other personnel designated by the Owner. The Contractor shall provide ventilation and egress to safely access the coating work areas for inspection.
- D. Conduct work so that the coating systems are installed as specified herein. Work will be continually available to the Inspector to ensure that the coating systems are installed as specified herein. The Inspector shall inspect the work to determine conformance with the specifications and referenced documents. Any nonconforming coating system work shall be corrected as specified herein or as recommended by the Manufacturer.
- E. The specified coating system products manufactured by PPG, Tnemec, Devoe and Carboline have been approved. Submissions of alternative coating systems / manufacturers shall be submitted with all documents to the Engineer in writing. The Contractor's bid shall accommodate the specified systems and submittal of an equal system does not guarantee its approval.
- F. Samples and Tests:
 - 1. New materials:
 - a. Owner reserves right to select unopened containers of materials on job and submit independent laboratory for testing.
 - b. Costs for all tests shall be borne by Contractor.
 - c. Retests of rejected materials shall be paid for by Contractor.
 - d. Remainder of contents of container not required for testing will be returned to Contractor.

1.8 DELIVERY, STORAGE, AND HANDLING

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- A. Delivery: Purchase and deliver materials for preparation and painting of the pipes/flanges at one time. Submit shipping invoices at time of delivery. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
1. Coating or material name.
 2. Manufacturer.
 3. Color name and number.
 4. Batch or lot number.
 5. Date of manufacture. Materials older than one year from the date of manufacture shall not be allowed.
 6. Mixing and thinning instructions.
 7. Federal Specification Number if applicable.
 8. Application and mixing instructions.
 9. Hazardous material identification label.
 10. Shelf life date.
 11. Storage requirements. Submit storage and application temperature requirements for all coating system materials.
- B. Storage:
1. Coatings shall be stored in original unopened containers in clean, dry, weather tight spaces where the temperature is maintained between 40 °F and 100 °F (4 °C and 38 °C) unless otherwise recommended in writing by the manufacturer. The coating temperature shall be brought to the coating manufacturer's most current written recommended application temperature before use.
 2. Store all materials only in area or areas designated by the Owner. Confine mixing, thinning, clean up, and associated operations, as well as storage of materials related debris before authorized disposal, to these areas. All materials are to be stored on pallets or similar storage handling skids off the ground.
 3. Guard against fire. Flammable materials shall be stored according to state and local codes. Provide fire extinguishers of the type recommended by the manufacturer for the coatings in the areas of storage and areas being painted.
 4. Deposit cleaning rags and waste material in metal containers having tight covers.
 5. Keep containers sealed until ready for use.
 6. Do not use materials beyond manufacturer's shelf life limits.
 7. All coating shall be delivered to the shop or job site in original, unopened containers with labels intact. Minor damage to containers is acceptable provided the container has not been punctured or the lid seal broken.

8. Each container of coating shall be clearly marked or labeled to show coating identification, date of manufacture, batch number, and other information as needed to meet regulatory requirements. Each type of coating shall be accompanied by the manufacturer's Material Safety Data Sheet (MSDS) and product data sheet containing information such as basic chemical composition, acceptable weather conditions for application, and proper storing and mixing.
 9. All containers of coating shall remain unopened until required for use. No more containers of coating shall be opened than will be applied that day. The label information shall be legible and shall be checked at the time of use.
 10. Coating which has livered, gelled, or otherwise deteriorated during storage shall not be used; however, thixotropic materials which can be stirred to attain normal consistency may be used.
 11. The oldest coating of each kind that is in acceptable condition shall be used first. In every case, the coating is to be used before its shelf life has expired. Materials exceeding storage life recommended by the Manufacturer shall be removed from the site.
 12. Mix all lining materials in an enclosed mixing area designated by the Owner. This enclosed area must protect the mixing operation and materials from direct sunlight, inclement weather, freezing, or other means of damage or contamination. Protect all other concrete and metallic surfaces and finishes from any spillage of material(s) within the mixing area. The material temperature should be between 70° F and 90° F before application, unless noted otherwise on the manufacturer's product data sheet.
 13. Do not use floor drains, dikes or storm drains for disposal of coating system materials. Contractor shall be responsible for the safe removal and lawful disposal of all waste materials.
 14. The Contractor shall take all precautions and implement all measures necessary to avert potential hazards associated with the resurfacing system materials as described on the pertinent Material Safety Data Sheets or container labels.
- C. Handling: Protect materials during handling and application to prevent damage or contamination.

1.9 SAFETY

- A. The Contractor is responsible for providing a safe working environment for anyone entering the area at all times.
- B. The Contractor shall provide and require use of personal protective life saving equipment for persons working in or about project site in accordance with requirements set forth in the latest revisions of OSHA Regulations for Construction, AWWA, Section 7, or other regulatory agencies applicable to the construction industry. The manufacturer's printed instructions, appropriate

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technical bulletins and manuals, including SSPC-Paint Application Guide No. 3, shall apply.

- C. No work shall be performed until the Contractor's appropriate Work Requests and Lockout Systems have been coordinated with the Owner and are in place. The Work Request system provides a mechanism to advise plant staff of a Contractor's work activities. The Lockout system is a safety procedure to prevent unintended equipment activation.
- D. Keep any flammable materials such as cleaning solvents, thinners, or resurfacing materials away from open flames, sparks or temperatures higher than 150° F. Drums containing flammable materials shall be grounded. Flammable materials not being used shall be maintained in their onsite storage area.
- E. Power tools are to be in good working order to avoid open sparking. No spark producing tools shall be used in restricted areas as indicated herein.
- F. The Contractor shall maintain a clean work area and have Underwriter's Laboratories approved fire extinguishers on-hand. The Contractor shall furnish these fire extinguishers.
- G. Workers performing coating operations shall wear the appropriate personal protective equipment, clothing, and NIOSH approved respirator acceptable to industry standards and all government regulations. When paints or coatings are applied in confined areas, all persons exposed to toxic vapors or atomized coatings shall wear air-supplied masks. Equipment shall also include protective helmets that shall be worn by all persons while in the vicinity of the work area.
- H. Dispose of rags used for wiping up resurfacing materials, solvents, and thinners by drenching them with water and placing in a metal container with a tight fitting metal cover. Complete this disposal process at the end of each day. Final disposal of these materials is the Contractor's responsibility.
- I. Matches, flames, or sparks resulting from any source including welding, must be removed from the work area during coating work. Smoking is NOT permitted in any areas where flammable materials are present.
- J. Sound Levels: Whenever occupational noise exposure exceeds maximum allowable sound levels, Contractor shall provide and require the use of approved ear protection devices.
- K. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected.
- L. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety standards. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

- M. Grounding: Painting hoses shall be grounded to prevent accumulation of a charge of static electricity.
- N. Fire Hazard: Flammable, volatile solvents in paint and coating constitute a major hazard with regard to fire and explosions wherever flame or spark exposure is possible. All flames, smoking, and welding, etc., are strictly prohibited. Fire abatement devices shall be readily available and in operating condition. All paints and coatings shall be stored in conformance with applicable State, County and/or Local Fire Codes pertaining to flammable materials.
- O. The Contractor shall take necessary precautions to keep fire hazard to a minimum, removing from the area daily all oily rags, waste, and other combustibles not in covered containers.

1.10 PROJECT CONDITIONS

- A. The Contractor shall at all times conduct the work so as to assure the least possible inconvenience to the general public and adequate protection of persons and property in the work vicinity. Attention shall be paid to prevailing winds to reduce drifting of dust, and paint or coating overspray. At no time should drifting materials exceed any governmental agency's laws, codes, or guidelines. Public noise exposure shall be limited to hours of operation specified and delineated by the Owner.
- B. Weather:
 - 1. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range according to manufacturer's published instructions.
 - 2. Surface Temperature: Minimum of 5°F (3°C) above dew point and rising.
 - 3. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range according to manufacturer's instructions. The use of dehumidification equipment and procedures may be required depending on the time of year the work is being accomplished and the coating manufacturer relative humidity requirements for their particular coating system. The Contractor must be aware of these conditions and requirements and arrange to comply with these measures.
 - 4. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog, or mist.
 - 5. Wind: Do not spray exterior coatings if wind velocity is above manufacturer's limit.
- C. Dust and Contaminants:
 - 1. Schedule coating work to avoid excessive dust and airborne contaminants.
 - 2. Protect work areas from excessive dust and airborne contaminants during coating application and curing.

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3. All substrates to be coated must be clean, dry, and sound before the application of any coatings.

1.11 WARRANTY

- A. **Manufacturer Warranty:** Coating manufacturer shall provide a 2-year-minimum material warranty for exterior coating systems.
- B. **Applicator Warranty:** Coating applicator shall provide a 2-year-minimum application and labor warranty for exterior coating systems.
- C. **Warranty/Maintenance Inspections: Exterior Coating Systems.**
 1. First inspection will take place twelve (12) months after satisfactory completion and acceptance of application of coatings.
 2. The Contractor shall coordinate and facilitate first year anniversary inspection of the exterior of the pipe/flange coating.
 3. Repair any coating failures due to faulty workmanship or material.
 4. Provide the Engineer's approval of proposed methods to repair coating system.
- D. Inspection shall be attended by Owner or Owners Representative, Applicator, Engineer, and manufacturer's representative.
- E. Within the 2 year warranty period, Applicator shall repair all deficiencies in coating systems as determined by the Engineer according to Manufacturer's instructions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. PPG, Tnemec, Devoe and Carboline have been approved.
- B. **Approved Equals:** Submit system proposed as "Equal" for review and approval or revision as required by the Engineer. If other manufacturers are proposed and accepted, manufacturer's requirements shall be followed, but in no case may thickness or coverage be less.

2.2 COATING SYSTEMS FOR STEEL – EPOXY SYSTEM

- A. **Exterior**
 1. **Exterior Primer:** Generic Classification: Zinc-Rich, Aromatic Urethane, applied to a DFT of 2.5 to 5 mils in one coat.
 2. **Exterior Intermediate:** Generic Classification: Polyamidoamine Epoxy or Cycloaliphatic Amine Epoxy applied to a DFT of 4.0 to 6.0 mils in one coat.
 3. **Exterior Finish:** Generic Classification: Aliphatic Acrylic Polyurethane, applied to a DFT of 2.0 to 3.0 mils in one coat.

- a. Notes: Use contrasting colors to differentiate coats
- B. Coating Application Accessories:
 - 1. Accessories required for application of specified coatings according to manufacturer's instructions, including thinners.
- C. Colors
 - 1. Exterior colors will be selected by Owner. The Contractor shall submit manufacturer's color samples showing full range of standard colors for selection by Owner.

2.3 ABRASIVES

- A. The type and size of abrasive shall be selected to produce a surface profile that meets the coating manufacturer's recommendations. All abrasives shall be new, clean, and delivered to the project in unopened, weather resistant containers. Abrasive materials shall not be recycled for further use on this project unless approved by the Inspector.
- B. All abrasives shall meet the requirements of the North Coast Unified Air Quality Management District. At no time will abrasives containing more than 1% free silica be allowed on the job site.
- C. All abrasives shall be disposed of in accordance with all federal, state, and local laws at no cost to the Owner.
- D. Abrasive material used shall be Kleen-Blast, or approved equal. Abrasive shall produce a profile as recommended by the paint manufacturer.
- E. The abrasive to be used shall be sharp, angular, properly graded and brought to the job site in moisture-proof bags or airtight bulk containers, and shall be capable of producing the depth of profile specified by the paint manufacturer. Copper slag abrasives are not suitable.

PART 3 EXECUTION

3.1. EXAMINATION

- A. The Owner or the Owner's representative shall be given the opportunity to examine areas and conditions under which coating systems are to be applied. Notify Engineer of location, date and time of coating a minimum of 10 working days in advance of scheduled coating. Do not begin surface preparation or application until unacceptable areas or conditions have been corrected.

3.2. PREPARATION

- A. Protection of Surfaces Not Scheduled to be Coated
 - 1. Protect surrounding areas and surfaces not scheduled to be coated from damage during surface preparation and application of coatings.

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2. Immediately remove coatings that fall on surrounding areas and surfaces not scheduled to be coated.
- B. Surface Preparation of Steel
1. Prepare steel surfaces according to manufacturer's instructions.
 2. Prepared areas should be blown down with clean compressed air and vacuumed to remove any remaining abrasive residue.
- C. Fabrication Defects:
1. Correct steel and fabrication defects revealed by surface preparation. (If steel substrate conditions are questionable obtain direction and clarification in writing from the Engineer before continuing).
 2. Remove all weld spatter and slag.
 3. Round all sharp edges and corners of welds to a smooth contour.
 4. Smooth all weld undercuts, recesses or reverse ridges.
 5. Grind all down porous welds to pinhole-free metal.
 6. Remove all weld flux from surface.
 7. Ensure surfaces are dry, sound and free of foreign matter before proceeding with coating.
 8. Remove visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter according to SSPC-SP10/NACE 2 AND SSPC-SP6/NACE 3.
 9. Abrasive Blast-Cleaned Surfaces: Coat abrasive blast-cleaned surfaces with primer before visible rust forms on surface. These areas should be completely clean, free of all residues contaminates, etc. inspected by the Inspector and immediately coated following the inspection.

3.3. SURFACE PREPARATION

- A. Exposed metals to be coated.
1. Spot clean all rusted / damaged bare metal areas per SSPC-SP2 Hand Tool and/or SSPC- SP3 Power Tool Cleaning.
 2. Where coatings are removed, all surrounding areas of the tightly adhering remaining coating shall be feather edged minimum 1" in. to provide a tightly adhering, sound and smooth transition from the exposed bare metal area to the remaining tightly adhering coating.
- B. Round or chamfer sharp edges and grind smooth burns, jagged edges, and surface defects.
- C. Prepare welds and adjacent areas so there is:
1. No undercutting or reverse ridges on weld bead.

2. Remove all weld spatter on or adjacent to any other area. This includes all previous non-removed weld spatter.
 3. No sharp ridges or peaks along weld bead.
- D. Surfaces shall be sound, dry, and free of foreign matter. Nothing can remain on the surface to be coated that could interfere with the penetration and adhesion of any of the applied coatings which could result in a premature coatings problem.
- E. Sand out scratches and dings per SSPC SP2 and/or SP3.
- F. Spot prime by brush or roller any deficient or bare areas. Make flush and feathered with existing coating.
- 3.4. CONTAINMENT OF MATERIALS
- 2.3.1 Provide temporary wind shield to contain spent abrasive and paint to area immediately beneath structure.
- 3.5. APPLICATION
- A. Apply materials by workers experienced in use of product involved.
 - B. Apply materials under adequate illumination, spread evenly, and flow on smoothly without runs or sags. Use SSPC Guide 12 Guide for Illumination of Industrial Projects.
 - C. Cure under conditions eliminating possibility of dust becoming impregnated into finish.
 - D. Use good painting practices according to SSPC Painting Manual Volume 1 Fourth Edition (Good Painting Practice).
 - E. Before the application of any coating, ensure that the surface to be coated is dry, sound and free from any detrimental contamination that will prevent satisfactory penetration and/or adhesion of any of the applied coatings. Thus affecting the longer term protection and performance of the applied coating system.
 - F. Apply coatings according to manufacturer's most current written instructions.
 - G. Mix and thin coatings, including multi-component materials, according to manufacturer's most current instructions.
 - H. Keep containers closed when not in use to avoid contamination.
 - I. Do not use mixed coatings beyond pot life limits.
 - J. Use application equipment, tools, pressure settings, and techniques according to manufacturer's most current instructions.
 - K. Uniformly apply coatings at spreading rate required to achieve specified DFT.

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- L. All coatings shall be applied in a monolithic uniform manner that is free of any conditions which can adversely affect the overall performance or appearance of the coating system. These conditions include but are not limited to the following: discontinuities, runs, sags, drips, paint splatter, and imbedded foreign materials.
- M. Stripe coat each application with a brush in critical locations on all steel such as welds, corners, bolts, and edges. One stripe coat shall be applied between the first and second coat. Two stripe coats will apply too thick and risks solvent entrapment.
- N. Coating will be inspected for aesthetics as well as for performance.
- O. Noise dampening procedures such as hay bales should be employed around equipment such as sand pots and compressors. 110 dB shall be the maximum allowed sound level at a distance of 20 feet from equipment.
- P. Comply with all ambient conditions requirements established by manufacturer's most current printed documents.

3.6. REPAIR

- A. Damaged Materials: Repair or replace damaged materials and surfaces not scheduled to be coated.
- B. Damaged Coatings: Touch up or repair damaged coatings. Touch up of minor damage shall be acceptable where result is not visibly different from adjacent surfaces. Re-coat the entire surface where the touch up result is visibly different, either in sheen, texture, or color.
- C. Coating Defects: Repair coatings that exhibit film characteristics or defects that would adversely affect performance or appearance of coating systems per manufacturer's instructions.

3.7. FIELD QUALITY CONTROL

- A. Contractor's QA/QC Responsibilities: Contractor will provide full-time, continuous, field quality control of Work. This includes, but is not limited to:
 - 1. Maintain permanent written records of daily Work activities.
 - 2. Verify and record that the coatings and other materials are as specified (i.e., manufacturer, product name & product batch dates).
 - 3. Verify and record condition of coatings and material along with their storage procedures
 - 4. Verify and record surface preparation and application of coatings are as specified.
 - 5. All testing will be performed with Owner or Owner's Representative present.

- B. Manufacturer's Field Services: Manufacturer's representative shall provide technical assistance and guidance for surface preparation and application of coating systems.
- C. If coverage does not meet thickness specified, Owner reserves the right to require extra application to no extra cost to the Owner prior to the application of the succeeding coat.

3.8. CLEANING

- A. Remove temporary coverings and protection of surrounding areas and surfaces.
- B. Allow time according to manufacturer's instructions and as directed by Engineer for full cure of coating systems on water contact surfaces before flushing, disinfecting, or filling with water.

3.9. PROTECTION OF COATING SYSTEMS

- A. Protect surfaces of coating systems from damage from any possible surrounding activity.

END OF SECTION

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SECTION 31 10 13

DEMOLITION AND DISPOSAL

PART 1 GENERAL

1.1 DESCRIPTION

- A. The work described in this section includes demolition and disposal of the existing surge tower and associated appurtenances as shown on the Contract Drawings.
- B. Available Background Information:
 - 1. The existing surge tower is approximately 70 feet in height and consists of a 10½-foot diameter steel plate shell tower. The tower has an 18-inch diameter overflow pipe vertically braced in the center of the tower. There is a conical shaped inlet at the top of the 18-inch pipe, which is located 10 feet below the top of the tower. At 5 feet below the top of the tower there is an approximately 6-foot diameter plate protecting the opening of the overflow pipe.
 - 2. The surge tower is located directly above a 42-inch industrial water line that conveys untreated surface water. There is a 52-inch vertical inlet to the surge tower that is connected to the 42-inch industrial water line. This 42-inch line is also hydraulically connected to the nearby "Terminal Reservoir" storage tank.
 - a. The level of water in the Surge Tower "floats" with the level in the Terminal Reservoir when the isolation valve between them is open, which is the normal condition. The level in the Terminal Reservoir will be lowered and the isolation valve between the surge tower and the Reservoir closed to dewater it to the extent feasible and hydraulically isolate it from the rest of the system. However, the Contractor shall assume that that the isolation valves do not fully seat, and that there is potential for water from the nearby tank to slowly leak and ultimately overflow the vertical pipe that connects the 42-inch waterline to the surge tower.
 - b. The Contractor is responsible for all dewatering operations required for the proper demolition of the surge tower and for sealing the opening in the concrete base/vertical pipe after the surge tower is removed. Refer to Section 31 23 20 – Dewatering for additional information on dewatering requirements.
 - 3. The surge tower has an epoxy coating in which low levels of lead were detected. Refer to Section 02 83 00 – Removal and Disposal of Material Containing Lead for additional information.

1.2 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 - Measurement and Payment.

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1.3 SUBMITTALS

- A. Contractor shall submit a site-specific Demolition and Disposal Plan for site work, outlining work areas, methods, start work dates, equipment and crew types to perform the work a minimum of fifteen (15) work days prior to any site work.
- B. Submittal shall include a list of all materials generated during construction activities that will require off-haul, a list of off-site disposal and/or recycling facilities, including contact information, which the Contractor intends to use along with a list of items accepted for disposal/recycling at the identified facilities and written proof the proposed disposal/recycling locations are permitted to receive said materials
- C. Demolition & Disposal Plan submittal shall include rigging and equipment to be used to lift the tower.
- D. A plan for demolition of the existing surge tower has been provided in the Contract Drawings. The Contractor may submit a Proposed Alternative Demolition Plan outlining alternative means and methods for the removal of the tank if they so choose to. The Proposed Alternative Plan shall include a narrative describing the alternative demolition process, equipment, material, and labor necessary to remove the existing surge tower. The Proposed Alternative Plan shall be prepared by a licensed California Civil Engineer and submitted for approval to the Owner and Engineer a minimum of fifteen (15) working days prior to any site work construction activities.

1.4 QUALITY ASSURANCE

- A. In addition to complying with all pertinent codes and regulations, comply with the requirements of those insurance carriers providing coverage for this work.
- B. The Contractor shall comply with all Federal and State OSHA requirements for demolition of item described in description of work, and for items that may be encountered during this work.
- C. The Contractor shall not disturb any power poles, overhead lines or other subsurface utilities.

1.5 PROJECT CONDITIONS

- A. Disposition of material:
 - 1. Title to materials: Title to all materials to be removed, except as specified otherwise, is vested in the Contractor upon receipt of Notice to Proceed. The Owner will not be responsible for the condition or loss of, or damage to such property after Notice to Proceed.
- B. *Cleanup*: Debris and rubbish: Contain, remove and transport debris and rubbish in a manner that will prevent spillage to adjacent areas.
- C. *Dust control*: Use all means necessary to prevent the spread of dust during

performance of the work of this Section.

- D. *Runoff and Erosion Control:* The contractor shall be responsible for complying with the Stormwater Best Management Practices and any other requirements of permits required for the project. This shall include the control of runoff and erosion associated with demolition.

PART 2 PRODUCTS [NOT USED]

2.1 LIFTING AND RIGGING HARDWARE

- A. Contractor shall be responsible for providing adequately-rated lifting and rigging hardware.

PART 3 EXECUTION

3.1. SITE INSPECTION

- A. Prior to any demolition and debris removal work, carefully inspect the site and determine the extent of work involved.
- B. Report any discrepancy to the Engineer immediately.

3.2. COORDINATION AND SCHEDULING

- A. Coordinate work with other trades and subcontractors.

3.3. SAFETY

- A. All work shall conform to pertinent OSHA regulations and to other Federal, State and local codes and ordinances as applicable.

3.4. PROTECTION

- A. Use all means necessary to protect existing benchmarks and structures designated to remain and, in the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer at no additional cost to the District.
- B. Locate, identify, and protect conduits and other underground utilities indicated to remain, from damage.
- C. Protect trees, plant growth, and features designated to remain.

3.5. REMOVAL AND DISPOSAL OF DEBRIS

- A. All removed debris shall become the property of the Contractor and to be disposed of at an approved off-site facility.
- B. The Contractor shall handle and dispose of unsuitable and excess material legally, at refuse facility outside the Project site.

END OF SECTION

SECTION 31 23 20

DEWATERING

PART 1 GENERAL

1.1 SUMMARY

- A. Water is anticipated to be encountered within the existing surge tower and 42-inch industrial water line. Therefore, in order to accomplish the planned demolition, it may be necessary to dewater. The contractor is responsible for the design, operation and maintenance of the temporary dewatering system.
- B. The surge tower is located directly above a 42-inch industrial water line that conveys untreated surface water. There is a 52-inch vertical inlet to the surge tower that is connected to the 42-inch industrial water line. This 42-inch line is also hydraulically connected to the nearby 1-Million Gallon Terminal Reservoir storage tank.
 - 1. The level of water in the Surge Tower floats with the level of water in the Terminal Reservoir under normal operational conditions, and under these conditions, there is approximately 40-feet of water in the Surge Tower. Prior to the performance of this work, the District will draw down the level of water in the Terminal Reservoir and the Surge Tower. The existing isolation valves between the two will then be closed so that the Surge Tower is isolated and not hydraulically connected to the rest of the system or the Terminal Reservoir. However, the Contractor shall assume that the isolation valves do not fully seat, and that there is potential for water from the nearby tank to slowly leak into the Surge Tower.
 - 2. The Contractor is responsible for all dewatering operations required for the proper demolition of the surge tower and for sealing the opening in the concrete base/vertical pipe after the surge tower is removed.
 - 3. There is an existing Surge Overflow Tank immediately adjacent to the work (see Contract Drawings, Sheet C-101 for location). The Contractor can utilize the Overflow Tank for disposal of purged dewatering water. It is the Contractor's responsibility to provide all pumps, hoses, piping, valves, energy dissipaters, fuel or electricity, etc. necessary to perform dewatering operations.

1.2 SUBMITTALS

- A. Refer to Section 01 10 00 – Summary of Work, for Dewatering Plan requirements.

1.3 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 – Measurement and Payment.

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PART 2 MATERIALS (Not Used)

PART 3 EXECUTION

3.1. GENERAL

- A. The cost for repairs, materials replacement, cleanup, or fines resulting from improper operations or overflow caused by Contractor's dewatering practices shall be incurred by the Contractor and shall be charged to the Owner.

3.2 DEWATERING WATER DISCHARGE

- A. Contractor shall be responsible for meeting requirements of all regulating agencies for quantity, frequency, quality, clarity, and location of dewatering water discharge.
- B. The Contractor shall be responsible for monitoring the discharge of dewatering operations.
- C. If the Contractor suspects that dewatering discharge is contaminated, the Contractor shall immediately stop the work associated with the suspect material and notify the Owner and Engineer.

3.3 DAMAGES

- A. The Contractor shall be responsible for, and repair any damage to, adjacent improvements and structures, work in place, and the excavation, that may result from its installation, maintenance and operation of the dewatering system.

3.4 SYSTEM REMOVAL

- A. Upon written authorization of the Engineer, the Contractor shall remove from the site all dewatering system elements. Contractor shall assume ownership and responsibility for the disposal of all dewatering pumps, pipes, and other assorted system hardware.

END OF SECTION

PART 5
SUPPORTING DOCUMENTS



Memorandum

September 5, 2012

To: Carol Rische, Barry Van Sickle - HBMWD

Cc: Pat Kaspari, GHD

From: Susan O'Gorman

Tel: 707-443-8326

Subject: HBMWD Surge Tower Evaluation

Job no.: 01055-11018

On Wednesday May 30th, I met with Ryan Chairez of HBMWD to inspect the Surge Tower of the industrial water line, on the Samoa Peninsula. I completed the inspection by being lifted into the top of the surge tower in a Bosun's chair by a hydraulic boom crane. I also inspected the tank attachment to the foundation from the ground level. The purpose of this inspection was to determine the current structural condition of the Surge Tower.

The Surge Tower is 70 feet tall and consists of a 10 ½ foot diameter steel plate shell tower, with an 18 inch diameter overflow pipe vertically braced in the center of the tower. There is a conical shaped inlet at the top of the 18 inch pipe, which is located 10 feet below the top of the tower. At 5 feet below the top of the tower there is an approximately 6 feet diameter plate, protecting the opening of the overflow pipe.

The Surge Tower is connected to the pipe which fills the nearby Terminal Reservoir of the HBMWD industrial water line. Consequently, the water elevation in the Surge Tower is at the same elevation as the Terminal Reservoir. The base of the Surge Tower is at elevation 18 feet, and the filled elevation of the Terminal Reservoir is 56 feet. Therefore, when the Terminal Reservoir is full there is 38 feet of water in the Surge Tower. During my inspection from the Bosun's chair, water was visible in the Surge Tower and it appeared that it was near this elevation.

The lower exterior half of the tower is painted in an epoxy coating and the top half is plain steel. The epoxy has cracked in many locations and is probably allowing moisture to reach the steel behind, therefore effectively no longer providing protection. However, both top and bottom half of the tower appeared to be in reasonable condition with only minor areas having pockets of rust.

The inspection inside the top of the Surge Tower found that many of the interior elements are significantly rusted. The bracing members which center the overflow pipe in the tower, as well as the conical shaped inlet are heavily deteriorated. One brace was completely broken in half. See photos 4, 5 and 6 below.

The level of deterioration in these top members appears to be enough that if there was a water surge in the system and the water level rose, the water would cause the rusted members to break apart. If the surge was powerful enough, the members could break away and get lodged in the overflow pipe. However, the failure of these rusted members would likely not lead to a catastrophic failure of the Surge Tower itself.

Inspection of the bolts around the base of the Surge Tower found many bolts with significant rust on them, although it did not appear that the rust was extensive enough to cause significant section loss in any critical elements. In addition to the rust, at two of the anchor bolts, the nuts were found installed with the bolt only penetrating halfway through the nut. We are not aware of any recognized methods for



evaluating the strength of such miss-installed nuts. It is likely that the nuts would not be able to develop the full capacity of the anchor bolts; therefore they would fail in a non-ductile manner. Consequently, in our seismic analysis we did not include these two bolts as part of the foundation system.

We completed our seismic analysis by determining the weight of both the Surge Tower itself, and the weight of water inside. As discussed above, the level of water in the Surge Tower is approximately 38 feet, the same elevation as the water in the Terminal Reservoir. This amount of water weights 182 kips. The steel of the Surge Tower itself (assuming the outer shell is $\frac{1}{4}$ thick steel, and the inner 18 inch diameter riser pipe is $\frac{3}{8}$ inch thick) has a total weight of approximately 32 kips.

Using the site specific accelerations values per the 2010 California Building Code, the moment at the base of the Surge Tower due to a code level seismic event is 21,366 kips. The moment capacity of the foundation, excluding the bolts with miss-installed nuts, is approximately 12,400 in-kips. Consequently, the code level design seismic forces are 75% greater than the capacity of the Surge Tower.

This means that in a significant local seismic event, the foundation of the Surge Tower could fail, causing the tower to tear away from its base and fall over. This would essential be a major rupture in the industrial water line and it would drain the Terminal Reservoir as well as the Surge Tower itself. Additionally, it could cause significant damage to the surrounding domestic water line facilities.

Given the significance of this possible failure, we recommend that the surge tower be demolished within the next 5 years. It is our understanding, per discussions with the HBMWD staff, that the Surge Tower has rarely ever experienced a surge event. We suggest that the tower be removed and replaced with a surge control valve such as the CLA-VAL Model 94-01. This would provide the equivalent pressure relief that the Surge Tower provides and could be tied into the existing overflow pipeline.

It is possible that the surge value is not even required for the system. A surge analysis should be performed to demine whether a surge valve is required, and if so, specifically which valve would be necessary. GHD performs these types of analyses, but CLA-VAL can as well. We would recommend contracting CLA-VAL to learn what they would charge for such an analysis. The surge analysis and installation of the surge control valve can wait until an industrial water user is identified to bear the burden of these costs. However, the removal of the Surge Tower may not be able to wait until such time; consequently we recommend budgeting for beginning a demo plan and removal plan within the next 5 years.

We have completed an asbestos and lead analysis on the epoxy coating on the lower half of the surge tower. There was no asbestos detected and only a very small amount of lead. This amount of lead will trigger some Cal/OSHA safety requirements that the contractor must adhere to during the demolition process. During demolition workers will have to follow basis protective measures, such as respiratory protection and training. HEPA filter vacuuming will have to be utilized to maintain surfaces as free as practicable of the accumulation of lead. Hygiene facilities and practices will have to be provided for and strictly followed. A copy of the asbestos and lead analysis sampling reports is attached.



Photo 1 – Surge Tower

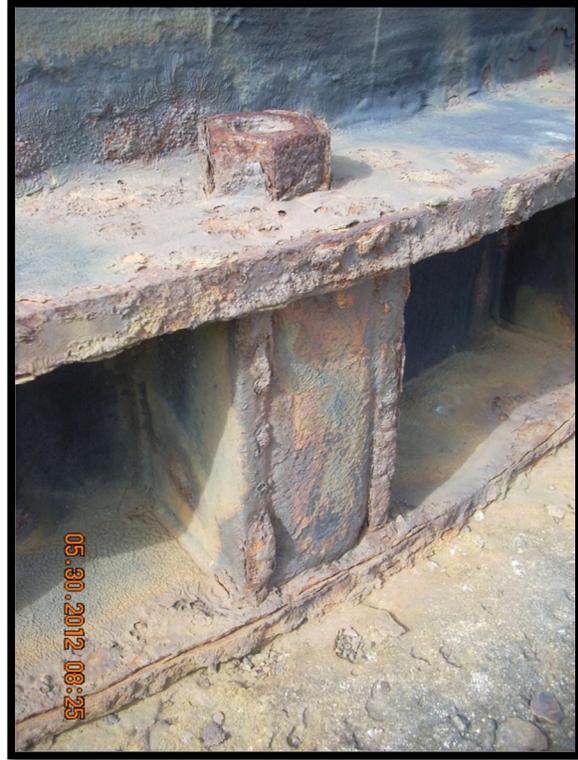


Photo 2 – Foundation Anchor Bolt



Photo 3 – Nut only partially engage with Anchor Bolt



Photo 4 – View of overflow pipe protector plate



Photo 5 – View of conical inlet to overflow pipe



Photo 6 – View looking down surge tower below top of overflow pipe



AmeriSci Los Angeles

24416 SOUTH MAIN STREET • SUITE 308
CARSON, CA 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

August 14, 2012

GHD
Attn: Scott Harris
718 3rd Street
Eureka, CA 95501

RE: GHD
Job Number 912081381
P.O. #0105511018.11001
0105511018.11001; HBMWWD - Surge Tower Samoa, CA

Dear Scott Harris:

Enclosed are the results for polarized light microscopy analysis (PLM) of the following GHD samples received at AmeriSci on Tuesday, August 14, 2012, for a rush turnaround:

GHD-01055-Surge-ASB-1, GHD-01055-Surge-ASB-2, GHD-01055-Surge-ASB-3

The 3 samples contained in Ziplock Bags were shipped to AmeriSci via UPS 1Z9701891391322155. These samples were prepared and analyzed according to the EPA Interim Method (EPA 600/M4-82-020 per 40 CFR 763, subpt F, App. A). The samples were evaluated for homogeneity by low power stereomicroscopy. Asbestos fibers were identified by PLM and dispersion staining through the determination of the required optical properties including: morphology, color, pleochroism, refractive indices, birefringence, extinction and sign of elongation. The required analytical information, analysis results, analyst signature and laboratory identification is contained in the Analyst's Report.

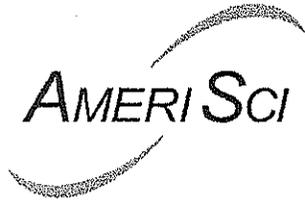
This report relates ONLY to the sample analysis expressed as percent asbestos. The CV for this analysis is expected to range from 0.3 to 1.2, depending on the quantity of analyte present. AmeriSci assumes no responsibility for customer supplied data such as "sample type", "location", or "area sampled". This report must not be used to claim product endorsement by AmeriSci, NVLAP or any agency of the U. S. Government. The National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Mary S. David". The signature is fluid and cursive, with a large loop at the end.

Mary S. David
Client Services Manager



AmeriSci Los Angeles

24416 S. Main Street, Ste 308

Carson, California 90745

TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

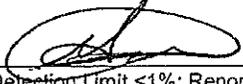
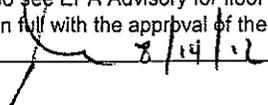
GHD
Attn: Scott Harris
718 3rd Street

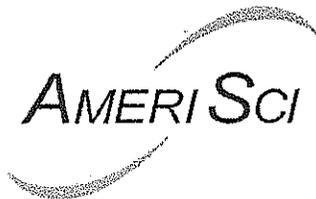
Eureka, CA 95501

Date Received 08/14/12 AmeriSci Job # 912081381
Date Examined 08/14/12 P.O. #
Page 1 of 1
RE: 0105511018.11001; HBMWWD - Surge Tower Samoa, CA

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
GHD-01055-Surge-ASB-1 Location: Tar Surface Coating (Black) / Surge Tower Exterior @ Southwest Side	912081381-01	No	NAD (by CVES) by Miguel Orozco on 08/14/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
GHD-01055-Surge-ASB-2 Location: Flange Gasket (Orange) / Surge Tower Piping @ Flange	912081381-02	No	NAD (by CVES) by Miguel Orozco on 08/14/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			
GHD-01055-Surge-ASB-3 Location: Tar Surface Coating (Black) / Surge Tower Piping @ Underside Of Pipe Run	912081381-03	No	NAD (by CVES) by Miguel Orozco on 08/14/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			

Reporting Notes:

Analyzed By: Miguel Orozco ; Date Analyzed: 8/14/2012 8/14/12
*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.
Reviewed By:  8/14/12



AmeriSci Los Angeles

24416 SOUTH MAIN STREET • SUITE 308
CARSON, CA 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

August 14, 2012

GHD
Attn: Scott Harris
718 3rd Street
Eureka, CA 95501

RE: GHD

Job Number 412081199
P.O. # 0105511018.11001
0105511018.11001; HBMWD - Surge Tower Samoa, CA

Dear Scott Harris:

Enclosed are the results for lead analysis of the following GHD sample(s) received at AmeriSci on August 14, 2012, for a rush turnaround:

GHD-01055-Surge-Pb-1

The 1 sample(s) contained in Ziplock Bags were shipped to AmeriSci via UPS 1Z 970 189 13 9132 2155. The sample(s) were received in Good condition. The sample(s) were prepared and analyzed as indicated on the attached analytical report.

Table I represents a summary of the analysis results. Unless otherwise specified, all quality control data met acceptance criteria.

This report relates ONLY to the sample analysis expressed as lead in ppm (mg/kg). AmeriSci assumes no responsibility for customer supplied data such as "sample location" or "area of collection". Complete analytical documentation is archived and available upon written request. This report must not be reproduced except in full without the written approval of the laboratory.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Mary S. David". The signature is fluid and cursive, with a large loop at the end.

Mary S. David
Client Services Manager



AmeriSci Los Angeles

24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

AmeriSci Job #: 412081199

Lead Analysis Results

Date Received: 08/14/12

Date Analyzed: 08/14/12

Solid/Soil
EPA Method 3050B/7000B

GHD

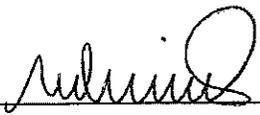
Eureka, CA

Job Site: 0105511018.11001; HBMWD - Surge Tower Samoa, CA

AmeriSci #	Client Number	Sample Location	%	Lead Content (mg/kg = ppm)
01	GHD-01055-Surge-Pb-1	Surge Tower Exterior @ Southeast Portion Of Tank Tar Surface Coating / Metal /	0.0021	21

AmeriSci Reporting limit is 20 mg/kg prior to any dilutions due to high analyte concentrations or matrix interferences. AmeriSci does not correct sample results by the blank value. All analytical batch data met quality control criteria unless otherwise noted. CA ELAP No. 2322. AIHA Lab No. 100530.

400 mg/kg for high-contact play areas, 1,000 mg/kg for low-contact areas.

Reviewed by: 

Analyzed by: 
Dennis S. Liu

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Memorandum

August 2, 2017

To: John Friedenbach, GM HBMWD

Ref. No.: 11136640.12

From:

Ana Friel, PG

Tel:

707-267-2208

cc: Dale Davidsen, HBMWD; Pat Kaspari, GHD

Subject: Results of Lead Assessment in Surface Soil

Humboldt Bay Municipal Water District (HBMWD) - Surge Tower, Samoa Peninsula

The purpose of this memorandum is to document the soil sampling activities performed and present the analytical results and findings from the lead assessment in surface soil at the HBMWD's Surge Tower located adjacent to New Navy Base Road on the Samoa Peninsula (Figures 1 and 2). The initial structural evaluation of the Surge Tower performed in September 2012 included sampling of the surface coating for lead and asbestos. As reported in the September 5, 2012 Memorandum, "HBMWD Surge Tower Evaluation" from Susan O'Gorman, GHD Structural Engineer, to HBMWD, the coating contained no detectible levels of asbestos, but it did contain low levels of lead (21 milligrams per kilogram [mg/kg]). In 2017, the California Office of Emergency Services (CalOES) requested that the soil around the Surge Tower be sampled for lead as part of the Phase 1 portion of the Hazard Mitigation Grant implementation completed for this project.

1. Sampling Activities

On behalf of the HBMWD, GHD performed surface soil sampling at the above-referenced location following the scope of work outlined in GHD's April 21, 2017 memorandum. On April 21, 2017, GHD conducted a site reconnaissance and marked the sample locations for Underground Services Alert (Ticket Number W711701123); the soil sampling efforts occurred on May 2, 2017. Anna Gower (GHD Environmental Scientist) conducted field efforts under the direct supervision of Ana Friel, a California licensed geologist.

As proposed, eight locations (SS1 through SS8) were sampled. GHD used a clean hand trowel to collect surface soil from an interval of approximately the ground surface to three inches below ground surface (bgs) at each location. Each sample was placed into a clean zipper lock plastic bag, as directed by the analytical laboratory. Decontamination of the hand trowel occurred between each sample location and each location was backfilled with surrounding loose soil to original grade.

The soil samples were labeled, logged onto a chain-of-custody form, and placed in an ice chest with ice. Samples were transported under chain-of-custody to North Coast Laboratories (NCL), a state-certified laboratory.



2. Analyses and Results

All eight samples were submitted for analysis of total lead by inductively coupled plasma mass spectrometry (ICPMS) via United States Environmental Protection Agency (USEPA) Method 6020. Additionally, samples that reported total lead greater than 50 mg/kg were also analyzed for Soluble Threshold Limit Concentration (STLC) lead by USEPA Method 6010B. The analytical results are presented in Table 1 and the complete laboratory analytical report is included as Attachment A.

Total lead results ranged from 4.4 to 62 mg/kg in the eight samples. In SS2, SS3, and SS6, the total lead result exceeded 50 mg/kg, thus, these three samples were analyzed for STLC Lead with results of 3,600, 2,600, and 2,000 micrograms per liter ($\mu\text{g/L}$), respectively.

3. Summary of Findings

A total of eight surface soil samples were collected around the Surge Tower as depicted on Figure 2. The concentration of total lead reported in these soil samples are below the Office of Environmental Health Hazard Assessment's (OEHHA's) commercial and residential land use scenario California Human Health Screening Levels (CHHSLs) of 320 mg/kg and 80 mg/kg, respectively. Thus, the lead levels in the soil samples do not indicate that there is a potential health threat to onsite commercial or construction workers.

For disposal purposes, waste soil containing total lead concentrations greater than 50 mg/kg are subjected to the STLC analysis in an effort to establish an appropriate disposal facility for the waste. Soil piles containing STLC lead values exceeding 5,000 $\mu\text{g/L}$ is classified as California Hazardous Waste and would need to be profiled for acceptance to an appropriate disposal facility. None of the three soil samples subjected to STLC lead analysis were above 5,000 $\mu\text{g/L}$; however, the levels do exceed the acceptance criteria for some disposal facilities and would be designated as 'non-hazardous lead-containing waste'.

The proposed HBMWD Surge Tower demolition project is not anticipated to involve the excavation and removal of any of this soil, and therefore no further action is required concerning the handling or disposal of soil as related to this project. It should be noted that the low levels of lead in the coating on the Surge Tower itself will trigger some CalOSHA safety requirements that the contractor will have to adhere to during the dismantling of the tower. These requirements will be described in the Contract Specifications for this project. However, based on the results presented herein, should the HBMWD perform soil excavation activities in this area in the future, appropriate sampling, analyses, and waste profiling is recommended.

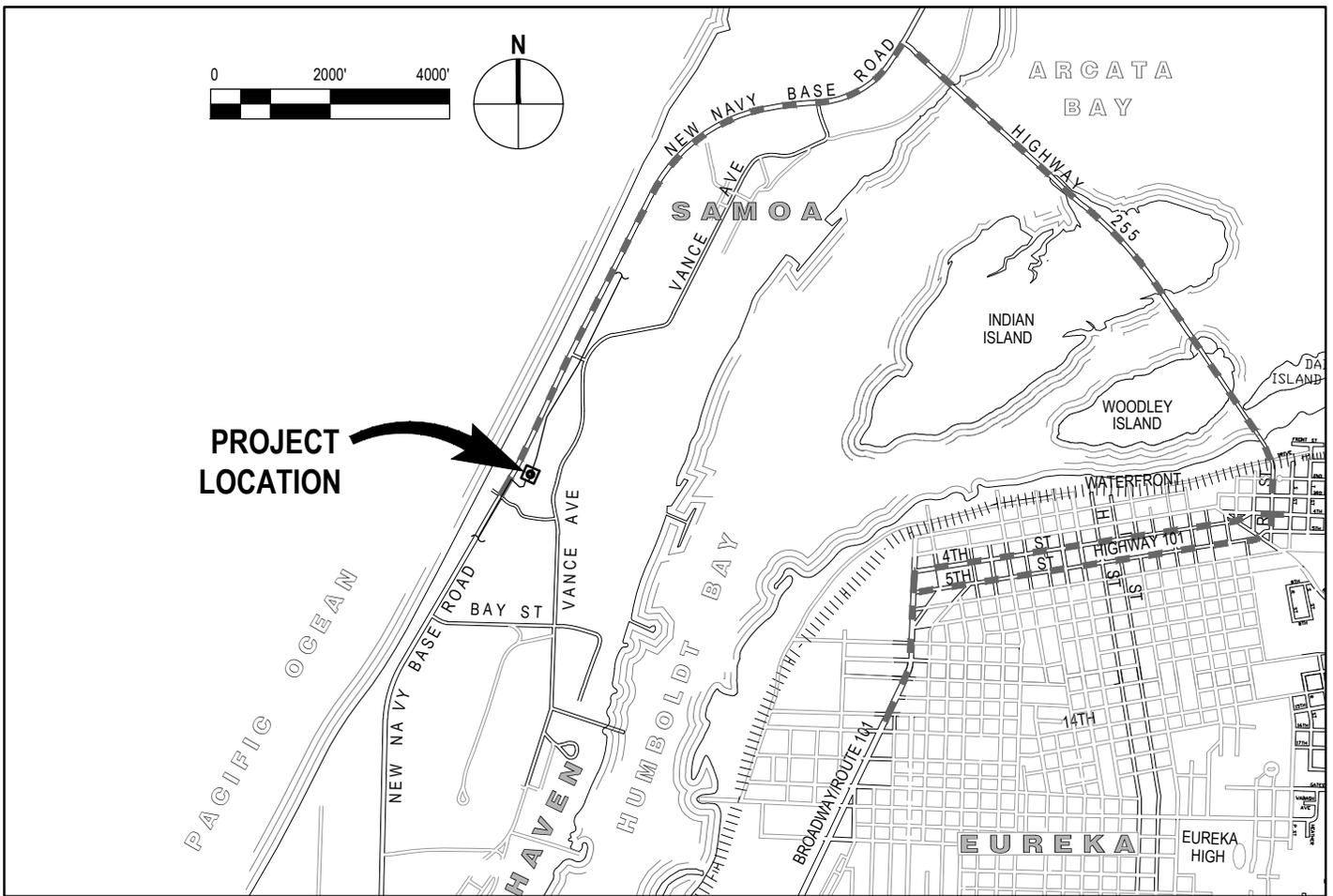
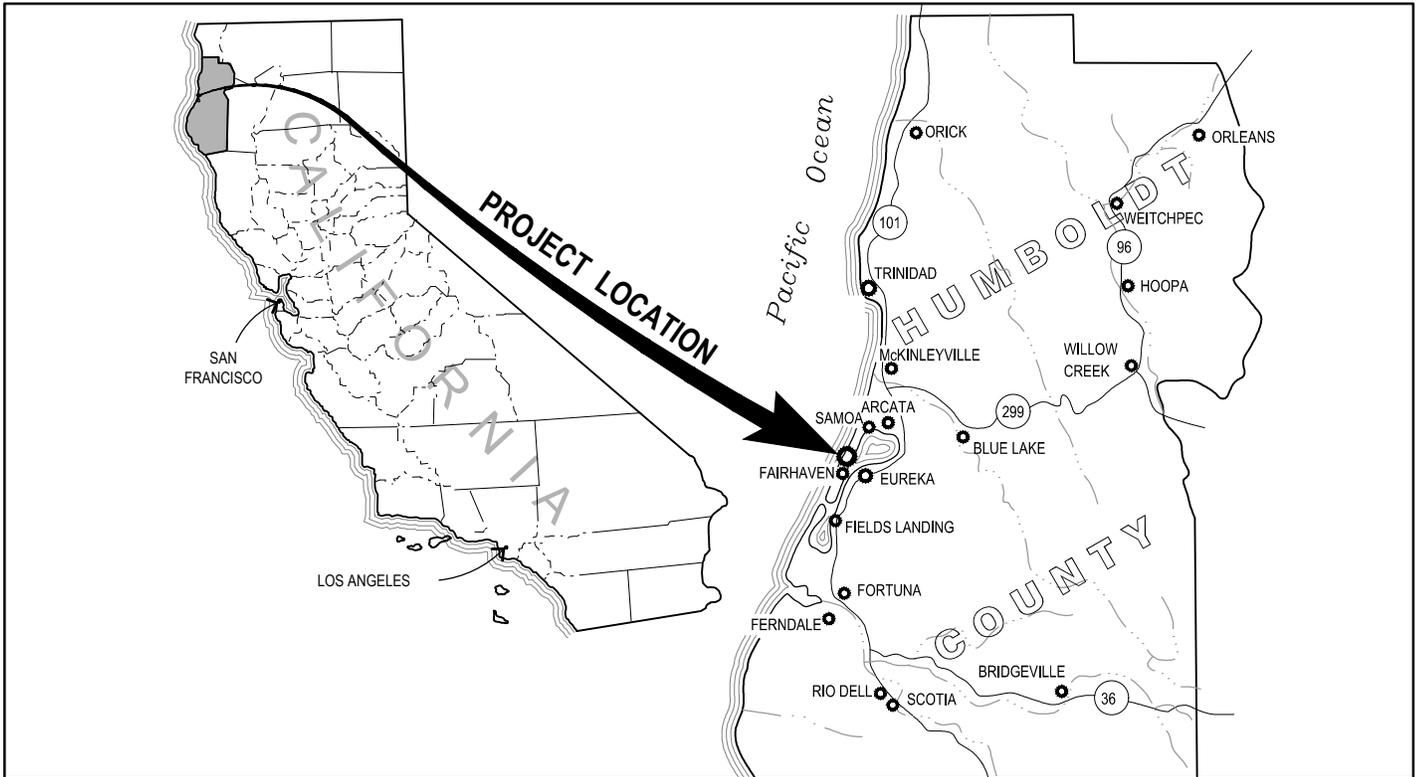
ATTACHMENTS

Figure 1 – Location Map

Figure 2 – Surge Tower Sample Location Map

Table 1 – Surface Sample Analytical Results and Lithologic Descriptions

Attachment A – Analytical Laboratory Report



GHD Inc.
 718 Third Street
 Eureka California 95501 USA
 T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com
 Drawn By: SJD
 Checked By: AF

SCALE: NOT TO SCALE

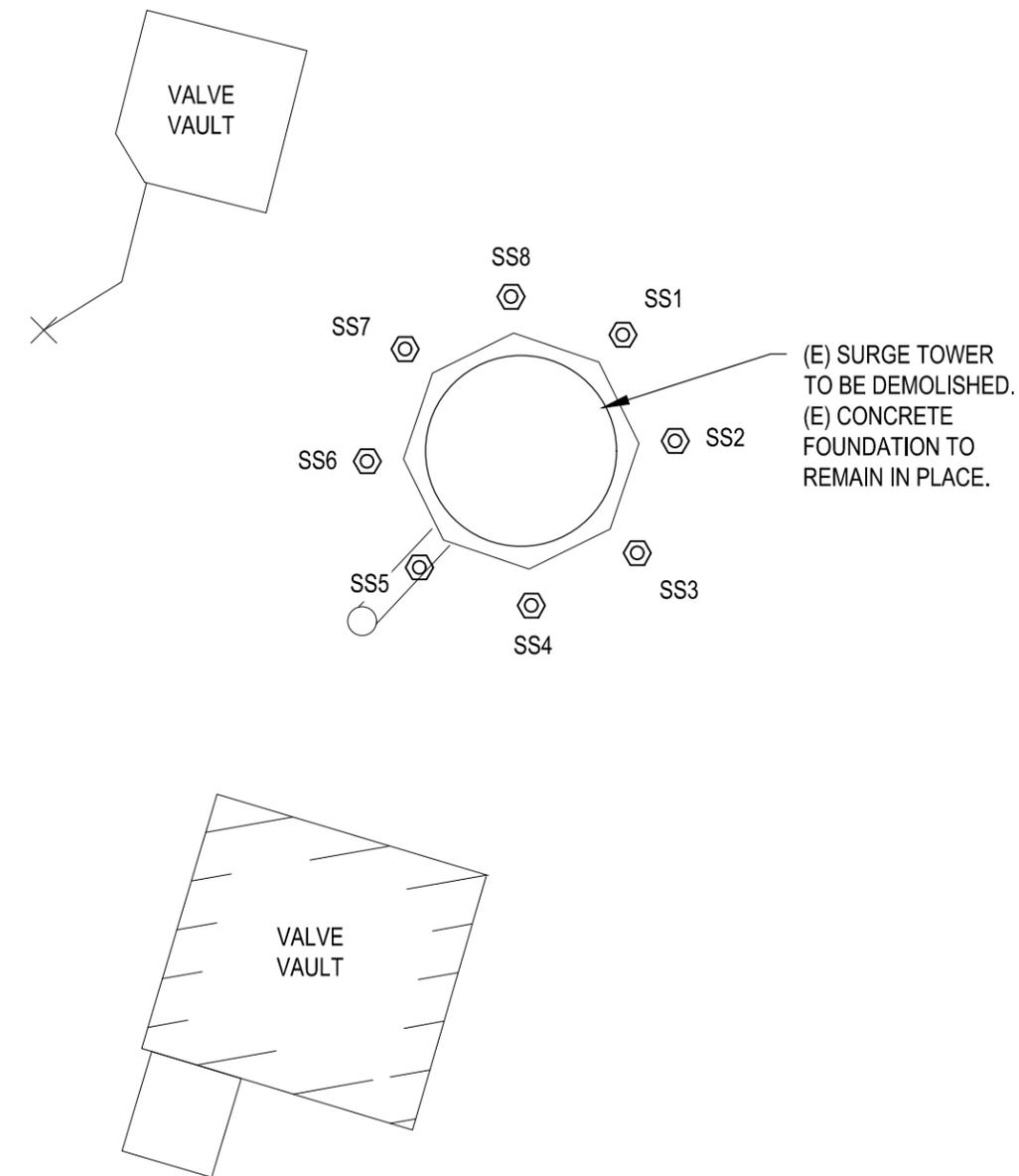
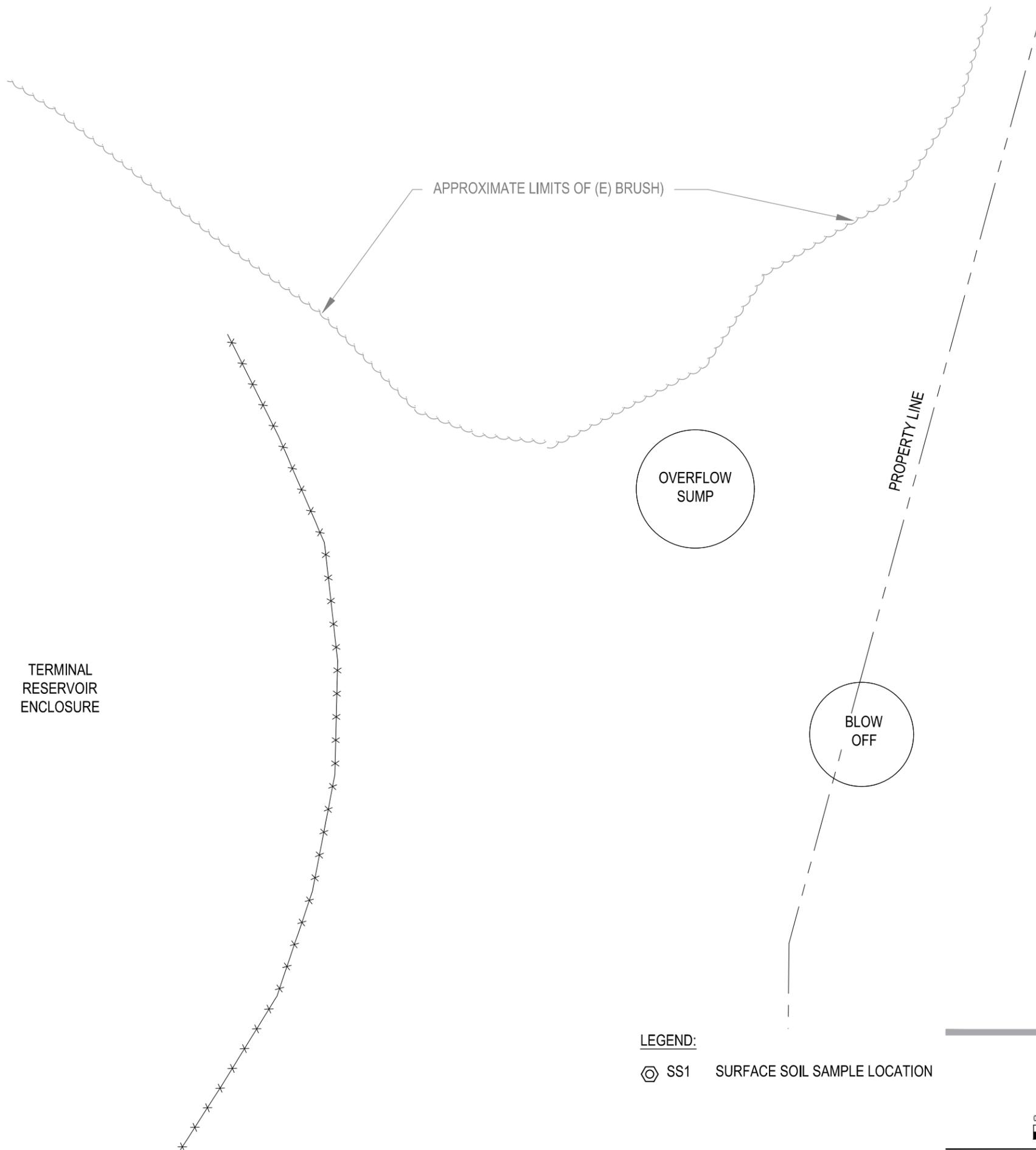


HUMBOLDT BAY MUNICIPAL WATER DISTRICT

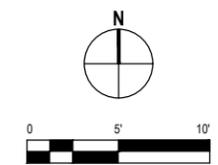
**SURGE TOWER SITE
 LOCATION MAP**

Project No. 11136640
 Report No.
 Date 6/27/17

FIGURE 1



LEGEND:
 SS1 SURFACE SOIL SAMPLE LOCATION



HUMBOLDT BAY MUNICIPAL WATER DISTRICT
SURGE TOWER SAMPLE LOCATION MAP
 GHD Inc. 718 Third Street Eureka California 95501 USA
 T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

Project No. 11136640
 Report No.
 Date 6/27/2017

FIGURE 2

Table 1

**Surface Sample Analytical Results and Lithologic Descriptions
HBMWD Surge Tower
Samoa Peninsula, California**

Sample ID	Date Sampled	Sample Depth (inches bgs)	Total Lead (mg/kg)	STLC Lead (µg/L)	Lithology
SS1	5/2/2017	0-3	44	--	<u>Gravelly silty SAND</u> : fill/top soil, fine sand, rounded to subrounded pea gravel, brownish black, moist.
SS2	5/2/2017	0-3	62	3,600	<u>Gravelly silty SAND</u> : fill/top soil, fine sand, rounded to subrounded pea gravel, brownish black, moist.
SS3	5/2/2017	0-3	51	2,600	<u>Gravelly SAND with silt</u> : fine sand, rounded to subrounded pea gravel, brownish gray, moist.
SS4	5/2/2017	0-3	7.7	--	<u>SAND with silt and gravel</u> : fine sand, rounded to subrounded pea gravel, brownish gray, moist.
SS5	5/2/2017	0-3	4.4	--	<u>Gravelly SAND with silt</u> : fine sand, rounded to subrounded pea gravel, brownish gray, moist.
SS6	5/2/2017	0-3	58	2,000	<u>Gravelly SAND with silt</u> : fine sand, rounded to subrounded pea gravel, brownish gray, moist.
SS7	5/2/2017	0-3	14	--	<u>Gravelly SAND with silt</u> : fine sand, rounded to subrounded pea gravel, brownish gray, moist.
SS8	5/2/2017	0-3	31	--	<u>Gravelly silty SAND</u> : fill/top soil, fine sand, rounded to subrounded pea gravel, brownish black, moist, brick debris.

Abbreviations & Notes:

STLC = Soluble Threshold Limit Concentration analyzed only if total lead concentrations were above 50 mg/kg

bgs = below ground surface

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

-- = not analyzed

Bold result if total lead concentration detected over 50 mg/kg; indicates analyze for STLC lead

Attachment A
Analytical Laboratory Report



**NORTH COAST
LABORATORIES LTD.**

May 30, 2017

GHD Inc.
718 Third Street
Eureka, CA 955010504

Attn: Anna Gower

RE: 11136640 HBMWD Surge Tower

Order No.: 1705038
Invoice No.: 133572
PO No.: 38000906
ELAP No.1247-Expires July 2017

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	SS1
02A	SS2
03A	SS3
04A	SS4
05A	SS5
06A	SS6
07A	SS7
08A	SS8

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Trudie Blasi, Project Manager

Date: 30-May-2017

WorkOrder: 1705038

CASE NARRATIVE

Three samples were extracted following the method described in Title 22, CCR 66261.126, Appendix II (CAM WET).

Date: 30-May-2017

WorkOrder: 1705038

ANALYTICAL REPORT

Client Sample ID: SS1

Lab ID: 1705038-01A

Received: 5/2/2017

Collected: 5/2/2017 11:00

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	44		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS2

Lab ID: 1705038-02A

Received: 5/2/2017

Collected: 5/2/2017 11:15

Test Name: EPA 6010B

Reference: EPA 6010B

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	3,600		200	µg/L	20	5/23/2017	5/25/2017

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	62		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS3

Lab ID: 1705038-03A

Received: 5/2/2017

Collected: 5/2/2017 11:35

Test Name: EPA 6010B

Reference: EPA 6010B

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	2,600		200	µg/L	20	5/23/2017	5/25/2017

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	51		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS4

Lab ID: 1705038-04A

Received: 5/2/2017

Collected: 5/2/2017 11:40

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	7.7		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS5

Lab ID: 1705038-05A

Received: 5/2/2017

Collected: 5/2/2017 11:45

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	4.4		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS6

Lab ID: 1705038-06A

Received: 5/2/2017

Collected: 5/2/2017 11:50

Test Name: EPA 6010B

Reference: EPA 6010B

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	2,000		200	µg/L	20	5/23/2017	5/25/2017

Date: 30-May-2017

WorkOrder: 1705038

ANALYTICAL REPORT

Client Sample ID: SS6

Lab ID: 1705038-06A

Received: 5/2/2017

Collected: 5/2/2017 11:50

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	58		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS7

Lab ID: 1705038-07A

Received: 5/2/2017

Collected: 5/2/2017 12:00

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	14		1.0	mg/kg	1.0	5/10/2017	5/12/2017

Client Sample ID: SS8

Lab ID: 1705038-08A

Received: 5/2/2017

Collected: 5/2/2017 12:10

Test Name: ICPMS

Reference: EPA 6020

<u>Parameter</u>	<u>Result</u>	<u>Flag</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Lead	31		1.0	mg/kg	1.0	5/10/2017	5/12/2017

North Coast Laboratories, Ltd.

Date: 5/30/2017

CLIENT: GHD Inc.
Work Order: 1705038
Project: 11136640 HBMWD Surge Tower

QC SUMMARY REPORT

Method Blank

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
MB-34739	34739	6ICPX	µg/L	5/25/2017 13:21:16	5/23/2017						
Client ID:		Run ID:	INICP2_170525A	SeqNo:	1301319						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	200									

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
MB-34687	34687	ICPMSS	mg/kg	5/12/2017 14:22:09	5/10/2017						
Client ID:		Run ID:	ICPMS2_170512B	SeqNo:	1299440						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 5/30/2017

CLIENT: GHD Inc.
Work Order: 1705038
Project: 11136640 HBMWD Surge Tower

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
1705038-06AMS	34739	6ICPX	µg/L	5/25/2017 13:40:49	5/23/2017						
Client ID: SS6		Run ID: INICP2_170525A		SeqNo: 1301325							
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3,613	200	2,000	1,960	82.6%	75	125	0			

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
1705038-06AMSD	34739	6ICPX	µg/L	5/25/2017 13:43:42	5/23/2017						
Client ID: SS6		Run ID: INICP2_170525A		SeqNo: 1301326							
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3,606	200	2,000	1,960	82.2%	75	125	3,610	0.201%	20	

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
1705038-08AMS	34687	ICPMSS	mg/kg	5/12/2017 15:24:26	5/10/2017						
Client ID: SS8		Run ID: ICPMS2_170512B		SeqNo: 1299455							
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	122.9	5.0	100	31.0	91.9%	75	125	0			

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
1705038-08AMSD	34687	ICPMSS	mg/kg	5/12/2017 15:28:34	5/10/2017						
Client ID: SS8		Run ID: ICPMS2_170512B		SeqNo: 1299456							
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	123.2	5.0	100	31.0	92.2%	75	125	123	0.196%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 5/30/2017

CLIENT: GHD Inc.
Work Order: 1705038
Project: 11136640 HBMWD Surge Tower

QC SUMMARY REPORT
 Laboratory Control Spike

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
LCS-34739	34739	6ICPX	µg/L	5/25/2017 13:24:54	5/23/2017						
Client ID:		Run ID:	INICP2_170525A	SeqNo:	1301320						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1,749	200	2,000	0	87.4%	80	120	0			

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
LCSD-34739	34739	6ICPX	µg/L	5/25/2017 13:27:50	5/23/2017						
Client ID:		Run ID:	INICP2_170525A	SeqNo:	1301321						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1,664	200	2,000	0	83.2%	80	120	1,750	4.96%	20	

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
LCS-34687	34687	ICPMSS	mg/kg	5/12/2017 14:26:18	5/10/2017						
Client ID:		Run ID:	ICPMS2_170512B	SeqNo:	1299441						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	97.10	5.0	100	0.0150	97.1%	80	120	0			

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date						
LCSD-34687	34687	ICPMSS	mg/kg	5/12/2017 14:30:28	5/10/2017						
Client ID:		Run ID:	ICPMS2_170512B	SeqNo:	1299442						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	96.37	5.0	100	0.0150	96.4%	80	120	97.1	0.748%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



Humboldt Bay Municipal Water District

Surge Tower Retrofit Biological Report

May 2017

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Appendices

- Appendix A - CNDDDB, CNPS, and IPaC Report Tables
- Appendix B - CNDDDB Full Report
- Appendix C - IPaC Full Report
- Appendix D - Figures
- Appendix E - List of Vascular Plant Species Observed Within the Study Area
- Appendix F - Wetland Delineation Data Forms

1. Introduction

This project will consist of the replacement of the Surge Tower for the industrial water line on the Samoa Peninsula in Humboldt County, California. The Surge Tower was originally constructed in the 1960s, and a 2012 inspection by GHD indicated that it is significantly degraded and likely to fail or fall over during a seismic or high wind event. This would cause a major rupture in the industrial water line, drain the adjacent Terminal Reservoir, and cut off industrial water to the surrounding facilities, thereby impacting their firefighting abilities. The industrial pipeline is also immediately adjacent to the domestic pipeline, and failure of the Surge Tower would also likely cause significant damage to the domestic water line facilities, thereby interrupting drinking water, firefighting water, and wastewater service to 7,400 people, likely for an extended period of time.

2. Project Description

This project includes demolishing the existing surge tower and replacing it with an appropriate replacement appurtenance. The Surge Tower may be replaced with a new air/vacuum relief and/or surge valve(s) that will be sized to ensure that they protect the existing pipe from collapse. The new valve(s) will effectively replace the function of the existing Surge Tower.

Since the work is proposed to occur in 2018 during the nesting bird season (March 15 through August 15 in Northern California), construction disturbance to avian species at the site is possible. In order to avoid disturbing nesting birds in and around the project site, pre-construction surveys and required. Mitigation measures are also required and incorporated into this biological report (See Section 6).

No special status plant species were observed at the site during special status plant surveys in 2017. However, given the proximity of this site to known populations of federally endangered species, a preconstruction survey for special status plants is recommended prior to construction. In the event that any special status plants are found during pre-construction surveys, mitigation measures would be required (Section 6).

2.1 Disturbance to the Physical Environment

The project footprint that will require staging, equipment access, and any ground disturbance is approximately 0.64 acres (Appendix D, Figure 2). Minimal ground disturbance is expected to occur at the project site and there is no new disturbance outside of previously disturbed areas. The concrete foundation of the surge tower will remain in place and if a new air relief or surge valve is installed, it will be installed on the top of the existing foundation. Therefore, the only ground disturbance that is anticipated would be associated with the surface disruption associated with the tracks or wheels of the crane used to dismantle the surge tower. These will be limited to the existing dirt access road that leads to the site.

3. Methods

3.1 CNDDDB, IPaC, and CNPS Database Searches

A database search of the CNDDDB (California Natural Diversity Database), USFWS IPaC (Information for Planning and Conservation), and CNPS (California Native Plant Society) was conducted by GHD on March 13 and 24, 2017 for the Surge Tower project site. In addition, databases such as eBird and iNaturalist were reviewed for additional local wildlife information. The search encompassed seven USGS quadrangles (quads) including the project site quad (Eureka) and surrounding six quads (Arcata North, Arcata South, Cannibal Island, Fields Landing, McWhinney Creek, and Tye City). Based on these database results, results from the rare and special status plant survey, and personal knowledge regarding the habitat and conditions surrounding the project site, the following tables were compiled (Appendices A1-A3). These tables summarize special status state or federal plant and wildlife species that could be present at the project site as well as special status plant communities. These tables also present information such as the likelihood of each species or community to occur at the project site.

3.2 Field Surveys

Field surveys were conducted on 4/5/17 and 5/17/17 to determine whether wetlands occur within the project study boundary, to survey for and identify any rare or sensitive plant species, and to map vegetation communities.

3.2.1 Wetland Delineation

A field survey was conducted on April 5, 2017 by a GHD botanist and soil scientist to assess whether wetlands occur at the project site. As the Project Study Boundary (PSB) is entirely within the Coastal Zone, the delineation was performed in accordance with the California Coastal Commission criteria for wetland delineation as well as in accordance with the U.S. Army Corps of Engineers (USACE) wetlands criteria. To define a wetland, the USACE requires that all three parameters (vegetation, soil, and hydrology) show wetland attributes. The California Coastal Commission requires only one parameter to be present in order to define the site as a wetland.

The wetland delineation followed USACE criteria from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE 2010). Botany/soils/hydrology data sheets used were the current standard forms provided by the USACE (USACE 2010).

3.2.2 Rare Plant Survey and Vegetation Community Mapping

Special status plant species include those listed as endangered, threatened, or as candidate species by U.S. Fish and Wildlife Service (USFWS) under the U.S. Endangered Species Act (ESA) or by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA). Plant species on California Native Plant Society's (CNPS) California Rare Plant Ranking (CRPR) lists 1A, 1B and 2A and 2B are considered eligible for state listing as Endangered or Threatened pursuant to the California Fish and Game Code and CDFW has oversight of these special status plant species as a trustee agency of CEQA.

Prior to conducting field surveys, a scoping list of CRPR plant species and habitats with recorded occurrences in the project vicinity was compiled by consulting the California Natural Diversity

Database (CNDDDB) and the CNPS Inventory of Rare and Endangered Vascular Plants (CDFW 2017, CNPS 2017). These scoping lists are included in Appendix A.

Surveys to determine the presence of special status plant species (listed as rare, threatened, endangered, or candidate for rare, threatened, or endangered species listing under the State or Federal Endangered Species Acts, CNPS, or species of local importance) were conducted at the appropriate blooming or active period by a GHD botanist. Surveys took place on April 5, 2017 and May 17, 2017. The surveys were floristic in nature following *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities by the California Natural Resource Agency* (DFG 2009).

Rare and sensitive plant surveys were conducted by walking the site looking for target species. Given the small size of the PSB, the area was surveyed at high intensity. Plants were identified to the lowest taxonomic level (genus or species) necessary for rare plant identification. Nomenclature follows *The Jepson Manual* (Baldwin et al 2012).

On May 17, 2017, vegetation communities within the PSB were assessed and mapped to determine whether or not Environmentally Sensitive Habitat Areas (ESHA) were present. This determination is necessary given that the project site is within the Coastal Zone and falls under the jurisdiction of the Local Coastal Program. The determination of what constitutes ESHA was drawn from the California Department of Fish and Wildlife Natural Communities information, the Coastal Act, the California Natural Diversity Database, A Manual of California Vegetation (Sawyer et al 2009) and use of *Protocols for Surveying and Evaluating Special Status Plant Populations and Natural Communities* (DFG 2009).

4. Results

4.1 Endangered Species Act –State and Federally Listed Species

Based on project scoping outlined below, no state or federally listed threatened or endangered wildlife species are likely to occur in the project area. With proper mitigation measures and seasonal exclusions, there will be no effect on federally listed species as a result of the proposed action. The wildlife species present in these lists are regulated and or monitored by the California Department of Fish and Wildlife's (CDFW) Special Animal List for Species of Special Concern (SSC) as well as the Fully Protected species list for wildlife. In addition, rare plants are regulated or monitored by the State and Federally Threatened, Endangered, and Rare Plants of California list. Sensitive plant species include not only those listed as endangered, threatened, or rare at the state or federal level, but also those species meeting criteria for listing under the California Environmental Quality Act (CEQA), including plants on Lists 1A, 1B, and 2 of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California. List 3 and List 4 species are also included in scoping. List 3 signifies species for which more information is needed, and List 4 species have limited distribution.

Due to the project site's environmental features and location, there are likely numerous other wildlife species present onsite. While these non-listed species are not included under the state or federal Endangered Species Acts, they may be regulated via other laws. For example, non-listed avian species are still protected by Federal laws such as the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (50 CFR 10.13) established federal responsibilities for the protection of nearly all species of birds, their eggs and nests. A migratory bird is defined as any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. “Take” is defined in the MBTA “to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof.” Only invasive species such as Rock Pigeons (*Columba livia*), House Sparrows (*Passer domesticus*), and European Starlings (*Sturnus vulgaris*) are exempt from protection.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S. Code § 668-668d) as amended in 1978 prohibits the taking, possession, or commerce of Bald and Golden Eagles as well as their nests, eggs, and body parts. “Take” is defined as to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” If convicted, violators of this law will incur civil or criminal penalties as well as the loss of existing grazing agreements with the Federal government.

4.1.1 Threatened or Endangered Species in the Project Area

Rare Plants

On April 5, 2017 and May 17, 2017, special status plant surveys were conducted within the PSB. No rare or special status plant species were found. Appendix A includes the CNDDDB and CNPS scoping list for special status plant species as well as an assessment of whether suitable habitat is present at the site constituting likelihood of occurrence.

Mammals

Historical records, the primary literature, and available habitat were considered to determine special status mammal species that could occur at the project site. Based on this information, no listed mammal species are likely to use to project site for roosting, breeding, or foraging habitat.

Birds

No federal endangered or threatened birds are expected to occur within the PSB. Historical records around the project site indicate that the area serves as moderate-quality foraging habitat for several other bird species including Great Egrets, Great Blue Herons, Snowy Egrets, Black-crowned Night Herons, and White-tailed Kites. These species are protected by the Federal Migratory Bird Treaty Act and/or the CDFW Fully Protected Species List and are described in further detail below.

Great Egret (Ardea alba), no special status. Moderate Potential. Great Egrets are year-round residents in western California, with breeders concentrated in the Klamath and Warner basin in Siskiyou and Modoc Counties, along the coast in Humboldt County, the San Francisco Bay area, Monterey County, the Salton Sea, and the Central Valley. In term of habitat, they favor wetlands, estuaries, lakes, rivers, ponds, swamps, streams, marshes, and tidal flats. Great Egrets utilize a variety of substrates for nesting including trees, woody vegetation, artificial nest platforms, or even the ground over water, on islands, or directly adjacent to water. Nests platforms are typically constructed of locally available sticks and greenery. Great Egrets nest communally with conspecifics or in mixed-species colonies. They are opportunistic foragers, wading in shallow water to feed on fish, amphibians, and invertebrates. They also hunt on shore for reptiles, birds, and small mammals (Mccrimmon Jr. et al. 2011). The parcel could serve as foraging habitat for Great Egrets.

However, the lack of large nest trees on the property restricts the chance of breeding onsite. Based on available data, the presence of any established colonies at the site is unlikely. However, based on historical records and available habitat, the species has a moderate potential to be present and forage within the project area.

Great Blue Heron (*Ardea herodias*), no special status. Moderate Potential. Great Blue Herons are year-round residents in the majority of coastal and central California. Notable exceptions include the Sierras and the very southeastern desert regions of the state. Great Blue Herons are extremely adaptable to a variety of habitats including most saltwater and freshwater bodies, agricultural land, swamps, wetlands, as well as commercial and residential areas such as golf courses. Nesting habitat includes trees, bushes, artificial structures, or the ground adjacent to a water body. Nests platforms are typically constructed out of locally available sticks and lined with material such as grass, moss, and reeds. Great Blue Herons are colonial nesters. They are opportunistic foragers, wading in shallow water to feed on fish, amphibians, and invertebrates. They also hunt on shore for reptiles, birds, and small mammals. Additionally, they are known to scavenge carrion (Vennesland and Butler 2011). The parcel does contain potential foraging habitat for Great Blue Herons. However, the lack of large nest trees on the property restricts the chance of breeding onsite. Based on available data, the presence of any established colonies at the site is unlikely. However, based on historical records and available habitat, the species has a moderate potential to be present and forage within the project area.

Snowy Egret (*Egretta thula*), no special status. Moderate Potential. Snowy Egrets were hunted to the brink of extinction by the plume trade at the end of the 19th and beginning of the 20th century. However, many populations rebounded after the Migratory Bird Treaty Act was passed in 1918. Year-round populations of Snowy Egrets are found around Humboldt Bay, the San Francisco Bay area, the Central Valley, and the Salton Sea. Wintering populations are also present along much of the rest of the California coast. Snowy Egrets prefer riparian and estuarine areas, marshes, wet meadows, inland lakes, and river courses. Snowy Egrets construct stick nest platforms in a variety of tree and shrub species including: willows, holly, birch, and wax myrtle. Nests are lined with reeds, grasses, and moss. Snowy Egrets are colonial nesters, with colonies comprised of both conspecifics and allospecifics. Snowy Egrets hunt in shallow water and on shore, frequently making use of their distinctly yellow feet to attract and capture prey items. Prey includes fish, amphibians, snakes, lizards, crustaceans, insects, and worms (Parsons and Master 2000). The parcel does contain potential foraging habitat for Snowy Egrets. Based on available data, the presence of any established colonies at the site is unlikely. However, based on historical records and available habitat, the species has a moderate potential to be present and forage within the project area.

Black-crowned Night Heron (*Nycticorax nycticorax*), no special status. Moderate Potential. Black-crowned Night Herons are year-round residents in much of California, with notable exceptions in the Sierras, Central Valley, and the arid southeast portion of the state. These herons can be found in a wide variety of habitats adjacent to water bodies including urban, wetland, partially forested, and agricultural landscapes. Black-crowned Night Herons are colonial nesters, building platform stick nests in trees, reeds, cattails, bushes, or on the ground. As opportunistic feeders, Black-crowned Night Herons eat fish, insects, mammals, birds, carrion, trash, clams, crayfish, turtles, and many other food items (Hothem et al. 2010). Based on available data, the presence of any established colonies at the site is unlikely. However, based on historical records and available habitat, the species has a moderate potential to be present and forage within the project area.

White-tailed Kite (*Elanus leucurus*), CDFW Fully Protected. Moderate Potential. White-tailed Kites are year-round residents in most of California west of the Sierras including the majority of the

coastal foothills, Central Valley, and some arid regions such as Kern and Inyo Counties. White-tailed Kites prefer open landscapes at low elevations including marshes, grasslands, oak-woodlands, savannahs, and agricultural land. Nests are typically constructed on habitat edges in the upper third portion of a tree or bush. Nests consist of small sticks, grass, hay, and leaves placed in a variety of tree or shrub species including coastal redwoods, Sitka spruce, or brooms. White-tailed Kites feed almost exclusively on small mammals captured via hover hunting (Dunk 1995). Based on available data, the presence of any established breeders at the site is unknown and would require surveys to confirm. However, based on historical records and available habitat, the species has a moderate potential to forage within the project area.

Fish

No freshwater, estuarine, or aquatic habitat of any sort is present on or directly adjacent to the project site. This being the case, no fish species will occur at the project site.

Insects

Obscure Bumble Bee (*Bombus caliginosus*), no special status. Moderate Potential. The project site falls within the current documented range of the Obscure Bumble Bee and includes fog-belt coastal habitat preferred by the species (Hatfield et al. 2014). Preferred plants for foraging (such as *Grindelia sp.*, *Baccharis sp.*, and *Lupinus sp.*) are present at the project site. California Department of Fish and Wildlife records have documented the species in Humboldt County (CDFW 2017). In addition, the species was recorded during *Bombus* surveys on the North Spit of Humboldt Bay and Lanphere Dunes in 2010 (Julian 2012). Based on the location of the project site, the presence of host plants in the area, and recent documented presence of the species in Humboldt County, the Obscure Bumble Bees has a moderate likelihood to occur at the project site.

Reptiles and Amphibians

No coniferous forest, riparian habitat, rivers, ponds, or creeks/seeps are present on or directly adjacent to the project site. This being the case, no federal endangered or threatened species are likely to be present and most other special status amphibian or reptile species are not likely to occur at the project site. However, Northern Red-legged Frogs (SSC) could potentially move through the site during certain times of the year and have a moderate likelihood to occur at the project site, they are discussed below.

Northern Red-legged Frog (*Rana aurora*), CDFW Species of Special Concern. Moderate Potential. Northern Red-legged Frogs occur along the west coast of N. America from British Columbia to California. The geographic range split between the Northern and California Red-legged Frog species occurs just south of Elk Creek in Mendocino County where both species overlap (AmphibiaWeb 2017, California Herps 2017). Northern Red-legged Frogs are typically found near water sources. However, they can range widely and inhabit damp places far from water (California Herps). Northern Red-legged Frogs reproduce in water from January to February in Humboldt County, with some breeding occurring as late as March. Preferred egg laying locations are in “vegetated shallows with little water flow in permanent wetlands and temporary pools” (California Herps). Northern Red-legged Frogs are relatively common in and near-coastal portions of Humboldt County and historical records have documented the species near the project area (AmphibiaWeb 2017). This being the case, Northern Red-legged Frogs have a moderate chance of occurring at the project site.

4.2 Field Survey Results

4.2.1 Wetland Delineation Results

Upland vegetation was observed throughout the PSB. Two soil test pits were dug within the PSB (Appendix D, Figure 2), and hydrophytic vegetation, soil, and hydrology were lacking at both pits. The naming convention used for each pit was “UTP” for Upland Test Pit. The horizontal location of each upland test pit was collected using a GeoPro 6H global positioning system (GPS) receiver with sub-meter accuracy connected to a Motion F5v Tablet running ArcPad geographic information system (GIS) software. Data sheets for Upland Test Pits are attached in Appendix F.

4.2.2 Rare and Sensitive Plant Survey and Vegetation Mapping

On April 5, 2017 and May 17, 2017, special status plant surveys and mapping were conducted within the PSB. As previously mentioned, prior to the field survey, a scoping list of CRPR plant species and habitats with recorded occurrences in the project vicinity was compiled by consulting the California Natural Diversity Database (CNDDDB) and the CNPS Inventory of Rare and Endangered Vascular Plants (CDFW 2017, CNPS 2017). Two federally endangered species associated with coastal dunes are known to occur in the general vicinity of the project, beach layia (*Layia carnosa*) and Menzies' wallflower (*Erysimum menziesii*). Special status plant survey dates corresponded with the flowering times of these two species and neither species was found. Two CRPR species were also known to occur in the general vicinity of the project, manyleaf gilia (*Gilia millefoliata*) (CRPR 1B.2) and pink sand verbena (*Abronia umbellata* var. *breviflora*) (CRPR 1B.1). The survey timing also matched with the flowering period of manyleafed gilia. The survey was too early to capture the flowering period of pink sand verbena, however, the survey was performed at high intensity and this species was not found. No other rare or special status plant species were found. A list of species observed at the site is included in Appendix E.

The study site consists of heavily altered coastal dunes. Two patches of Monterey cypress (*Hesperocyparis macrocarpa*) occur within the PSB. This species is endemic to Monterey County where it is considered rare (CRPR 1B.2). Outside of its limited native range, including at the study site, it is not considered rare, and is either planted or naturalized (CNPS 2017) and also not considered a natural community.

The project site has been topographically altered and heavily disturbed. There is a large ash pile on the eastern side of the PSB and a large portion of the site was disturbed during pipeline maintenance work in 2016. After this work was completed, the PSB was seeded and planted with native dune species which likely included coastal gum plant, *Grindellia stricta* var. *stricta* which is now abundant in two patches on the western side of the PSB. The two most dominant species on the western side are the non-native perennial grass, sweet vernal grass (*Anthoxanthum odoratum*), and a non-native bur clover, *Medicago* sp. The invasive species yellow bush lupine (*Lupinus arboreus*) is also abundant on the west side of the PSB, intermixed with the patches of coastal gum plant. A small number of native dune species are scattered at relatively low cover throughout the western side of the PSB; some of these species were likely part of the 2016 revegetation effort. On the western side of the unit, relative native plant cover is approximately 35%, composed primarily of coastal gum plant, with non-native relative cover approximately 65%.

The eastern side of the unit is composed predominantly of non-native grasses, including rip gut grass (*Bromus diandrus*), rattlesnake grass (*Briza maxima*), and sweet vernal grass. Scattered patches of other invasive species including sea fig (*Carpobrotus chilensis*), pampas grass

(*Cortaderia jubata*), and European beach grass (*Ammophila arenaria*) occur on both halves of the PSB.

The entire PSB outside of the Monterey cypress drip-line was mapped as “naturalized vegetation” to best describe its highly altered condition and high cover of non-native species on both sides. Since the site is so altered both from maintenance work and revegetation efforts, it was difficult to classify per *The Manual of California Vegetation* (Sawyer et al 2009) and “naturalized vegetation” was deemed the best descriptive term.

5. Conclusions

Based on the naturalized dune habitat present at the project site as well as historical and current government and citizen science records from the area, the Obscure Bumble Bee, Northern Red-legged Frog, Great Egret, Great Blue Heron, Black-crowned Night Heron, and White-tailed Kite have a moderate likelihood to occur on or directly adjacent to the project site. In addition, the project site could serve as foraging habitat for these species. From a Federal standpoint, all the birds are protected by the Migratory Bird Treaty Act. Prior to construction, mitigation measures will be implemented to eliminate any project impacts to these avian species. The other species likely to occur at the project site are monitored at a state level but have no special regulatory status. This being the case, no impacts will occur to federal or state listed species or wetlands as a result of this project.

6. Mitigation Measures

6.1 Nesting Birds Protected by the Federal Migratory Bird Treaty Act

- Prior to any construction activities, the biologist will survey the area for any occurrences of federally listed species or birds.
- To the extent feasible, work will abide by the seasonal avoidance of the March 15 – August 15 nesting season for native species covered under the Migratory Bird Treaty Act. If work will occur within this period then suitable buffers will be established.
- If active nests are detected within the construction footprint or within 500 feet of construction activities, the biologist shall have locations flagged that are supporting breeding. A buffer will be implemented in coordination with CDFW. In general, the buffer for common species would be determined on a case-by-case basis with consultation with CDFW, the buffer for sensitive species (CESA and ESA) would be 300 feet, and the buffer for raptors would be 500 feet. Construction activities will not begin in that area until the biologist determines that the young have fledged or nesting activity has ceased.

6.2 Rare Plants

- Prior to any construction activities, a qualified botanist will survey the area for any occurrences of rare or sensitive plant species.
- If rare or sensitive plant species are found, they will be avoided if possible. If plants cannot be avoided, an appropriate mitigation plan will be established in consultation with either CDFW or USFWS depending on the status of the species.

7. Literature Cited

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PART 6 PLANS

